



Strata[®] CIX[™]
Programming Manual
Volume 1
(Software Release 5.2)

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Strata CIX40, CIX100, CIX200, CIX670 and CIX1200 General End User Information

The Strata CIX 40, CIX100, CIX200, CIX670 or CIX1200 Digital Business Telephone System is registered in accordance with the provisions of Part 68 of the Federal Communications Commission's Rules and Regulations.

FCC Requirements

Means of Connection: The Federal Communications Commission (FCC) has established rules which permit the Strata CIX system to be connected directly to the telephone network. Connection points are provided by the telephone company—connections for this type of customer-provided equipment will not be provided on coin lines. Connections to party lines are subject to state tariffs.

Incidence of Harm: If the system is malfunctioning, it may also be disrupting the telephone network. The system should be disconnected until the problem can be determined and repaired. If this is not done, the telephone company may temporarily disconnect service. If possible, they will notify you in advance, but, if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Service or Repair: For service or repair, contact your local Toshiba telecommunications distributor. To obtain the nearest Toshiba telecommunications distributor in your area, log onto www.toshiba.com/taistsd/pages/support_dealerlocator.html or call (800) 222-5805 and ask for a Toshiba Telecom Dealer.

Telephone Network Compatibility: The telephone company may make changes in its facilities, equipment, operations, and procedures. If such changes affect the compatibility or use of the Strata CIX40, CIX100, CIX200, CIX670 or CIX1200 system, the telephone company will notify you in advance to give you an opportunity to maintain uninterrupted service.

Notification of Telephone Company: Before connecting a Strata CIX system to the telephone network, the telephone company may request the following:

1. Your telephone number.
2. FCC and ACTA registration
 - Strata CIX 40, CIX100, CIX200, CIX670 or CIX1200 may be configured as a Key, Hybrid or PBX telephone system. The appropriate configuration for your system is dependent upon your operation of the system.
 - If the operation of your system is only manual selection of outgoing lines, it may be registered as a Key telephone system.
 - If your operation requires automatic selection of outgoing lines, such as dial access, Least Cost Routing, Pooled Line Buttons, etc., the system must be registered as a Hybrid telephone system. In addition to the above, certain features (tie Lines, Off-premises Stations, etc.) may also require Hybrid telephone system registration in some areas.
 - If you are unsure of your type of operation and/or the appropriate FCC registration number, contact your local Toshiba telecommunications distributor for assistance.

FCC Registration Numbers			
SYSTEM	PBX Fully-protected PBXs	Hybrid Fully-protected multifunction systems	KEY Fully-protected telephone key systems
CIX40	CJ6PF03BDTCHS402	CJ6MF03BDTCHS40	CJ6KD03BDTCHS40
CIX100	CJ6MUL-35931-PF-E	CJ6MUL-35930-MF-E	CJ6MUL-35929-KF-E
CIX200	CJ6PF03BDTCHS192	CJ6MF03BDTCHS192	CJ6KD03BDTCHS192
CIX670	CJ6MUL-35931-PF-E	CJ6MUL-35930-MF-E	CJ6MUL-35929-KF-E
CIX1200	CJ6MUL-35931-PF-E	CJ6MUL-35930-MF-E	CJ6MUL-35929-KF-E

- Ringer equivalence number: 0.3B. The ringer equivalence number (REN) is useful to determine the quantity of devices which you may connect to your telephone line and still have all of those devices ring when your number is called. In most areas, but not all, the sum of the RENs of all devices connected to one line should not exceed five (5.0B). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to ascertain the maximum REN for your calling area.

3. Network connection information USOC jack required: RJ11/14C, RJ21/2E/2F/2G/2HX/RJ49C (see Network Requirements in this document). Items 2, 3 and 4 are also indicated on the equipment label.

4. Authorized Network Parts: 02LS2/GS2, 02RV2-T/O, OL13C/B, T11/12/31/32M, 04DU9-BN/DN/1SN, 02IS5, 04DU9-BN/DN/1SN1ZN

Radio Frequency Interference

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the manufacturer's instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case, the user, at his/her own expense, will be required to take whatever measures may be required to correct the interference.

Underwriters Laboratory

This system is listed with Underwriters Laboratory (UL). Secondary protection is required on any wiring from any telephone that exits the building or is subject to lightning or other electrical surges, and on DID, OPS, and Tie lines. (Additional information is provided in this manual.)



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CP01, Issue 8, Part I Section 14.1

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the Equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION! Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

CP01, Issue 8, Part I Section 14.2

Ringer Equivalence Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The terminal on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the Devices does not exceed 5.

Hearing Aid Compatibility Notice: The FCC has established rules that require all installed business telephones be hearing aid compatible. This rule applies to all telephones regardless of the date of manufacture or installation. There are severe financial penalties which may be levied on the end-user for non-compliance.

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Telecommunication Systems Division
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Toshiba America Information Systems, Inc., ("TAIS") warrants that this telephone equipment manufactured by Toshiba (except for fuses, lamps, and other consumables) will, upon delivery by TAIS or an authorized TAIS dealer to a retail customer in new condition, be free from defects in material and workmanship for twenty-four (24) months after delivery, except as otherwise provided by TAIS in the TAIS warranty accompanying the products or posted on TAIS's website. Products which are not manufactured by Toshiba but are purchased from Toshiba, will be subject to the warranty provisions provided by the equipment manufacturer, unless TAIS notifies the end-user of any additional warranty provisions in writing.

This warranty is void (a) if the equipment is used under other than normal use and maintenance conditions, (b) if the equipment is modified or altered, unless the modification or alteration is expressly authorized by TAIS, (c) if the equipment is subject to abuse, neglect, lightning, electrical fault, or accident, (d) if the equipment is repaired by someone other than TAIS or an authorized TAIS dealer, (e) if the equipment's serial number is defaced or missing, or (f) if the equipment is installed or used in combination or in assembly with products not supplied by TAIS and which are not compatible or are of inferior quality, design, or performance.

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Under no circumstances will the retail customer or any user or dealer or other person be entitled to any direct, special, indirect, consequential, or exemplary damages, for breach of contract, tort, or otherwise. Under no circumstances will any such person be entitled to any sum greater than the purchase price paid for the item of equipment that is malfunctioning.

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Introduction

This manual provides information required to program the Strata® CIX™ business telephone systems using Toshiba's eManager™ programming interface and the 900 series Button Programming.

Important! Whenever the CIX100 is mentioned in this book, it applies to both the CIX100-S and CIX100, unless specified otherwise. Whenever the CIX is mentioned in this book, it applies to all CIX40, CIX100, CIX100-S, CIX200, CIX670 and CIX1200 systems, unless specified otherwise.

Important! Do not downgrade to previous versions of CIX or CTX software. Downward compatibility of CIX database is not supported. Toshiba recommends keeping the current database for emergency situations. We guarantee upward compatibility of the database so you can upgrade the system without any problems.

Release 4 and above Processors

The chart below shows the processor PCB required to support the Release 4 software packages.

System:	Processor PCB Required to Support Release 4.x
CIX40.....	GCTU2A
CIX100.....	ACTU3A
CIX200.....	LCTU1A, LCTU2A
CIX670 Basic.....	BCTU2A
CIX670 Expanded.....	BCTU2A with BEXU2A
CIX1200 Basic.....	HCTU1
CIX1200 Expanded A.....	HCTU1 with HEXAU1
CIX1200 Expanded B.....	HCTU1 with HEXBU1

Note The features described in this document assume that the Strata CIX system has the current software release installed. At the time of printing, Strata CIX R5.01 and eManager R5 are the most current versions.

Organization

Chapter 1 - Strata CIX Programming Guidelines describes auto-recognition features, order of programming, and overview of general CIX Programming operation.

Chapter 2 – Strata eManager provides general information about the Strata eManager software capabilities. Includes the installation steps needed to install Strata eManager on a PC and establish a connection to the Strata CIX system.

Chapter 3 – Licenses Strata CIX license descriptions and procedures

Chapter 4 – System provides system programming information

Chapter 5 – Station discusses station and station feature programming.

Chapter 6 – Trunks explains trunk programming information including T1, ISDN Basic Rate Interface (BRI) and Primary Rate Interface (PRI).

Chapter 7 – Attendant describes Attendant Console support and settings available in eManager.

Chapter 8 – IP Telephony Programming describes the programs required to program IP Telephony features.

Chapter 9 – Services discusses programming of services available to Strata CIX through eManager.

Chapter 10 – Operation explains system setup options available to eManager users. System initialization, SmartMedia formatting, system software upgrades and Internet Protocol (IP) configuration are among the topics discussed.

Chapter 11 – Maintenance provides system and component trace program information. eManager Configuration and Flash Memory Testing are also described.

Chapter 12 – Tools and Profile discusses Strata CIX Tools and Utilities to help manage your Strata CIX System more efficiently.

Chapter 13 – Telephone Button Programming discusses the 900 series button programming interface provided with Strata CIX.

Chapter 14 – Data Backup, Restore and Update provides Strata CIX maintenance procedures that can be activated from the programming telephone.

Appendix A – Applications Guide for setup and program specific applications such as Voice Mail, IP Telephony, StrataNet and others

Appendix B – Software and Firmware Updates contains IP Telephone and BIPU Firmware update procedures.

Appendix C - SIP Trunking provides a general overview of SIP trunks in the CIX system and specific configuration instructions for the providers listed.

Conventions

Conventions	Description
Note	Elaborates specific items or references other information. Within some tables, general notes apply to the entire table and numbered notes apply to specific items.
Important!	Calls attention to important instructions or information.
CAUTION!	Advises you that hardware, software applications, or data could be damaged if the instructions are not followed closely.
WARNING!	Alerts you when the given task could cause personal injury or death.
[DN]	Represents any Directory Number button, also known as an extension or intercom number.
[PDN]	Represents any Primary Directory Number button (the extension number for the telephone).
[SDN]	Represents any Secondary appearance of a PDN. A PDN which appears on another telephone is considered an SDN.
[PhDN]	Represents any Phantom Directory Number button (an additional DN).
Plus (+)	Shows a multiple PC keyboard or phone button entry. Entries without spaces between them show a simultaneous entry. Example: Esc+Enter. Entries with spaces between them show a sequential entry. Example: # + 5.
Tilde (~)	Means "through." Example: 350~640 Hz frequency range.
Start > Settings > Printers	Denotes a progression of buttons and/or menu options on the screen you should select.
See Figure 10	Grey words within the printed text denote cross-references. In the electronic version of this document (Library CD-ROM or FYI Internet download), cross-references appear in blue hypertext.

Related Documents/Media

Note Some documents listed here may appear in different versions on the CD-ROM or in print. To find the most current version, check the version/date in the Publication Information on the back of the document's title page.

Installation and Programming

- Strata CIX & MAS Installation and Maintenance Manual
- Strata CIX Programming Manual Volume 1
- Strata CIX Programming Manual Volume 2 – (Stratagy ES Voice Mail Application)
- Strata CIX Programming Manual Volume 3 – (Application Implementation)
- Telephone Button Programming Manual
- Strata Record Sheets

User Guides

- Strata CIX IP5000-Series Telephone
- Strata CIX DKT/IPT Telephone
- Strata DP5000-Series Telephone
- My Phone Manager™ User Guide
- Strata CTX DKT3001/2001 Digital Single Line Telephone
- Strata CTX Standard Telephone
- Strata CTX DKT2204-CT/DKT2304-CT Cordless Telephones

Quick Reference Guide

- Strata CIX IP5000-Series Telephone
- Strata CIX DP5000-Series Telephone
- Strata CIX/CTX DKT/IPT Telephone

CD-ROMs

- Strata CIX Application Software and CIX Documentation Library - includes eManager™ software.
- Strata CIX Call Center Solutions Application Software and CIX Documentation
- For authorized users, Internet site FYI (<http://fyi.tsd.toshiba.com>) contains all current Strata CIX documentation and enables you to view, print and download current publications.

This chapter discusses Strata CIX programming basics and guides you through initial setup procedures. It also describes auto-recognition features, order of programming, and overview of general CIX eManager, and Button Programming operations. Programming sequence tables are provided to streamline your programming tasks.

Use Default Auto-programming to Start Up

Important! All programs and instructions apply to all Strata CIX100, CIX1200 and CIX670 systems, unless specified otherwise.

The CIX40 has a default database already stored. Refer to the CIX40 Installation Manual (CIX-IM-CIX40) for details.

This feature reduces the programming time to install Strata CIX systems. The Strata CIX system will automatically program specific default data in a number of programs based on the PCBs that are installed in the system before processor initialization. The default data and procedure for auto-programming is provided in this section.

1. Install all line, station and optional PCBs that should be recognized for auto programming.
2. Power-on the system and initialize auto-programming for the system (Program 900, Level 1).
3. Verify "[Station and BIOU Auto-programming](#)" on [page 1-2](#).
4. Verify "[Station PDN Auto-programming](#)" on [page 1-3](#).
5. Verify "[CO Line Auto-programming](#)" on [page 1-3](#).
6. Verify "[CIX Processor NIC Interface TCP/IP Auto-programming](#)" on [page 1-9](#).

Note

- The type of PCB, its cabinet and slot position are automatically recognized upon system initialization; or, when powering the CIX processor for the first time.
- Each installed PCB circuit equipment number is set in numerical order based on the cabinet and slot position of the PCB.
- Station Primary Directory Numbers (PDN) and CO line numbers are set in numerical order according to their equipment cabinet/slot positions.
- Other default data, such as the Strata CIX LAN and modem interface IP address, station and line class of service, outgoing and incoming line groups, etc., are automatically set for the optional hardware originally installed.

Limitations

The following are the limitations of Strata CIX auto-programming.

- CTI programs are not programmed automatically.
- Strata CIX cannot configure unique LAN requirements automatically. Strata CIX's LAN system data, CIX IP address and Community Name are set to a default.

Note DND is only assigned on 20-button telephones.

- When the system is initialized, it takes a few minutes to recognize the mounted hardware.
- The Primary DN on the first button and DND on the last button are assigned telephone buttons; all other buttons are not assigned automatically.
- In the Strata CIX100, CIX670 or CIX1200 Slot 101 must always have a BDKU, ADKU or PDKU. The BDKU is assigned if no PCB is installed.
- In the Strata CIX200 Slot 101 must always have a MIPU, LIPU, BDKU or PDKU. An LIPU is assigned if no PCB is installed, however no stations are assigned. R5 software assigns an MIPU, R4 software assigns an LIPU.

Station and BIOU Auto-programming

Table 1-1 shows the Station and BIOU PCBs that will be recognized and set in Program 100 during auto-programming.

Note No special assignments are set for BIOU/LIPU/MIPU/GIPU during auto-programming.

Important! PCBs must be installed per the rules in the Strata CIX and MAS Installation and Maintenance manual, Configuration Chapter.

Table 1-1 Auto-Programming for Station and BIOU PCB Recognition (Program 100)

PCB Code	PCB Name	PCB Circuit Type	Parameter Setting	Comments
000		No PCB or RRCU		None or Remote Cabinets
002	RSTU	8 standard telephone circuits		Standard telephone no VM interface settings
003	PDKU2	8 digital telephone	PCM Highway: 8	DKT2000 or DKT3000/3200 without S-OCA (DKT3000 limitations: DKT2000, 16 character LCD display on DKT3000, DKT3000/3200 LCD Feature key does not function, DKT3014 large screen LCD does not display).
004	Not used	Not used		
017	BDKU	8 digital telephones	8, 1B circuits	DKT2000 or DKT3000/3200 without S-OCA
018	BDKU1+BDKS	16 digital telephones	16, 1B circuits	DKT2000 or DKT3000/3200 without S-OCA
019	BIOU	Page/MOH/Relay interface#1		No functions assigned
020	BIOU2	Page/MOH/Relay interface#2		No functions assigned. Strata CIX100 assigns a virtual BIOU2 into a virtual location, Cabinet 02, Slot 05, to provide control of the ACTU relay.

Station PDN Auto-programming

When auto programming recognizes installed station PCBs, it assigns PDNs in numerical order as follows:

- Auto programming assigns PDNs to station PCB equipment numbers (cabinet, slot, circuit) in equipment number order. All installed station PCB circuits will be assigned a PDN regardless of the circuit type, digital (BDKU/BDKS, PDKU) or analog (RSTU). MIPUs, GIPUs and LIPUs are not assigned PDNs.
- PDN 200 or PDN 2000 (depending on the system size) is assigned to the station circuit having the lowest equipment number in the system, then the PDN is incremented by one digit and assigned to the next highest station equipment number and so on. See Table 1-2.
- Program 205 Feature Button Setting – A Primary DN (PDN) is assigned to **FB01** on each digital telephone according to its equipment number (cabinet, slot, circuit) position. DND is assigned to FB20 on 20-button telephones and is not assigned on 10- and 14-button telephones.

Table 1-2 Auto-Programming for Station Primary Directory Number

First digit	CIX Basic Processor	CIX670 Exp Processor/CIX1200
2	Primary DNs (3-digits) 200~299 depending on quantity of station PCBs installed	Primary DNs (4-digit) 2000~2571 depending on the quantity of station PCBs installed
3	Primary DN (3-digits) 300~399 depending on the quantity of station PCBs installed	

CO Line Auto-programming

Table 1-3 shows the CO line PCBs that will be recognized and set in Program 100 during auto-programming. The default data for CO line Incoming Line Groups (ILG), Outgoing Line Groups (OLG), and CO line service type is set as shown in Table 1-4.

Important! PCBs must be installed per the rules in the Strata CIX and MAS Installation and Maintenance Manual, Configuration Chapter, Worksheet 6 and Worksheet 7.

Table 1-3 Auto-Programming for CO line PCB Recognition (Program 100)

PCB Code	PCB Name	PCB Circuit Type	Parameter setting	Comments
000	-	No PCB or RRCU		None or Remote cabinets
001	RCOU, RGLU	4 analog Loop or Ground start lines		Direct Incoming Termination (DIT) lines
005	RCOU+RCOS	8 analog Loop start lines		Direct Incoming Termination (DIT) lines
006	RDDU	4 analog DID lines		Direct Inward Dial lines
007	RDTU2	16 or 24 digital T1 lines	PCM Highway: 16 or 24 ¹	T1 Direct Incoming Termination (DIT) lines

Table 1-3 Auto-Programming for CO line PCB Recognition (Program 100) (continued)

PCB Code	PCB Name	PCB Circuit Type	Parameter setting	Comments
008	RDSU	4 standard telephone and 4 digital Telephone		Standard Telephone, DKT2000 and DKT3000/3200 without S-OCA, DP5xxx (DKT3000 limitations: DKT2000, 16 character LCD display on DKT3000/3200, DKT3000/3200 LCD Feature key does not function, DKT3014/3214 large screen LCD does not display)
009	RCIU2+RCIS	4 or 8 Caller ID interface		Caller ID interface for RCOU/RCOS and RGLU analog CLID lines. Note: The same Prg100 code (009) is used for RCIU2 with or without RCIS.
010	RMCU+RCMS	2 or 4 E911 analog CAMA lines		CAMA lines Note: The same Prg100 code (009) used for RCIU2 with or without RCIS.
011	REMU, BVPU	4 analog Tie lines, 4 VoIP circuits		Tie lines
012	RBSU	2 ISDN BRI (S/T) circuits	TEI Type: two TEIs	ISDN BRI CO lines
013	RBSU+RBSS	4 ISDN BRI (S/T) circuits	TEI Type: two TEIs	ISDN BRI CO lines
014	RPTU	16 or 24 ISDN PRI channels	PCM Highway: 16 or 24 ¹	ISDN BRI CO lines
015	RBUU	2 ISDN BRI (U) circuits	TEI Type: two TEIs	ISDN BRI CO lines
016	RBUU+RBUS	4 ISDN BRI (U) circuits	TEI Type: two TEIs	ISDN BRI CO lines

1. If the slot next to an installed RDTU or RPTU is vacant, 24 lines or channels will be installed; If the slot next to an installed RDTU or RPTU is occupied by another PCB, 16 lines or channels will be installed.

Table 1-4 Auto-Programming of Line Groups and Service Types

CO line type	OLG Prog 306	ILG Prog 304	CO Service Type
RCOU/RCOS and RGLU analog Loop and Ground start	1	1	Direct In Termination (DIT) to the first PDN (200 or 2000 – see Table 5)
RDDU analog DID	1	2	DID, wink – no default DID numbers
RDTU (T1)	1	3	DID – no default DID numbers
RMCU/RMCS analog CAMA	1	-	Direct In Termination (DIT) to the first PDN (200 or 2000 – see next table)
RBUU/RBUS and RBSU ISDN BRI - set as CO side	2	4	DID – no default DID numbers

Table 1-4 Auto-Programming of Line Groups and Service Types (continued)

CO line type	OLG Prog 306	ILG Prog 304	CO Service Type
ISDN PRI	2	5	DID – no default DID numbers
REMU analog E&M	3	6	Non-Strata Net
<p>1. The line number is assigned to all lines in the numerical order according to the line PCB cabinet placements. Example: Line number 1 will be on the first circuit of the line PCB placed in the lowest cabinet/slot number.</p> <p>2. OLG:1 is created even if there is are no analog line PCBs installed.</p>			

Table 1-5 Auto-Programming of Miscellaneous Line Parameters

Item	Settings
DIT line ringing assignment Program 310	All of the ringing destinations of DIT lines are the first PDN: PDN 200 for CIX100, CIX200 and Basic Proc CIX670 (1~2 cab), CIX1200 Basic PDN2000 for Expanded Processor CIX670. (3~7 cabinets), CIX1200 Expanded
DID numbers - not assigned Program 309	The destination of DID is not assigned. DID numbers and ringing destinations must be assigned manually from Strata eManager or the programming telephone.
Format setting for DIT (T1)	Zero Code Suppress = B8ZS, Frame Format = ESF
Setting for CAMA / E911	The destination of internal notification is the first DN 200 or 2000 in the all operation mode (DAY1, Day2 and Night).
Setting for ISDN BRI CO	Common D channel is not assigned. One channel group is assigned to each BRI PCB installed. The channel group number is assigned to each BRI interface in the order in which the BRI PCBs are installed. The destination of DID is not assigned.
Setting for ISDN PRI CO	Common D channel is not assigned. One channel group is assigned to each PRI PCB installed. The channel group number is assigned to each PRI interface in the order in which the PRI PCBs are installed. The destination of DID is not assigned.
Setting for E&M Tie lines	The node number and the other setting for networking are not assigned automatically.

The destination of Program 318, No Calling Party Number (Cpn) and Out Of Search [for] DID number, is assigned to the first Primary DN of the system (200 or 2000) in the all system operating modes (Day1, Day 2 and Night).

The DIT line (Ground and Loop) destinations of all trunks which generated automatically are set as the first PDN 200 or 2000 depending on the system size – see Table 1-4.

MIPU / GIPU / LIPU / BIPU Settings

Table 1-6 MIPU, GIPU, LIPU, BIPU-M Automatic Settings

Item	Description	Settings
Card Type	Card Type	BIPU-M, LIPU, MIPU, GIPU
IP address (xIPU)	IP address of xIPU	In the order of smallest number of the slot where xIPU is inserted 192.168.254.200 .201 .202/..... Private address will be set
Subnet mask (xIPU)	Subnet mask of xIPU substrate	255.255.255.0
Default gateway	Default gateway of xIPU substrate	0.0.0.0

Table 1-7 IP Terminal Automatic Settings

Item	Description	Settings
DN Setting	DN setting of the terminal accommodated in xIPU	Assigned in the order of the lowest slot number
Accommodated terminal setting (Station ID)	Parameter setting of station ID in xIPU	Station ID = PDN
Accommodated terminal setting (IP Address)	Parameter setting of IP address in xIPU	IP address = 0.0.0.0
Accommodated terminal setting (MAC addresses)	Parameter setting of MAC addresses in xIPU	MAC addresses = (no data)

Table 1-8 System Related Basic Settings

Item	Description	Settings
QoS control	Setting of priority control by Diffserv/IEEE802.1p	Use of Diffserv: Not applicable Set value of DSField = 0 Use of IEEE802.1p: Not applicable Priority level: Voice
Station ID	Automatic setting of Station ID	Not allowed
Terminal authentication setting	Application or non application of connection restriction function using MAC address	Not apply

BIPU-Q1A Initial Programming

After initializing the CIX System with BIPU for Strata Net over IP, Strata CIX detects the BIPU card for Strata Net over IP and basic programming is set automatically.

Table 1-9 BIPU-Q1A Automatic Settings

Item	Description	Settings
Card Type	Card Type	BIPU-Q1A
IP address (BIPU)	IP address of BIPU-Q1A	In the order of smallest number of the slot where BIPU is inserted 192.168.254.800 for 1st BIPU .801 for 2nd BIPU .802 for 3rd BIPU Private address will be set
Subnet mask (BIPU)	Subnet mask of BIPU-Q1A	255.255.255.0
Default gateway	Default gateway of BIPU-Q1A	0.0.0.0

Table 1-10 IP-Trunk Information

Program	Description	Settings
ILG	ILG number	7
	Kind of trunk (Analog/ISDN)	ISDN
	Type of trunk	TIE
OLG	OLG number	4
	Kind of trunk (Analog/ISDN)	ISDN
	Type of trunk	TIE
ISDN trunk	CG number	1: 1st BIPU-Q 2: 2nd BIPU-Q 3: 3rd BIPU-Q
	Type of protocol	IP
	ILG	7
	OLG	4
Voice coding procedure	CODEC (G.711, G.729A)	G.711
Index of Voice attribute table	(1~256)	1
Parameter of voice attribute table	-	Packet Interval: 20ms Type of Jitter buffer: Fixed Size of Jitter buffer: 1 Max Acceptable Delay: 1 Measure Time: 1000ms Packet Loss Ratio: 5 Packet Discard Ratio: 5

Table 1-11 LIPU Strata Net Automatic Settings

Item	Description	Settings
Card Type	Card Type	LIPU
IP address (LIPU)	IP address of LIPU	In the order of smallest number of the slot where the LIPU is inserted 192.168.254.200 for 1st LIPU .201 for 2nd LIPU .202 for 3rd LIPU Private address will be set
Subnet mask (LIPU)	Subnet mask of LIPU	255.255.255.0
Default gateway	Default gateway of LIPU	0.0.0.0

Table 1-12 Strata Net IP-Trunk Information

Trunk Type	Assignment	Run Programs in Sequence from left to right				
Strata Net	Basic	304	306			
	Node	656	651	653	654	655
	Remote node	670				
	Mapping	657	658	659	660	
	Network over IP	672	671			

Table 1-13 System Information

Item	Description	Settings
QoS control	Priority control by Diffserv. IEEE802.1p	Diffserv: Disable DS Field: 0 IEEE802.1p: Disable Priority: Voice (6)

CIX Processor NIC Interface TCP/IP Auto-programming

The following are the initial values of the LAN data that is automatically created for the system.

- Network TCP/IP. See “916 IP Configuration” on page 10-17.
 - IP address – 192.168.254.253
 - Sub network master – 255.255.255.0
 - Default gateway – 0.0.0.0
 - IP routing table – Not used
- SNMP Agent settings
 - Community name – communityName
 - IP address – 0.0.0.0 (not restricted by the IP address of the access source)
 - Privileges – WRITE
 - community-id – 1
 - User level – Super user
- Trap destination
 - Community name – Nothing
 - IP address – Nothing
- Modem PPP Server settings
 - IP Address – 192.168.255.254 (Strata CIX modem fixed IP address for dial-up connections).

Table 1-14 Public Numbering Plan Analyzed Digit Numbers (Program 117)

Public Numbering Plan Analyzed Number	Public Numbering Plan Analyzed Digit Number
1NXX	11
N11	3
NXX	7
N = 2~9 and X = 0~9	

Table 1-15 E911 Emergency Call to Outgoing Line Group (Program 550)

Emergency Call Group Number	OLG1
1	1

Table 1-16 E911 Emergency Call Destination (Program 400)

System Mode	Emergency Call Called Number Index	Emergency Call Called Number
DAY1	1	200 or 2000 (the first PDN)
DAY2	1	200 or 2000 (the first PDN)
NIGHT	1	200 or 2000 (the first PDN)

The emergency call destination is set for the first PDN as 200 or 2000 in the all operation mode (DAY1, Day2 NIGHT).

Table 1-17 Program 204 Default Data

In Program 204, all telephones are programmed as 20 buttons.
--

Table 1-18 Program 102 New Default Data

Feature Code	Default Value	Function
870	#963	Call monitor log off

Table 1-19 Program 205/213/215 New Default Data

Feature Code	Function
870	Call monitor feature button

Table 1-20 Program 313 Default Data

Caller ID	Prog 313	Function	
	FB1	Caller ID receive method	<u>nothing</u> /ANI-MCI/ANI-Sprint/CLASS
	FB2	Caller ID identification notice contents	<u>ANI and DNIS</u> /DNIS/DID
Underlined entry is CIX100 and CIX200 default			

Table 1-21 Program 100 Default Data

Virtual Slot Equip. Nos. *	Circuits	PCB Code	Station Line Numbers	Connection
0101	8 - Digital telephones (no spkr OCA)	017	200~207	GMAU1A (motherboard)
0102	3 - CO lines, with CLID	028	CO1~CO3	
0103	Not used			
0104	Standard telephone 01~02	026	01~208 02~217	01-GMAU1A 02-GSTU1A
0105	4 - Voice mail ports	026	220~223	GVMU1A
0106	Not used			
0107	8 - Digital telephones	017	209~216	GCDU1A
0108	3 - CO lines with CLID	028	CO4~CO6	
0205	Virtual BIOU	020	Relay Contact Page, MOH	GCTU1A

*Slot codes are set during system initialization and cannot be changed.

Default Feature Access Codes

Refer to "102 Flexible Access Codes" on page 4-3.

Note For DKTs, assign only the PDN numbers. Do not program any other Flexible Buttons or features in the phones. Strata CIX automatically recognizes and sets up digital telephone stations.

Plan Your System Requirements

Plan for your Strata CIX system requirements in detail before beginning your installation. Use record sheets wherever they are provided to document your installation requirements. The following are some areas to consider:

- **Flexible Numbering Plan (102)** – Planning your Flexible Numbering requirements is essential to a smooth installation. Trunk group access and station range requirements are especially important areas of consideration.
- **COS (103)** – Determine the Class of Service (COS) requirements for your station and trunk groups. There are up to 32 possible COS plans.
- **DRL (111)** – Define up to 16 Destination Restriction Level (DRL) assignments.

Important! Destination Restriction is an expanded feature of what has traditionally been known as Toll Restriction. Toll Restriction is only one facet of Strata CIX's Destination Restriction feature. Refer to Destination Restriction in this manual when programming Toll Restriction requirements.

- **FRL and QPL (506)** – Define up to 16 Facilities Restriction Level (FRL) and Queuing Priority Level (QPL) assignments.

Program the CIX for First Time

Follow the steps below to program the Strata CIX for the first time. Following this initial setup procedure enables you to perform a standard Strata CIX setup with common System and Station default assignments. Toshiba recommends adherence to these procedures for initial setup. Refer to the CIX40 Installation and Maintenance Manual (CIX-IM-CIX40-Vx) for the CIX40 default database and start-up procedures.

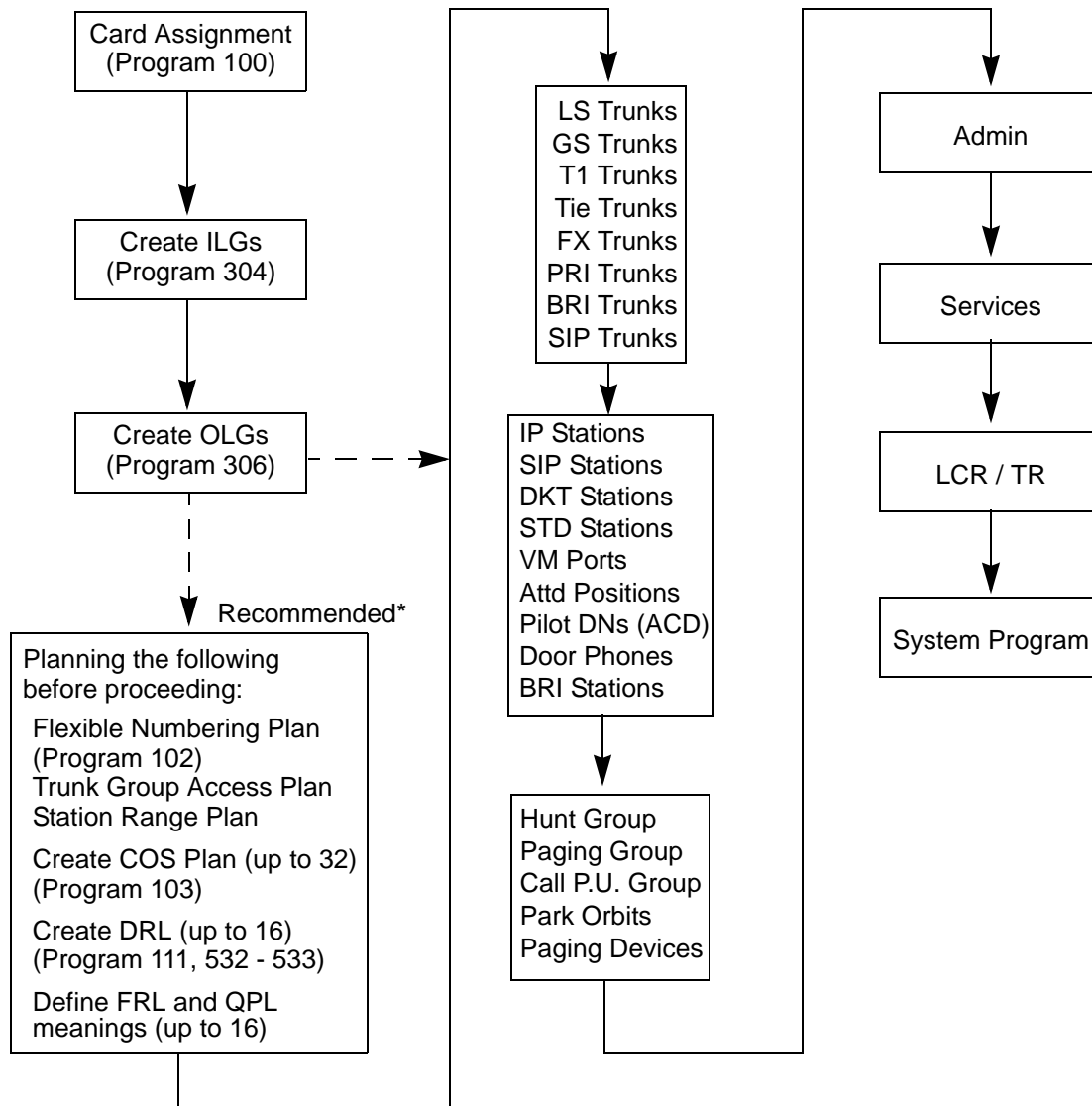
1. **Card Assignments (100)** – Choose Advanced Configuration > System > Card Assignment. It is not necessary to physically install PCBs prior to programming the Strata CIX.

If you physically install your PCBs prior to initial setup, Strata eManager automatically recognizes PDKU, BDKU/BDKS, RSTU, RCOU/RCOS and RGLU PCBs and assigns default stations and trunks automatically. All other PCBs are assigned manually. See "100 Cabinet Slot PCB Assignments" on page 4-1 for more details.
2. **ILG Assignment (304)** – Choose Trunk > ILG to assign Incoming Line Groups (ILG). See "304 Incoming Line Group Assignment" on page 6-2 for more details. ILGs enable line groupings of shared Class of Service features for incoming call handling.
3. **OLG Assignment (306)** – Choose Trunk > OLG to assign Outgoing Line Groups (OLG). See "306 Outgoing Line Groups" on page 6-5 for more details.
4. **Trunk Assignment (300)** – Choose Trunk > Basic. Set up your trunks in the following order (see "300 Trunk Assignment" on page 6-7 for more details):
 - Loop Start Trunks
 - Ground Start Trunks
 - T1 Trunks
 - Tie lines
 - FX lines
 - PRI lines
 - BRI lines

5. **Station Assignment (200)** – Choose Station > Basic. Set up your stations in the following order (see ["Assignment"](#) on [page 5-1](#) for more details):
 - DKT Stations
 - DP Stations
 - IP Stations
 - Standard Stations
 - Voice Mail (VM) Ports
 - Attendant Positions
 - Automatic Call Distribution (ACD) Pilot DNs
 - Door Phones
6. **Create Station Links** – Create the following groups wherever applicable and set stations to link as necessary.
 - Hunt Groups using Programs 209 and 218
 - Paging Groups using Program 502
 - Call Pickup Groups using Program 210
 - Park Orbits using Program 102
 - Paging Devices using Program 503
7. **Backup Data** – Choose Operation\Data Backup. Make sure the SmartMedia card is properly formatted (see ["Restoring Data from SM/SD"](#) on [page 10-2](#)) prior to running backup. See ["910 Data Backup"](#) on [page 10-16](#) for details.
8. Continue programming Strata CIX details.

Review Program Flow

The basic program flow needed to set up the Strata CIX is shown below. The figure displays the most critical programs in the left column and migrates right to optional programs. Also, programming flows from specific (left) to general (right).



* Planning these details in advance enables Strata setup to proceed smoothly.

Identify Program Sequences

Use the following tables to quickly identify the programs needed to fulfill your setup requirements. See the Index to correlate program numbers and their functions.

Station Setup

Use the following table to quickly access the programs needed to set up station requirements.

Station Type	Assignment	Run Programs in Sequence from left to right							
SLT	DN	100	200						
IP	PDN	100	150	260					
DKT DP	PDN	100	200	204	208	205			
	PhDN	205	206						
	DADM	204	213						
	DDSS	214	215						
	Attd	100	200	204	208				
	Ext	100	200	208					
	VM	100	200	204	206	209	218	579	580
ISDN	Ext	100	202	217					
Pilot DN		540							
Station Hunting		209	218						
Call Pickup Groups		210							
Emergency Ringdown		216							
Paging Groups		502							
Station Speed Dial		516							

Trunk Setup – Analog

Use the following table to quickly access the programs needed to set up analog trunk requirements.

Trunk Type	Assignment	Run Programs in Sequence from left to right						
LS/GS	Basic	100	304	306	300			
	Ring	310						
	Timer	308						
	DISA	310						
Tie line	Basic	100	304	306	300			
	Timer	308						
	DISA	310						
DID	Basic	100	304	306	300			
	Ring	309						
	Timer	308						
	DISA	309						
	DNIS/ANI	313						
	Intercept	318	319					

Trunk Setup – T1

Use the following table to quickly access the programs needed to set up T1 trunk requirements.

Trunk Type	Assignment	Run Programs in Sequence from left to right						
LS/GS	Basic	100	304	306	300			
	Data	315						
	Ring	310						
	Timer	308						
	DISA	310						
Tie line	Basic	100	304	306	300			
	Data	315						
	Timer	308						
	DISA	310						
DID	Basic	100	304	306	300			
	Data	315						
	Ring	309						
	Timer	308						
	DISA	309						
	DNIS/ANI	313						
	Intercept	318	319					

Trunk Setup – ISDN PRI

Use the following table to quickly access the programs needed to set up ISDN PRI trunk requirements.

Trunk Type	Assignment	Run Programs in Sequence from left to right						
DID	Basic	100	304	306	302	320	105	
	Ring	309						
	DISA	309						
	DNIS/ANI	309						
	Intercept	318	319					
	CNIS	321	322					
Tie line	Basic	100	304	306	302	320	105	
	Ring	309						
	Timer	308						
Shared D-Channel		100	304	306	302	320	316	
CBC		100	304 ¹	306 ¹	302 ²	320	323 ³	324
Notes								
1. Each CBC Group may require one ILG and one OLG.								
2. Do not assign ILG/OLG using this program.								
3. Assign ILG and OLG using Program 323.								

Trunk Setup – ISDN PRI - Strata Net

Use the following table to quickly access the programs needed to set up ISDN PRI trunk requirements.

Trunk Type	Assignment	Run Programs in Sequence from left to right						
Strata Net	Basic	100	304	306	302	120		
	Node	656	651	653	654	655		
	Remote Node	670						
	Mapping	657	658	659	660			
	Network DN	318	319					

SIP Trunking

Trunk Type	Assignment	Run Programs in Sequence from left to right						
SIP Trunk	Basic	100	304	306	326			
	Service	327	328	329				
	MIPU/GIPU	161						

Miscellaneous

Use the following table to quickly access the programs needed to set up other Strata CIX features.

Feature	Run Programs in Sequence from left to right									
Account-Codes	570	571	103	506	306					
Alarm Notification	Utilities>Operations>Trap IP Setup									
Analog Station with CLID Support	100	200								
Automatic Busy Redial (ABR)	103	208	104							
Automatic Call Back (ACB)	104									
Automatic Camp-On	304									
Auto-Release of CO	308									
Background-Music (BGM)	102	103	109							
Call Forwarding	103	200	217							
Call History	204	205								
Call Park Orbit	104	102								
Call Pick Up	210	103	200	205	102					
Call Xfer W/ Camp-On	103									
Centralize SMDR	803	801								
COS-CO	304	306								
COS-Station	200	202								
Credit-Card Calling	105	111	306							
Day/Night service	500	106	112	113	103	105				
Destination Restriction	200	202	306	650	530	531	532	533	534	
Dial Directory	204									
Digital PAD	107	114								
Direct Inward Dialing	309	318	304							
Direct Inward Termination	304	310								
DISA	311									
Do not Disturb (DND)	103	204	205	102						
Door Lock Control	104	204	508	205						
Door Phones	102	507	573							
DR Override by System's Speed Dial	105									
DTMF Back Tone	204									
DTMF DP Compatible	104									
DTMF Signal Time	579	104								
E911	105	200 202	217	550	104	306				
Emergency Ring-Down	216									
Executive Override	103	105								
External Ringing Repeat	300	204								

Strata CIX Programming Guidelines

Use Default Auto-programming to Start Up

Feature	Run Programs in Sequence from left to right									
Flash	308	205	102	103						
Flexible Numbering	102									
Group Paging	502	503	102							
Identification Services	309	318	579							
Least-Cost-Routing (LCR)	520	521	522	523	524	525	526	528	529	103
Line Group	304	305	306	307	317	302	323	300		
Message-Waiting Light	204	102	579							
Music-on-Hold	102	105	109	309	310					
Network Call – Incoming	102	656								
Network Call – Outgoing	102	651	653	654	655					
Off-Hook Camp-on	104	200	217							
Out-Going calls	200	217	104							
Relay Services	515									
Ringing-Transfer	105									
SMDI	200	202	579	580						
SMDR	512	513	514	803	801	804				
Station CO Line Access	204									
System Call-Forward	200	217	104	500	504					
Tandem Connection	103	104	300							
Tone-First/Voice-First	204	206								
Traffic Measurement and Report	921	922								
Travelling COS	105	200	510							
Uniform CALL Distribution	103	209	218	219	205					
VLAN Tagging	Advanced Configuration>IP-Telephony>IPT VLAN Setup									
Voice-Mail Interface See " Telephone Station Ports " on page A-2	100	200	209	218	579	580	803	804	309	318

Introduction

The Strata CIX systems are programmed using eManager. eManager R5.1 (R5.10A07 or later) can be used to program all CIX and CTX systems. This section includes the process for using eManager on the MAS or a stand-alone PC and shows how to install the eManager software on your PC to connect to the Strata CIX system.

eManager®

eManager is a powerful telephone system administration tool used to program, maintain and upgrade the Strata CIX Digital Business Telephone System and Strategy ES Voice Mail System. eManager resides on the Media Application Server (MAS) or can be loaded on a Server with network access to the CIX or on a laptop PC (see [“Install or Upgrade eManager Software”](#) on [page 2-12](#) for specifications).

eManager combines administration and management of the two previously separate applications, telephone system and voice mail, into combined menus allowing technicians and system administrators to program both together and eliminate many duplicate steps. New User Profile is designed to record equipment, user privileges, and authenticate the users during login. The User Profile allows organizing the equipment into domain groups of networked systems and presenting them in a tree. The user can select on the tree which equipment to access for administration.

eManager can be accessed locally over the LAN or with proper network security, remotely over the Internet, and because it is used from the user's web browser, no special software is required to be loaded on the client user's PC. The web browser must be Windows Internet Explorer 6.0 or above.

eManager on the MAS can be used through the keyboard and monitor connected to the MAS or from any PC with network access using the Windows XP remote desktop function.

Note At this time eManager only supports Microsoft Windows Internet Explorer. Other browsers are not supported. To use eManager with Microsoft Windows Internet Explorer 7 make the following changes to your Internet Explorer settings:

Select Tools > Internet Options. Click on the Security tab. Select Internet then click on Custom Level. Scroll down to “Initialize and script ActiveX controls not marked as safe” and set to Enable.

Click on the Security tab, select Internet. Click on Custom Level. Scroll down to the Scripting section to “Allow status bar update via script” and set to Enable.

Network eManager® Introduction

The new Network eManager application is designed to reduce the time needed to manage multiple CIX equipment sites. Situations when an administrator needs to configure multiple CIX systems as a group include:

- Multiple CIX systems in a Strata NET configuration.
- Setting up several CIX systems at different sites through a LAN at the same time.
- Several sites, at different geographical locations, each with its own CIX, all managed centrally over a WAN.

The Network eManager application is changing the way the user can manage multiple CIX equipment sites. While eManager can manage one CIX system during one administration session, Network eManager can manage a group of CIX systems in a single session.

Advantages of Network eManager

To manage multiple CIX sites the eManager user has to switch between CIX system sites by navigating back to a connection page. This closes the currently open pages, disconnects from the CIX system, and cleans all data collected from the eManager application. Once back on the connection page, the user selects the next single CIX and begins managing that system.

With Network eManager the user selects an Equipment Group from a tree view. An Equipment Group can include any number of CIX systems and associated Strategy Enterprise Servers (SES). Once an Equipment Group is selected, the user can connect to all members in the selected group. After a successful connection, Network eManager navigates to a menu with all of the member CIX systems of the connected Equipment Group available as destinations. The user can then manage all member CIX systems of the selected Equipment Group without navigating back to the selection page. Compared to eManager, the new features in Network eManager provide three ways for managing multiple CIX systems more efficiently:

- Instant selection of a group member CIX system added to existing eManager pages. These pages target one CIX system at a time, but the instant selection control allows switching systems without closing the current page and navigating back to the connection page.
- New functions added to existing eManager pages allow the user to apply changes or to extend operations to all group member CIX systems at once.
- New pages and functions designed to provide tools to make managing Strata NET sites easier and faster are added. These functions operate across the member CIX systems in an Equipment Group.

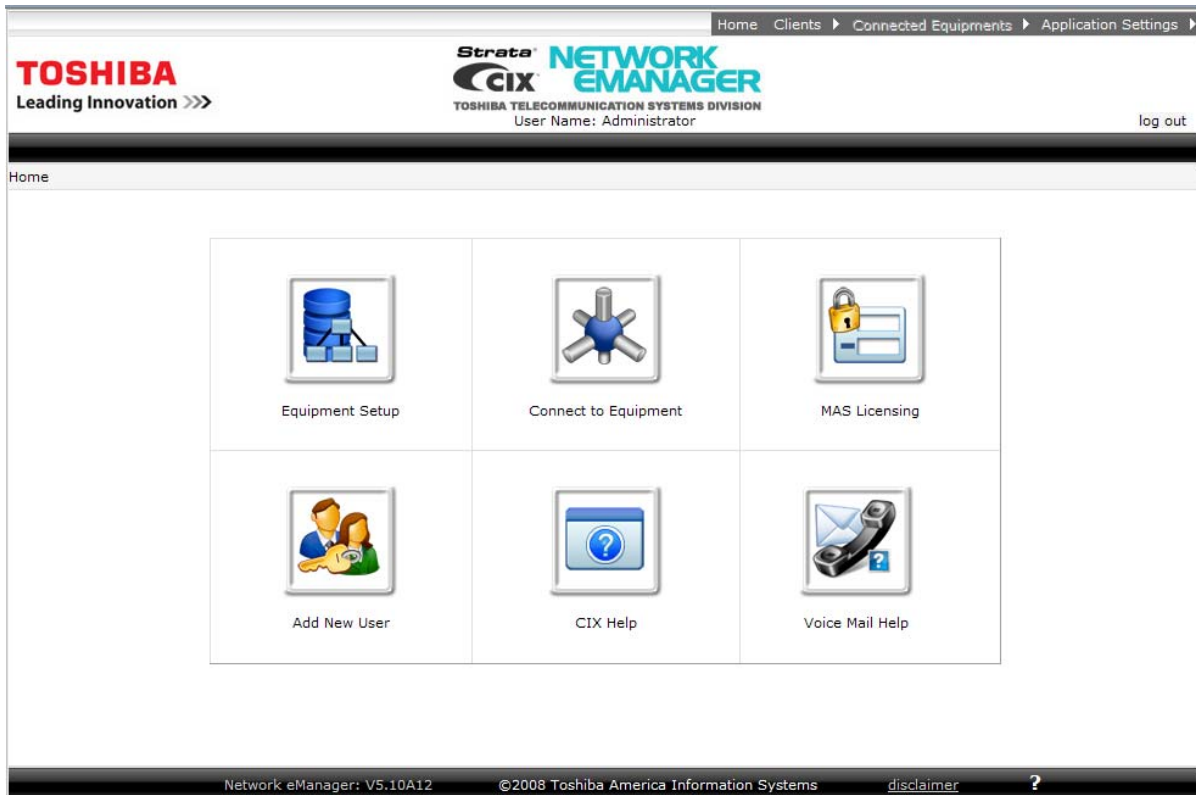


Figure 2-1 Network eManager Screen

Network eManager Main Menu

When a user logs into Network eManager the main menu appears. The main menu includes the following options.

- **Equipment Setup** — This new location is where the CIX system sites are built. The Equipment Setup allows the technician to add new equipment or add equipment to an existing site, update equipment and delete equipment.
- **Connect to Equipment** — This new option allows the user to select one or multiple CIX systems.
- **MAS Licensing** — This new MAS Licensing utility is similar to the previous eManager utility.
- **Account Setup** — This is where individual eManager user IDs can be built with one of four permission levels.
- **Software Update** — This new feature can back-up, upload or update the software of one or multiple CIX systems at the same time.
- **Add New Stations** - This utility allows the technician to add a station to any equipment and to any node by simply clicking on the Node Selection Panel.
- **Help** – This feature allows the technician to view the Programming Manual.

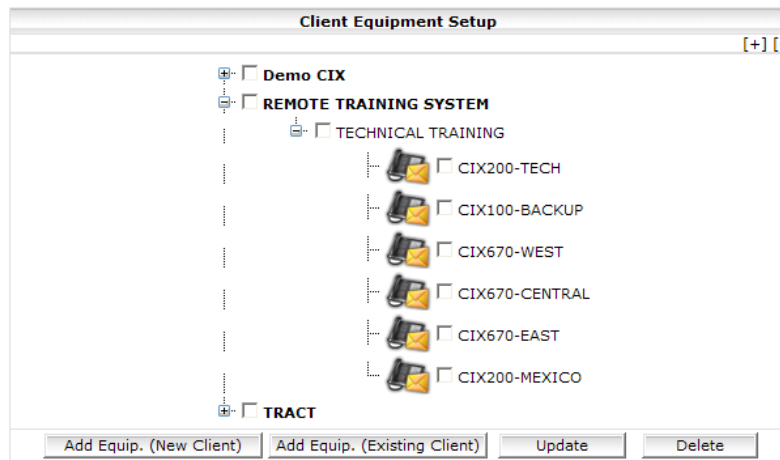
Equipment Setup

The Client Equipment Setup is used to build new equipment groups, add equipment to existing groups, update equipment, and delete equipment. The Equipment is setup in a three-tier format:

- Company
- Site
- Equipment

In the example below, Toshiba Training is a company with one site - Remote Training System. At that site are seven systems. The buttons at the bottom of the screen are:

- **Add Equipment (New Client)** – Add a new company, a site, and the first system (Equipment) at that site.
- **Add Equip. (Existing Client)** – Add a site to a company or a system to a site.
- **Update** – Change a company name, site name, system name, or any information about the system.
- **Delete** – Delete the checked item. If a system is checked, only that system is deleted. If a site is checked, all of the equipment assigned to that site is deleted. If a company is checked, all of the sites and equipment is deleted.



Add Equipment Window

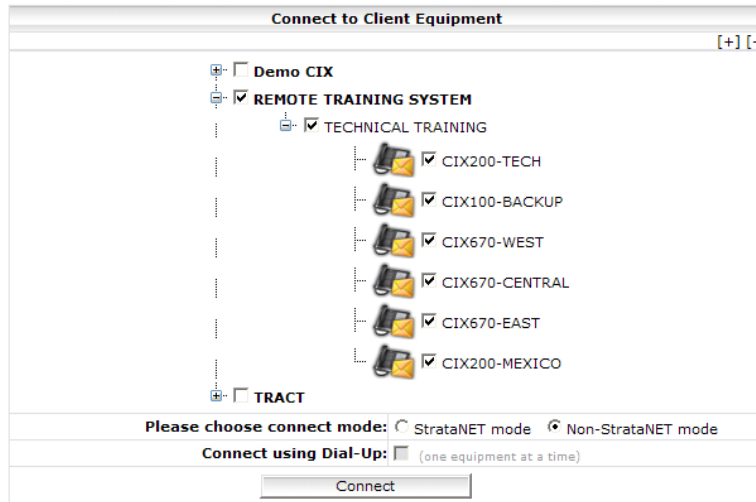
The Add Equipment window is used to add a new Company Name, a new Site Name or new Equipment to a site. When adding a company, all of the data including a site and one system must be entered. When adding a site or system, the screen shown below will have the company name and/or the site name fields filled-in based on what was selected when the **Add Equip (existing client)** button was clicked.

Add Equipment	
Company Name:	<input type="text"/>
Site Name:	<input type="text"/>
Equipment Name:	<input type="text"/>
IP Address:	<input type="text"/>
Community Name:	<input type="text"/>
Confirm Community Name:	<input type="text"/>
Voice Mail IP Address(optional):	<input type="text"/>
Dialup Connection Phone Number(optional):	<input type="text"/>
<input type="button" value=" <<< Back"/> <input type="button" value=" Add Equip. (New Client)"/>	

Connecting To Multiple CIX Systems

One of the most powerful features of Network eManager is the ability to connect to multiple systems at one time. The eManager user can connect to multiple CIX systems in multiple nodes in multiple locations simultaneously. This feature requires an IP connection to all the equipment the user wants to connect to.

In this example, by simply clicking on the Toshiba Training main tree, it places a check mark to all the branch equipment beneath.



Connection Mode

There are two ways to connect to Network eManager. The default is Non-Strata Net mode. The Strata Net mode allows the technician a feature to automatically build Network DNS to multiple nodes simultaneously.

Add New Stations

The Add New Stations utility allows the technician to add a station DN to multiple systems in multiple nodes in a Strata Net system by simply clicking on the Node Selection Panel.

Add New Station	
User Name:	<input type="text"/>
Phone Type:	<input type="text" value="DKT"/> ▼
Extension:	<input type="text"/>
Site Name:	WINCIX
Node Name:	CIX670
Template:	<input type="text" value="Apply[2000:DKT]Properties"/> ▼
<input type="button" value="Submit"/>	

MAS Licensing

The MAS licensing screen is used to: Upload, Delete, Issue, Activate, and View Licenses.

License Management

Every MAS is preloaded with an eManager server. For eManager server the MAS in the same PC is local, and other MAS systems are remote. To issue and activate MAS licenses, you need to be logged in to the eManager server in the local MAS.

Local MAC Address: 0002B3E98E12
Local Serial Number: 001B77CE12

Uploaded License Container Files in eManager Server			
Date/Time	Name	Serial Number	Local Status

Add New User

The Account Setup utility creates new Network eManager users, each with one of four levels of permissions.

Add New User

Level:

User Name:

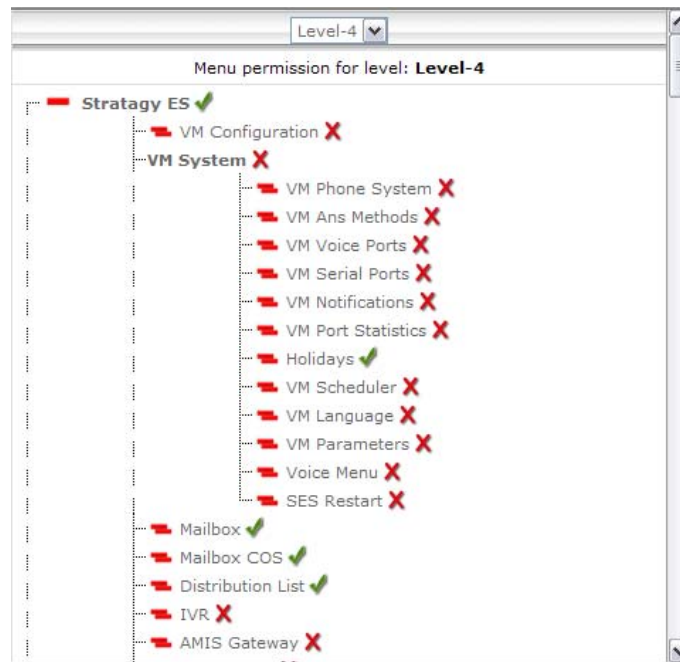
Password:

Confirm Password:

Directory Folder Name:

Allow this user to access Equipment Setup page. Yes No

Clicking on the View Levels Default Permission will shows the different access permissions of each level.



The Network eManager Toolbar Setup Menu

In addition to the icons on the main menu page, there is a set of menus on the top right hand corner of the Network eManager screen. These menus, similar to the icons on the body of the page, include a menu item, **Connect to Client SES Only**.

Click on **Connect to Client SES Only** menu to connect to the SES in the selected system. Only the Voice Mail menu will be available, all other menu items will be disabled.



Application Settings

The Application Settings menu is used change the color theme of Network eManager, perform account setup and set restriction access. The Account Setup and Restriction Menus are identical to the icon-based menus.

Navigating The New Menus

Navigating to the program commands is slightly different than the previous eManager releases.

The program menu is no longer on the side of the screen, it is now on top of the Network eManager screen. When you click on the command, a drop-down box displays the commands in that function set. For example, all of the Station-related programs are now under the Station main menu. The list of station DNs are still on the right side. The Node Selection Panel allows you to see the data values from different CIX systems by simply clicking on the equipment name without having to log out.

The left column on the screen shows the Node Connection Panel. All of the current CIX sites that you are connected to are shown. The graphic in the middle of the screen shows the details of all the CIX equipment in the node. The detail information includes: Equipment Type, Equipment Version, Equipment Name, IP Address, Voice Mail, MAC Address and Country.

One node will be highlighted to indicate the current node connection. Clicking on the other nodes will display the data for that given node.

Network eManager Command Structure

Network eManager no longer displays the following menus that were a part of the previous eManager "Home" page:

- Basic Configuration
- Advance Configuration
- Utilities
- Switch Equipment

The commands and functions of those menus have been moved to the following menus:

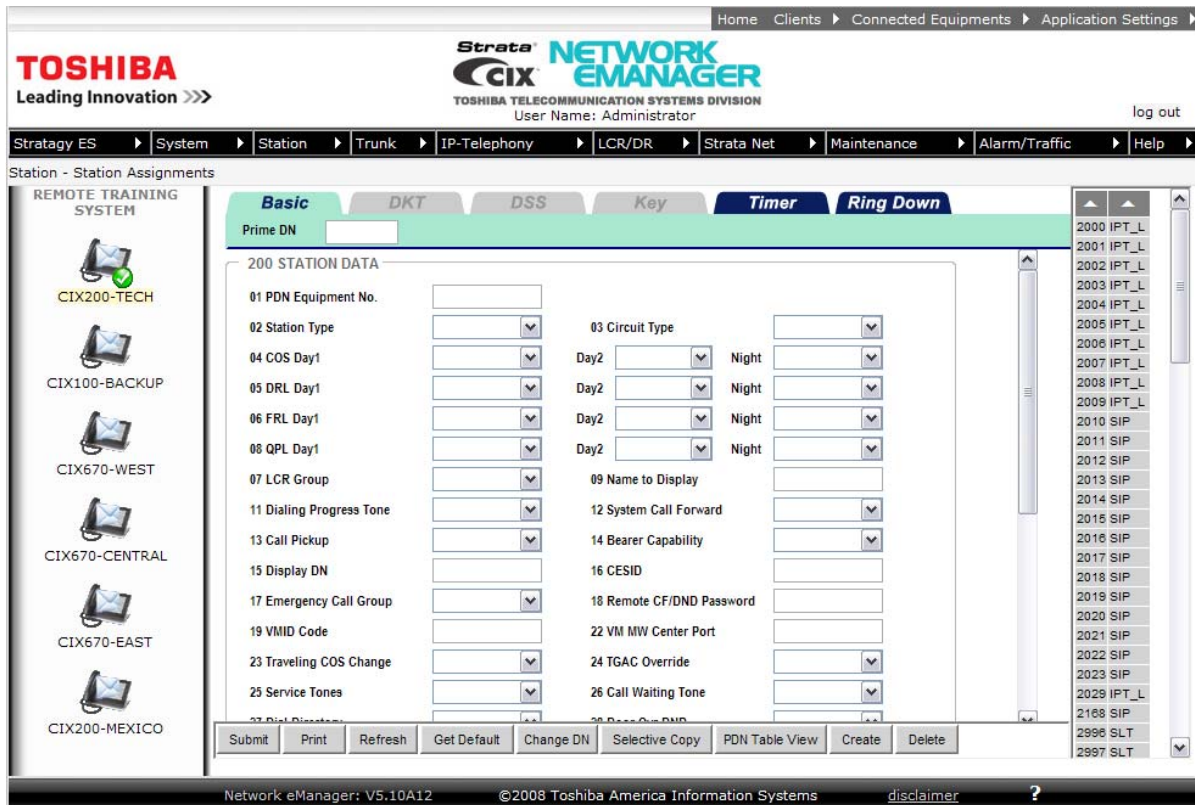
- Strategy ES
- Commands
- Systems
- Stations
- Trunk
- IP Telephony
- LCR/DR
- Strata Net
- Maintenance
- Alarm/Traffic

All of the programming covered in the Basic Configuration, Advance Configuration and Utilities are merged under different menus in the new Network eManager. For example, in the previous eManager, the Backup procedure was under the Utilities > Data Backup. The path to the Backup procedure in the Network eManager is Maintenance > CIX Data Backup. The Data Backup procedure will be covered in more detail in this document.

Accessing Multiple Systems

A powerful feature of Network eManager is the ability to access the programming data on multiple CIX systems without having to log-off of one system and then log-on to the next system.

In this example Network eManager is currently viewing the Station programming data for the CIX670-WEST switch. Program 200 displays the familiar list of stations on the right with the details of each station in the work area.



Accessing the Data from Multiple Systems

By simply clicking on a different system in the Node Selection Panel, the Administrator can switch from viewing the Station Programming data at one node to viewing the data from another node without having to logout.

Node Selection Panel

The Node Selection Panel provides the following features:

- Provides a list of the group member CIX systems and CIX/SES pairs (nodes).
- Allows the user to show the data from another node on the current page by simply clicking on the node.
- Indicates Active Node with a distinct glyph. The Active Copy Node is the CIX or CIX/SES pair that is currently accessed by the page.

Copy To Multiple Equipment

A powerful feature of Network eManager is the ability to selectively copy data from one CIX system to multiple CIX systems.

For example, to copy selected fields in Program 260, Full IP Station Assignments:

1. Click on all the fields to be copied. For example; COS Day1, DRL Day1, FRL Day1, QPL Day1 and LCR Group. The 'Highlight All' button is still available to select all values for a copy.
2. Click the '**Select Copy To PDN(s)**' button.
3. Notice that PDNs from different systems are visible. Select all the PDNs the selected fields will be copied to.

Apply To Multiple Equipment

Network eManager allows the user to modify programming and Apply To multiple CIX systems. When you click the **Apply To** button, the Apply To Group CIX dialogue box appears. From the dialogue box the user can select which CIX systems the changes will be applied to.

When the **Submit** button is clicked the changed program values will propagate to all of the connected systems. There is no need to switch back and forth between CIX systems to copy the changed data to different systems.

Backing Up The Database On Multiple CIX Systems

CIX Data Backup

Network eManager can backup data from multiple systems. This new function can save significant time when preparing to update the CIX system software on multiple nodes and when a backup needs to be done on each node.

The new database backup method provides extended functionality including:

- Selecting the new software file directly from the user's PC.
- Selecting multiple CIX systems for update and starting the procedure at once without further user interaction during the procedure.

The following actions must be done before the update process can start:

- Locate the new CIX software by CIX system type.
- Decide which CIX systems will be updated - type should match with software.
- Decide for each system whether the new software should be automatically activated after it is uploaded.
- Decide for each system whether the current CIX database should be restored during the new software activation. If yes, Network eManager will create a CIX database backup prior to uploading the new software.

The new CIX Data Backup is under the Maintenance -> CIX Data Backup. The user can select which systems need to be backed up or can select all of the systems at the site. If any of the systems fail to backup, it will not halt the entire backup operation. The backup procedure will continue to run for the other systems.

Updating the Software On Multiple CIX Systems

The new CIX Software Update is located under the Maintenance > CIX Software Update. In the Upload window you have the option of backing up the CIX systems prior to the upgrade. If the user clicks on the **Yes** button, the database backup screen will be displayed allowing you to select the databases to backup. Once the backup procedure has been completed, click on the **Browse** button to find the corresponding CIX software update for each CIX system that needs to be backed up. The update software must match the corresponding system, otherwise the update procedure will fail. Then click on the **Upload file(s) to eManager server** button. Network eManager will then copy the update software to a designated folder in the Network eManager server.

When all the CIX software updates have been uploaded press the **Start** button to complete the process.

Note Network eManager requires the update file you download from the Toshiba F.Y.I. website to remain in zip format. Do not unzip the update file or the update process will fail.

Creating Network DNs in Multiple Systems

The new Network eManager can automatically build Network DN stations from one system and have it automatically created in the other nodes of a Strata Net network. From the Network eManager configuration screen, click on Strata Net > Network DN Setup > Add New Station.

Note The Strata Net menu only becomes available for access if Strata Net mode was chosen during the connection.

Note Only one DN can be created across multiple nodes at one time.

In the Add New Station window, fill in the following information:

- User Name
- Phone Type
- Extension

In the 'Update Network DN table in all nodes?' line on the bottom of the screen click to select the **Yes** radio button.

Install eManager

eManager is installed on every MAS shipped to a customer site. The following information details the upgrade of the eManager on the MAS or the installation of eManager on another PC.

eManager PC Minimum Requirements

A PC or server should meet the minimum requirements listed below.

- 1 GHz 32-bit (x86) or 64-bit (x64) processor
- Windows® XP Professional SP2 (See Important! below), Windows Vista Business Edition, Windows 2003 Server or Windows 2000 Professional (**Note:** Windows 2000 Professional does NOT support Network eManager.)
- Memory and available hard disk space requirements

Operating System	Windows XP Professional, Windows 2003 Server, Windows 2000 Professional	Windows Vista Business
Memory Required	512 MB (minimum) 1 GB (recommended)	1 GB (minimum) 2 GB (recommended)
Available Hard Disk Space	512 MB (minimum) 1 GB (recommended)	1 GB (minimum) 2 GB (recommended)

- CD or DVD-ROM drive
- SVGA card and color monitor
- Mouse
- Keyboard
- 10/100BaseT Network Interface Card
- Internet Explorer 6.00 or later
- Microsoft Add-On Components:
 - IIS
 - Management and Monitoring Tools
 - .NET Framework

Note The Windows operating system (as appropriate) CD-ROM must be available if any of the above are not already installed.

Note The Network eManager Help file is compatible with Adobe® Reader® 5.0 and later, except versions 7.0.6, 7.0.7 and 7.0.8.

Important!

- If the system is running Windows XP Professional with SP2, the firewall that is automatically included and enabled in Windows XP Professional - SP2 prevents login to eManager. When running Windows XP Professional with SP2 you should turn off the firewall or follow the firewall configuration guides in the MAS Installation section.
- The pop-up blocker in all Windows applications, anti-virus, and other apps must also be turned off.

Anti-Virus Software

When a system has access to the internet anti-virus protection is recommended.

Install or Upgrade eManager Software

These are the software components required by eManager:

- Windows Internet Information Services and WMI components
- Windows SQL 2005 Express
- Windows Installer 3.1 and .NET Framework 2.0

The presence of these components is verified by the eManager installation script. If you are upgrading eManager version 4.2 A11 or earlier, the .exe file will use a series of prompts to guide you through the update from MSDE to SQL 2005 Express. It is not necessary to remove the older eManager; the install program will overwrite it.

Installing eManager from a Remote Location

Although not recommended, eManager can be installed remotely.

1. The zipped eManager.exe file must be copied to the target PC or MAS using Windows Remote Desktop.
2. Use Remote Desktop to execute eManager on the target PC or MAS.
3. Continue with the eManager Installation/Upgrade Procedure.

eManager Installation/Upgrade Procedure

CAUTION! Do not open and/or run other applications during installation as this may corrupt the installation and/or other software on your PC. Installation may take several minutes.

Note eManager and WinAdmin cannot be installed on the same PC. Uninstall WinAdmin before installing eManager version 5.10 and later. If WinAdmin is removed after eManager is installed, dial-up operation will not function. eManager is recommended for all systems and is required for all R3.0 and later systems.

Note Uninstall any search engine-based internet tool bars or other web-based applications (e.g. Google or Yahoo tool bars) from the system before starting the eManager install. These tool bars usually include pop-up blockers that interfere with eManager operation.

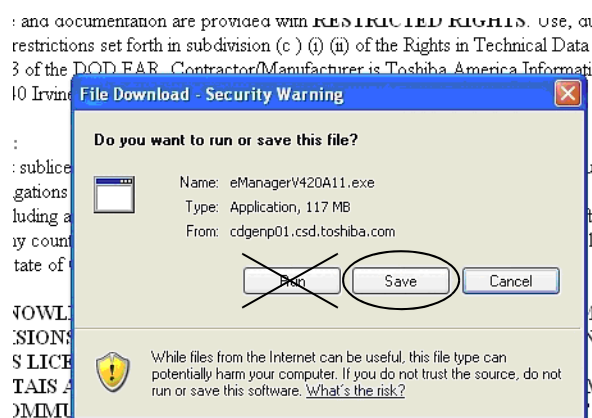
Important! Additional Microsoft software must be installed BEFORE eManager is installed. The following two steps check for the required additional software. The installer program will stop the eManager installation and prompt for the installation of any missing components.

CAUTION! Read the installation guide before attempting to install eManager. Each type of installation is unique.

1. Ensure that all required Windows components are installed before installing eManager. Refer to “eManager PC Minimum Requirements” on Page 2-11.
2. Ensure that Microsoft Windows Installer 3.1 and Microsoft .NET Framework 2.0 are installed. Refer to “eManager PC Minimum Requirements” on Page 2-11.

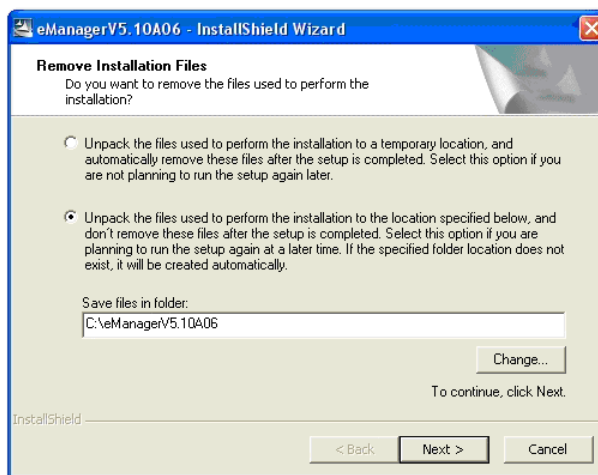
Download eManager from FYI

1. Log into FYI (<http://fyi.tsd.toshiba.com>).
2. Select Software (Strata Sys) > CIX Administration Tools then click on eManager V5.10A07.
3. In the File Download dialog box click on **Save**.

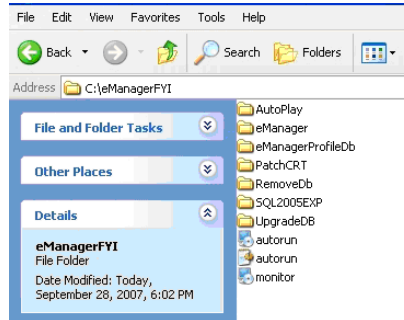


>/SWL/1.00

4. Double click on the eManager file to extract the eManager installation files.
5. In the InstallShield Wizard Remove Installation Files screen, select the option to ‘Unpack the files and don’t remove these files after setup.’



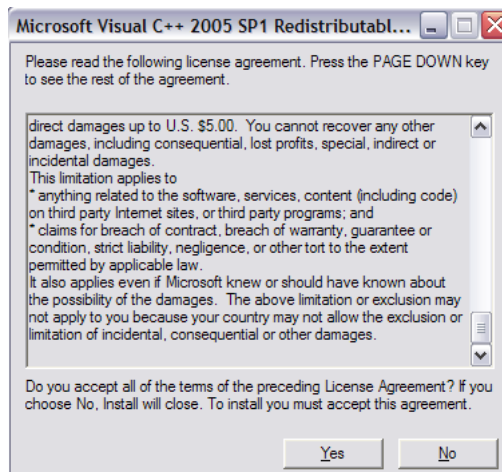
- The extracted files are saved in the folder shown in the InstallShield Wizard screen (above). Click on the AutoPlay file.



- The eManager installation splash screen will appear.



- Click on the **Install eManager** button.
- Depending on the software configuration and setup of your computer, the Microsoft Visual C++ dialog box may appear. If it opens click on **Yes**.

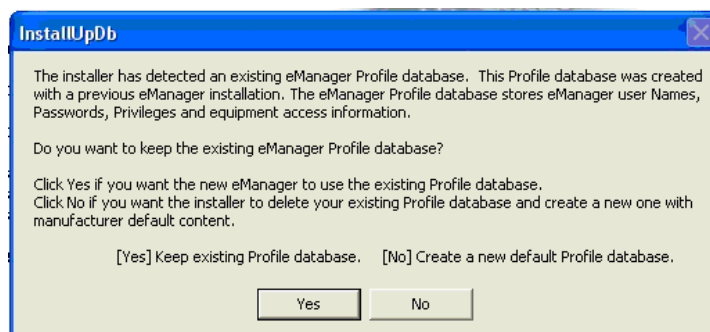


- The install system will perform the prerequisite checks and prompt for the installation of missing components. If components are missing the system will prompt for their installation. If all of the components are installed go to Step 11.

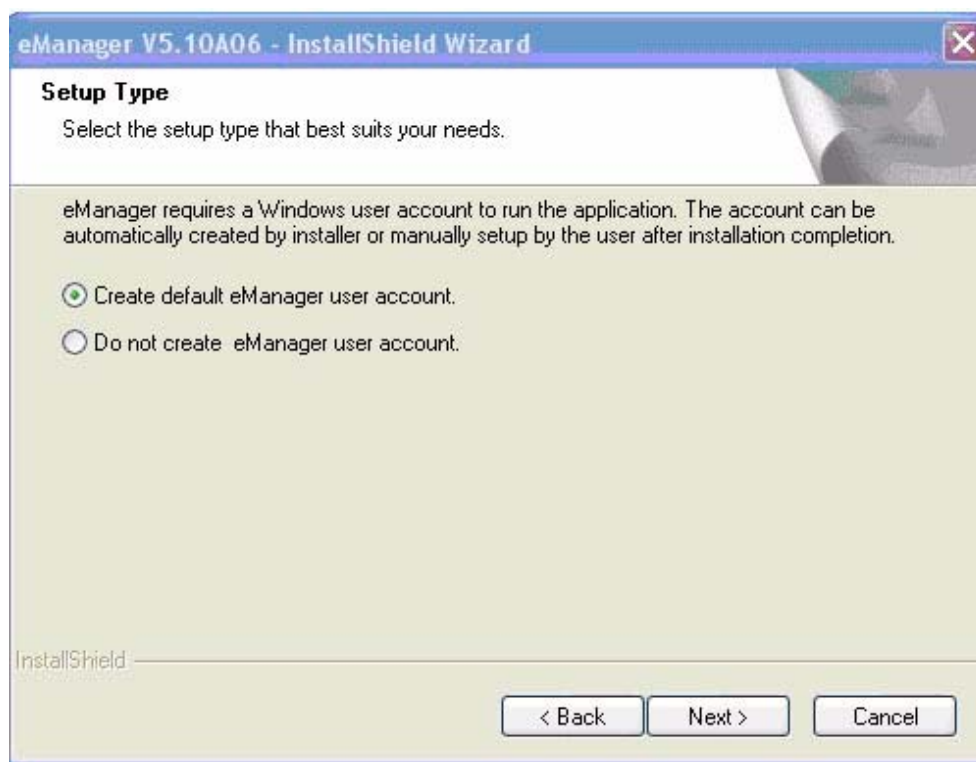
The installer checks for missing components at this point in the installation process.

Missing Components Installation Check

- If Microsoft Internet Information Services is missing stay in this section.
 - For Microsoft Windows Installer 3.1 and Microsoft .NET Framework 2.0 refer to stay in this section.
 - If upgrading from eManager 4.1A11 or earlier, update the MSDE database to SQL. Refer to “eManager PC Minimum Requirements” on Page 2-11.
11. If a database from an earlier version of eManager is present a dialog box about keeping the database will open. To keep the database click on **Yes**. Click on **No** to delete all customer and account data. The system will extract the files for installation. This will take several moments.

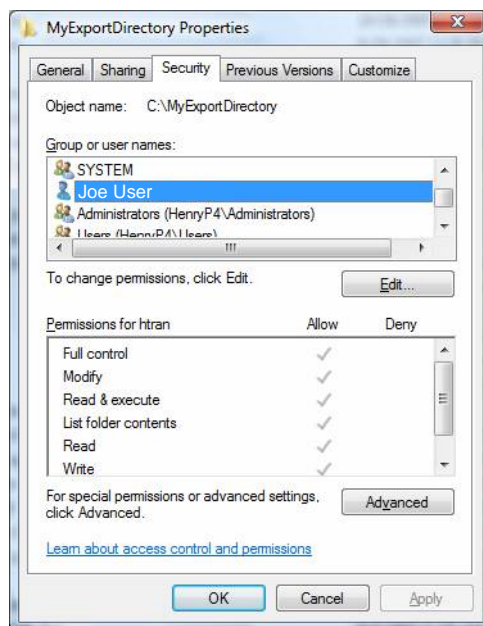


12. The Setup Type dialog box will then open. Toshiba recommends that you select 'Create default eManager user account.' Click on **Next**.



Note If your network administrator does not allow automatically creating new user accounts select 'Do not create eManager account,' and click on **Next**. Go to Step 19.

13. In the Setup Windows User Account dialog box click on **Next**.
 14. When prompted for the User Account password for eManager, enter a password. The password must be at least six characters. After entering and confirming the password click on **Next**. Follow the prompts and then restart the PC.
- Note** This is not the eManager password. This password is required only for the installation process.
15. The InstallShield Wizard will start; click on **Next**.
 16. Read the License Agreement; click on **Yes** to accept.
 17. Accept the default Destination Location; click on **Next**. The install process will take a few minutes.
 18. When eManager installation is complete, click to select 'Yes, I want to restart my computer now,' and click on **Finish**. The PC will restart.
 19. If you selected 'Do not create eManager user account' in Step 12, go to "[Configure the Windows User Account, IIS and COM+ for Windows 2003 Server](#)" on page 2-16 for Windows 2003. For Windows XP go to "[Configure the eManager User Account, IIS and COM+ for Windows XP Professional](#)" on page 2-24.
 20. To save the eManager Export file on systems running Windows Vista Business, set the security permission. The directory security permission on the folder used for the eManager Export file must be set to allow the current logged-in user Read/Write access. Right-click on the folder that will be used for the eManager Export function. Select Property, then click on **Security**.



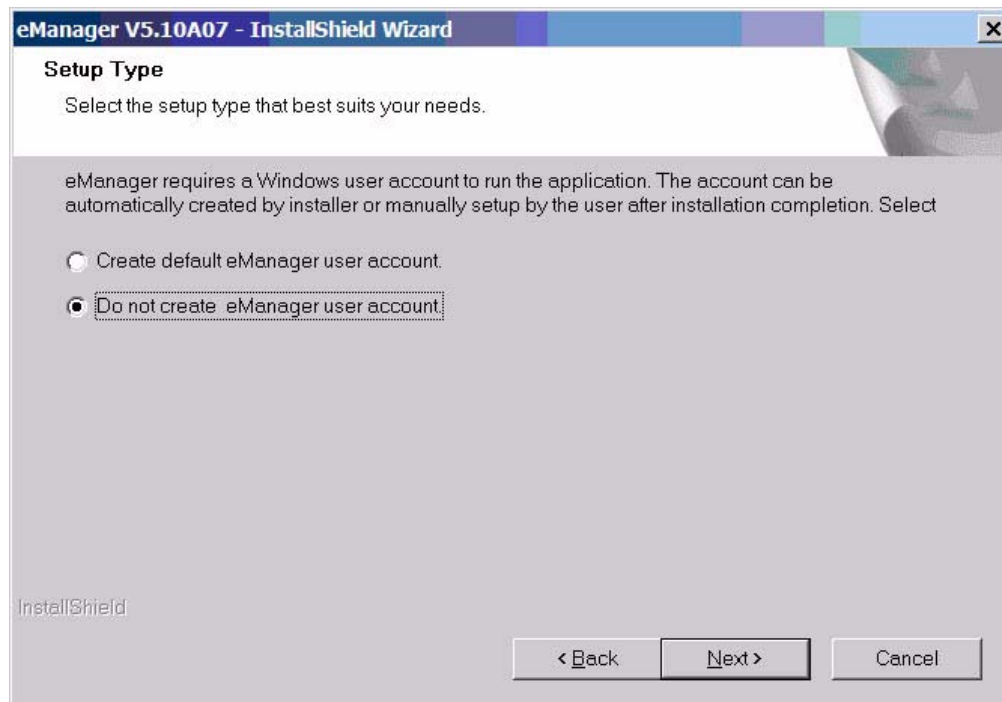
Configure the Windows User Account, IIS and COM+ for Windows 2003 Server

This procedure is only required if 'Do not create eManager user account' was selected in Step 12. If an eManager user account exists skip to [Step 5](#).

If your network does not allow the eManager installation application to create a user account, an eManager user account must be created manually and the IIS and COM+ must be configured for eManager use. This procedure is done after eManager has been installed. The following procedure applies to computers running Windows 2003 Server or Windows Vista Business.

The following procedure details the processes listed here.

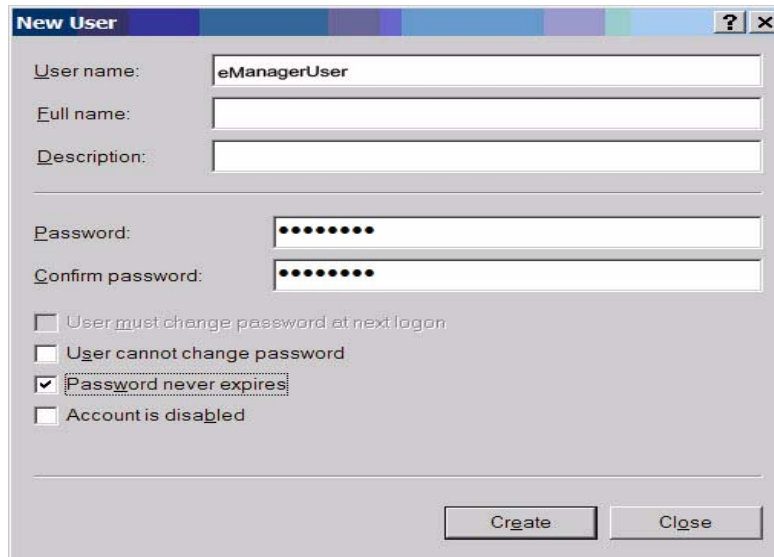
- Create the eManager User account.
 - Configure the eManager virtual directory to run under the eManager User account.
 - Setup the Application Pool for eManager.
 - Configure COM+ eManager to run under the eManager User account.
1. Finish installation without creating eManager User account. At this point in the eManager installation select 'Do not create eManager user account.'



2. When the Install Wizard prompts you to restart the PC select 'Yes, I want to restart my computer now.'
3. When the computer restarts create the user account (next page).

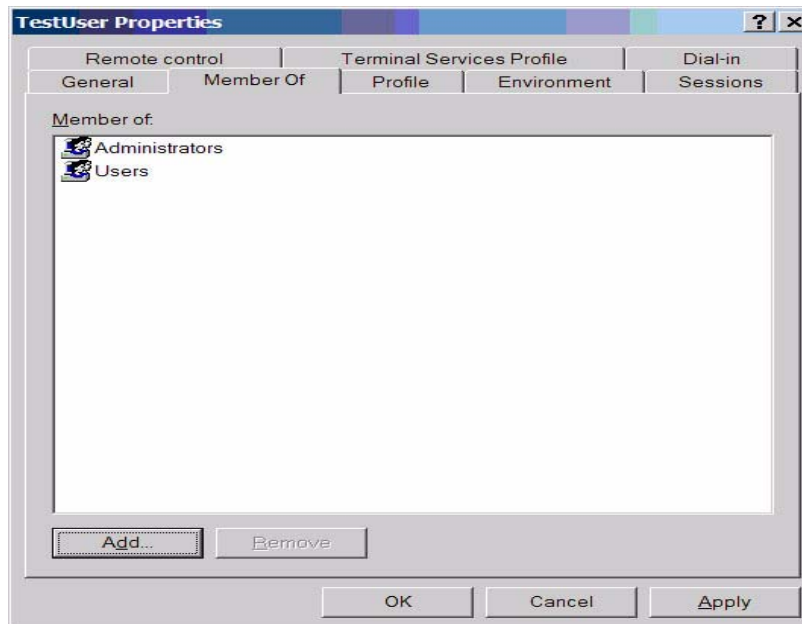
Create the eManager User Account

1. From the computer Control Panel, under Administrative Tools, access Computer Management. Open the Local Users and Groups icon.
2. Select New user.
3. Enter “eManagerUser” as the user name. Enter and confirm a password (for example: password) with six or more characters. Click to check-mark ‘**Password never expires**’ then, **Create..**

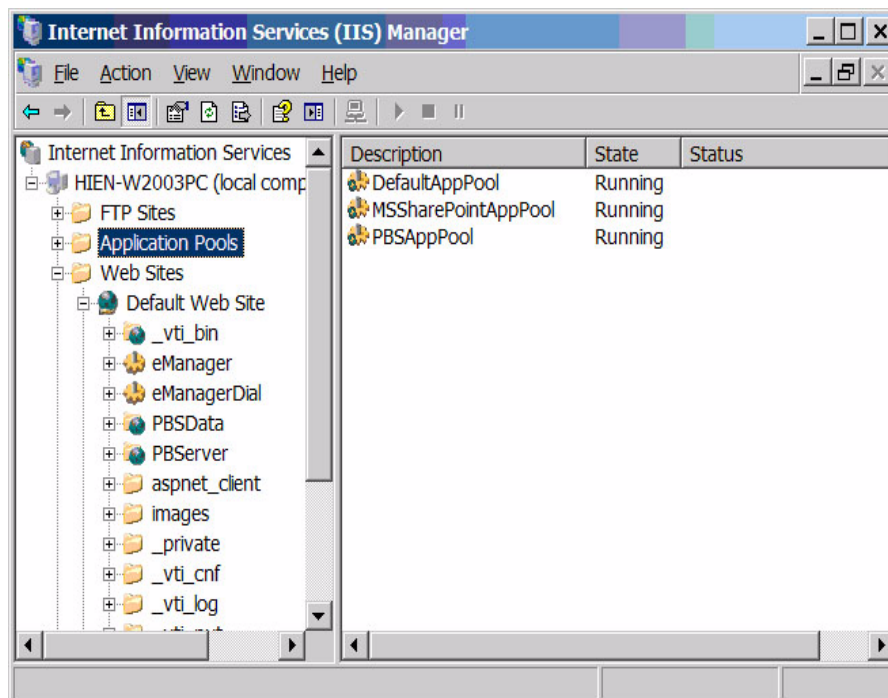


Note This step may be skipped if this is an upgrade installation on a server that already has an eManager user account. On a system that had eManager running, the account is still available and need not be recreated.

4. Make the new eManagerUser account a member of the Administrators group. Select the eManagerUser Properties, the Member of: tab, and click on **Add**. When you have added eManagerUser to the Administrators group click on **OK**.

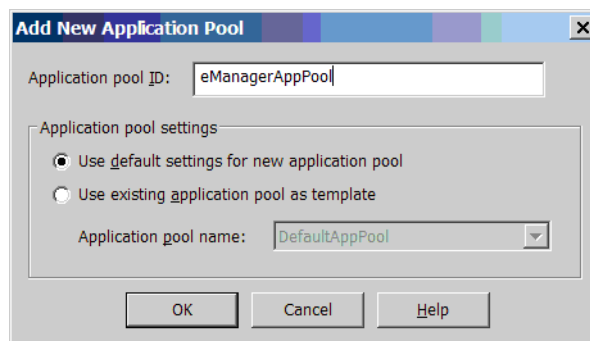


5. Select Control Panel > Computer Management > Internet Information Services. eManager is using the Default Application Pool. The next steps will setup the eManager Application Pool.



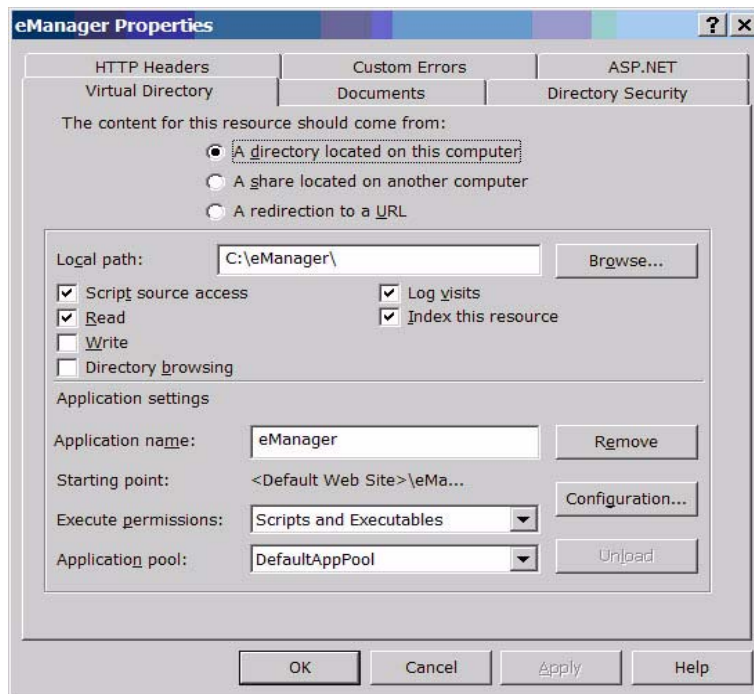
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6. Right click on **Application Pool**, select New Application Pool. Enter “eManagerAppPool” as the ID.

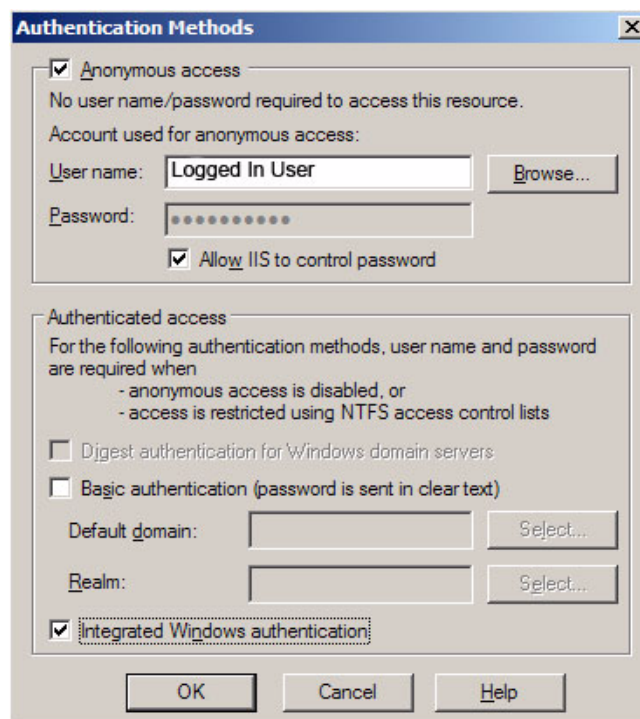


7. In the properties of the new eManager Application Pool click on the Identity tab. Add eManagerUser, click to select the Configurable radio button, and enter the password you entered in Step 3.
8. In the Internet Information Services > Web Sites right click on eManager, and select Properties.

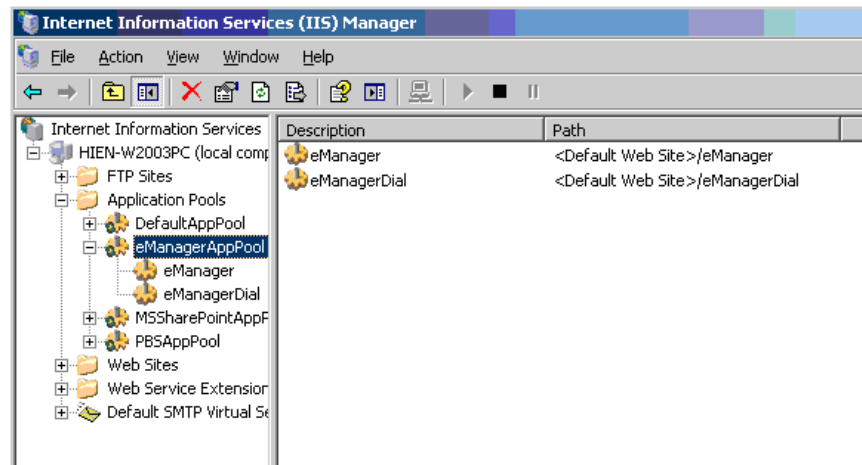
- eManager uses the default AppPool. In the Application Pool field, at the bottom of the dialog box, use the pull-down list to select eManagerAppPool and click **OK**.



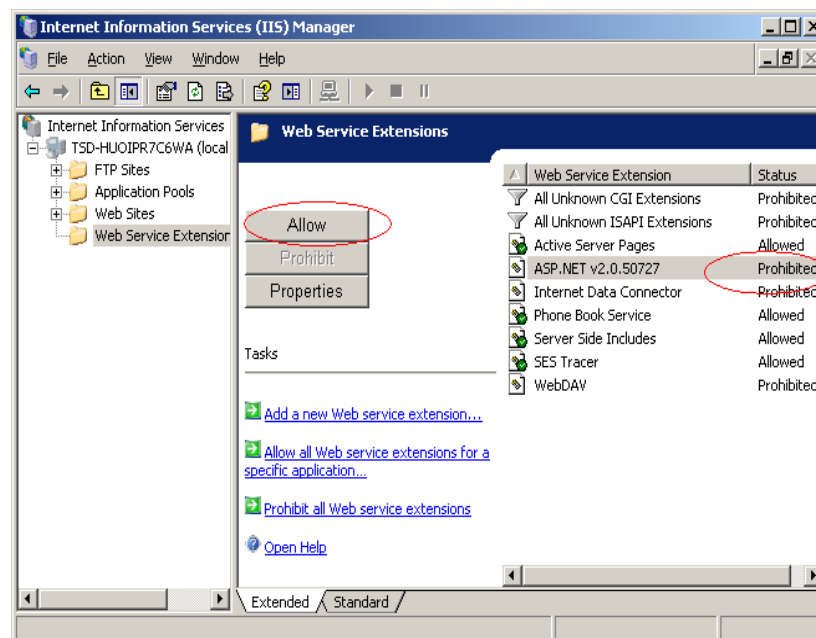
- Click on the Directory Security tab.
- In the Authentication Methods dialog box click to check-mark the 'Integrated Windows authentication' box and then enter the same password used in Step 7. Click **OK**.



12. In the IIS Manager screen, refer to Step 5, select **eManagerDial** properties. Use the pull-down list to select **eManagerAppPool**. Click on **OK**. eManagerDial does not need security or authentication settings.
13. eManager and eManagerDial now use the eManager Application Pool.

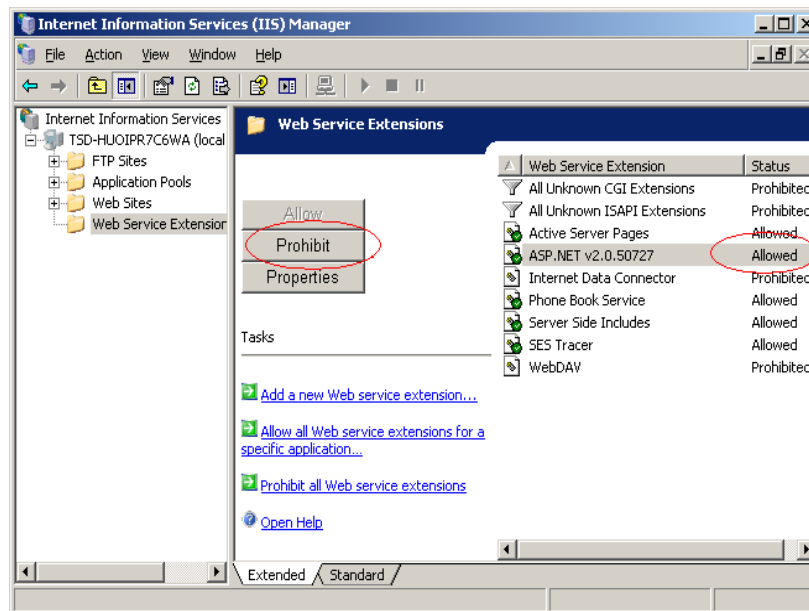


14. In the IIS Manager screen, click on the Web Service Extension folder. On the properties page, highlight ASP.NET v2.0.0xxx. If the status is Prohibit, click on the **Allow** button.

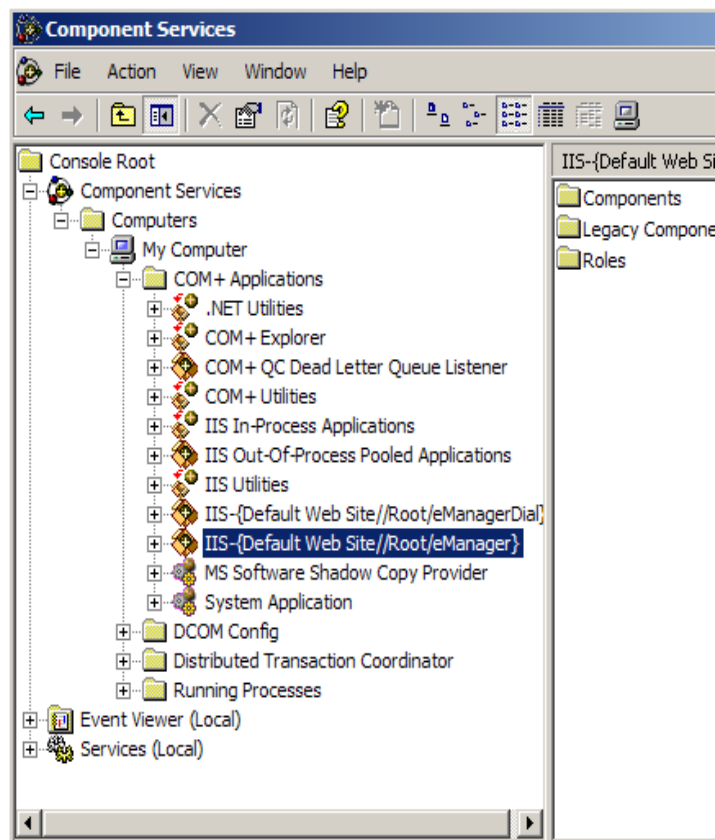


15. If you are asked to confirm with a **Yes** button, click **Yes**.

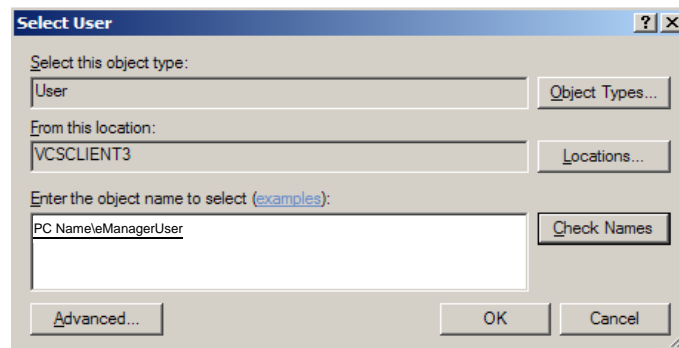
16. The ASP.NET is now displayed as Allow.



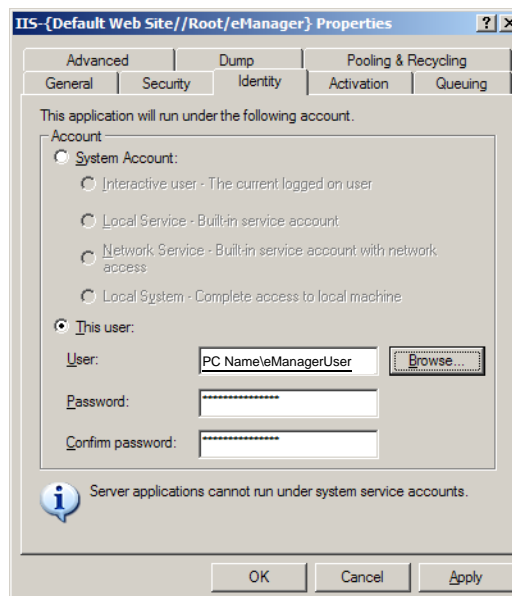
17. In **Component Services** expand the Console Root down to COM+ Applications. Click to select IIS-{Default Web Site//Root/eManager}.



- Right-click, select Properties, select Identity, then click on the **Browse** button. Select User. Type **eManager** into the field. Click on the **Check Names** button. Click on **OK**.

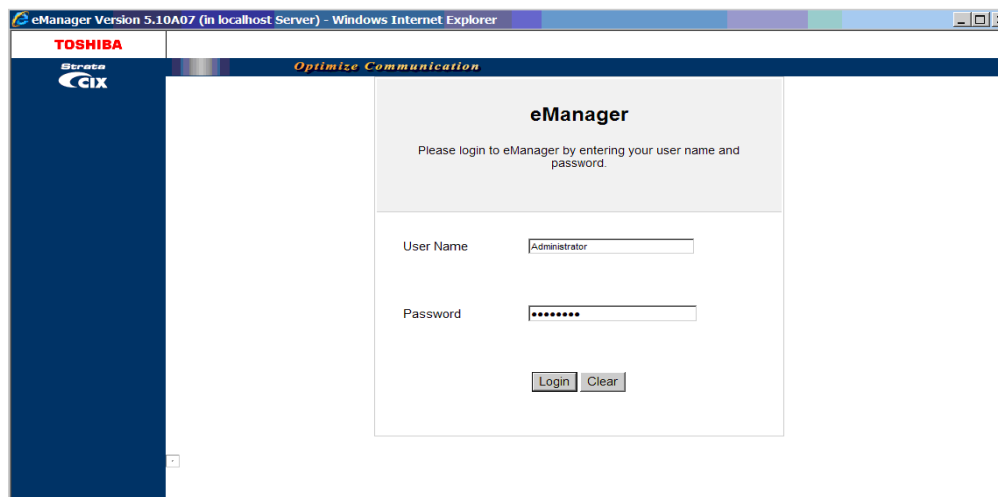


- Enter the same password you entered in Step 3.



- Restart the PC.

21. This is the end of the Windows 2003 setup for eManager. Double click on the eManager icon on the desktop. This screen should appear:



22. Return to [Step 18 on Page 2-16](#).

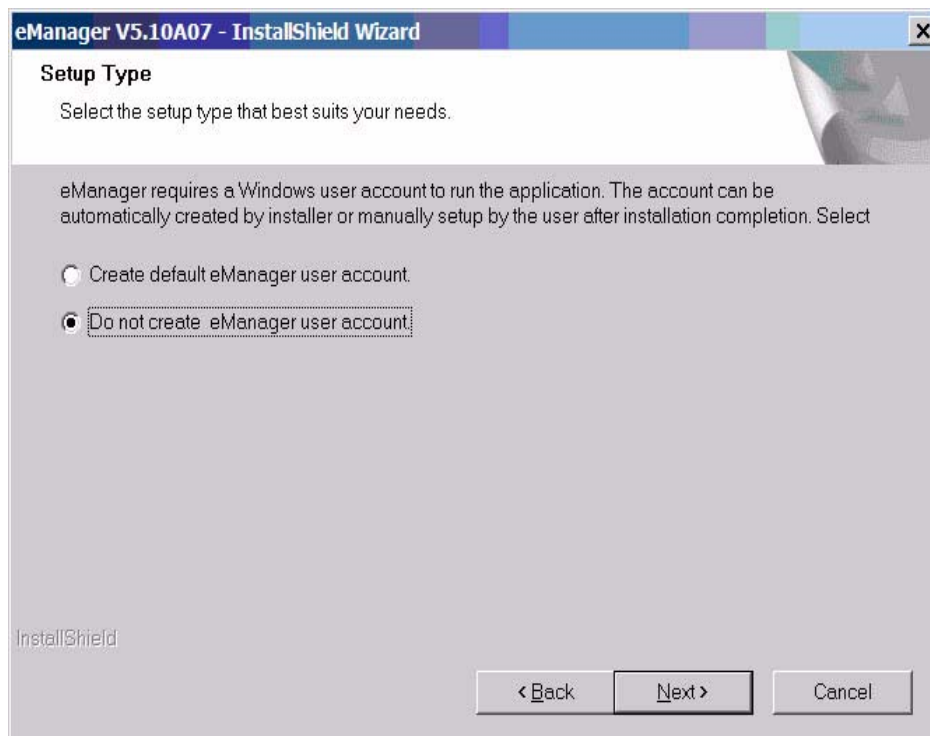
Configure the eManager User Account, IIS and COM+ for Windows XP Professional

If your network does not allow the eManager installation application to create a user account, an eManager user account must be created manually and the IIS and COM+ must be configured for eManager use. This procedure is done after eManager has been installed. The following procedure applies to computers running Windows XP Professional. For Windows Vista Business or Windows 2003 refer to those procedures.

The following procedure details the processes listed here.

- Create the eManager User account.
- Configure the eManager virtual directory to run under the eManager User account.
- Configure COM+ eManager to run under the eManager User account.

1. Finish the installation without creating an eManager User account. At this point in the eManager installation select 'Do not create eManager user account'

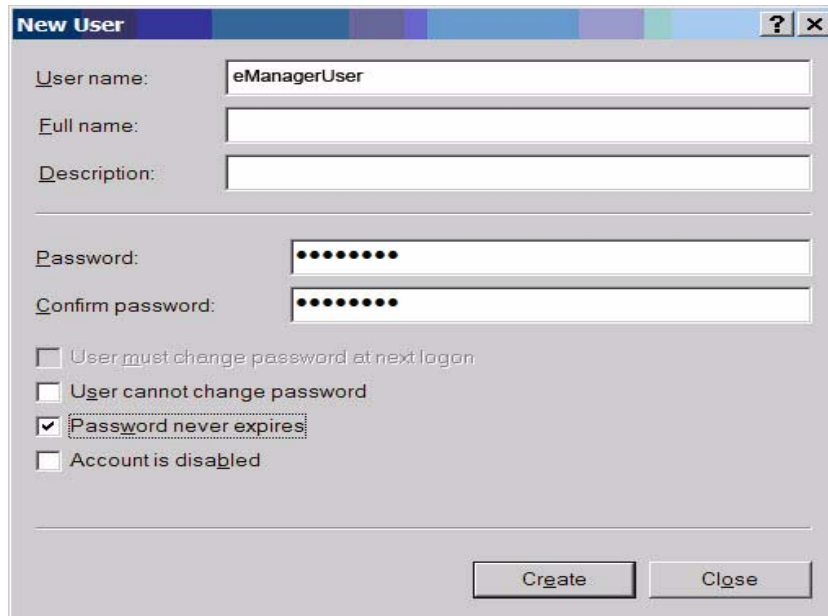


2. When the InstallShield Wizard prompts you to restart the PC, select 'Yes, I want to restart my computer now.'
3. When the computer restarts create the user account.

Create the eManager User Account

1. From the computer Control Panel, under Administrative Tools access Computer Management. Open the Local Users and Groups icon.
2. Select New user.

3. Enter “eManagerUser” as the user name. Enter and confirm a password (for example: password) with six or more characters. Click to check-mark ‘Password never expires’ and click **Create**. When finished, close the dialog box.

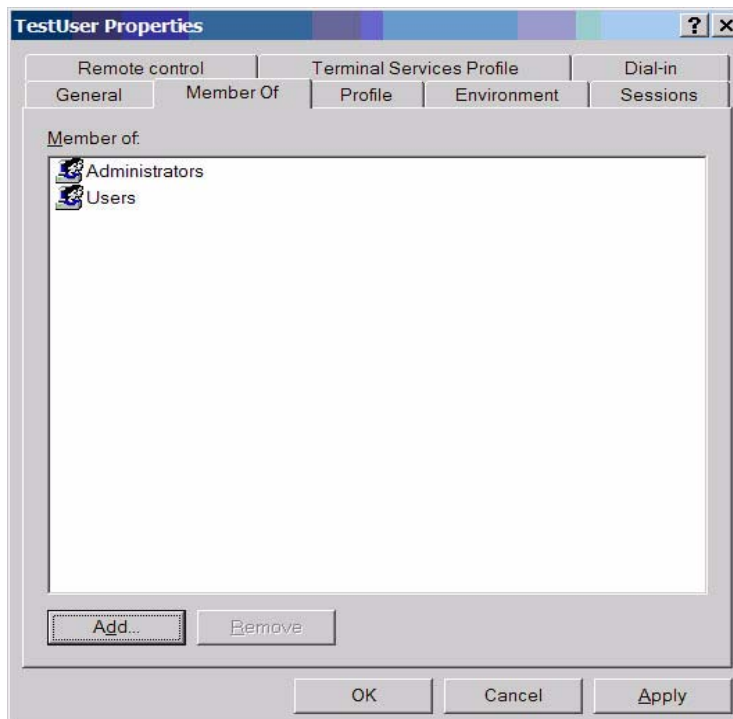


The 'New User' dialog box contains the following fields and options:

- User name: eManagerUser
- Full name: (empty)
- Description: (empty)
- Password: (masked with six dots)
- Confirm password: (masked with six dots)
- User must change password at next logon
- User cannot change password
- Password never expires
- Account is disabled

Buttons: Create, Close

- Note** This step may be skipped if this is an upgrade installation on a server that already has an eManager user account. On a system that had eManager running, the account is still available and need not be recreated.
4. Make the new eManagerUser account a member of the Administrators group. Select the eManagerUser Properties, the Member of: tab, and click on **Add**. When you have added eManagerUser to the Administrators group, click on **OK**.

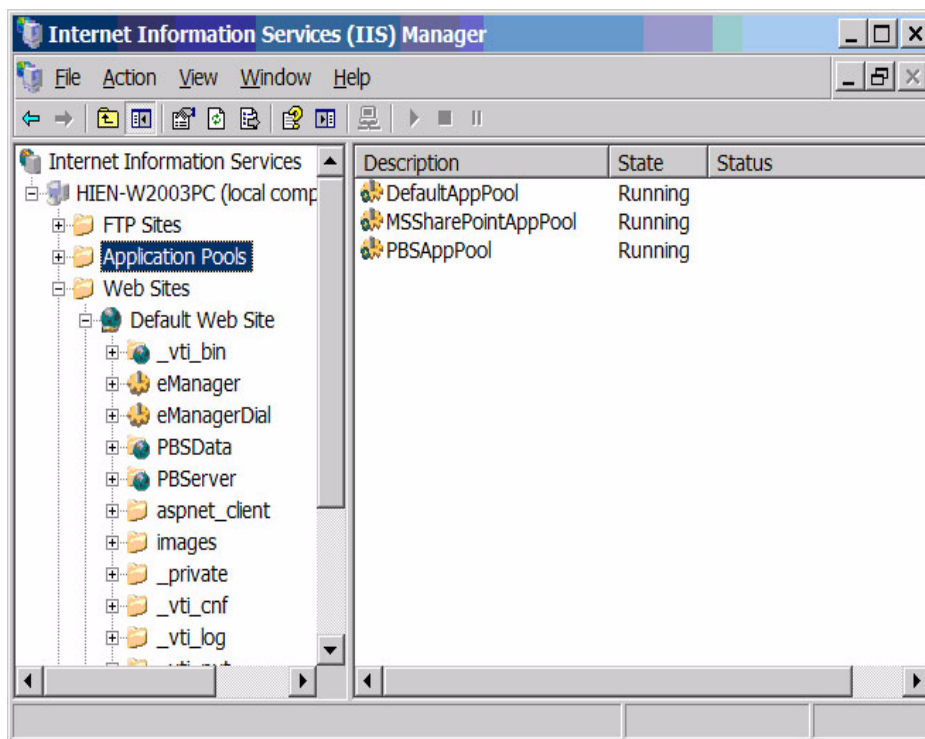


The 'TestUser Properties' dialog box shows the 'Member of:' tab with the following list:

- Administrators
- Users

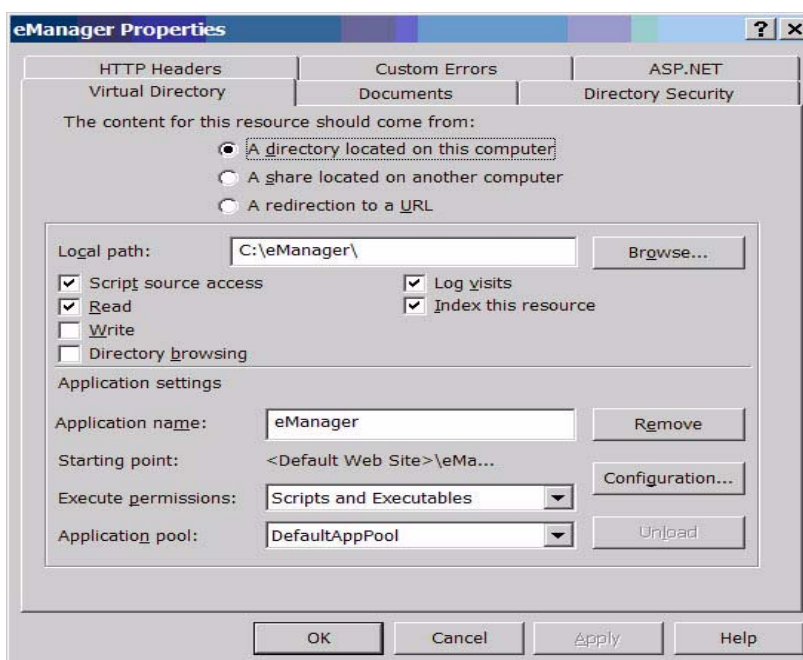
Buttons: Add..., Remove, OK, Cancel, Apply

5. Installer sets up eManager in the Default Application Pool. In the install process to this point, eManager and eManagerDial virtual directories were created by the installer without a specific eManager user account or anonymous login. This screen shows that the eManager and eManagerDial virtual directories were created. Authentication Method and Component services must be set

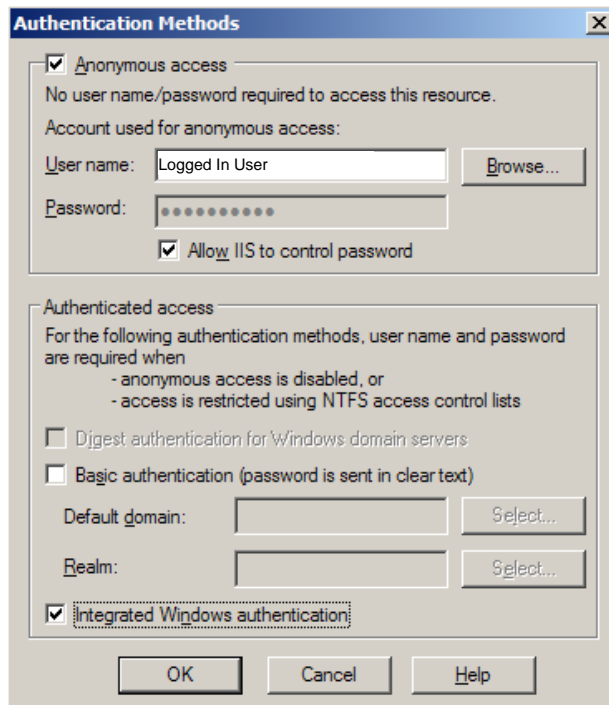


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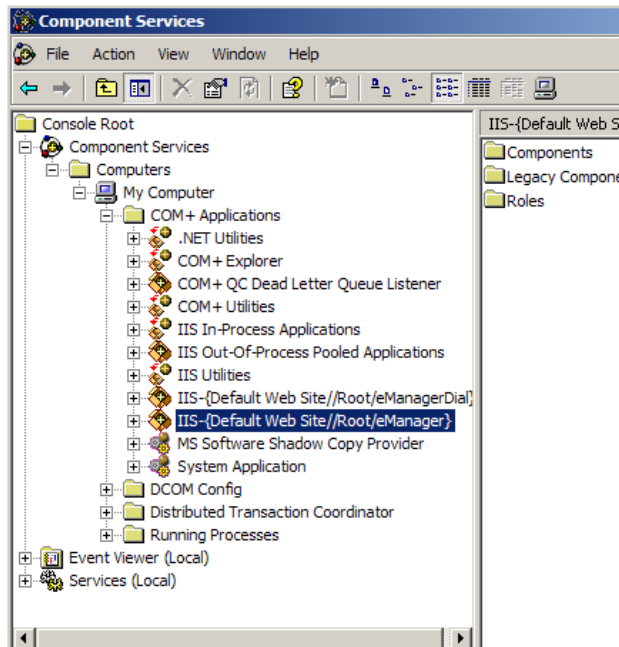
6. In the Internet Information Services right click on eManager and select Properties.
7. eManager is using the defaultAppPool..



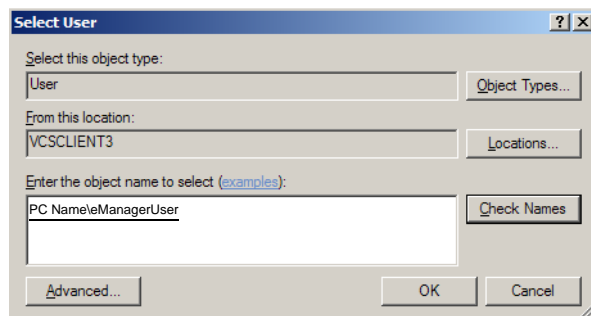
- Click on the Directory Security tab
- In the Authentication Methods dialog click to check-mark the Integrated Windows authentication box. Click on **OK**.



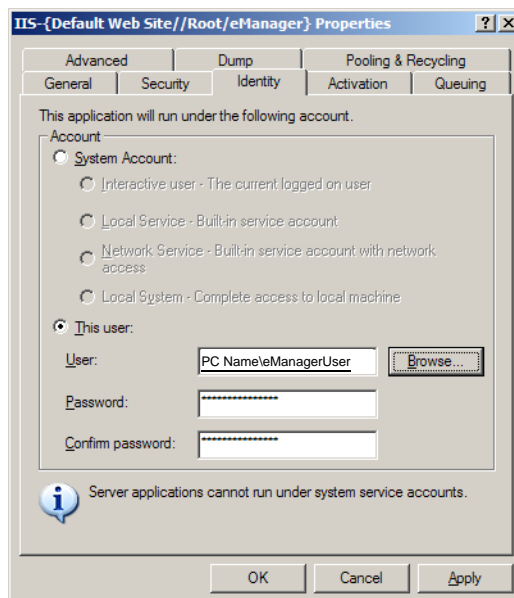
- In Component Services expand the Console Root down to COM+ Applications. Click to select IIS-{Default Web Site//Root/eManager}..



- Right-click, select Properties, select Identity, then click on the **Browse** button. Select User. Type "eManager" into the field. Click on the **Check Names** button and click on **OK**

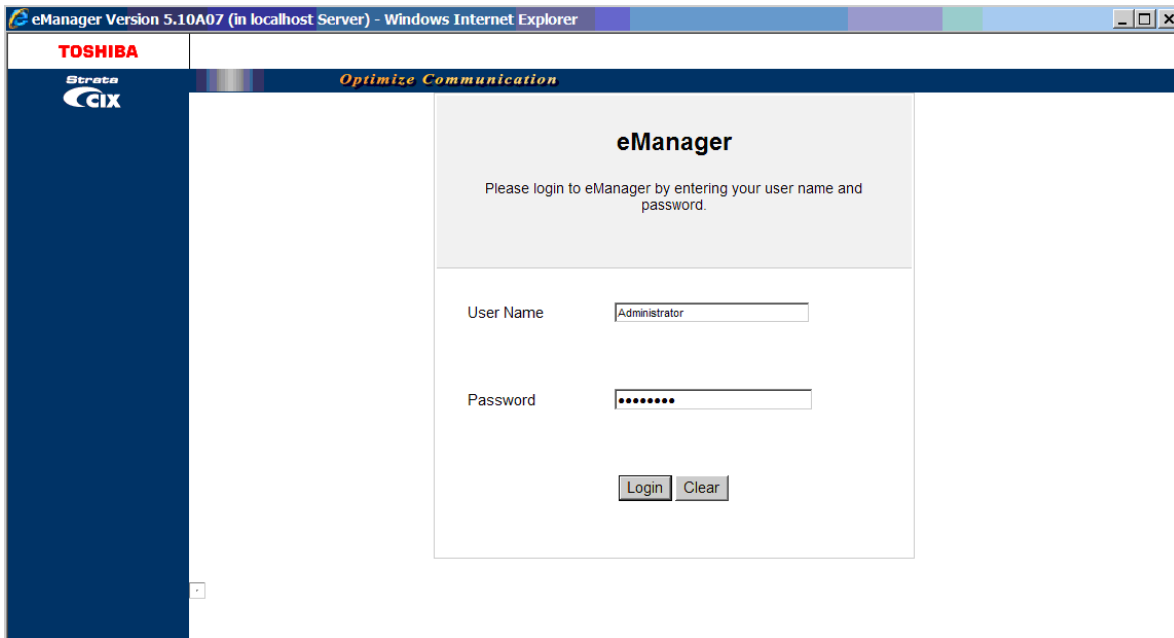


- Enter the same password you entered in Step 3.



- Restart the PC

14. This is the end of the Windows XP Professional setup for eManager. Double click on the eManger icon on the desktop. This screen should appear:



15. Return to [Step 18 on Page 2-16](#).

Required Microsoft Windows Components

If any of the Windows components required for eManager are not present when the installation is started the system will prompt you to install the missing component. These components are not normally a part of default Windows installations. Installation of these components may require the Windows operating system CD-ROM.

eManager requires Internet Explorer (IE) version 6.0 or higher. Most Windows XP SP2 installations include IE 6.0. Verify the version installed on your system and upgrade if needed.

Microsoft Windows Internet Information Services (IIS)

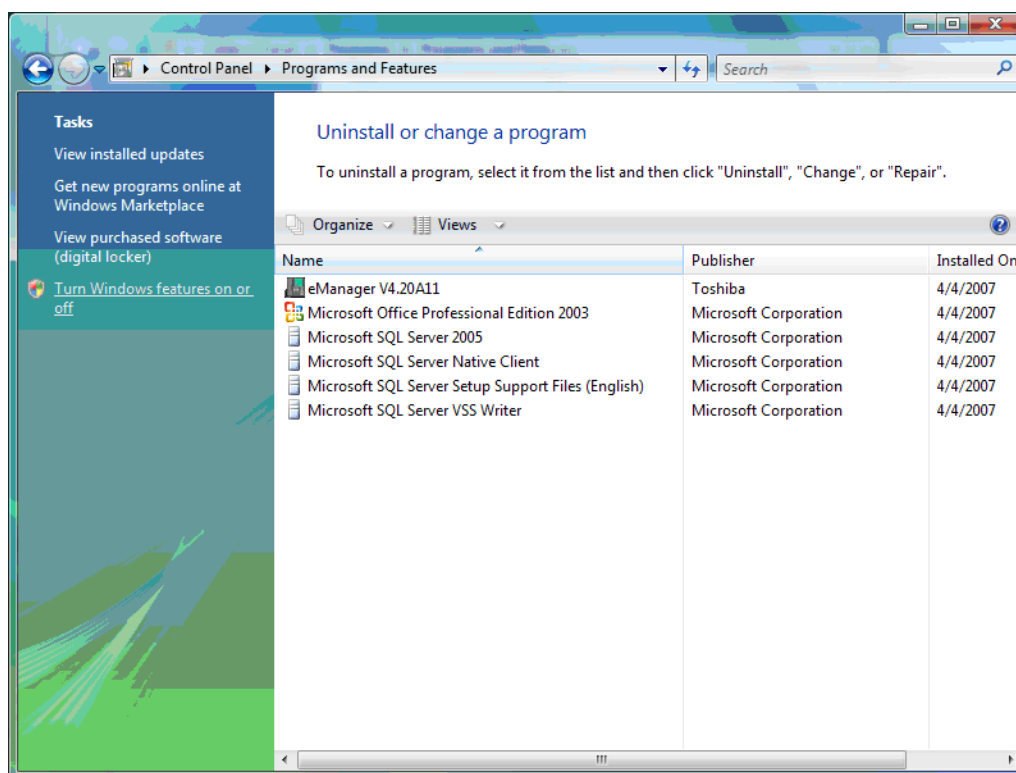
Install Components for Windows XP Professional

Use the Windows XP Professional CD_ROM to install IIS and Management and Monitoring Tools Add-on Components.

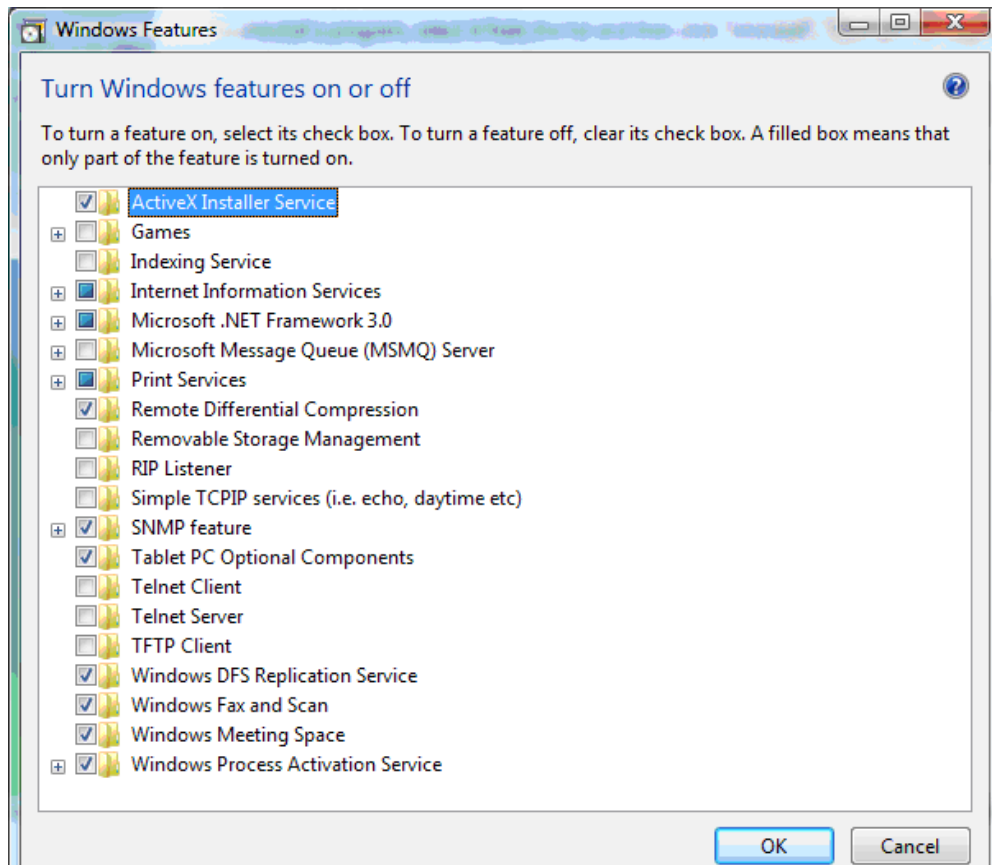
1. Select Start > Settings > Control Panel > Add or Remove Programs, then click on Add/Remove Windows Components.
2. Check-mark Internet Information Services (IIS). Click **Next**.
3. Ensure that Internet Information Services Snap-In is check-marked. Click **OK**.
4. Select Management and Monitor Tools Details. Ensure that Simple Network Management Protocol and WMI SNMP Provider are check-marked. Click **OK**.

Install Components for Windows Vista Business Edition

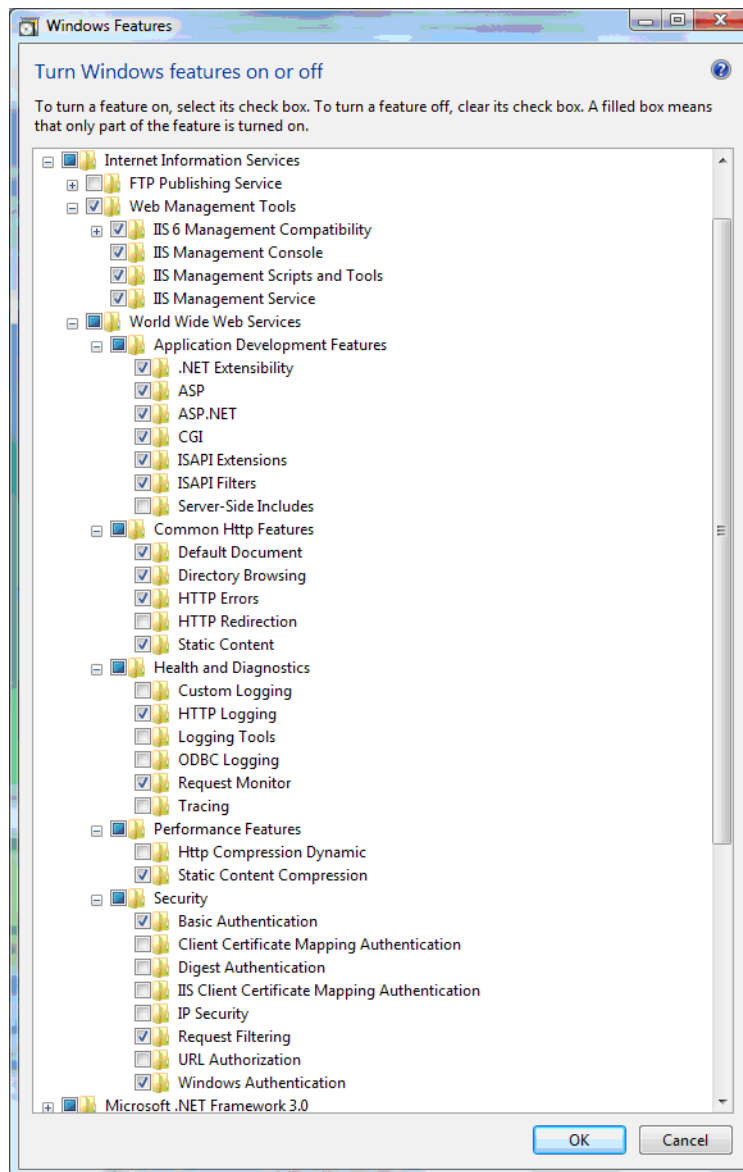
1. On the Control Panel > Programs and Features page select Turn Windows feature on or off. Click Turn Windows Features on or off.



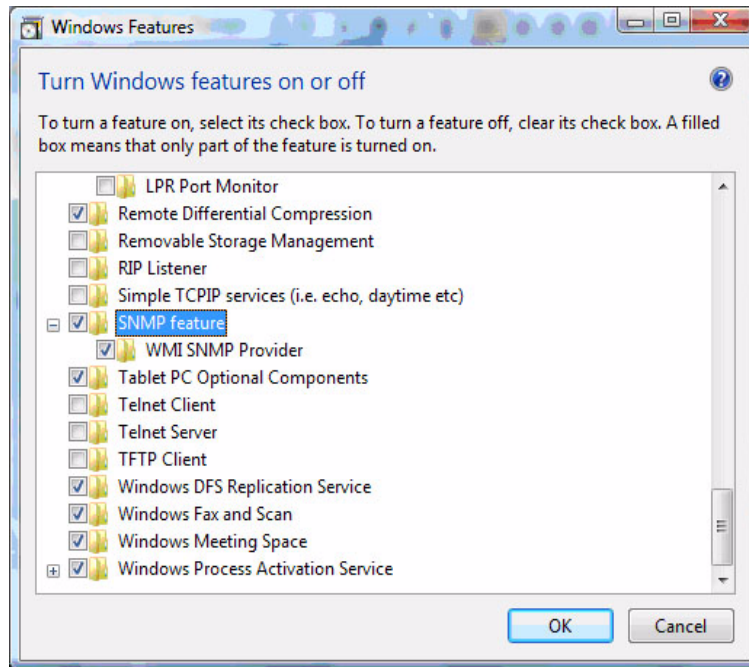
2. Ensure that all of the features shown below are checked., then click **OK**.



3. In the Internet Information Services and World Wide Web Services catalog, be sure that all of the features shown below are turned ON (check-marked). Do not click on **OK**.



4. Scroll down to the SNMP feature. Ensure WMI SNMP Provider is selected. Click OK.



5. Return to “Required Microsoft Windows Components” on Page -31.

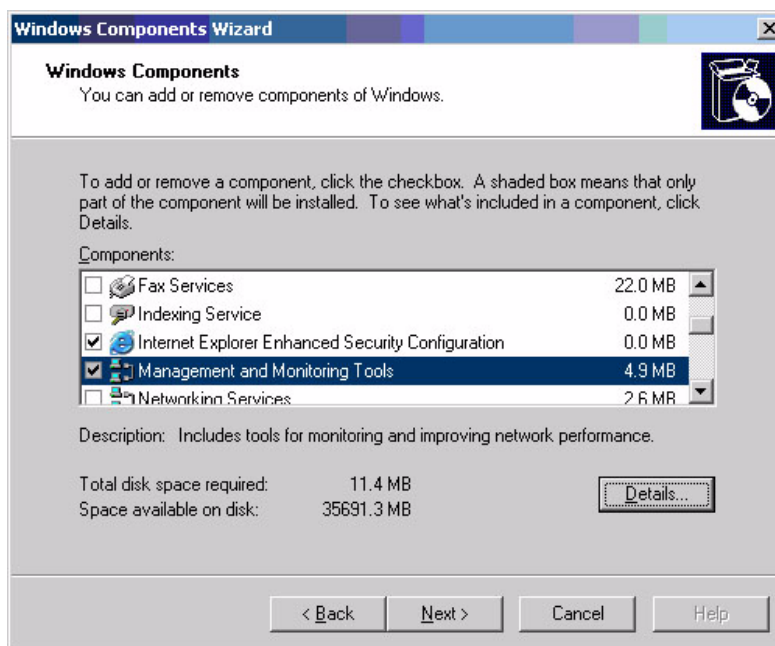
Install Components for Windows 2003 Server

Most versions of Windows 2003 Server include Internet Explorer (IE) Version 6.3. It is necessary to check. eManager requires version 6.0 or later. If the IE installed on the server is not version 6.0 or later install IE.

eManager requires Internet Information Services (IIS) and Management and Monitoring Tools. The Win2003 Server CD-ROM will be required for installation.

1. Open the Windows Add/Remove Software utility. Select Add or Remove Components.

2. Check-mark the Management and Monitoring Tools line.



3. Click on the **Details** button. Check-mark the following components:
 - Connection Manager Administration Kit
 - Network Monitor Tools
 - Simple Network Management Protocol
 - WMI SNMP Provider
 - WMI Window Installer Provider
4. Check-mark Application Server, then click on the **Details** button.
5. Select the following Application Server details:
 - Enable network COM+ access
 - Enable network DTC access
6. Check-mark Internet Information Services (IIS), then click on the **Details** button.
7. Select the following IIS details:
 - Common Files
 - Front Page 2002 (2000/2002/2003) Server Extensions
 - Internet Information Services Manager
8. Check-mark World Wide Web Service, then click on the **Details** button.
9. Select the following World Wide Web Service details:
 - Active Server Pages
 - World Wide Web Service
10. Click on **OK**.
11. Return to Required Microsoft Windows Components on Page 2-33.

Install Components for Windows 2000 Professional

eManager requires Internet Information Services (IIS) and Management and Monitoring Tools. The Windows 2000 Professional CD-ROM will be required for installation.

1. Open the Windows Add/Remove Software utility. Select Add or Remove Components.
2. Ensure that the Internet Information Services (IIS) and the Management and Monitoring Tools items are check-marked.

Note When prompted to insert a CD, use the Recovery CD-ROM provided with your PC.

3. Return to Required Microsoft Windows Components on Page 2-33.

Microsoft Windows Installer 3.1 and Microsoft .NET Framework 2.0 (or later)

The eManager database is now Microsoft SQL 2005 Express. After all of the necessary Windows components are installed (as shown above) Microsoft Installer 3.1 and Microsoft .NET Framework 2.0 must be installed BEFORE installing Microsoft SQL 2005 Express.

Both Microsoft Installer 3.1 and Microsoft .NET Framework 2.0 are available as downloads from Microsoft.

1. Using the browser, go to <http://www.Microsoft.com> and select Downloads & Trials.
2. Click on Download Center.
3. Click on .NET Framework Version 2.0 ...
4. Scroll down to Systems Requirements, click on Windows Installer 3.1.
5. When the download and installation of .NET Framework 2.0 (or later) is complete return to Required Microsoft Windows Components on Page 2-33.

MSDE to SQL Database Upgrade

This section is for PCs that already have eManager 4.2A11 or earlier in use. This procedure details the conversion of the earlier eManager MSDE database to the Microsoft SQL Server 2005 Express database required by later eManager versions.

This procedure MUST be completed BEFORE the later version of eManager is installed.

MSDE to SQL 2005 Server Express Upgrade Prerequisite

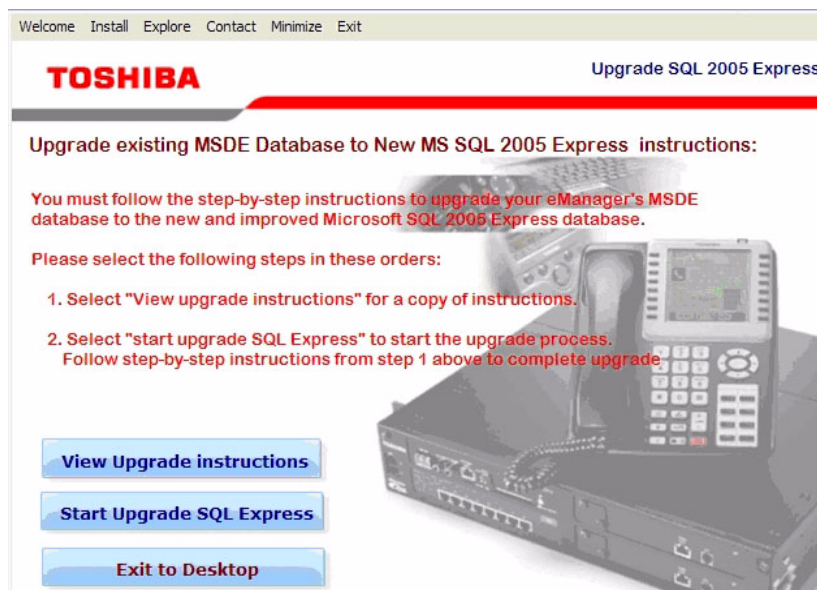
Microsoft Installer 3.1 and Microsoft .NET Framework 2.0 must be installed before the upgrade. Refer to Microsoft Windows Installer 3.1 and Microsoft .NET Framework 2.0 (or later) above.

1. Use Explorer to open the folder that the eManager.exe file was extracted to. Click on Autorun.exe to start the eManager installation.
2. On the eManager splash screen. Click on Install eManager.
3. The installation application will detect MSDE installed on the PC.
4. Follow the screen prompts that will direct you through the MSDE to SQL Express database upgrade process.
5. Return to Required Microsoft Windows Components on Page 2-33.

Upgrade MSDE Database to Microsoft SQL 2005 Express

It is critical that each step in this procedure be followed completely. The check-marks must be set exactly as specified in this procedure.

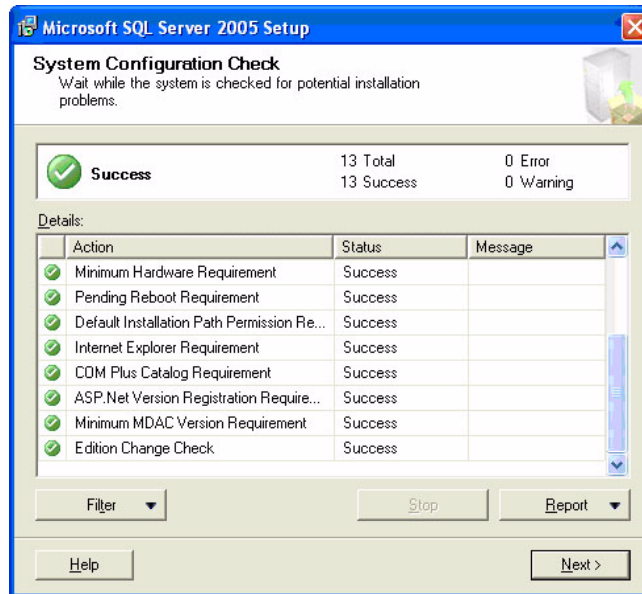
1. In the splash screen click on 'Start Upgrade SQL Express.'



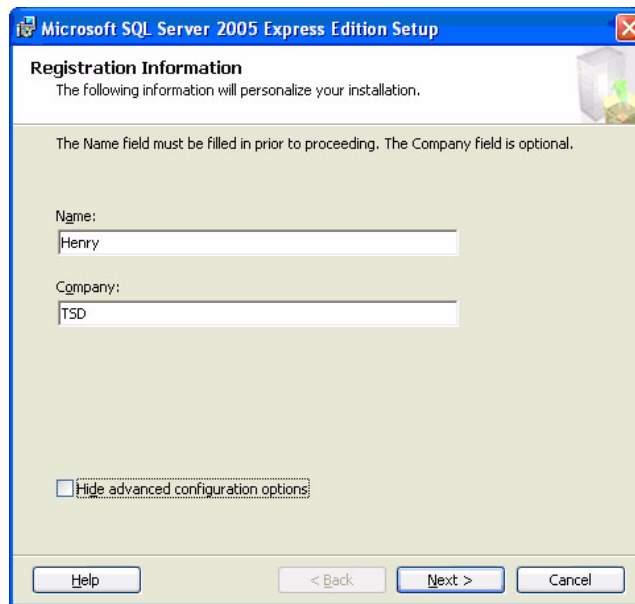
2. In the License Agreement screen check-mark the 'I accept the licensing terms and conditions box' and click on **Next**.
3. In the Installing Prerequisites dialog box click on **Install**. When the program has finished updating the required SQL server setup files click **Next**.
4. In the Microsoft SQL Server Installation Wizard screen click **Next**.



5. The system will run a Configuration Check. Look through the list. If the check failed, install the missing or failed components. When the components are installed go back to [Step 1 on Page 2-37](#).

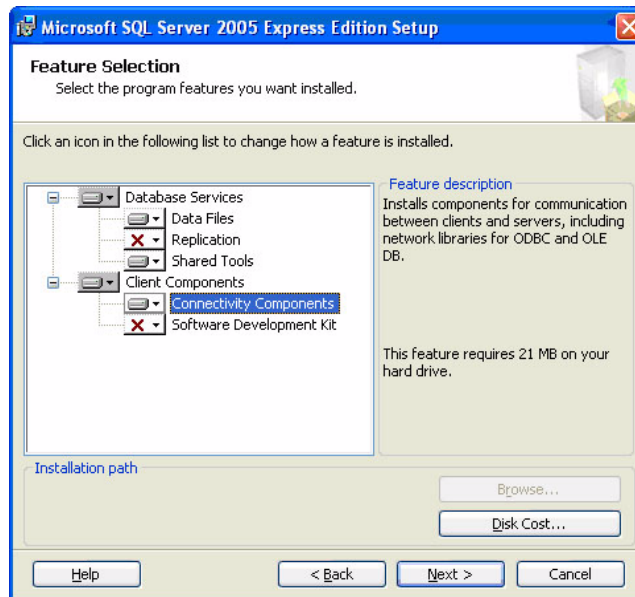


6. In the Registration Information dialog box enter a Name. The Company entry is optional. Make sure the 'Hide advanced configuration options' is unchecked.

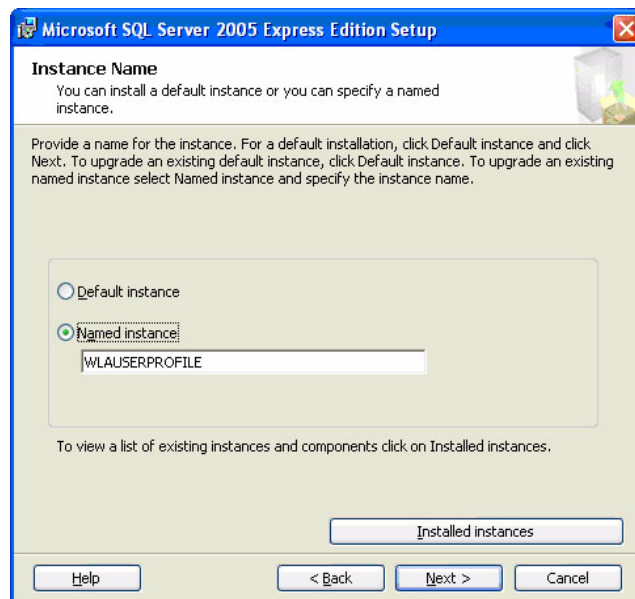


Note This box must be unchecked or the existing eManager database will not successfully update.

7. In the Feature Selection screen ensure that Data Files, Shared Files and Connectivity Components are selected. Click **Next**.

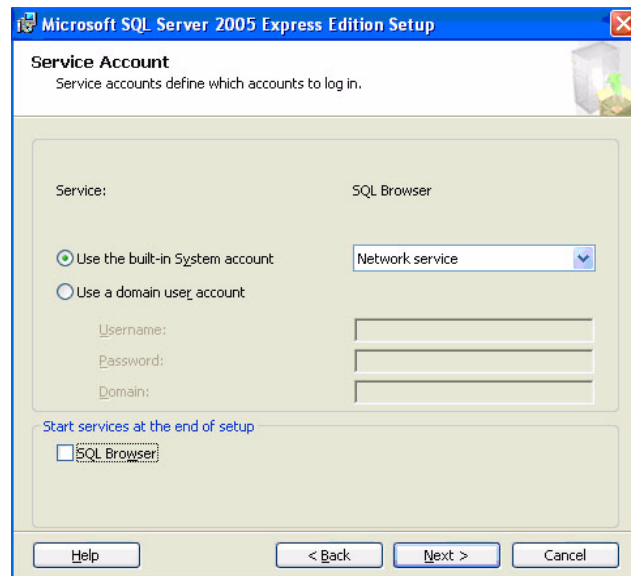


8. In the Instance Name dialog box, click to select the **Named instance** radio button, then click on the **Installed Instances** button.
9. The next box will display a list of the installed instances on this computer. Click to highlight WLAUSERPROFILE and click **OK**.
- Note** You must highlight WLAUSERPROFILE before you click on the **OK** button.
10. The Instance Name box will open again. Check that Named Instance is selected and WLAUSERPROFILE is shown in the field. If not, click the Back key. If the information is correct click the **Next** button.

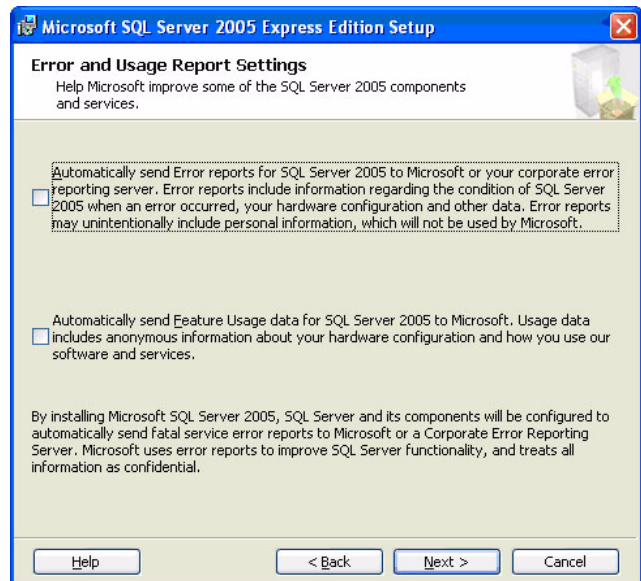
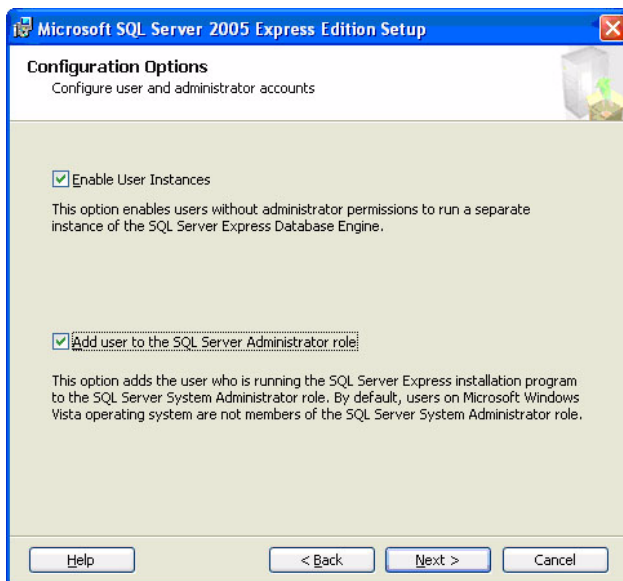


11. In the Existing components dialog box check the SQL Server Database Services box, then click **Next**.

12. Accept the default Windows Authentication Mode in the Upgrade Logon Information dialog box. Click **Next**.
13. In the Service Account dialog box select 'Use the built-in System account,' Network service. Be sure to uncheck the SQL Browser check box. Click **Next**.



14. In the Configuration Options screen ensure that both boxes ARE check-marked, then click **Next**.



15. In the Error and Usage Report Settings ensure that both boxes are **NOT** checked, then click **Next**.
16. In the Ready to Install dialog box click **Install**. The upgrade to SQL 2005 Express will begin.
17. The progress will be displayed in the Setup Progress dialog box. When it is available click the **Next** button.
18. When the Completing Microsoft SQL Server 2005 Setup dialog box reports that the configuration is finished click **Finish**.
19. Return to Required Microsoft Windows Components” on Page 2-33.

Verify the CIX System IP Address

The default IP Address for the Strata CIX is 192.168.254.253. It may be necessary to change this address. Check with the network administrator for the CIX system IP Address.

Access eManager

eManager is a browser-based application. Internet Explorer (IE) version 6.00 or later is required. The eManager resides on the MAS. The eManager application can be loaded on a Server with network access or a laptop PC. Accessing the CIX or the applications on the MAS can be done:

- from a remote PC with internet access to a CIX or a MAS.
- from a PC with eManager loaded and with network access to the CIX or MAS.
- from the keyboard and monitor connected to the MAS.
- from a PC with eManager loaded with dial-up modem access to a CIX equipped with the optional AMDS.

Access the eManager on the MAS from a Remote PC

The eManager on the MAS can be accessed by any PC with network access to the MAS. If the MAS has a monitor, keyboard and mouse attached, eManager can be accessed while at the MAS location. Remote access to eManager can be done by using Internet Explorer to browse to eManager, or the Windows XP remote Desktop feature can be used to directly access the MAS desktop. To access the MAS or other server with eManager, start IE and enter **http://<computer name or IP Address>/emanager** in the address field. Once eManager is accessed the user must login.

Access the Strata CIX or MAS using eManager on a local laptop or PC

Any PC with eManager loaded and access to the CIX and the MAS LAN can be used. To access the CIX, the MAS, or other server with eManager, start IE and enter **http://localhost/emanager** in the address field. Once eManager is started the user must login, then select the equipment to connect with.

Using the eManager Dial-up Modem

To utilize the dial-up modem to access a CIX system:

1. The CIX system must have the optional modem installed on the processor card.
2. The eManager equipment profile must be configured. Access the profile screen in eManager. Create an equipment profile in eManager for the dial-up connection. The IP address of a CIX over the Dial-Up connection is fixed: 192.168.255.254. Enter the phone number of the CIX system modem.

Connect to eManager

Network Connection

To access eManager on the MAS, point the browser to the IP Address of the MAS from a PC on the network. The address line would be: `http://<IP Address>/eManager`. To access the eManager locally on the MAS keyboard, on a local PC or laptop enter: `http://localhost/eManager`. This connection allows programming the CIX and the Strata Enterprise Server voice mail.

This section shows how to install Strata eManager software on your PC and discusses how to connect that PC to the Strata CIX system and includes the process for using eManager on the MAS or on a stand-alone (local host) PC. For details on the programming commands refer to the Strata CIX Programming Manual Volume 1.

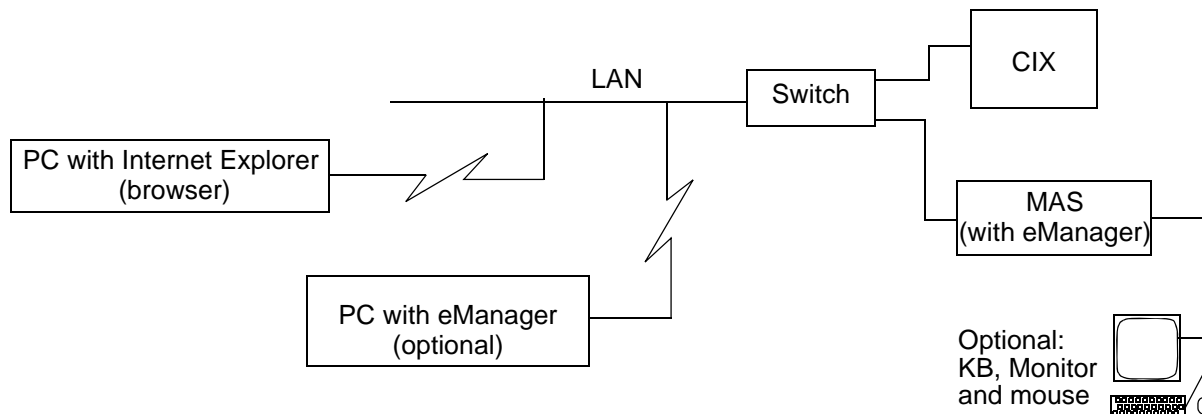


Figure 2-2 eManager Access via Network Connection

Modem Connection to CIX

A PC with eManager installed can use a dial-up modem connection to the CIX optional internal modem. This connection allows eManager access to only the CIX. Refer to Figure 2-3 on Page 2-45.

Modem Connection to MAS

An eManager dial-up connection can be made directly to a MAS through an optional USB modem. eManager connection to a MAS through the modem allows programming access to the MAS applications. Other items on the same LAN such as the MAS, including the CIX or iEs16/32, can also be programmed through this connection.

Remote Desktop

A PC can use the Remote Desktop function of Windows® XP to access the MAS.

Set up Modem Connection (Optional)

Step 1: Connect eManager PC to Strata CIX Modem

Connect an RJ11 cable from your PC modem to an active phone line or to a RSTU or LSLU port. See Figure 2-3.

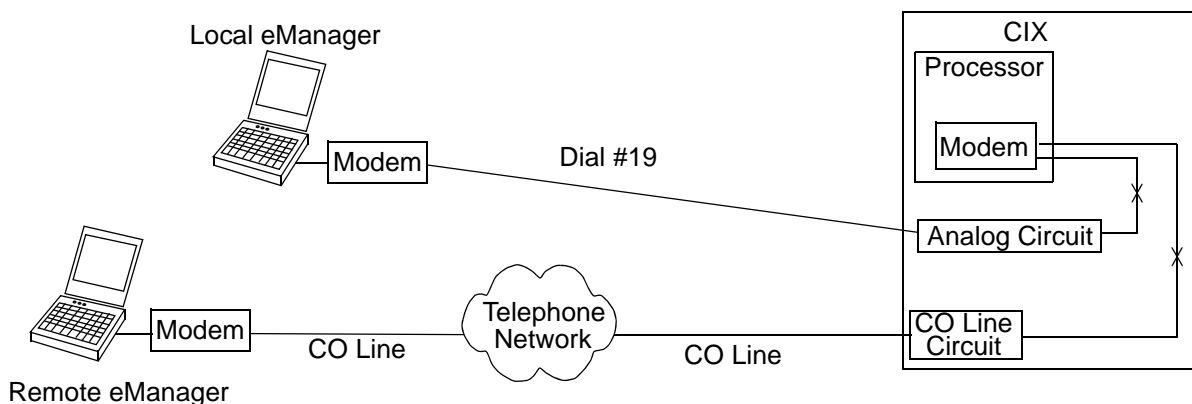


Figure 2-3 Strata eManager Modem Interface Connection

Step 2: Programming and Operation

The modem connection can be established one of two ways; Direct ring or Transfer.

- Direct ring connection over CO lines
 - Advanced Configuration > Trunk > DID lines: assign “Built-in Modem” as the Audio Day1, Day, and/or Night destination type.
 - Advanced Configuration > Trunk > Assignments > DIT Ground/Loop start lines: assign “Built-in Modem” as the Day1, Day2, and/or Night destination type.
 - When connected to RSTU, ASTU or LSLI or DISA line: put “#19” in Strata eManager Phone Number dial string.
- Transfer an eManager call to the Strata CIX modem from a CIX Auto Attendant or telephone.
 - After receiving the call from the eManager user press **Cnf/Trn** or hookflash and dial #19, then hang up after receiving CIX modem tone.

Note If calling an Auto Attendant put “xxxxxx,,,,,, #19” in the eManager Phone Number dial string, where “xxxxxx” is the site phone number and each “,” adds a three-second delay before dialing #19 to connect to the modem.

Log on to eManager

1. From Microsoft Internet Explorer window, type `http://<PC Name>/emanager` and press Enter. The eManager window displays (shown right).
2. Type the User Name (default is Administrator) in the User Name field.
3. Type the password (default is password) in the Password field.

Note For security reasons, if you haven't changed the default password you can change it now.

Select CIX Equipment

4. Click **Login**. The Select CIX System screen displays (shown at right).
5. Select the Strata CIX Network Domain from the left hand portion of the screen and click **Connect**. The eManager Main Menu displays, or if no Network Domains appear in the window, you must go to the eManager Profile to add them.

Important! If the system is configured to connect to Strategy and CIX and the Strategy Voice Mail System is not running, you will receive a warning that you cannot connect to the MAS and log onto the voice mail portion of the eManager program. Check the Strata CIX Programming Manual Volume 2 for Strategy ES Voice Mail System for instructions on starting and licensing Strategy ES.

Using the eManager Dial-up Modem

To utilize the dial-up modem to access a CIX system:

- The CIX system must have the optional modem installed on the processor card.
- The eManager equipment profile must be configured.

Access the profile screen in eManager. Create an equipment profile in eManager for the dial-up connection. The IP address of a CIX over the Dial-Up connection is fixed: 192.168.255.254. Enter the phone number of the CIX system modem.

eManager Profile

The eManager User's Profile database creation and initialization is required the first time you login to eManager. Login Accounts allows the system administrator to setup user names and passwords and to assign the level of access that users have to the system.

Step 1: Login Accounts

This screen is for determining (adding/deleting/modifying) access levels and users for the eManager (CIX/Stratagy ES) system.

1. Log on to eManager.
2. Click on eManager Profile > Login Accounts from the menu. The User Editor screen displays (shown right).
3. If this is the first time you have accessed this screen, select Administrator from the drop-down menu

...or select the appropriate user's name from the list.

4. Fill in the appropriate fields based on the descriptions found in Table Views.
5. Click **Add**, **Modify**, or **Delete**.
6. To exit the screen and return to the previous screen, click **Back**.

Strata eManager®

Table 2-1 Login Accounts Screen Fields

FIELD	DESCRIPTION
User Name	Enter the new User name. The default user name of the administrator is <i>Administrator</i> . Possible values:Alphanumeric characters. Note The administrator user name cannot be changed.
Password	Enter the new password. The initial password is <i>password</i> . This password can be changed by the administrator or user. The password is case sensitive. To protect user passwords, open Internet Explorer and go to Tools > Internet Options > Content > Autocomplete. Uncheck User Names and Password on forms, then click on Clear Passwords . CAUTION! Be sure to change the default password to protect the system from unauthorized access. Record all your passwords that use Internet Explorer.
Confirm Password	Repeat password entered in Password field. Possible values:Alphanumeric characters.

Table 2-1 Login Accounts Screen Fields (continued)

FIELD	DESCRIPTION
Access Levels	<p>Multiple users can access the program at one time. There are four access levels:</p> <ul style="list-style-type: none">• Level 1: Complete access to all system administrative functions. Creates and deletes all other access levels.• Level 2: Given privileges by Level 1. Can assign department levels. Only Level 1 that created Level 2 can delete or reset the password.• Level 3: Takes care of departmental administration. This level can be assigned the following responsibilities for specified mailboxes: define class of service; set up user's Options, Auto schedule and Notify screens; and report generating capabilities.• Level 4: The single client/user has access to only his/her personal objects. <p>Note Access to menu functions vary by access level. Functions that are disabled appear grayed out on the menu.</p>
Directory Folder Name	If left blank, system uses the user's name from the first field.
Assign to Self	Assigns equipment control to this user.
Allowed to Mod/Del	Allows this user to modify or delete equipment.

Step 2: Equipment Editor

This program is for adding, modifying or deleting equipment. If you enter the information for both the CIX and Strategy ES (SES) as one piece of equipment, the menu you view will be a blended menu of both CIX and Strategy options (see Program Menu on page 2-54).

If you want the option of viewing only CIX programming or only Strategy ES programming, you need to create/enter the equipment separately in this screen. For example: For CIX only, leave the IP Address for the SES blank, and for Strategy only leave the CIX fields blank.

1. Log on to eManager.
2. Click on eManager Profile > Equipment Editor from the menu. The Equipment Editor screen displays.
3. To add a Domain name, click **Add** and enter the name in the pop-up box. Click **OK**.

Note The creation of a domain name is not mandatory. A piece of equipment can be added directly to the root (network)

...or to rename a Domain, select it from the drop-down menu and click **Rename**. Type the name in the pop-up box. Click **OK**.

...or to delete a Domain name, select it from the drop down menu and click **Delete**.

4. In the Equipment section fill in the appropriate fields based on the descriptions shown in the table below.
5. Click **Add**, **Modify**, or **Delete**.
6. To cancel your entries and clear the screen, click **Clear**.

Table 2-2 Equipment Editor Screen Fields

FIELD	DESCRIPTION
Name	Name designating the equipment. For example: CIX999. Possible values: alphanumeric characters
CIX	
IP Address	Enter the IP Address of the CIX system. For example: 192.168.254.253 (default). Format: xxx.xxx.xxx.xxx
Community	Enter the Community password. Possible values: Alpha characters Default: communityName
Modem	Enter the modem directory number. Click to check mark the Use Dial Up box
Confirm Community	Re-enter the Community password.
SES	
IP Address	Enter the IP Address of the Media Server. For example: 192.168.254.252 (default). Format: xxx.xxx.xxx.xxx

Step 3: Classes Setup

Assigns equipment, menus, parameters, and functions to each Login Account User.

1. Login to eManager.
2. Click on eManager Profile > Classes Setup from the menu. The Classes Setup screen displays (shown right)
3. To edit a User Name, select a User Name from the drop-down menu and click **Edit**. The Login Accounts screen displays.
4. In the Equipment section, you can assign or not assign specific equipment by highlighting the item and clicking the arrow buttons on the screen.

The designated equipment moves from one box to the other based on the arrow you selected.

5. If you want to edit the equipment, click **Edit** in the Equipment box and the Equipment Editor screen displays.
6. In the Menu, Parameters and Functions fields you can assign one of the default levels to the User Name or click **More** and modify the list(s) for the individual user.



Menus: Options that have an arrow (▶) next to them can be expanded further. If you un-check an option it will be grayed out for this user in the eManager menu.

Parameters: A list is displayed showing the CIX commands/parameters that are available along with the permission given (H – hide, R – read, W – write). For example, if you change an option from W to R the user can only read, not write to that parameter.

Functions: A list is displayed showing the functions available. Un-check a function when you do not want it available to the user.

After making the changes to the list, click **Save As** and type a name for the new list in the pop-up box. Click **Back**.

7. When you are finished making the changes to the screen and want to apply these specifications to all equipment, check the field “Apply to All Equipment” and click **Set**

...or un-check the “Apply to All Equipment” field and highlight the equipment in the Assigned box that applies to the revised defaults. Click **Set**.

In this manner, you can set different defaults for different pieces of equipment.

Step 4: DB Utility

This function allows you to back up your eManager database. This utility is also useful when upgrading the eManager software.

► To access the screen

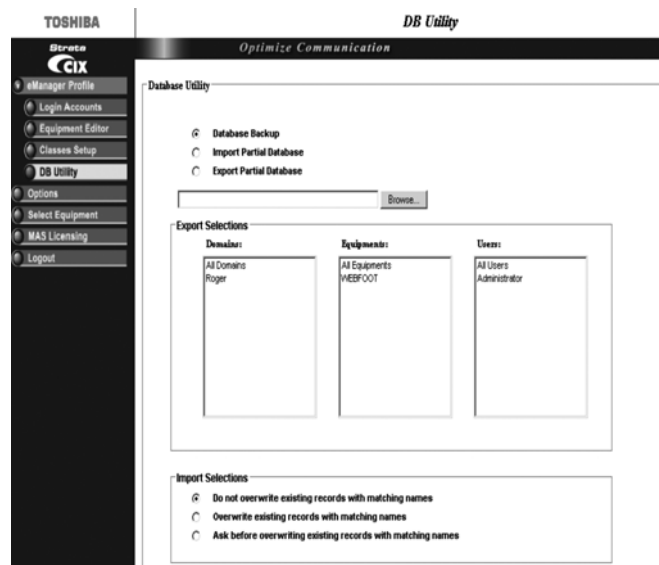
1. Login to eManager.
2. Click on eManager Profile > DB Utility from the menu. The DB Utility screen displays (shown right).
3. To backup the profile database:
 - Check Database Backup.
 - Type into the Browse field "C:\backup" or browse to the location and click **Submit**.

► To import a partial profile database

1. Check Import Partial Database.
2. Click **Browse** and find the database you want to import.
3. At the bottom of the screen, select an option from the Import Selections list.
4. Click **Submit**.

► To export a partial profile database

1. Check Export Partial Database.
2. Type c:\export.xls in the Browse field.
3. Highlight the items in the Export Selections box that you want to export.
4. Click **Submit**.



Backup Database Utility

This procedure backs up the eManager Profile database.

1. Locate and select the eManager program directory on your hard drive. The Backup/Restore screen displays.

Note The default location for backup/restore program is: C:\eManager\bin\BackupRestore.exe.

2. Click **Connect**.
3. In the Backup/Restore File Name field, type a file and path name (e.g., c:\backup.bak).
4. Click **Backup**. The system creates a backup database and the screen displays the progress.
5. When the backup is complete click **Disconnect** and close the screen.

Restore Database Utility

Important! Everything must be closed, including eManager, to do a restore.

1. Locate and select the eManager program directory on your hard drive. The Backup/Restore screen displays.

Note The default location for the backup/restore program is: C:\eManager\bin\BackupRestore.exe.

2. Click **Browse** to select a backup file to restore.
3. Click **Restore**. The system restores the database and displays the progress on the screen.
4. When the restore is complete click **Disconnect** and close the screen.

Options

This function allows you to update the password and personal directory folder name.

1. From the Login Manager menu, click **Options**. The Options screen displays (shown right).
2. Type old and new passwords in respective fields and confirm.
3. (Optional) Type a new directory folder name in the next field.
4. Click **Modify** to save the changes.

The screenshot shows the 'Options' screen in the Strata eManager application. On the left is a vertical sidebar menu with the following items: eManager Profile, Login Accounts, Equipment Editor, Classes Setup, DB Utility, Options (highlighted), Select Equipment, MAS Licensing, and Logout. The main content area has a header with 'TOSHIBA' and 'Strata CIX' on the left, and 'Options' and 'Optimize Communication' on the right. Below the header is a 'User Options' section with the following fields: 'User Name' (containing 'Administrator'), 'Old Password', 'New Password', 'Confirm Password', and 'Directory Folder Name' (containing 'Administrator'). At the bottom of the form are two buttons: 'Modify' and 'Back'.

eManager Main Screen

After you start eManager, log in and connect to the CIX. The main screen (shown below) displays. Verify the information on this screen. It contains the System type and Software version.



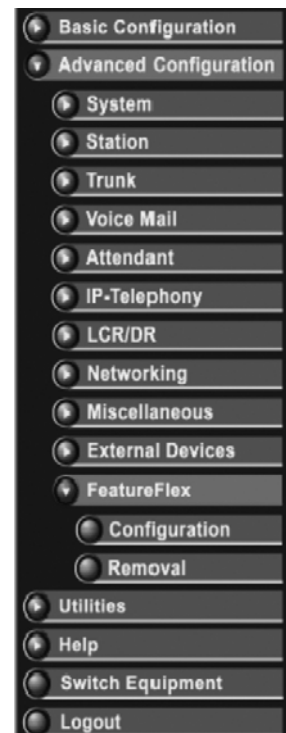
Program Menu

This is the primary tool used to navigate through eManager. Click to expand or collapse the Program menu buttons.

- You can verify the Strata CIX system type and the software version on the Title screen shown above.
- You can verify the SES software version
- You can verify the eManager software version
- The CIX software version is organized as follows:
 - Example: AR3.00.MJ033.00
 - A = Country code (USA, Canada, Mexico).
 - R3.00 = Release 1.01
 - MJ0xx.00 = Strata CIX software version.

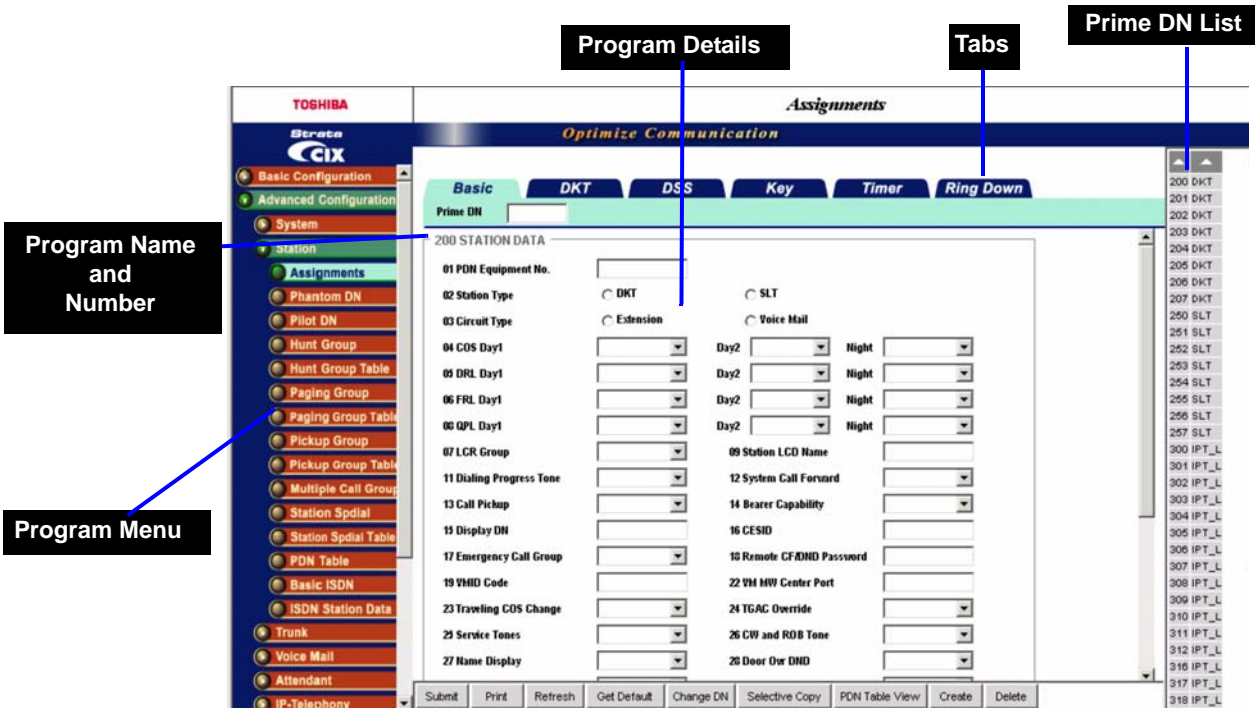
The Program menu consists of three possible configurations—only CIX options, only Strategy ES options or a blend of both. What you see depends upon the equipment you are connected to using the Select CIX screen (see Equipment Editor on page 2-49). The figure to the right shows a blended menu.

Note The FeatureFlex options on the menu display only when you are connected to the Strategy Server (MAS).



eManager Sub-screens

The eManager operates in a user friendly Windows environment featuring interactive Graphical User Interface (GUI) screens. The Program Viewer's GUI is arranged to streamline the Strata CIX programming process (see sample screen below).



Programming functions can be accessed by clicking on the appropriate link in the Program Menu.

- **Program Name** – Program number and name.
- **Program Details** – Valid fields/data that pertain to the program.
- **Program Tabs** – You can access a variety of programs and features by clicking the Program Tabs found on some of the eManager screens.

The Day Night Service (Programs 112, 106 and 113) screen is shown in the sample below.

7592

The following features enable you to browse and program eManager efficiently:

- **Program Blocks** – eManager arranges many related programs in blocks to enable the programmer to view essential, related programs on one screen.
- **Programming Parameters** – Choose values from scroll down menus.
- **Command Group Name** – Each program number and title is prominently displayed for easy reference.
- **Field Name** – Each Field Name or parameter displays and is coded with a prefix (FB) number for easy referencing.
- **Program and Parameter Descriptions** – Every program and parameter description displays in a pop-up window by placing the mouse cursor over the program or parameter information.

Special Buttons

These buttons appear on some of the eManager screens. Refer to Figure 2-4. Clicking on any button lets you do the following:

- **Create** – Create a new record using system default values.
- **Start** – Starts a wizard.
- **Add/Delete/Modify** – Enables you to add/delete/modify entry(s). In some programs, click the **Add** or **Delete** button for a dialog box to display. Enter the required data, then click **Add** or **Delete**.
- **List** – Lists all data.
- **Table View** – Displays the appropriate table view. For example, clicking the **DR Table View** button displays all the configured DRLs within the system.
- **Get Default** – Sets the fields to the default.
- **Reset** – Resets to set your Strata CIX to manufacturer's default. Be careful! By pressing the Reset button, you are authorizing all data to be reset to manufacturing defaults. Any custom data entered will be lost.
- **Submit** – New data is held in eManager's memory. Your Strata CIX is not updated with the new settings until the **Submit** button is clicked.
- **Logout** – Disconnects eManager from Strata CIX and terminates TCP/IP Communications.

Figure 2-4 Special Buttons Example

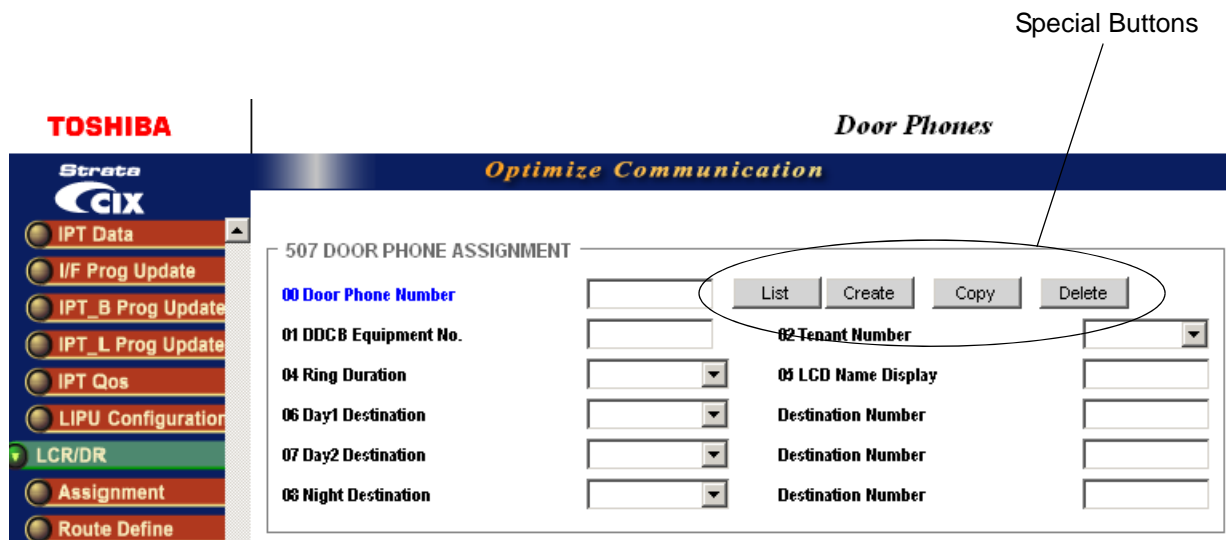


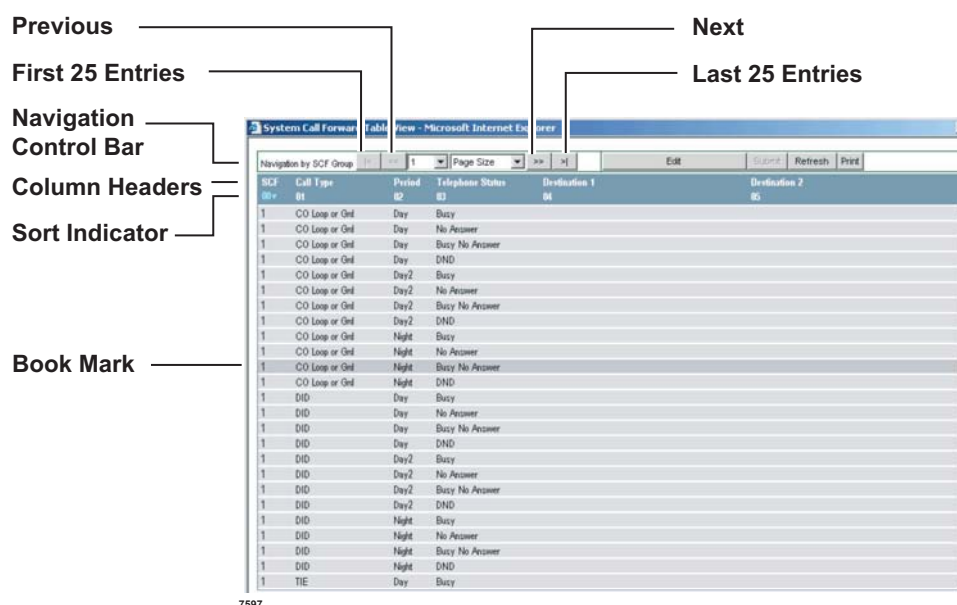
Table Views

Some programs contain supporting tables views. These tables can be accessed from the Program Menu or from the program itself by clicking the **Table View** button. For example, the System Speed Dial Table View can be accessed by clicking Advanced Configuration > System > System Spdial then clicking the **System Speed Dial Table View** button at the bottom of the screen.

Note

- Depending on the speed of your PC and the size of your database the table may take several minutes to download.
- Once table view displays, you can minimize the screen or send it to the background. It is an independent window that can always be brought back to the front of the screen for reference.

The tables have the following functionality (see Table View example below):



Navigational controls enable viewing or moving in a table by 25-entry screens. These controls help sort information found in the table or view the table in full. These controls are found as Previous and Next buttons above the header.

If you want to print or analyze the table you can also select All from the Drop down between the Previous and Next buttons to view the entire table in blocks of 25 entries.

In the Navigation Control bar, every button is dynamically activated or deactivated. For example, in the figure above, the Previous button is not active because the view starts with the first record. The Submit is also not available because nothing has been changed.

- Sort** – You can sort tables by clicking on the column header. The direction of the up/down toggles in an Ascending or Descending sort. The color indicator pointing Up or Down in the Header row indicates the column by which the sort is performed.
- Bookmark** – You can bookmark a row on some tables by clicking on the row. This enables you to move forward or backward and come back to the original position with no problem.

Note The bookmark function is not provided in tables that have a **Delete** button. Tables that have a **Delete** button also have **Select All** and **Unselect All** buttons.

- Edit/Refresh/Print buttons – You can edit, refresh or print the table by clicking the appropriate buttons at the top of the screen. In some tables the **Edit** button toggles between View Collected Data and Edit. The Edit function works for the Name, Number and Destination columns. Use the **Refresh** button if you add, delete or make changes to table entries in Programs that feed tables or in Guide pages.
- The Print button enables you to print tables. However, when you click the **Print** button only the part of the table that is displayed on the screen prints. Use the scroll bar to Print beyond what is displayed. It will then automatically print from where the last screen ended.

Help Topics/Context Help

From the eManager Main menu, click Help > Help Topics or Context Help. The CIX Programming Manual Vol. 1 or the Strategy Programming Manual will open. Point and click in the Table of Contents or the Index to find a topic. The search function can be started by clicking on the binocular icon or press Ctrl+F on the keyboard.

About eManager

From the eManager Main menu, click Help > About eManager. A screen displays with software version numbers.

No Response from Device

While using eManager the error message 'No response from device' may appear. The following is a list of conditions that may cause the problem and suggestions for trouble shooting.

- The connection parameters in the Profile database Equipment List are incorrect. No CIX is configured as listed on the network. Check whether the IP Address and the Community Name are correct as shown in the Equipment List.
- There is no IP network path between eManager and the CIX. Ping the CIX from the eManager server PC to determine if there is connectivity.
- Along the network path between eManager and the CIX, the SNMP messages are blocked by a network device (router, firewall, etc.). Check the network device(s) and firewall configuration, verify that the SNMP protocol and its IP ports 161 and 162, and also the FTP protocol and its IP ports 20 and 21 are not blocked.
- Network latency is high due to high traffic, not enough bandwidth. Use network monitoring tools to verify that SNMP responses from the network location of the CIX arrive at the eManager PC location within 3000ms.
- The CIX is turned off or not functioning. Verify that the targeted CIX is turned on and running.
- The CIX processor is overloaded, delaying processing SNMP request messages. In this case the normal SNMP message flow will be restored by CIX. The system congestion is cleared up and the system is running under normal load.

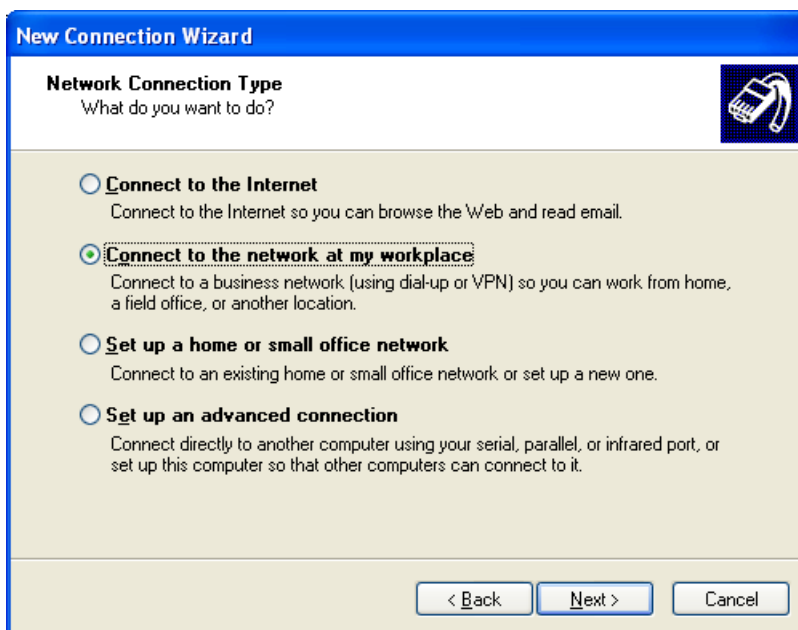
Create new connection entry for dial-up

This new connection setup must be completed in order to use the modem in the eManager PC to dial-up a CIX system. The following steps cover the network connection setup in the PC that must be done to use the PC modem.

1. In Control Panel Network Connections, select **Create** a new connection to start the wizard:



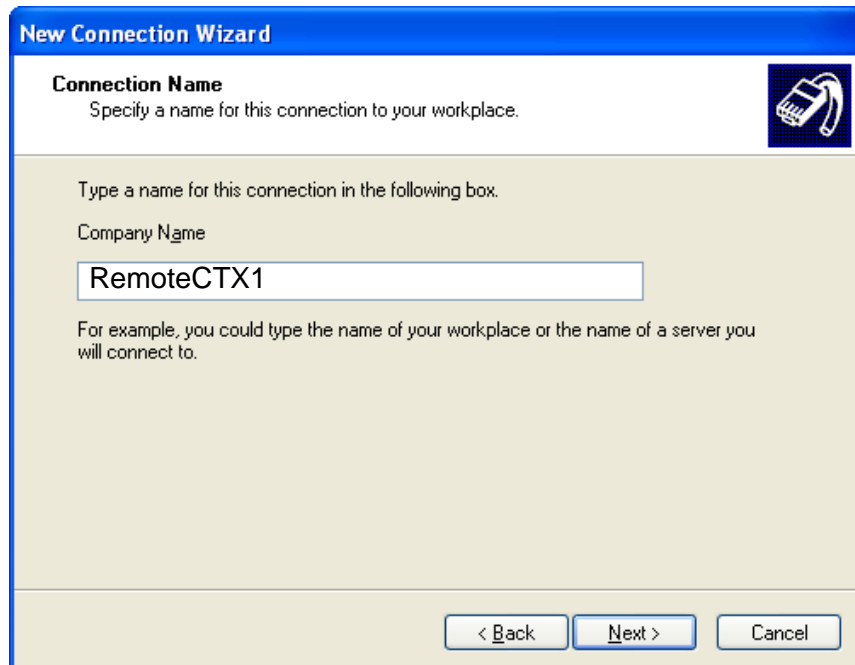
2. Click **Next**.



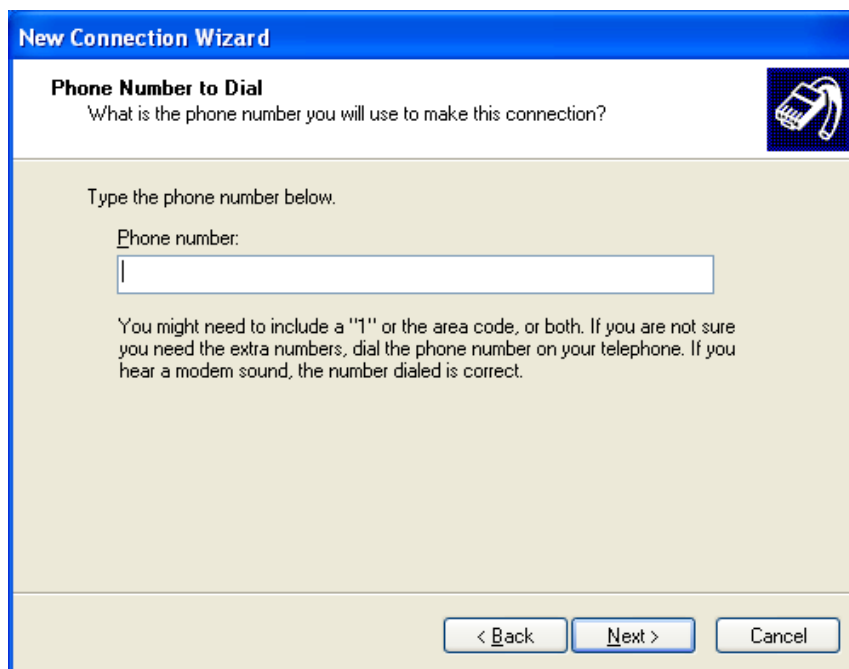
3. Select 'Connect to the network at my workplace' then click **Next**.



4. Select 'Dial-up connection,' then click **Next**.



5. Enter "RemoteCTX1" as the name of the connection (this entry is case sensitive and must not have any spaces), and click **Next**.



New Connection Wizard

Phone Number to Dial
What is the phone number you will use to make this connection?

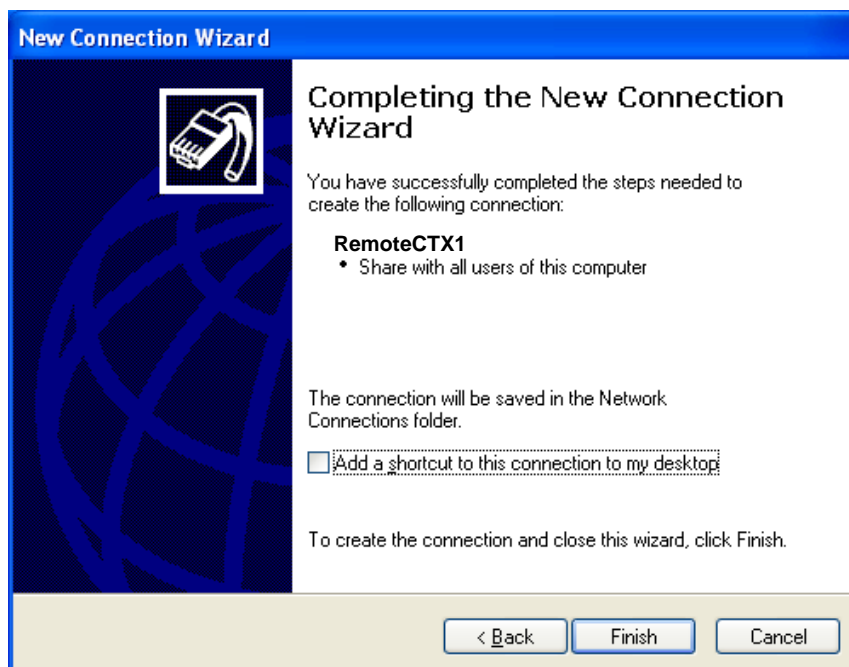
Type the phone number below.

Phone number:

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back Next > Cancel

- You must leave the Phone number empty, the phone number will be configured later in the eManager equipment profile. Click on **Next**.



New Connection Wizard

Completing the New Connection Wizard

You have successfully completed the steps needed to create the following connection:

RemoteCTX1

- Share with all users of this computer

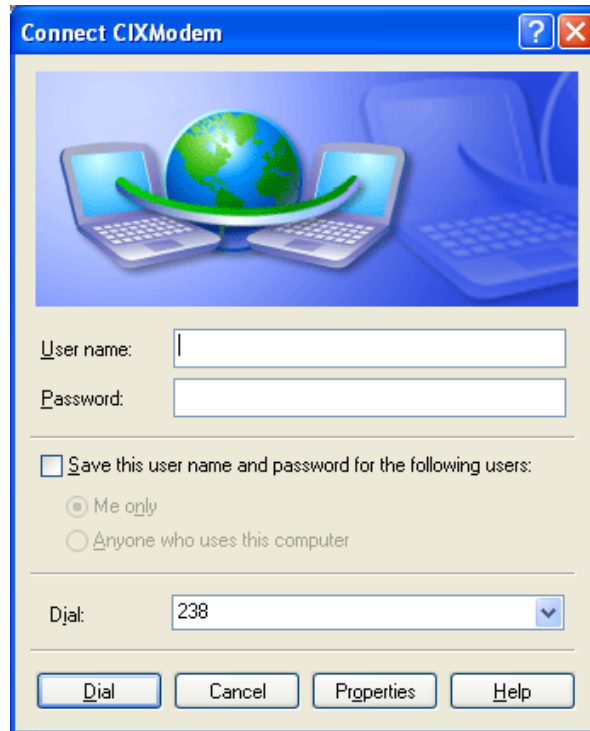
The connection will be saved in the Network Connections folder.

Add a shortcut to this connection to my desktop

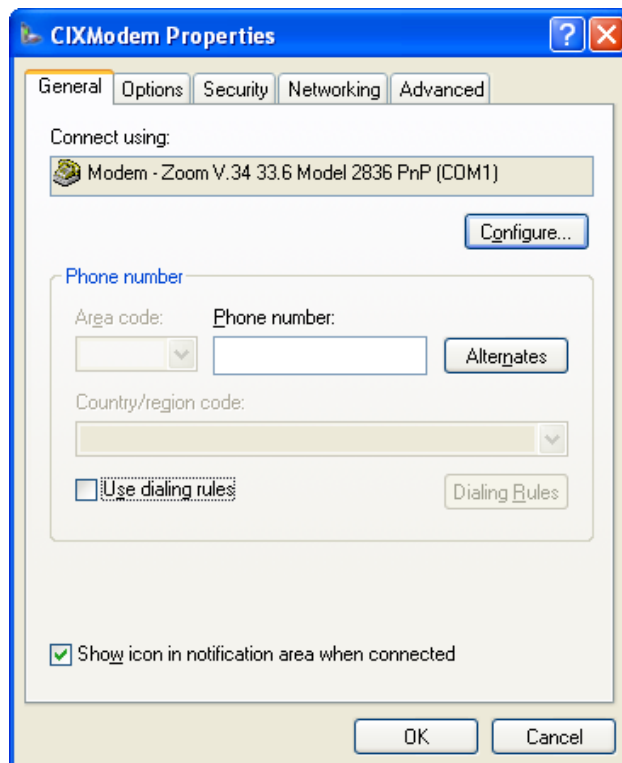
To create the connection and close this wizard, click Finish.

< Back Finish Cancel

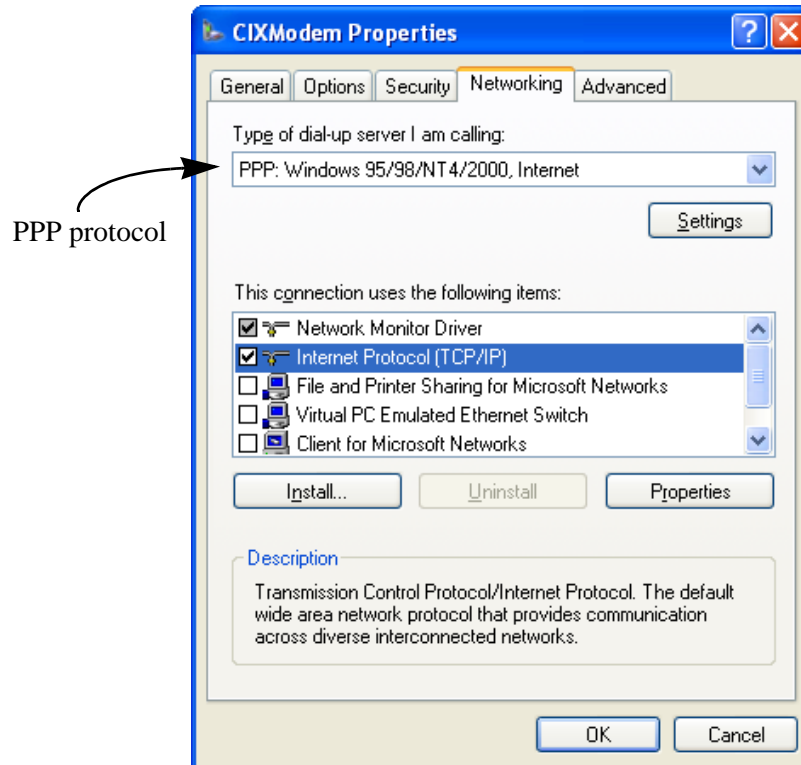
- Do not click on the 'Add a shortcut' box.' Click **Finish**, it will create the new entry and pop up the Connect dialog.



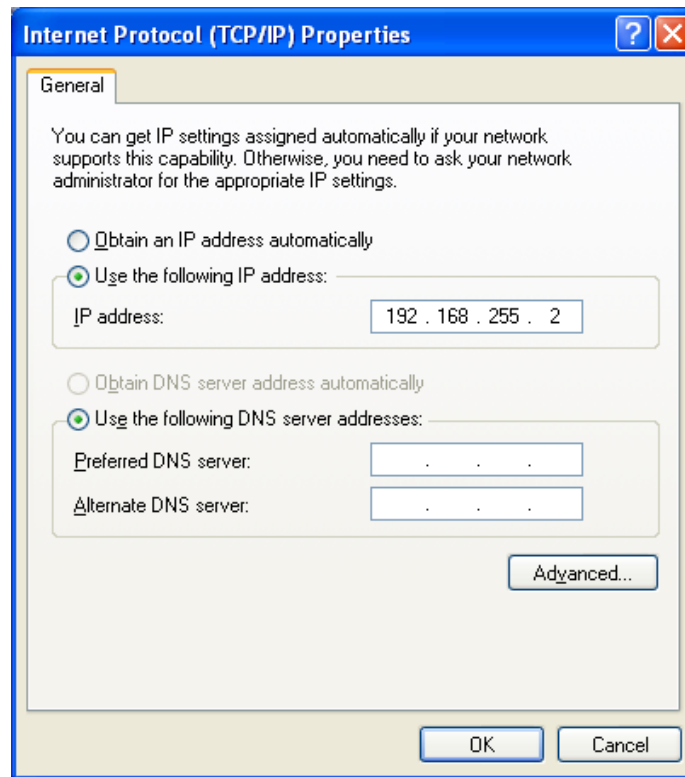
8. Do not make any entries in this dialog box. Click on **Properties** to continue with the setup:
The CIXModem Properties dialog box will open.



9. Select your modem and configure if necessary, otherwise leave the default values for other fields including the Options Security and Advanced tabs. You must leave the Phone number empty for now. The phone number will be configured later in the eManager equipment profile. Click on the Networking tab.

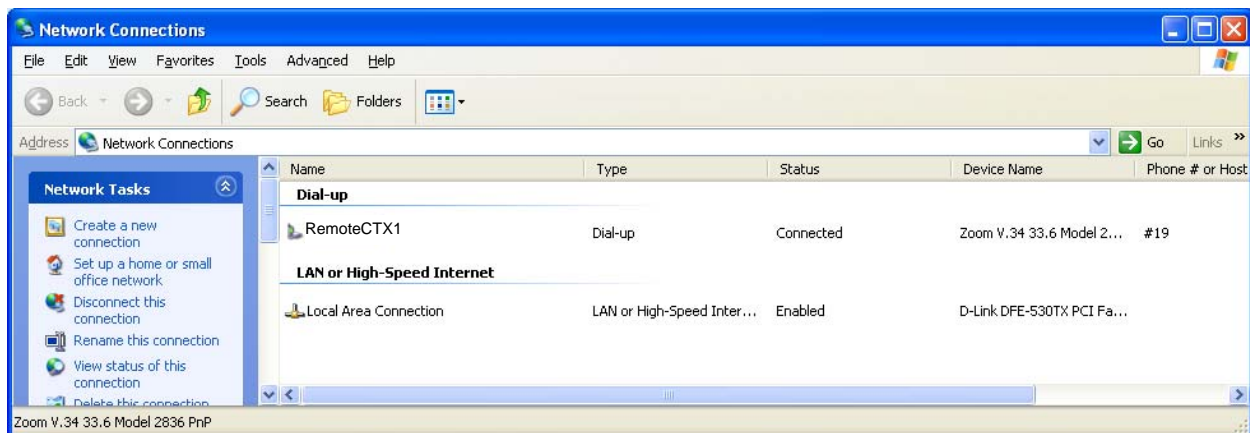


10. Select PPP protocol from the 'Type of dial-up server I am calling:' drop-down list. Uncheck all items on the other list except TCP/IP. (You cannot uncheck Network Monitor Driver if it is there.) Select TCP/IP and click **Properties**:



11. Click to select: Enter an IP address between 192.168.255.2 and 192.168.255.252. Use an IP address that is not already in use on this PC and its network.
12. Click **OK**, then **OK** again to close the Properties.
13. Click **Cancel** on the Connect CIXModem dialog to close it. The new entry is created in The Network Connections.
14. The Connect RemoteCTX1 screen will appear. Click on **Cancel**.

The new network connection entry can be viewed by going to the Control Panel.



eManager Data Import / Export Features

The enhancements listed below are available in eManager R4.2A02 and later. They do not require CIX Release 4.2 software. They can be used with all Releases of CTX/CIX systems.

These new features can save significant time and effort by exporting data such as station speed dial lists or DID assignments to a file and then importing the file for assignment.

eManager DID/DNIS Assignments - Import/Export

This feature allows all DID/DNIS numbers and parameters assigned to one or more Incoming Line Groups (ILG) to be exported as a comma separated value (CSV) file and saved on the eManager PC. This file can then be imported and automatically uploaded to another ILG in the same CIX or to a different CIX system.

Download

The system will create a text file. The text is the CSV data. To download DID/DNIS assignments:

1. Display the DID/DNIS Table. Advanced Configuration>Trunk>DID/DNID Table
2. Click on the **Export** button.
3. A dialog box will open. Select the location to save the file and assign a file name.

Example

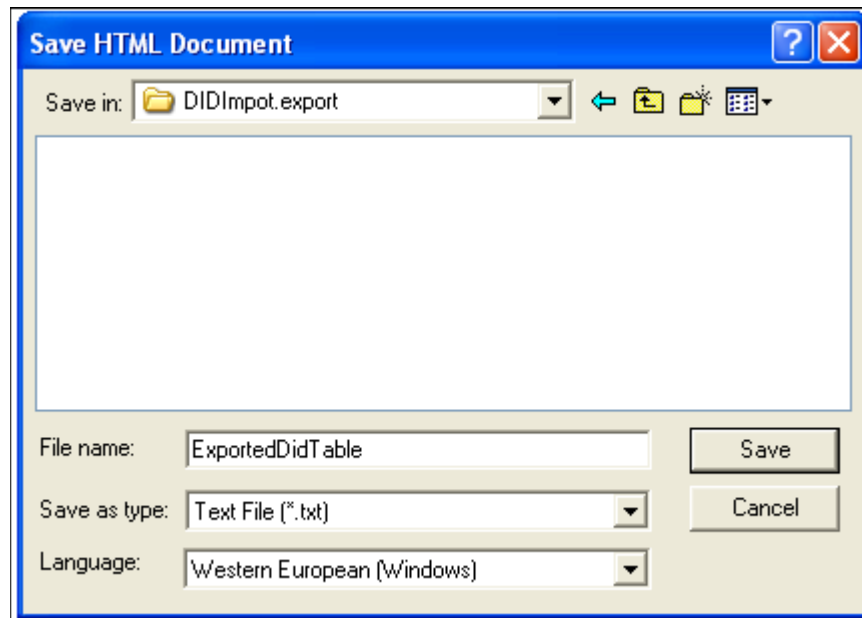
The following is an example of using this process to copy the DID/DNIS numbers from ILG #5 to ILG #7 in the same CIX system. After the DID/DNIS numbers and parameters have been assigned to ILG #5 perform the following:

1. Create DID/DNIS numbers and parameters, etc. for ILG Group 5 using the DID/DNIS wizard.
2. Open the DID/DNIS Table View located under Advanced Configuration>Trunk>DID/DNID Table. All assignments for DID ILG Group 5 are displayed.
3. At the top of the DID/DNID Table View screen click on the **Export** button.

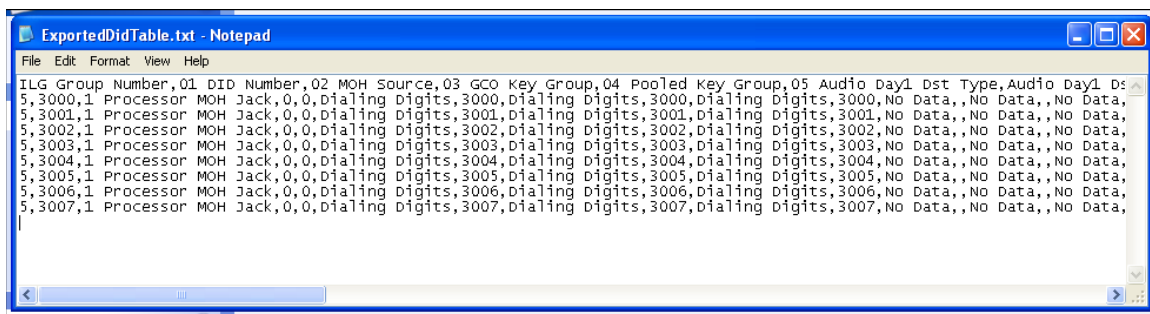
ILG	Number	DID/DNIS Name	Day Destination	Day 2 Destination	Night Destination	GCO Key	Pool Key	VMID SMDI	VMID DTMF	Tenant Number
5	3000	TOM	3000	3000	3000	0	0	3000	3000	1
5	3001	MARY	3001	3001	3001	0	0	3001	3001	1
5	3002	JANE	3002	3002	3002	0	0	3002	3002	1
5	3003	SALLY	3003	3003	3003	0	0	3003	3003	1
5	3004	FRED	3004	3004	3004	0	0	3004	3004	1
5	3005	LUCY	3005	3005	3005	0	0	3005	3005	1
5	3006	JOE	3006	3006	3006	0	0	3006	3006	1
5	3007	LUNCH ROOM	3007	3007	3007	0	0	3007	3007	1

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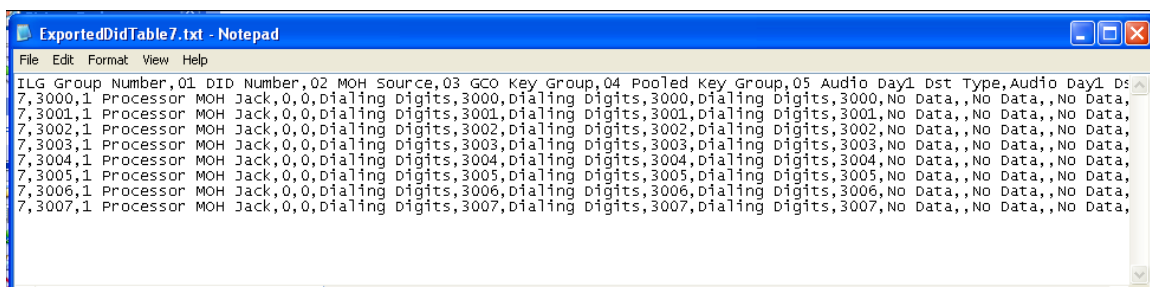
- Select or create the folder where the ILG #5 DID/DNIS assignment file will be saved and then click **Save**. This will save the DID numbers and parameters of ILG #5 as a comma delimited text file.



- Create DID Incoming Line Group ILG #7 in Trunk Programming, Program 304. Assign the number of digits the DID numbers should have in Program 304-11 (four digits in this example). The number of digits for ILG #7 should be the same as ILG #5.
- After creating DID ILG #7 open the exported ILG #5 DID text file using Windows. This is the file saved in Step 4.



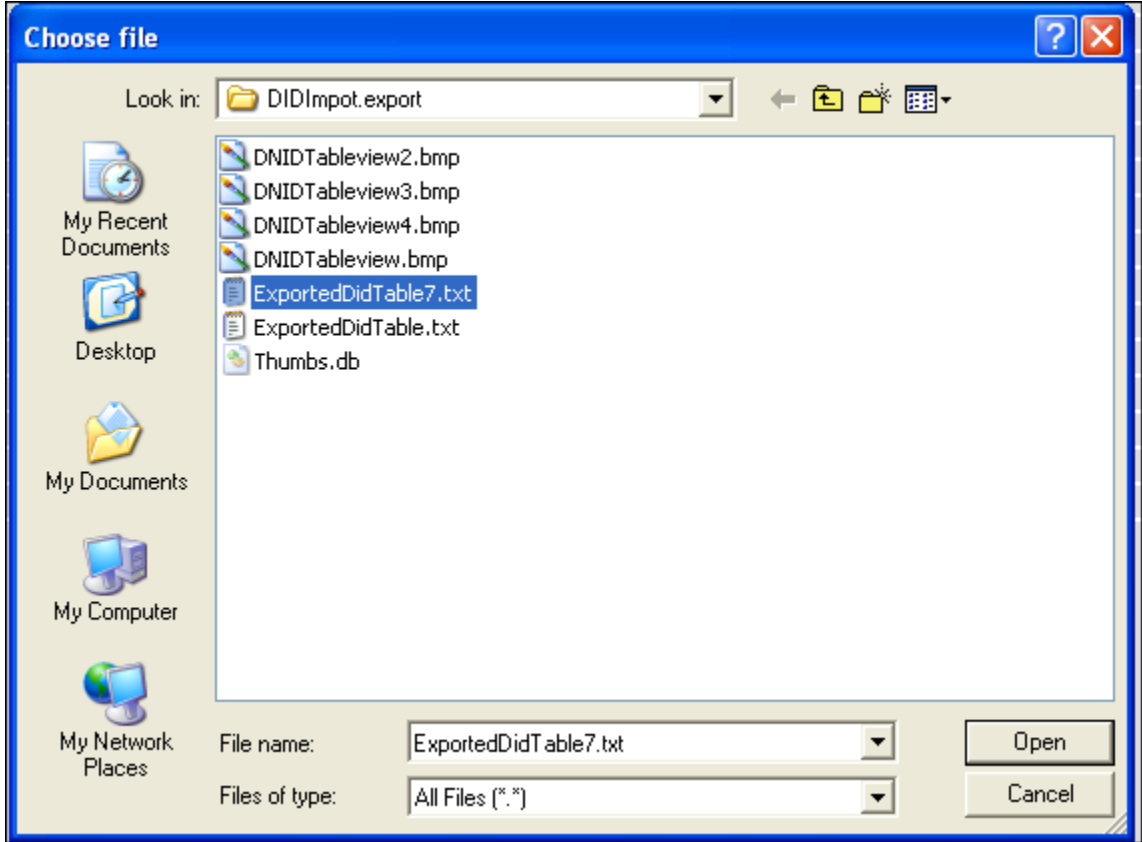
- In the text file, change the ILG number from 5 to 7. Be sure to keep the same comma delimited format intact as shown below, then save the file under a different name.



8. In eManager, open the DID/DNIS Table View located under Advanced Configuration>Trunk>DID/DNID Table. All assignments for DID ILG Group 5 are displayed.
9. On the top of the DID/DNID Table View screen click on the **Import** button.

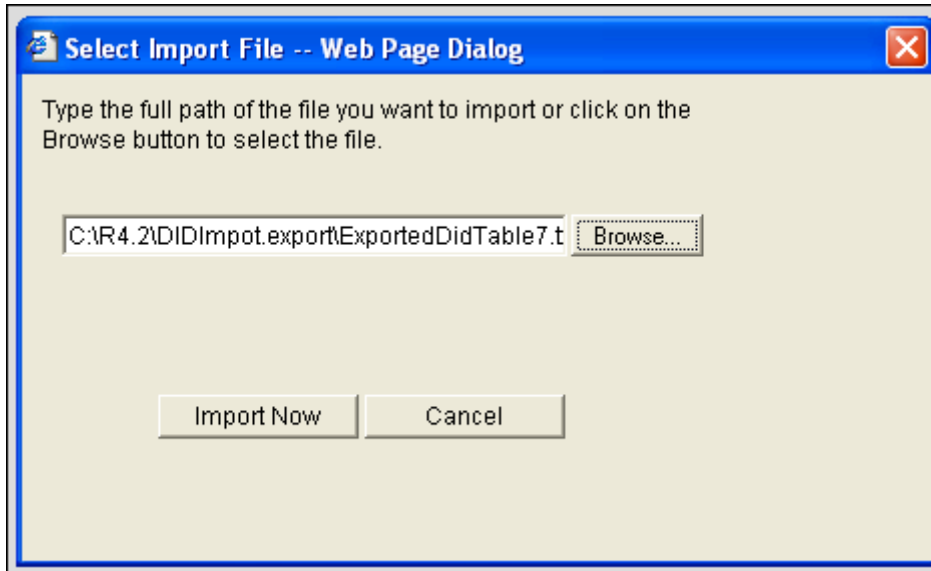
ILG Number	DID/DNIS Name	Day Destination	Day 2 Destination	Night Destination	GCO Key	Pool Key	VMID SMDI	VMID DTMF	Tenant Number
5 3000	TOM	3000	3000	3000	0	0	3000	3000	1
5 3001	MARY	3001	3001	3001	0	0	3001	3001	1
5 3002	JANE	3002	3002	3002	0	0	3002	3002	1
5 3003	SALLY	3003	3003	3003	0	0	3003	3003	1
5 3004	FRED	3004	3004	3004	0	0	3004	3004	1
5 3005	LUCY	3005	3005	3005	0	0	3005	3005	1
5 3006	JOE	3006	3006	3006	0	0	3006	3006	1
5 3007	LUNCH ROOM	3007	3007	3007	0	0	3007	3007	1

10. In the Choose file dialog box use the **Browse** button to find the text file containing ILG #7 created in Step 7.



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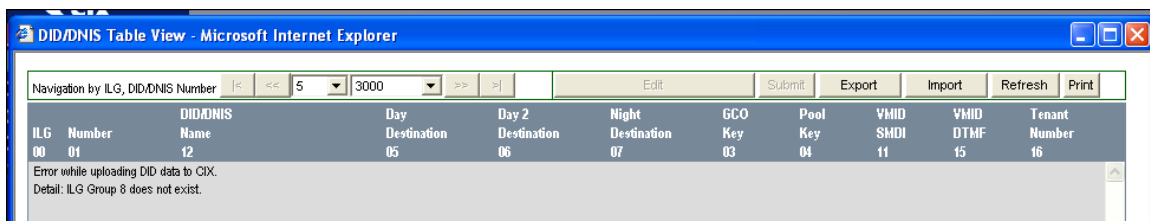
- After selecting the ILG #7 file click on **Open**. The eManager Select Import File dialog box will open. Click on **Import Now**. eManager will import and upload the ILG #7 data to the CIX.



- In eManager, open the DID/DNIS Table View, select **Advanced Configuration>Trunk>DID/DNID Table** and click **Refresh**. All assignments for DID ILG Group 5 and 7 are displayed. This means that all of ILG #5 DID assignments have been applied to ILG #7 in the CIX database.

ILG Number	DID/DNIS Name	Day Destination	Day 2 Destination	Night Destination	GCO Key	Pool Key	VMID SMDI	VMID DTMF	Tenant Number
5 3000	TOM	3000	3000	3000	0	0	3000	3000	1
5 3001	MARY	3001	3001	3001	0	0	3001	3001	1
5 3002	JANE	3002	3002	3002	0	0	3002	3002	1
5 3003	SALLY	3003	3003	3003	0	0	3003	3003	1
5 3004	FRED	3004	3004	3004	0	0	3004	3004	1
5 3005	LUCY	3005	3005	3005	0	0	3005	3005	1
5 3006	JOE	3006	3006	3006	0	0	3006	3006	1
5 3007	LUNCH ROOM	3007	3007	3007	0	0	3007	3007	1
7 3000	TOM	3000	3000	3000	0	0	3000	3000	1
7 3001	MARY	3001	3001	3001	0	0	3001	3001	1
7 3002	JANE	3002	3002	3002	0	0	3002	3002	1
7 3003	SALLY	3003	3003	3003	0	0	3003	3003	1
7 3004	FRED	3004	3004	3004	0	0	3004	3004	1
7 3005	LUCY	3005	3005	3005	0	0	3005	3005	1
7 3006	JOE	3006	3006	3006	0	0	3006	3006	1
7 3007	LUNCH ROOM	3007	3007	3007	0	0	3007	3007	1

- If you failed to create ILG #7 in Step 5 with the correct number of DID digits in Program 309 -11 the following error message will be presented on the Table View screen.



eManager Station Directory - Import/Export

This feature allows CIX station assignments such as user names and telephone numbers to be exported to a comma separated value (CSV) text file. This file can be imported by third party software to create dialing directories.

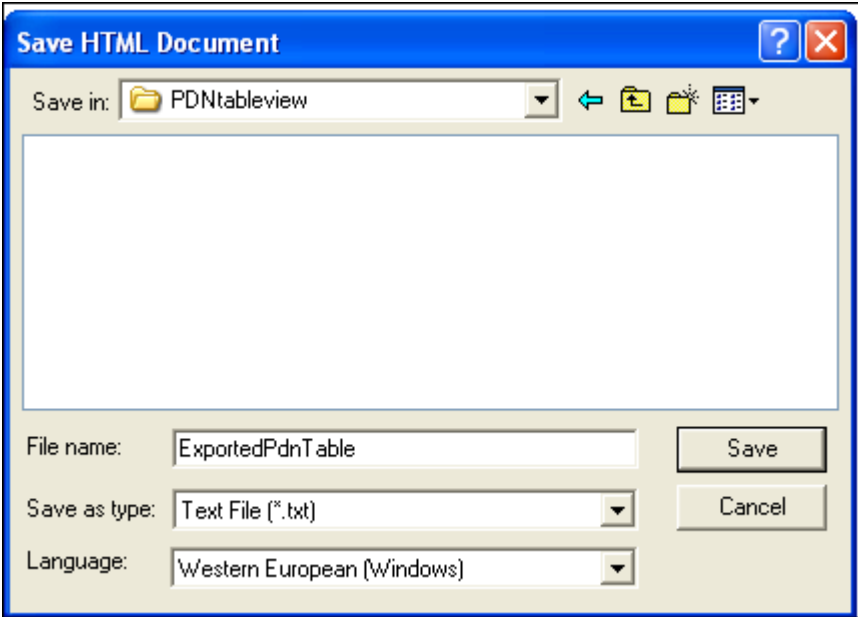
The Station Assignments Table View is displayed in eManager then a CSV text file is exported to the eManager computer.

Station Directory Information Example

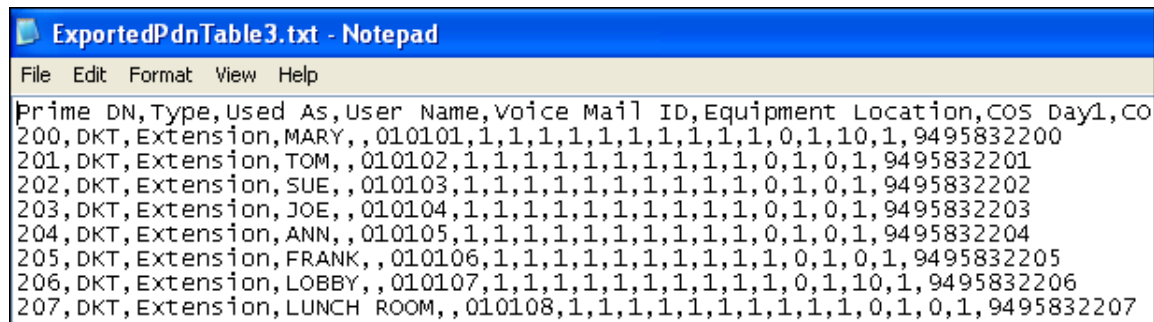
1. In eManager select **Advanced Configuration > Station > PDN Table**. All of the station assignments are displayed in a table.
2. Click the **Export** button on the top of the screen.

Equipment			PrimeDN	Telephone LCD Name	VMID	COS			DRL			FRL			LCR	SYS	NET	Sta.	Tenant	Network Calling Num
Number	Type	Used As				D1	D2	N	D1	D2	N	D1	D2	N						
010101	DKT	Extension	200	MARY	19	1	1	1	1	1	1	1	1	1	0	1	10	1	9491234567	
010102	DKT	Extension	201	TOM		1	1	1	1	1	1	1	1	1	0	1	0	1	9498901234	
010103	DKT	Extension	202	SUE		1	1	1	1	1	1	1	1	1	0	1	0	1	9498888888	
010104	DKT	Extension	203	JOE		1	1	1	1	1	1	1	1	1	0	1	0	1	9499999999	
010105	DKT	Extension	204	ANN		1	1	1	1	1	1	1	1	1	0	1	0	1	9490000000	
010106	DKT	Extension	205	FRANK		1	1	1	1	1	1	1	1	1	0	1	0	1	9495832205	
010107	DKT	Extension	206	LOBBY		1	1	1	1	1	1	1	1	1	0	1	10	1	9495832206	
010108	DKT	Extension	207	LUNCH ROOM		1	1	1	1	1	1	1	1	1	0	1	0	1	9495832207	

3. From the dialog box that appears after clicking **Export**, name the file and select or create the folder it should be downloaded to.

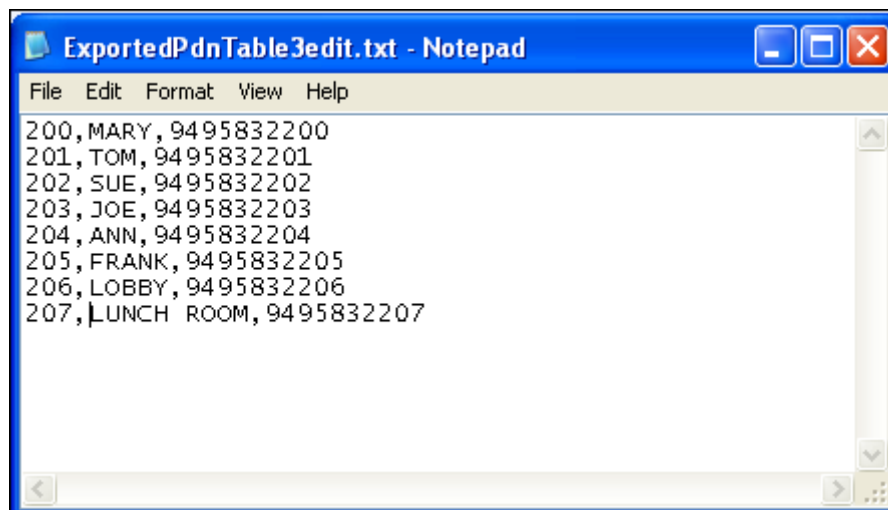


4. Open the exported text file.



```
ExportedPdnTable3.txt - Notepad
File Edit Format View Help
Prime DN,Type,Used As,User Name,Voice Mail ID,Equipment Location,COS Day1,CO
200,DKT,Extension,MARY,,010101,1,1,1,1,1,1,1,1,1,1,0,1,10,1,9495832200
201,DKT,Extension,TOM,,010102,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832201
202,DKT,Extension,SUE,,010103,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832202
203,DKT,Extension,JOE,,010104,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832203
204,DKT,Extension,ANN,,010105,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832204
205,DKT,Extension,FRANK,,010106,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832205
206,DKT,Extension,LOBBY,,010107,1,1,1,1,1,1,1,1,1,1,0,1,10,1,9495832206
207,DKT,Extension,LUNCH ROOM,,010108,1,1,1,1,1,1,1,1,1,1,0,1,0,1,9495832207
```

5. One application for this file is to edit the unwanted fields out to allow third party software to create a directory. The format of the edited file may need to vary depending on the third party software that will create the directory. The file below has all table view fields deleted except:
 - Extension Number (PRG Prime DN)
 - Extension Name (PRG 200-09)
 - Network Calling Number (PRG 200-46)



```
ExportedPdnTable3edit.txt - Notepad
File Edit Format View Help
200,MARY,9495832200
201,TOM,9495832201
202,SUE,9495832202
203,JOE,9495832203
204,ANN,9495832204
205,FRANK,9495832205
206,LOBBY,9495832206
207,LUNCH ROOM,9495832207
```

The edited text file can be opened with Microsoft Excel as a comma delimited text file and columns can be rearranged as needed.

	Name	EXT	Phone Number
1	MARY	200	9495832200
2	TOM	201	9495832201
3	SUE	202	9495832202
4	JOE	203	9495832203
5	ANN	204	9495832204
6	FRANK	205	9495832205
7	LOBBY	206	9495832206
8	LUNCH ROOM	207	9495832207

Microsoft Excel can be used to format the directory appearance.

Name	Extension	Tel. Number
ANN	Ext. 204	9495832204
FRANK	Ext. 205	9495832205
JOE	Ext. 203	9495832203
LOBBY	Ext. 206	9495832206
LUNCH ROOM	Ext. 207	9495832207
MARY	Ext. 200	9495832200
SUE	Ext. 202	9495832202
TOM	Ext. 201	9495832201

Speed Dial Export/Import

This feature allows station and system speed dial names and numbers to be exported and imported. The exported speed dial data is saved into a comma separated value (CSV) text file which can be edited using any text editor such as Word Pad. The exported file can be imported by other CIX systems to save installation time.

Speed Dial Export/Import Operation

The exported and imported speed dial file format is shown below. The exported file header and line format must not be change or an error message will occur when trying to import a file. Commas are always required between fields as shown.

- System Speed Dial File Format:
Speed Dial Index (01 ~ 799),Speed Dial Number,Name
- Station Speed Dial Format:
Prime DN,Speed Dial Index (01 ~ 99),Speed Dial Number,Name

You can edit exported speed dial files to add more speed dial names and numbers, change formats between system and station, and change Prime DN's. Editing allows:

- One station's speed dial names/numbers can be edited and imported into another station's speed dial bins.
- A station's speed dial names/numbers can be edited and imported into CIX system Speed Dial.
- System speed dial names/numbers can be imported into another CIX system.
- System speed dial names/numbers can be edited and imported into station speed dial bins.
- System and Station speed dial files can be used by third party software to create dialing directories.

Station Speed Dial Export/Import

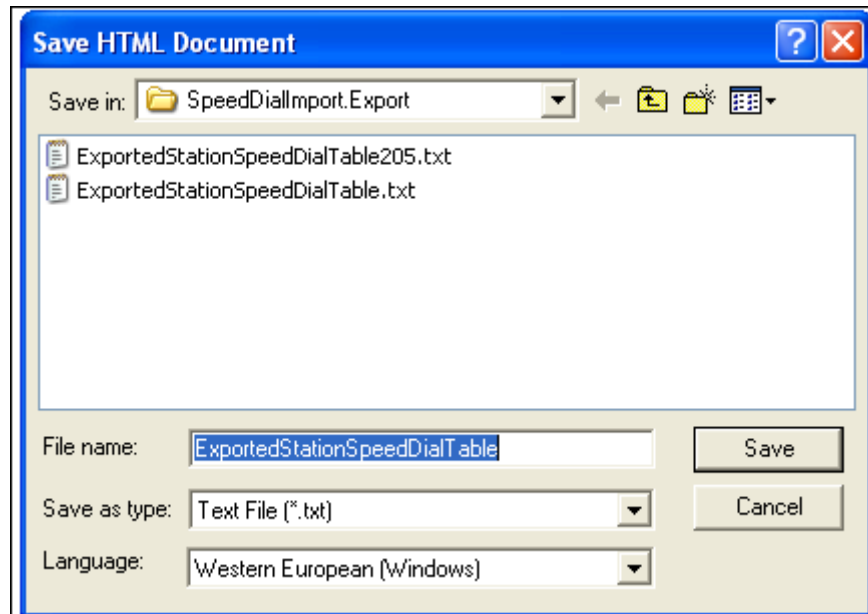
This feature allows all station speed dial numbers of one station to be exported and saved as a file on the eManager PC. The assignments in this file can then be imported and automatically uploaded to another station speed dial bin in the same CIX or into System Speed dial.

Example: Assign station 200 speed dial numbers to station 205 in the same CIX system.

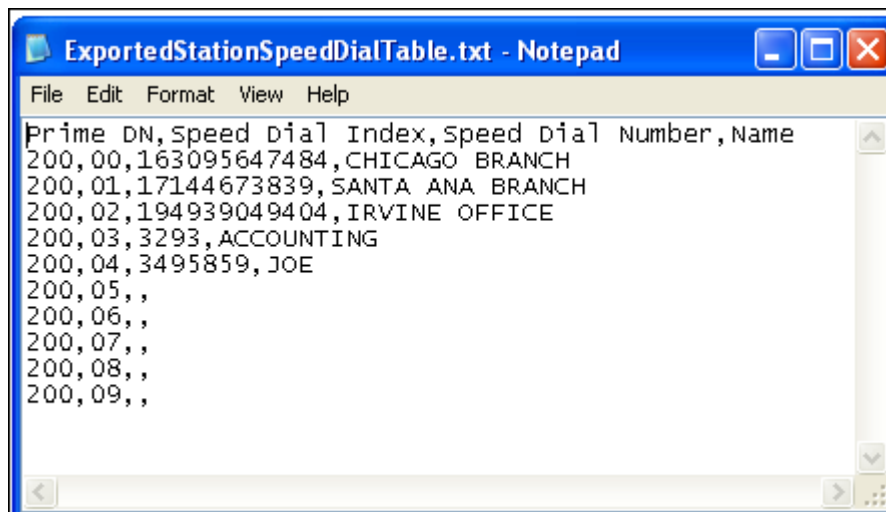
1. Make sure that station 200 has speed dial number memory assigned in Program 200-35. Create station speed dial numbers and names for station 200 using the Station Speed Dial Table View.
2. Open the Station Speed Dial Table View, select Advanced Configuration > Station > Station Speed Dial Table View. All of the assignments for station speed dial are displayed.
3. At the top of the Station Speed Dial Table View screen click on the **Export** button.

PDN	Index	Dialing Code	Number	Name
00	01		02	03
200	00	*100	163095647484	CHICAGO BRANCH
200	01	*101	17144673839	SANTA ANA BRANCH
200	02	*102	194939049404	IRVINE OFFICE
200	03	*103	3293	ACCOUNTING
200	04	*104	3495859	JOE
200	05	*105		
200	06	*106		
200	07	*107		
200	08	*108		
200	09	*109		

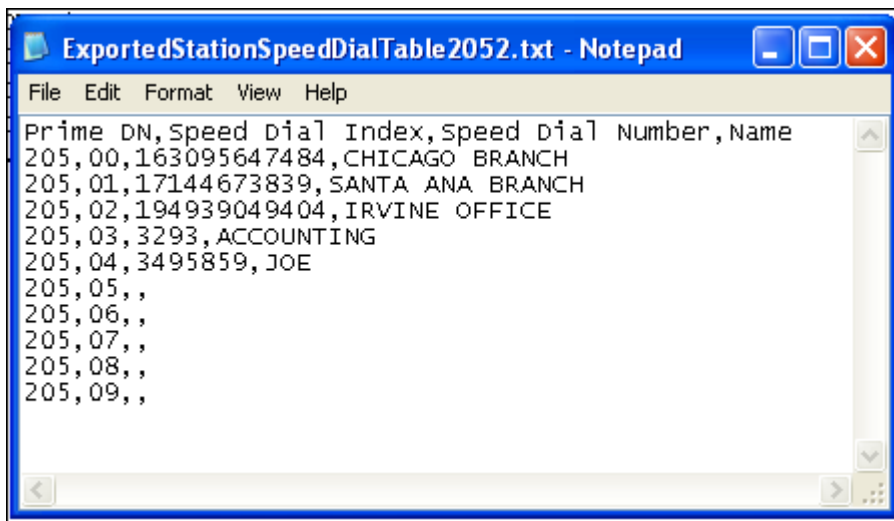
4. Select or create the folder where the station speed dial assignment file for station 200 will be saved, then click **Save**. This will save the station speed dial names and numbers as a CSV text file.



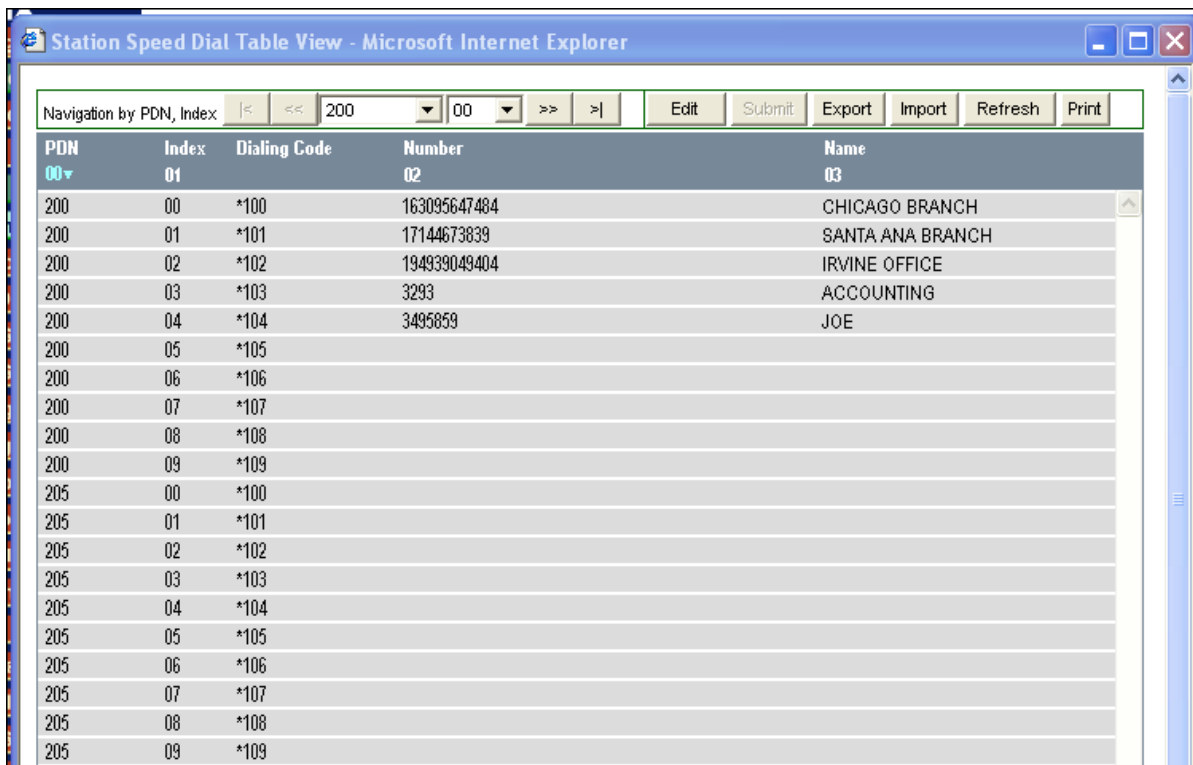
5. Make sure that station 205 has speed dial number memory assigned in Program 200-35.
6. Open the exported station 200 speed dial CSV text file saved in Step 4, using Word Pad.



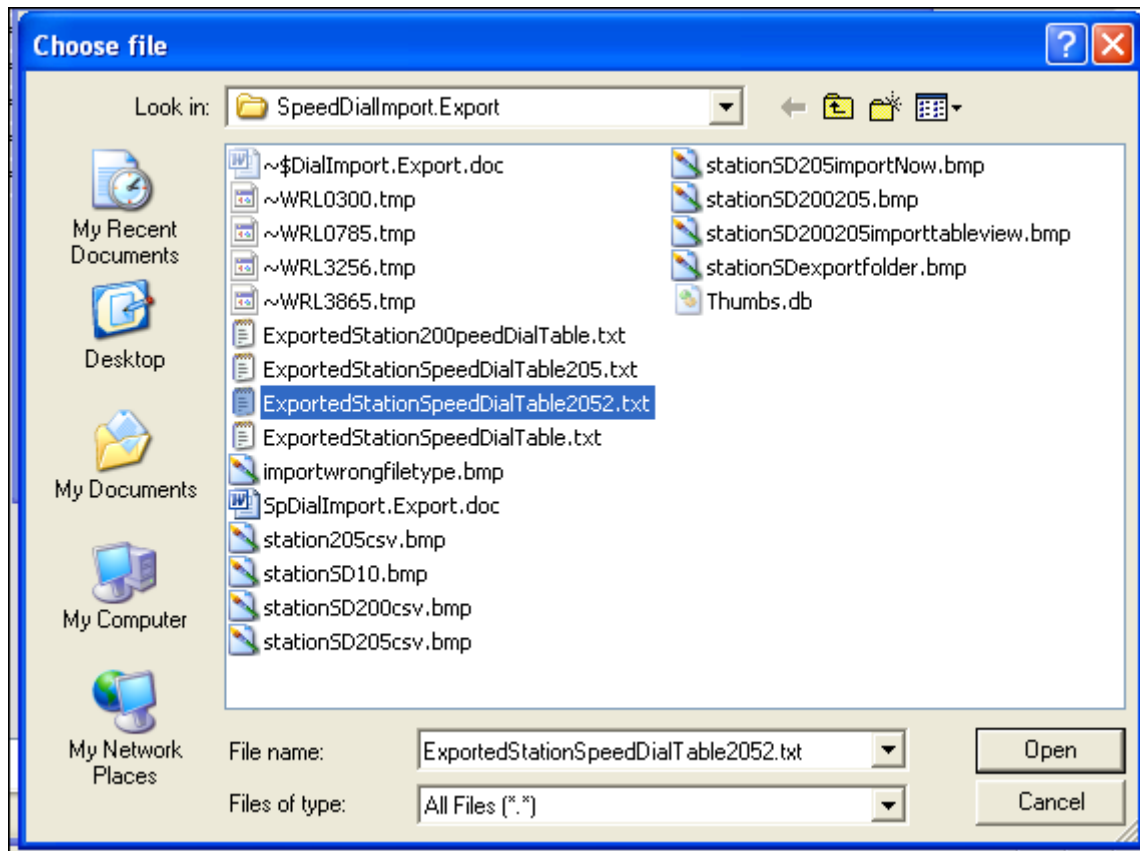
7. In the text file, change the Prime DN from 200 to 205 – be sure to keep the same comma delimited format intact as shown below and do not change the header. Save the file under a different name.



8. In eManager, select Advanced Configuration > Station > Station Speed Dial Table View. All of the assignments for Station Speed Dial are displayed.
9. On the top of the Station Speed Dial Table View screen click on **Import**.

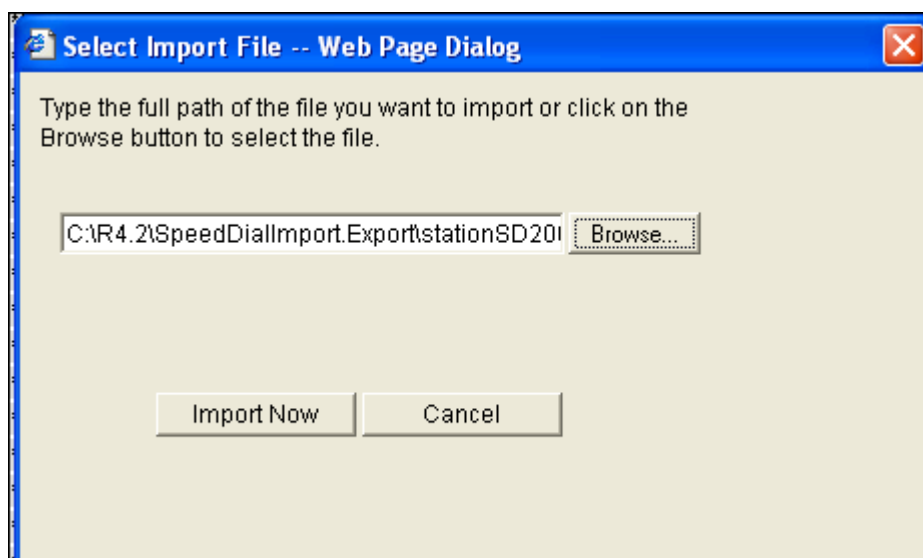


10. The Choose File dialog box will open. Use the Browse button to find the text file containing the speed dial assignments for station 200 (created in Step 7 above).



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11. After selecting the station 205 speed dial file click **Open**. An eManager dialog box will prompt you to Import the data to the CIX. Click **Import Now**. This will cause eManager to import and upload the station 205 speed dial data to the CIX.



12. In eManager select Advanced Configuration>Station>Station Speed Dial Table View. All of the assignments for station speed dial are displayed. Station 205 will have the same speed dial assignments as station 200.

PDN	Index	Dialing Code	Number	Name
200	00	*100	163095647484	CHICAGO BRANCH
200	01	*101	17144673839	SANTA ANA BRANCH
200	02	*102	194939049404	IRVINE OFFICE
200	03	*103	3293	ACCOUNTING
200	04	*104	3495859	JOE
200	05	*105		
200	06	*106		
200	07	*107		
200	08	*108		
200	09	*109		
205	00	*100	163095647484	CHICAGO BRANCH
205	01	*101	17144673839	SANTA ANA BRANCH
205	02	*102	194939049404	IRVINE OFFICE
205	03	*103	3293	ACCOUNTING
205	04	*104	3495859	JOE
205	05	*105		
205	06	*106		
205	07	*107		
205	08	*108		
205	09	*109		

eManager Network Calling Number Upload

The Network Calling Number is normally entered and submitted one-at-a-time for each PDN using Program 200-46. This can take a lot of time if the system has many PDNs. The Network Calling Number Upload feature allows you to create a comma separated (CSV) text file containing PDNs and their associated Network Calling Numbers and then upload the text file to the CIX once.

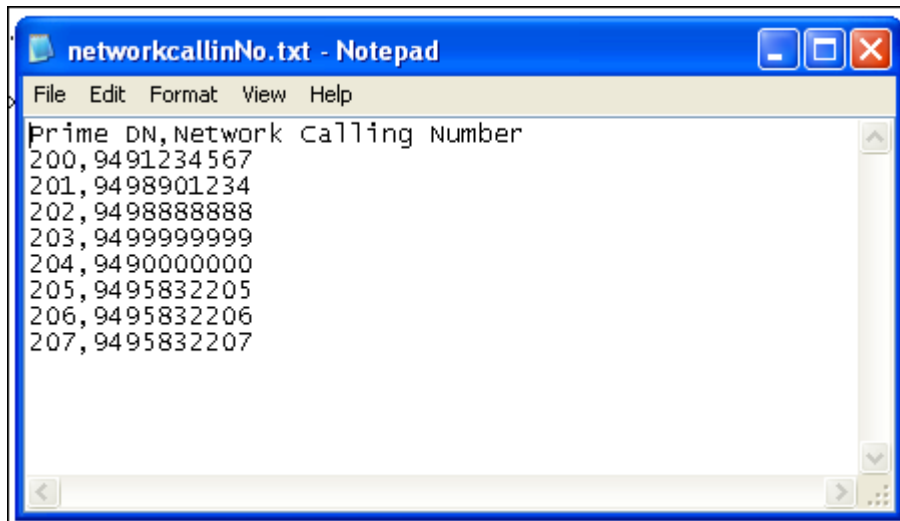
The format of the text file is: Prime DN,Network Calling Number

To create the CSV file for uploading you must create a list of all of the stations in the CIX system. One method for creating the list is display the Table View of the stations, export the table, then delete all but the station numbers in the text file that was exported.

Example: Upload Network Calling numbers for stations 200-207.

1. Create a CSV text file containing the PDN and Network Calling number for each station. In this example the file shown was created using Microsoft Notepad.

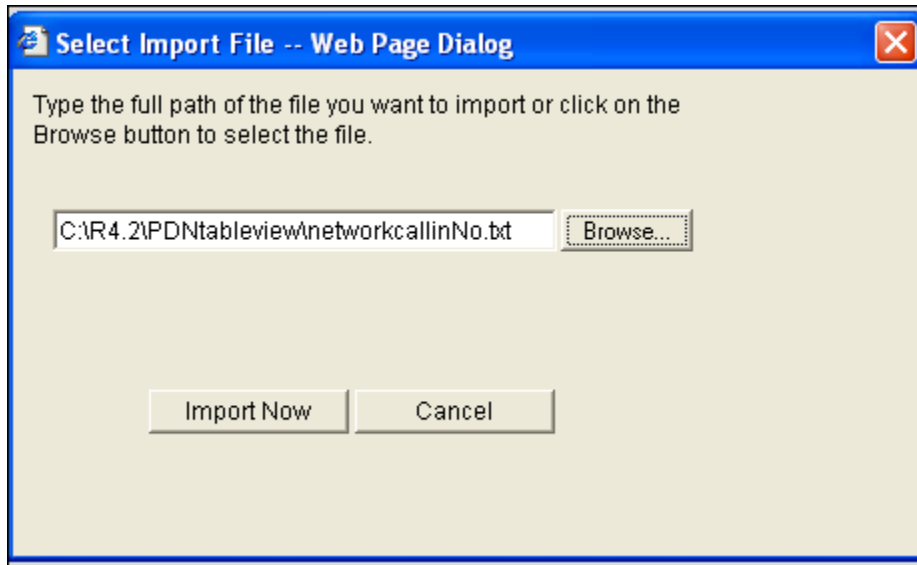
As noted above, an eManager Imported Table View file could be used to start this by generating all PDNs (then, in the imported text file, delete all other fields except the PDNs so that all that would need to be entered is the Network Calling numbers).



2. Open the station PDN Table View and select Advanced Configuration > Station > PDN Table. All of the station table view assignments will be displayed (Note: Network Calling Numbers not are shown).

PDN Table View - Microsoft Internet Explorer																			
Station by PrimeDN																			
<input type="button" value="Edit Names"/> <input type="button" value="Submit"/> <input type="button" value="Upload CID"/> <input type="button" value="Download Keystrip Data"/> <input type="button" value="Export"/> <input type="button" value="Refresh"/> <input type="button" value="Print"/>																			
Station Number	Equipment Type	Used As	PrimeDN	Telephone LCD Name	VMID	COS			DRL			FRL			LCR	SYS	NET	Sta.	Network Calling Number
01	02	03	00	09	19	D1	D2	N	D1	D2	N	D1	D2	N	Grp	CF	COS	Spd	Tenant
01	DKT	Extension	200	MARY		1	1	1	1	1	1	1	1	1	1	0	1	10	1
02	DKT	Extension	201	TOM		1	1	1	1	1	1	1	1	1	0	1	0	1	
03	DKT	Extension	202	SUE		1	1	1	1	1	1	1	1	1	0	1	0	1	
04	DKT	Extension	203	JOE		1	1	1	1	1	1	1	1	1	0	1	0	1	
05	DKT	Extension	204	ANN		1	1	1	1	1	1	1	1	1	0	1	0	1	
06	DKT	Extension	205	FRANK		1	1	1	1	1	1	1	1	1	0	1	0	1	
07	DKT	Extension	206	LOBBY		1	1	1	1	1	1	1	1	1	0	1	10	1	
08	DKT	Extension	207	LUNCH ROOM		1	1	1	1	1	1	1	1	1	0	1	0	1	

- Click on the **Upload CID** button at the top of the PDN Table View screen and browse to the file created in Step 1.



- Click **Import Now**. eManager will upload the selected file into the CIX database and then update Program 200-46 and the PDN Table View automatically (Note: Network Calling Numbers are shown).

PDN Table View - Microsoft Internet Explorer																							
Navigation by PrimeDN										Edit Names		Submit		Upload CID		Download Keystrip Data		Export		Refresh		Print	
Equipment	Number	Type	Used As	PrimeDN	Telephone LCD Name	VMID	COS			DRL			FRL			LCR	SYS	NET	Sta.	Tenant	Network Calling Number		
	02	03		00	09	19	D1	D2	N	D1	D2	N	D1	D2	N	Grp	CF	COS	Spd	42	46		
01	DKT	Extension	200	MARY			1	1	1	1	1	1	1	1	1	1	0	1	10	1	9491234567		
02	DKT	Extension	201	TOM			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9498901234		
03	DKT	Extension	202	SUE			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9498888888		
04	DKT	Extension	203	JOE			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9499999999		
05	DKT	Extension	204	ANN			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9490000000		
06	DKT	Extension	205	FRANK			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9495832205		
07	DKT	Extension	206	LOBBY			1	1	1	1	1	1	1	1	1	1	0	1	10	1	9495832206		
08	DKT	Extension	207	LUNCH ROOM			1	1	1	1	1	1	1	1	1	1	0	1	0	1	9495832207		

eManager DESI integration / Telephone Keystrip Printing

eManager version R4.2A02 and later provides a function to collect all keystrip button assignments programmed in a system and download them as a comma separated value (CSV) text file to the eManager Hard Drive. The keystrip data file contains the data for all IP and DKT Telephones, DSS Consoles and Add-On-Modules.

Telephone Keystrip Label software from DESI Telephone Labels, Inc. can import this file and print keystrips on DESI keystrip paper. Keystrips can be printed without having to manually type labels for each button on each Telephone, DSS and ADM keystrip. This feature provides a large labor cost saving.

This feature supports DESI Telephone Labels, Inc. products only and requires DESI Print Engine 2.74 software or later and Toshiba format Keystrip paper. DESI keystrip paper is available for all Toshiba DKT2000/DKT3000/DKT3200/IPT2000/IP5000-series telephones DSS consoles and Add-On-Modules. To order DESI Software and Keystrip paper for Toshiba telephone products go to www.DESI.com or call 1-800-814-3922..

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Licenses

Upgrading from R4 to R5 software is a straight forward process. To upgrade from R3 to R5 you must first upgrade from R3 to R4. The Upgrade from R3 to R4 considerations are detailed below.

The licenses shown in Table 3-1 were introduced in software Release 4 and may need to be added when upgrading from Release 3 software depending on the system configuration. Refer to the “R4 License Generation for CIX100, CIX670 and CIX1200” section on Page 3-2.

Table 3-1 New Feature and Hardware License Requirements

License	Required For:
LIC-CIX-IP PORT (See Notes)	IP Endpoint License (required for IP, SIP, and SoftIPT endpoints connected to an MIPU/GIPU or LIPU card)
LIC-CIX-FF	Feature Flex License (required when using FeatureFlex)

Notes:

- Each of the following items requires an IP Port (end point) license:
 - IP5000/IPT2000 series
 - SIP telephones
 - SoftIPT (Also requires a Soft IPT License)
- Basic Port licenses are required for each of the following when using GIPU, MIPU, LIPU/LIPS ports (the LIC-CIX is not required to support these items):
 - IP Voice Mail
 - IP ACD Announcement port
 - IP Attendant Console (Does not require a Soft IP License)
 - Strata Net IP trunks (Requires a Strata Net License)
- IP End-Point Licenses included with the IP System license:
 - CIX100 and CIX670 ship with four IP End-Point licenses.
 - CIX200 ships with 16 IP End-Point licenses.
 - CIX1200 ships with 4 IP End-Point licenses

Refer to Table 3-5 on page 7 for a summary of the type and number of licenses required for each feature.

Upgrading a CTX100 or CTX670 System from R3.1 to R4

Important! Before generating a R4 license for a CIX100, CIX670 or CIX1200, make a backup of the system data base and, separately, make a copy of the current CTX system license key. These backups will be necessary in the event you wish to return to the older version of software.

When upgrading a CTX-100 or CTX-670 from R3.0 or earlier to Release 4 the licenses shown in Table 3-2 will be transferred over.

Table 3-2 License Transfer

CTX100 License	CTX670 License	License Function
LIC100-4 PORTS	LIC670-4 PORTS	Four Basic Ports
LIC100-4 DTMF	LIC670-4 DTMF	Four DTMF Decoders
LIC100-QSIG NET	LIC670-QSIG NET	Strata Net
LIC100-SER PORT	LIC670-SER PORT	One Serial Port
LIC-ACD	LIC-ACD	Strata ACD
LIC-ATT	LIC-ATT	Strata Attendant Console
LIC-SOFTIPT-1	LIC-SOFTIPT-1	Strata SoftIPT

R4 License Generation for CIX100, CIX670 and CIX1200

To generate a license for a CIX100, CIX670 or CIX1200 for Release 4:

1. Login to the Toshiba FYI web site.
2. Select License Codes -> Generation.
3. Enter your dealer number.
4. Under Choose Product Line select 100S, 100, 200, 670 or 1200.
5. Under Select Version choose 4.x.
6. Then select Standard Generation.

Note Please notice that the new license string will have additional characters. You must use eManager Release 4.1 or later to apply the license to the system.

Strata Media Application Server Licensing is unchanged. Refer to the Strata CIX and MAS Installation and Maintenance Manual.

System License Example

The following example shows the configuration of an existing CTX670 R2.2 system compared to a new CIX670 R4.1 system with the same capacities.

The example continues in steps through upgrades that include the addition of a Strata MAS with voice mail ports, new Strata Net IP ports, and the addition of eight new IP terminals.

Start with a CTX670 with Release 2.2 software. This system has 250 users including 16 SoftIPTs, an attendant console, four PRI interfaces, 8 analog trunks, and a T1 used for Strata Net.

The configuration of 376 ports is:

- 234 — DKT Phones (various types)
- 16 — SoftIPTs
- 1 — Attendant Console
- 4 — PRI Circuits (23 trunks each)
- 8 — Loop start trunk
- 1 — T1 for Strata Net

The licenses for the existing CTX670 and a new CIX670 R4.0 system are shown in this table .

EXISTING CTX670		NEW CIX670	
QTY.	R2.2	QTY.	R4.0
78	LIC670-4 PORTS	78	LIC-4 BASIC
1	LIC-ATT	1	LIC-ATT
1	LIC670-QSIG NET	1	LIC670-STRATA N
16	LIC-SOFTIPT-1	16	LIC-SOFTIPT-1

To upgrade this R4.0 system to include Strata Media Application Server with 8 ports of Voice Mail, raising the system total to 384 ports, the following is required:

- 2 — LIC-4 BASIC
- 1 — LIPU-X1A circuit card
- 1 — MAS-8VM-PKG

To upgrade again to add 8 more ports of Strata Net over IP, a total now of 392 ports, the following is required:

- 2 — LIC-4 BASIC
 - Note: the LIC670-STRATA N is already present.
 - Note: there are 8 ports available on the LIPU-X1A.

If the system is then upgraded to include 20 IPT2008-DSL phones, a system total of 400 ports, the following is required:

- 8 — IPT2008-SDL
- 1 — LIPS circuit card (installed on top of the LIPU)
- 4 — LIC-CIX-IP PORT (20 are required, 16 were included with the LIC-CIX license)

License Simplification

In Release R3.1, licensing was simplified. Table 3-3 shows how older licenses map into the new licenses. Table 3-4 describes the content and use for each license. During the transition period the old license can still be applied to their corresponding systems. The new license can be applied to CTX (R2.2x) systems as well as to CIX systems.

Table 3-3 Previous-to-New License Mapping

Previous Licenses			NEW LICENSE FOR ANY SYSTEM
CTX100	CTX670	CIX200	
LIC100-4 PORTS	LIC670-4 PORTS	LIC-CIX-4 BASIC	LIC-4 BASIC
LIC100-4 DTMF	LIC670-4 DTMF	LIC-CIX-4 DTMF	LIC-4 DTMF
LIC100-QSIG NET			LIC100-STRATA N
		LIC-CIX-QSIG	LIC200-STRATA N
	LIC670-QSIG NET		LIC670-STRATA N
	LIC670-QSIG NET		LIC1200-STRATA N
LIC100-SER PORT	LIC670-SER PORT	LIC-CIX-SER PORT	LIC-SER PORT
LIC-ACD	LIC-ACD	LIC-CIX-ACD	LIC-ACD
LIC-ATT	LIC-ATT	LIC-CIX-ATT	LIC-ATT
LIC-SOFTIPT-1	LIC-SOFTIPT-1	LIC-CIX-SOFTIPT	LIC-SOFTIPT
N/A	N/A	LIC-CIX	LIC-CIX
N/A	N/A	LIC-CIX-IP PORT	LIC-CIX-IP PORT
N/A	N/A	LIC-CIX-FF	LIC-CIX-FF

Table 3-4 Licenses for all CIX and CTX Systems

New License For Any System	Description	Comments
LIC-4 BASIC	4-port CO Line/Station License for CIX/CTX Systems	One required for every four ports used for CO lines, DKT or SLT stations, Attendant Consoles, voice mail ports, Strata Net and ACD announcement ports beyond the ports bundled with the system processor.
LIC-4 DTMF	4-port DTMF Receiver License for CIX and CTX Systems	Required for activation of four DTMF receiver ports number 5 and above on system. Maximum is determined by the CTU card in use.
LIC100-STRATA N	CTX or CIX 100 Strata® Net Networking Application License	One per CIX 100 system (node) required to network multiple systems using Strata Net networking.
LIC200-STRATA N	CTX or CIX 200 Strata® Net Networking Application License	One per CIX 200 system (node) required to network multiple systems using Strata Net networking.
LIC-670-STRATA N	CTX or CIX 670 Strata® Net Networking Application License	One per CTX or CIX 670 system (node) required to network multiple systems using Strata Net networking.
(Sheet 1 of 3)		

New License For Any System	Description	Comments <i>(continued)</i>
LIC1200-STRATA N	CIX1200 Strata Net Networking Application License	One per CTX or CIX 670 or CIX1200 system (node) required to network multiple systems using Strata Net networking.
LIC-SER PORT	Serial Port License required for BSIS Ports 2, 3 and 4 for CTX and CIX	Required to activate serial port 2, 3 and 4 in Strata CTX and CIX systems (license for serial port one included with BSIS).
LIC-ACD	CIX or CTX ACD Server License	Required to activate ACD support in a Strata CIX or CTX system. (This license is included with ACD turnkey packages and software packages.)
LIC-ATT	CTX or CIX Attendant Console License	Required to activate Attendant Console support in a Strata CTX or CIX system.
LIC-SOFTIPT	License for one SoftIPT user on Strata CIX	One required for each SoftIPT application interfaced to the Strata CTX or CIX. One MIPU/GIPU or LIPU or LIPS or BIPU-M port is required for each SoftIPT. Requires IP endpoint license when connected to an xIPU.
LIC-CIX-IP PORT	IP Endpoint License for Strata CIX.	IP Endpoint License required per IP telephone connected to MIPU/GIPU or LIPU/S beyond the 16 endpoint licenses bundled with the LIC-CIX license.
LIC-CIX-FF	FeatureFlex license for CIX	Strata CIX license to activate FeatureFlex. Requires one per CIX system to run FeatureFlex applications.
LIC670-MIS IN	CTX670 Built-in MIS License	Required to activate the built-in MIS data channel when using an MIS system with the built-in ACD features in a CTX670 Release 3 system.
LIC100-CSTA AP	CSTA OAI Application License for CTX100	One required for each CSTA application interfaced to the CIX/CTX100 system.
LIC-CIX-CSTA AP	CIX200 CSTA License	Required to activate CSTA support in a Strata CIX200 system.
LIC670-CSTA AP	CSTA OAI Application License for CIX/CTX670	One required for each CSTA application interfaced to the CTX670 system.
LIC-1-DP5022SDM	DP5022-SDM Migration License	License Migration Keycode to migrate DP5022-SDM telephones from a CIX system.
LIC-2 LVMU	LVMU two port VoiceMail License requires R4.2 MP026 or higher software.	R4.2MP026 software provides two LVMU Voice Mail port licenses by default. LIC-2 LVMU is required for 4, 6, or 8 VM ports. One Basic Port License is also required for each voice mail port.
(Sheet 2 of 3)		

New License For Any System	Description	Comments <i>(continued)</i>
LIC-CIX-STRN-CH	Strata Net Channel License LIC-CIX-STRNCH is only available in R4.1 version MN023 and above.	This license allows you to license a specific number of Strata Net channels on Strata CIX systems. The same license part number, LIC-CIX-STRN-CH can be used on any R4.10 (MN023) and above, CIX system. This license makes Strata CIX networking more competitive for the CIX system applications that require 12 or less Strata Net channels. The Strata Net system licenses LIC100-STRATA N, LIC200-STRATA N, LIC670-STRATA N and LIC1200-STRATA N are still available for applications that require more than 12 Strata Net channels. The CIX40 uses the Strata Net channel license and does not require a Strata Net system license.
LIC-CIX-SIPT-CH	SIP Trunking License, only available with R5.1MS17 and above; MIPU01-06 firmware.	This license allows you to license a specific number of SIP Trunks on Strata CIX systems. The same license part number, LIC-CIX-SIPT-CH can be used on any R5.1MS17 and above CIX system.
(Sheet 3 of 3)		

Table 3-5 Type and Number of Licenses Required by Feature

		IP Interface Card	Basic Port License ¹	Strata Net License ²	SoftIPT License ³	IP Port License ⁴
CIX R4.0 and later	IP ACD (MAS) Announcement ports	MIPU/GIPU or LIPU/S	Each Port			
	IP Attendant Console	MIPU/GIPU or LIPU/S	Each Port			
	IP Voice Mail (MAS)	MIPU/GIPU or LIPU/S	Each Port			
	Strata Net IP	MIPU/GIPU or LIPU/S	Each Trunk	1*		
	IPT2008-SDL	MIPU/GIPU or LIPU/S				Each Station ⁵
	IPT2010-SD/2020-SD S	MIPU/GIPU or LIPU/S				Each Station ⁵
	IP5000-Series	MIPU/GIPU or LIPU/S				Each Station ⁵
	SIP Phone	MIPU/GIPU or LIPU/S				Each Station
	SoftIPT	MIPU/GIPU or LIPU/S			Each Active Station	Each Station ⁵
	WIPT 5000	MIPU/GIPU or LIPU/S				Each Station
CTX R2.2 features supported in R4.0	IPT-1020	BIPU-M	Each Station			
	IPT-2010-SD/2020-SD	BIPU-M	Each Station			
	SoftIPT	BIPU-M	Each Station		Each Station	
	WIPT 2000	BIPU-M	Each Station			
	Strata Net IP	BIPU-Q	Each Trunk	1*		
	ACD Announcement ports	N/A	Each Port			
	Attendant Console	N/A	Each Console			
	DKT/SLT Interface ports	N/A	Each Port			
	Trunk Interface Port	N/A	Each Port			
	Voice Mail ports	N/A	Each Port			

Licenses

* One license per system.

- LIC-4 BASIC
- LIC100 STRATA N
LIC200 STRATA N
LIC670 STRATA N
LIC1200 STRATA N
- LIC-SOFTIPT
- LIC-CIX-IP PORT
- R5 and later software - one license per active station
R4 and earlier software - one license per station

License Display Screen Enhancement

Release 5 eManager displays the total number of Port, Endpoint, and Strata Net channel licenses installed on the CIX processor and the total licenses actually used (programmed). In the example screen below, the “Number of Basic Ports” installed on the processor is 112 but only 20 ports are programmed (used). The “used” ports could be a mix of PDN ports, CO line ports, etc. This lets the installer know how much system capacity is available for future growth without installing more licenses. To view this page in eManager go to: eManager > Utilities > Licensing > License Info.

Equipped License Information		
	Equipped	Used
CIX/CTX Release Number	1	
System Type	CTX100	
Maximum Number Of Cabinets	2	
Number of Serial Port(s)	2	
Number of DTMF Receivers	16	
Number of Basic Ports	112	20
Strata Net Channels	Unlimited	0
Number of CTI Sessions	9	
Number Of Attendant Consoles	4	
Number of Softphones	112	
CIX IP Telephony	Enabled	
Number Of IP End Points	72	0

Equipped License Information		
	Equipped	Used
CIX/CTX Release Number	1	
System Type	CTX200	
Maximum Number Of Cabinets	2	
Number of Serial Port(s)	2	
Number of DTMF Receivers	32	
Number of Basic Ports	672	22
Strata Net Channels	Unlimited	4
Number of CTI Sessions	9	
Number Of Attendant Consoles	4	
Number of Softphones	560	
CIX IP Telephony	Enabled	
Number Of IP End Points	160	4
Number Of LVMU Channels	8	0
SIP Trunk Channels	96	0
Number of DP9822-SDM	160	0

MAS Licensing

This option enables you to manage, issue and activate MAS licenses in the eManager server host. It is required that administrators be able to manage licenses for all applications in the MAS.

Access Main MAS Licensing Screen

Before connecting to the system, login using the keyboard connected to the MAS. In the Manager Menu, click MAS Licensing. The screen below displays.

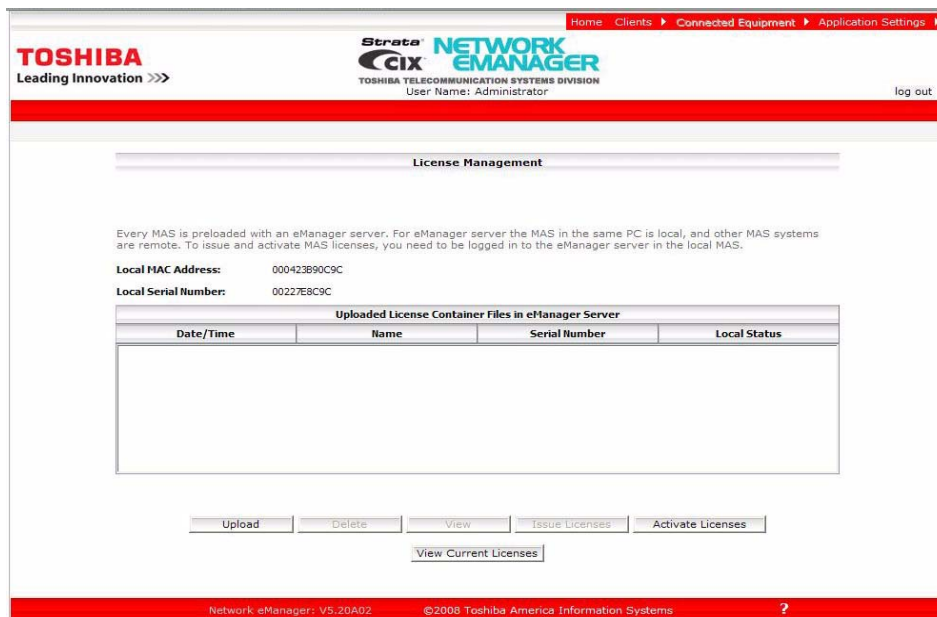
The screenshot shows the MAS Licensing interface. On the left is a navigation menu with options: eManager Profile, Options, Select CIX, MAS Licensing (selected), and Logout. The main area is titled 'MAS License Management' and contains a 'License Container Directory' table. Below the table are buttons for 'Upload', 'Delete', 'View', 'Issue Licenses', 'Activate Licenses', and 'View Current Licenses'.

Date/Time	Name	MAS Serial Number	Local Status
2004-09-10 09:23:12	MAS231Upgrade.xml	200407071317311111	Issued in Local MAS
2004-09-10 09:23:12	NewMASLicense.xml	200407071317311111	Remote MAS
2004-09-10 09:23:12	SampleMASLicenseContainer-WebFoot.xml	200407071317311111	Issued in Local MAS
2004-09-10 09:23:12	SampleMASLicenseContainer-WebFoot2.xml	200407071317311111	Issued in Local MAS
2004-09-10 09:23:12	Webfoot23Upgrade.xml	200407071317311111	Issued in Local MAS

Licenses

The upper part of the screen is a list of MAS License Container files stored in the eManager server in the <eManager entry point>Licenses folder. The example above shows a system with licensing already activated. The first time the license folder is viewed it will be empty. The following columns are shown:

- Date / Time – date and time assigned by the FYI application when it creates the container file.
- Name – File name specified by the administrator when the container file is created in eManager using the Upload button.
- MAS Serial Number – defined in the header of the container file.
- Local Status
 - Local MAS – The MAC address in this container file is the same as the local MAS host MAC address (where the eManager server is running).
 - Issued in Local MAS – Same as “Local MAS” but the licenses in this container have been issued already. eManager stores a log of the issued container files.
 - Remote MAS – The MAC address in this container file is different than the local MAS host MAC address (where the eManager server is running). This file could be viewed and uploaded to other MAS, but it cannot be issued in the local MAS host.

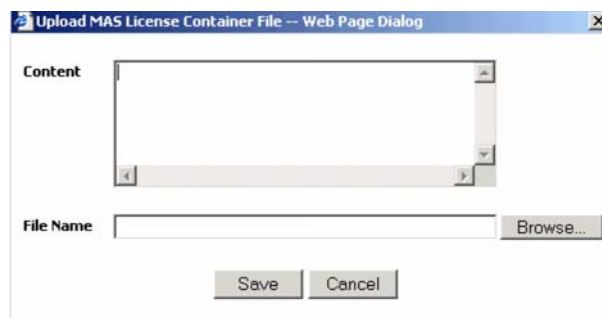


Upload Licenses

Note The Upload button is enabled if no file is selected, otherwise it is disabled.

The MAS License Container File is an XML file generated by the FYI application. The file can be downloaded from FYI or the file can be mailed from FYI.

1. From the MAS Licensing screen click **Upload**. The Upload MAS License Container File screen displays (shown right).
2. If the file is stored in the local client PC, click **Browse**. Locate the XML file (Container file) on the local hard disk drive. Select the Container file. The file's contents and file name are copied into the fields of the Upload screen...or go to FYI and open the MAS License Container File in a text file such as Notepad. Copy and paste the displayed file in the Content portion of the Upload MAS license screen shown here. The File Name field is blank.



Note If you chose to fill in the File Name before you copied/pasted the file, the file name remains in the field after pasting the file.

3. If the file name was filled in automatically, change the file name so that it is unique to the file. If you copy/pasted the file into this screen you need to enter a unique file name.

Note File names must conform with the Windows filenames and conventions. If the file you uploaded does not have an .xml extension you must add it before saving the file.

4. Click **Save**.

Issue Licenses

Note The file you selected must be 'Local' or 'Issued in local MAS' to use this feature. Any file with a local status of 'Remote MAS' must be issued from the controlling server.

From the MAS Licensing screen select a file and click **Issue Licenses**. eManager parses the selected container file, extracts each license for the different applications and services, and delivers the licenses. This process can take several minutes depending upon the number of applications installed.

A pop-up dialog box will show the status of the issue command as successful or failed.

Activate Licenses

To activate the licenses click **Activate Licenses**. A warning box displays telling you that the MAS operating system will be shut down and rebooted. The MAS attempts to shut down and reboot immediately.

Important! During the activation process the MAS cannot be processing calls. Any current connection being processed by the MAS is disconnected. In order not to disrupt daily activity in your customer's business you can choose to do the activation process unattended during the evening/early morning hours by scheduling the procedure using the Windows scheduling process.

Delete Licenses

Note You can delete more than one file at a time by highlighting the files.

1. From the MAS Licensing screen, highlight a Container file(s).
2. Click **Delete**. A pop-up box displays and you are asked to confirm your deletion.
3. Click **OK**.

View Licenses

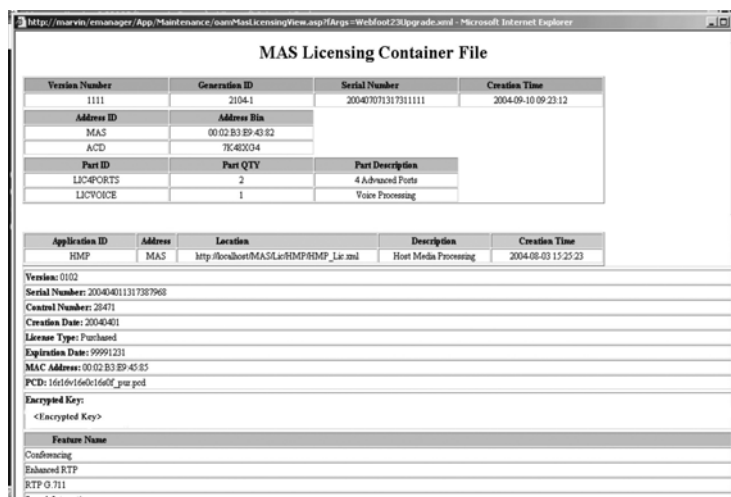
Note The **View** button is enabled when one file is highlighted and disabled when none are highlighted.

1. From the MAS Licensing screen highlight a Container file.
2. Click **View**. The MAS Licensing Container File displays.

View Current Licenses

1. From the MAS Licensing screen, make sure that none of the listings in the License Container Directory is highlighted.

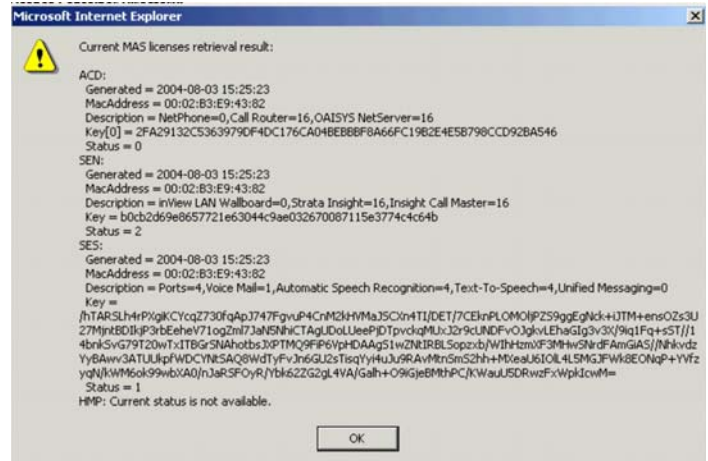
Note To remove a highlight press **Ctrl** and click the highlighted item.



2. Click **View Current Licenses**. eManager checks the status of the license activation through each application's licensing interface and displays the results (sample shown right).
3. When finished, click **OK**.

Status Values Shown on Screen

- 0 – New license was issued, but not activated yet.
- 1 – The license activation during the startup procedure was successful.
- 2 – The license activation during the startup procedure failed.



This chapter provides Strata CIX system programming information for programmers using the Strata eManager programming interface.

100 Cabinet Slot PCB Assignments

Prerequisite Program: None

All PCBs, except the system processors, are assigned to cabinet slots using this command. The CIX has a dedicated slot in the Base cabinet for the system processors so they do not require this assignment.

- The CIX100 provides one four-slot Base and one Expansion (Exp) cabinet with four slots for a total of eight slots.
 - The CIX200 Base cabinet has three slots (S101~S103) and the Exp cabinet has four slots (S201~S204) for a total of seven slots.
 - The CIX670 system provides one Base cabinet and up to six Exp cabinets. The Base cabinet has eight slots and each of the six Exp cabinets have 10 slots for a total of 68 slots.
 - The CIX1200 system can be configured with up to 12 cabinets - one Base cabinet and up to 11 Expansion cabinets for a total of 118 slots.
1. Fill out the Card Assignment Record Sheets.
 2. From the Program Menu click Advanced > Configuration > System > Card Assignment. The Card Slot Assignment screen displays.
 3. Cabinet (01~012) – Select the two-digit cabinet number to be assigned. The cabinet and slot number appear in the cab/slot field.
 - Select 01 for CIX40.
 - Select 01 for Base and Exp. cabinet (CIX100).
 - Select 01 or 02 for CIX200.
 - Select 01 for Base and 02~07 respectively, for each Exp. cabinet (CIX670).
 - Select 01 for Base and 02~12 respectively, for each Exp. cabinet (CIX1200).
 4. Slot (01~10) – Select the two-digit card slot number to be assigned.
 - Select 01~04 for Base slots and 05~08 for Exp. slots (CIX100).
 - Select 01~04 for CIX200 Base and Exp. slots. Slot 04 in the Base Cabinet is the LSLU card slot.
 - Select 01~08 for Base slots and 01~10 for Exp. slots (CIX670).
 - Select 01~08 for Base slots and 01~10 for Exp. slots (CIX1200).

Note The CIX100 ACTU built-in relay is programmed as relay 5. For this relay operation, BIOU2 is installed as default in a virtual equip position: Cabinet 2, Slot 5, PCB code 20 in Program 100. To install an actual BIOU2 and disable the ACTU built-in relay, use the programming telephone to remove the virtual BIOU2, then install the actual BIOU2 in Cabinet 01/Slot 01~08 in the normal manner.

5. Select the PCB Type. Use the drop down menu to select the PCB type. WinAdmin will start a refresh cycle. Watch the progress bar to verify when WinAdmin is complete. The selected PCB type will appear in the PCB Type field.
6. Click **Submit** to save your data.

Dial Number Plan

Prerequisite Program: None

The Dial Number Plan lets you download all current dialing numbers registered in the CIX database.

The Numbering Plan screen gives you details on the different categories of Numbers.

The table below contains the information shown on the screen.

Number Type	Description
Digit Groups	Lists all numbers that begin with each digit 0~9 separately.
DKT Prime DNs	Lists all Prime Directory Numbers assigned to a digital telephone in Program 200.
SLT Prime DNs	Lists all Prime Directory Numbers assigned to a standard telephone in Program 200.
ISDN DNs	Lists all Directory Numbers assigned to ISDN telephones in Program 202.
Phantom DNs	Lists all Phantom Directory Numbers assigned to digital telephones, Add-On-Modules and DSS consoles in Programs 205, 213, 215 respectively.
IPT_B Prime DNs	Lists all Prime Directory Numbers assigned to BIPU-M card in Program 200
IPT_L Prime DNs	Lists all IPT Prime Directory Numbers assigned to BIPU-L card in Program 200
SIP Prime DNs	Lists all SIP Prime Directory Numbers assigned to BIPU-L card in Program 200
ACD Pilot	Lists all ACD Pilot Numbers assigned in Program 540.
Hunt Group Pilot	Lists all Hunt Group Pilot Numbers assigned in Program 209.
Access Codes	Lists all feature, line and line group access codes assigned in Program 102.

Click **Continue** to view the next screen. You will be able to view all the DNs, IP DNs and other numbers used.

102 Flexible Access Codes

Prerequisite Program: None

Strata CIX comes with pre-assigned Flexible Access Codes that the telephone dials to access features. This enables you to create customized Flexible Access Codes. The Strata CIX Flexible Numbering Plan associates features stored in memory (i.e., “Store Code,” see [Table 4-1](#)) to a Flexible Numbering Code assigned by the user.

Note Flexible Numbering Plan access codes cannot conflict with DN assignments.

1. Enter your customized Flexible Numbering Plan in the “Programmed Value” column of [Table 4-1](#).
2. From the Program Menu click Advanced > Configuration > System > Flexible Numbering Plan. The Numbering Plan Assignment screen displays.
3. 00 Flexible Numbering Plan – Enter the digits to be dialed (0~9,#,*) to access a feature or an OLG. To delete, select “No Data” in 01 Feature Name. Conflict with an assigned DN will produce an error.
4. 01 Flexible Numbering Feature – Select the Flexible Numbering Feature (see [Table 4-1](#)) to see which access code is being assigned.

Note To assign an access code to an OLG, select “Line Group access code - one access code for each OLG.” To assign the prefix digit(s) for the access code of individual lines, select “Line access code - leading digit(s) to access individual lines.” Example: If #7 is selected as the line access prefix, the users will dial #7xxx to access an individual line (where xxx is the line number).

5. 02 OLG Number – Enter the Outgoing Line Group number to which the OLG access code is being assigned. This field is only required if you chose “Line Group Access Code – one access code for each OLG” for the Flexible Numbering Feature in Step 4 above. Enter a **0** in this field if a Feature Code other than 551 was selected.

Note 02 OLG Number:

- 0~32 CIX100 and CIX200
- 0~128 CIX670
- 0~220 CIX1200
- Field appears only when 01 Feature Name Line Group Access Code – one access code for each OLG is selected.

6. Click **Submit**.

To delete an access code assignment

1. Click the **Create** button and enter the access code in the index, select No Assignment, click **Submit**. This clears the access code so that you can reassign it to another feature.

Creating New Feature Codes

1. Click on the **Create** button.
2. Enter new feature/access code. Click **OK**. WinAdmin will start a refresh cycle. When complete, your screen will change to a gray (edit mode) color and the feature/access code will be red.
3. From the Feature Name drop down menu select the feature to be assigned.
4. Submit your data.

Notes

- To range program feature/access codes use a “-” between a range of values and a “,” for an additional entry not in a range.
- System Date and Time Access Codes – The system date adjust code and system time adjust code is different for every system. The defaults are #651 and #652 respectively.

Important! If you backup a CIX database (default.dat) with software that does not support Time/Date access codes and then restore it to a CIX software version that supports these access codes, you must use this program to set the Time/Date access codes. This must be done to allow end users to set the Time/Date from their LCD digital telephones.

Flexible Numbering Default Settings

Table 4-1 shows the default Flexible Numbering Feature and Flexible Numbering Plan code relationships. Pressing the Flexible Numbering Plan code from any station enables users to directly access the Flexible Numbering Feature. The Feature Index Codes will display on the LCD of the telephone once the Default Access Codes are entered.

Note These three-digit Feature Index Numbers should not be confused with the Program 205 three-digit Button Codes.

Table 4-1 Flexible Numbering Plan Default Settings

Flexible Numbering Feature	Feature Index	Default Access Code	Programmed Value
No Data			
ABR - Activate	150	#441	
ABR - Cancel	151	#442	
Call Park Orbits - Activate	170	#33	
Call Park Orbits - Park Answer (Retrieve Parked Call)	173	#32	
System Orbit Number	174	7000-7019	
DND - Local Activation	180	#6091	
DND - Local Cancellation	181	#6092	
DND - Remote Activation	182	#6191	
DND - Remote Cancellation	183	#6192	
Door Lock Control -Unlock	190	#12	
Door Phones - Call	191	#15	
Flash - short	200	#450	
Flash - long	210	#451	
Group Paging - Invoke All Group Paging	220	#30	
Group Paging - Invoke Individual Group Paging	230	#31	
Answer for External Group Paging	232	#5#36	
Emergency Page - Invoke All Emergency Paging	240	#37	

Table 4-1 Flexible Numbering Plan Default Settings (continued)

Flexible Numbering Feature	Feature Index	Default Access Code	Programmed Value
Emergency Page - Invoke Individual Emergency Paging	250	#38	
Originate Call by Terminal Speed Dial (Index: 00-99)	260	*1	
Originate Call by System Speed Dial (Index: 000-099)	261	*2	
Originate Call by System Speed Dial (Index: 100-199)	262	*3	
Originate Call by System Speed Dial (Index: 200-299)	263	*4	
Originate Call by System Speed Dial (Index: 300-399)	264	*5	
Originate Call by System Speed Dial (Index: 400-499)	265	*6	
Originate Call by System Speed Dial (Index: 500-599)	266	*7	
Originate Call by System Speed Dial (Index: 600-699)	267	*8	
Originate Call by System Speed Dial (Index: 700-799)	268	*9	
Register Speed Dial	269	#66	
Call Forward (CF-A; Any Call) - Activation	340	#6011	
Call Forward (CF-B; Any Call) - Activation	341	#6021	
Call Forward (CF-NA; Any Call) - Activation	342	#6031	
Call Forward (CF-B/NA; Any Call) - Activation	343	#6041	
Call Forward (CF-A; External Call) - Activation	350	#6013	
Call Forward CF-B; External Call) - Activation	351	#6023	
Call Forward (CF-NA; External Call) - Activation	352	#6033	
Call Forward (CF-B/NA; External Call) - Activation	353	#6043	
Call Forward (CF-A; Any Call) - Remote Activation	360	#6012	
Call Forward (CF-B; Any Call) - Remote Activation	361	#6022	
Call Forward (CF-NA; Any Call) - Remote Activation	362	#6032	
Call Forward (CF-B/NA; Any Call) - Remote Activation	363	#6042	
Call Forward (CF-A; External Call) - Remote Activation	370	#6014	
Call Forward (CF-B; External Call) - Remote Activation	371	#6024	
Call Forward (CF-NA; External Call) - Remote Activation	372	#6034	
Call Forward (CF-B/NA; External Call) - Remote Activation	373	#6044	
Call Forward (Any Call) - Cancellation	380	#6051	
Call Forward (External Call) - Cancellation	390	#6053	
Call Forward (Any Call) - Remote Cancellation	400	#6052	
Call Forward (External Call) - Remote Cancellation	410	#6054	
Change Password for Remote Activation/Cancellation	420	#670	
Input Account Code	530	#46	
Change DISA Security Code	540	#658	
Outgoing Call by Directing Individual Trunk	550	#7	
Outgoing Call by Directing Outgoing Line Group	551	None	
Three Way Conferencing (Override to Tandem Connection)	560	#494	
Enter User Programming Mode	570	#9876	
LCR -Outgoing Call	580	9	
Set Voice Mail Message Waiting (activate MW without ringing for VM)	591	#63	

System

Table 4-1 Flexible Numbering Plan Default Settings (continued)

Flexible Numbering Feature	Feature Index	Default Access Code	Programmed Value
Release Received Message Waiting	592	#409	
Release Sent Message Waiting (Cancel MW without ringing for VM))	593	#64	
MW Answer access code (Retrieve Received Message Waiting)	594	#408	
Cancel ACB	600	#431	
Start BGM	610	#490	
Stop BGM	611	#491	
Start BGM for External Paging Device	612	#492	
Stop BGM for External Paging Device	613	#493	
Built-in modem	630	#19	
Night Ring Answer	640	#5#39	
Travelling Class Override Code Input Number	650	#471	
Change Travelling Class Override Code	651	#69	
Activate System Call Forward	670	#620	
Cancel System Call Forward	671	#621	
Call Pickup -Directed DN Pickup of Ringing or Held DN calls and Call Park Answer	678	#5#29	
Call Pickup ¹ - Directed DN pickup for either Ringing or Held Calls (Release 2.0, MF017 or higher)	679	#5#6	
Call Pickup for Incoming Call -Group Pickup	680	#5#34	
Call Pickup for Incoming Call -Directed Terminal	681	#5#5	
Call Pickup for Incoming Call -Directed Group	682	#5#32	
Call Pickup for Incoming Call -Directed DN	683	#5#22	
Call Pickup for Incoming Call -Any External Call	684	#5#9	
Call Pickup for On-Hold Call -Directed CO Retrieve	685	#5#73	
Call Pickup for On-Hold Call -Local Retrieve	686	#5#71	
Call Pickup for On-Hold Call -Remote Retrieve	687	#5#72	
Call Pickup for On-Hold Call -Directed DN Retrieve	688	#5#74	
Transfer to Voice Mail	690	#407	
Repeat Last Number Dialed	700	*0	
Volume Control for BEEP	710	#6101	
Change LCD Display Language	720	#495	
Advisory Message - Activation	730	#411	
Advisory Message - Cancellation	731	#412	
Emergency Call	740	#911	
Attendant Console Group Access Code	750	0	
Operator Call Special Dial (for Tenant Service)	751		
Private Network Access Code	760	8	
Node ID (Coordinated Directory Number Prefix)	770	None	
Substitution of Dial *	780	441	
Substitution of Dial #	781	440	

Table 4-1 Flexible Numbering Plan Default Settings (continued)

Flexible Numbering Feature	Feature Index	Default Access Code	Programmed Value
Originate Call with Sub Address -Outgoing Call/Internal Call	782	##	
Application starting access code	800	#18	
Split (Conference)	860	860	
Voice Mail Call Monitor Off	870	#963	
UCD Agent Log in (Local Activation)	890	#6061	
UCD Agent Log out (Local Activation)	891	#6062	
UCD Agent Log in (Remote Activation)	892	#6161	
UCD Agent Log out (Remote Activation)	893	#6162	
System Date Adjust Code (Release 1.02, MA227 or higher)	910	#651	
System Time Adjust Code (Release 1.02, MA227 or higher)	911	#652	

1. Feature key is not provided for this Call Pickup. If you want a feature key, please use Single Touch Button that has a feature access code for this call pickup.

117 Public Dial Plan Digit Analysis

Prerequisite Program: None

This program is used to prevent users from circumventing Destination Restriction (DR) by sending tones directly to the PSTN before DR analysis is complete. It defines the number of digits expected in PSTN numbers beginning with identified sequences.

For example, a number starting with the toll prefix "1" would be expected to be 11 digits long. Calls will be cut through to the public network only after the expected number of digits have been received.

1. From the Program Menu click Advanced Configuration > System > Public Numbering Plan. The Public Numbering Plan Analyzed Digit Number Assignment screen displays.
2. Enter the Prefix Number used for external calls.
3. Select Digits to Follow. Total digits beginning with the selected Prefix digit.
4. Get Default sets all values to factory default.
5. Click **Submit**.

FIELD	DESCRIPTION
00 Prefix Number	Enter the initial identifying external digits. 1 to 7 digits may include wild cards "X" and "N". Possible values: 1~7 (N = 2~9 and X = 0~9) (default = no value)
01 Digits to Follow	Select the number of digits to follow the prefix number established above. It is the total number of digits in a number beginning with the 00 Prefix Number entered above. Possible values: 0~64 (default = 0)

103 Class of Service

Prerequisite Program: None

Class of Service (COS) (1~32) assignments are made for users of telephones, attendant consoles, and incoming calls based upon the line the call arrives or, in some cases, on a call-by-call basis when using DISA or Tie Line with Q-Sig interfaces. For telephone users, the COS assignments are made for each of the Day/Night Modes to allow different services during different parts of the day.

1. Enter your COS assignments in the COS Record Sheet.
2. From the Program Menu click Advanced Configuration > System > Class of Service
The Class of Service Assignment screen displays.
3. COS Number – Select the COS Number (1~32).
4. Place a check mark in each of the services you wish to allow.
5. Get Default sets all values to factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
01 Auto Busy Redial	Allow Automatic Busy Redial after dialing a busy outside destination.
02 Call Forward Override	Allow Call Forward Override. If allowed, this station does not forward calls from a calling station with System or Station Call Forward activated. This includes when dialing from the dial pad or DSS button located on the telephone or DSS console.
03 Call Transfer w/ Camp-on	Allows a call transferred by a station to Camp-on to a busy destination.
04 Change DISA Codes	Allow stations to change the DISA security code.
05 DND Override - Calling Party	Permits a caller to override the DND status of a station.
06 DND Override - Called Party	Allows calling parties with DND Override privileges to override DND status.
07 Do Not Disturb	Allows user to place stations on DND mode.
08 Remote Set DND/CFWD	Provides stations with the ability to set/reset DND and Call Forwarding on other phones.
09 Executive Override	Allow Executive Override on a call.
10 Executive Override Allowed	Allow Executive Override for incoming callers.
11 Offhook Camp-on	Allow Off-hook Camp-on when encountering a busy destination.
12 Group Pickup	Allow stations for Group Call Pickup within one's own group.
13 Directed Station Pickup	Allow stations to pick another specific ringing station.
14 Directed Group Call Pickup	Allow stations to pick up a ringing station in a specified group.
15 Directed DN Call Pickup	Allow stations to pick up a specified DN.

FIELD	DESCRIPTION
16 Ext Call Pickup	Allow stations to pick up any incoming trunk call.
17 Directed CO Call Pickup	Allow stations to pick up a specific incoming trunk call.
18 Remote Retrieve Call Pickup	Allow stations to retrieve any call placed on Hold at a designated station (PDN).
19 DN Retrieve Call Pickup	Allow stations to retrieve a held call on another DN.
20 Handsfree Override	Allow stations to override Hands Free Answerback with Ringing mode.
21 Privacy Override	Allow user to override a private call when accessing a trunk that is in use.
22 Executive Privacy Override	Allows other stations to use Executive/Privacy Override on this station's calls.
23 Invoke Emergency Page	Allow the Emergency Page feature. (Not used in Release 1.)
24 Join Feature	Allow the Join feature.
25 Through Dialing	Allow to perform Through Dialing (Attendant Feature). Attendant can connect an inbound trunk call to another trunk with permission to use DTMF.
26 Tandem CO Connection	Allow user to set up a Trunk-to-Trunk connection and exit the conversation. This is required for a tandem between two stations in different nodes.
27 Day/Night Control	Allow Day/Night Mode changing privilege.
28 Ext BGM Control	Allow BGM over external speakers to be turned on/off.
29 LCR Feature	Allow access to LCR.
30 Individual Trunk Access	Allows user to dial individual trunk access codes, or use direct line appearances, to access specific lines.
31 Trunk Access Allowed	Allow access to trunk groups by trunk access codes.
32 Forced Account Codes	Must use Forced Account Codes for placing external calls.
33 Verified Account Codes	Verify Account Codes before an external call is placed.
34 Allow Short Hook Flash	Allow a Short Flash signal over outside lines.
35 Allow Long Hook Flash	Allow a Long Flash signal over outside lines.
36 Allow Hook Flash	Receive hook flash over CO Lines, and enable telephones and voice mail ports to perform hook flashes.
37 Automatic Line Hold	Automatically holds an active call when accessing another line.
38 Can Receive OCA	Allow others to call this station using Off-hook Call Announce.
39 LCR on Direct Trunk Access	Sets whether LCR should be used if trunk is accessed directly - Available in R2.

FIELD	DESCRIPTION
40 Disconnect Outgoing Call	If this parameter is allowed any O/G calls made by Extensions with this COS will be automatically released after a defined time period (defined in Program 104).
41 BGM Enable	Allow Background Music from stations with this COS.
42 DSS Override Call Fwd	<p>Enable: When this station calls another station using a DSS key, the called station will NOT call forward if Call Forward is set. When calling stations use the dial pad the called station's Call Forward will occur.</p> <p>Disable: When this station calls another station using a DSS key, the called station will call forward if Call Forward is set. When calling stations use the dial pad the called station's Call Forward will occur.</p>
43 DNIS LCD Preference	<p>Allows the telephone to display either the DNIS Name or ANI Name on incoming PRI calls.</p> <p>Enable: DNIS Name displays as programmed in the CIX database.</p> <p>Disable: ANI Name displays as received from the PRI provider.</p>
44 Auto Page Disconnect	<p>This feature is used for preventing Page busy-out if station users forget to hang up after making a Page call.</p> <p>Enable: Stations having this COS enabled will automatically disconnect from an external Page call after a determined time if the station does not hang up after connecting to the Page call. The time the auto disconnect will occur is determined by the Page disconnection timer in Program 104-25.</p> <p>Disable: Stations having this COS disabled will not disconnect from a Page call until the station is hung up.</p>
45 UCD Local Log-in	<p>Allows this telephone to login to a UCD group locally.</p> <p>Possible values: Enable (default) - allows local login to UCD group Disable - does not allow local login</p>
46 UCD Remote Log-in	<p>Allows one telephone to login another telephone to a UCD group remotely.</p> <p>Possible values: Enable - Allow remote login Disable (default) - Remote login not allowed</p>

System

104 System Timer

Prerequisite Program: None

This command assigns the system timers. System timers set a variety of times to control calls and features for the Strata CIX.

1. From the Program Menu click Advanced Configuration > System > System Timer.
System Timer Assignment screen displays.
2. Select the desired timer value for each of the 24 fields.
3. Click **Submit**.

FIELD	DESCRIPTION
01 ACB Callback Timer	The Automatic Callback timer sets the time that Automatic Callback will wait for Ring Back Tone being cancelled. Possible values:5~180 sec. (default = 30)
02 ACB Cancel Recall Timer	Select the ACB overall timer value. This value establishes a time limit for the destination telephone number to become available. Once the timer expires, the callback will be cancelled. Possible values:5~180 min. (default = 30)
03 Park Recall Timer	Select the Park timer value. This sets the length of time a call can remain in Park. Possible values:10~600 sec. (default = 120)
04 Camp-on Timer	Select Camp-on timer value. This sets the time needed to remain off-hook prior to Camp-on being automatically activated. Possible values:5~15 sec. (default = 10)
05 SMDR Valid Call Timer	The length of time that a call should be active before being captured by SMDR. The SMDR Answer timer sets a default time for when an outgoing call will be considered to be answered for SMDR reporting when a true answer signal is not returned from the public network. Setting the time too short will include calls that may not be completed, setting the time too long may exclude short calls that are answered and terminated in a short time. Possible values:0~180 sec. (default = 10)
06 Tandem Timer #1	Select timer for a trunk-to-trunk connection for which neither CO line has release supervision, a timer is needed to release the call if no user monitoring has taken place. Possible values:0~3600 sec. (default = 300)
07 Tandem Timer #2	Provides the time to enable an external user to dial a digit to extend the disconnect time when the connection is unsupervised. This feature is used primarily with DISA. Possible values:0~180 (default = 30)
08 Call Forward No Ans Time	The System Call Forward No Answer timer specifies the time period that a phone will ring prior to invoking the Call Forward operation. Possible values:1~180 sec. (default = 30)

FIELD	DESCRIPTION
09 Dial Input Timer	Permits dialed input for a telephone and trunk using DTMF. Possible values: 0~60 sec. (default = 20)
10 Delay 1 Ringing Timer	Specifies the time to wait before applying ringing to the phones designated to ring on Delay 1. Possible values: 1~60 sec. (default = 12)
11 Delay 2 Ringing Timer	Selects the time to wait before applying ringing to the phones designated to ring on Delay 2. Possible values: 1~60 sec. (default = 24)
12 Door Unlock Timer	Select the length of time to send an electrical signal to a door for releasing the lock. Possible values: 1~30 sec. (default = 6)
13 9+11 Judgment Timer	The 9+11 inter-digital timer provides a timing value for the system to wait for additional digits to be dialed looking for the 911 or 9+911 dialed codes for treatment using the E911 procedures rather than normal dialing treatment. Possible values: 1~30 sec. (default = 5)
14 Emergency Call Timer	Sets a time for advancing the call to the next station in a list of destinations for the call. Possible values: 10~180 sec. (default = 30)
15 ABR Busy Detection Time	The Destination Busy Detection timer sets the time to wait while looking for a busy condition on an external call. If detected, it will trigger the initiation of the Automatic Busy Redial cycle. Possible values: 1~30 sec. (default = 5)
16 Lost Call Timer	The Lost Call timer sets the time that a failed transfer recall will ring on the originating station prior to attempting to recall a secondary location. Possible values: 1~600 sec. (default = 180)
17 Lost Call Final Timer	The Lost Call Final timer sets the time that a failed transfer recall will ring on the secondary location before being automatically disconnected. Possible values: 1~600 sec. (default = 30)
18 DTMF Tone Sending Time	The DTMF tone sending duration for dialing on CO lines. Possible values: 80msec (default) or 160msec
19 Auto Disconnect	Time after which an unsupervised trunk will be automatically released. Possible values: 0~60 min. (default = 0)
20 Tie Line Delay Timer	This timer inserts a pause before any dialed information is sent to a Tie line. This pause allows the distant end time to prepare for the receipt of dialed digits.
21 Answer timer before disconnect	If an incoming DISA call routes over a Tie line and the call is not answered by the distant end within a certain period of time the DISA caller will be cut off. The time period before cut off is determined by this setting.

FIELD	DESCRIPTION
22 Outgoing Call Talking Disconnect Timer	If PGM 103 FB40 is set to enable, after this timer expires the out-going call is cut off.
23 System Timer Network DSS Refresh Timer	<p>Select Network DSS Refresh Timer. The time interval when all network DSS settings are refreshed system-wide.</p> <p>Note DSS button LEDs change state immediately when the status of the DSS button changes - regardless of this timer value.</p> <p>Possible values:20~180 seconds (default = 30)</p>
24 Outgoing Number Display Timer	<p>This timer sets how long dialed numbers will display on telephone LCDs for outgoing line calls.</p> <p>Possible values: 1~120 seconds (default = 10)</p>
25 Page Auto Disconnect Timer	<p>Automatically disconnects the station from a Page call if the station does not hang-up when this timer expires (1~240 seconds in one second intervals).</p> <p>Default=10 seconds</p> <p>The station must be enabled for this feature in Prog 103-44 for this timer to apply to the Page call.</p>
26 Caller ID Display Timer	<p>This timer determines how long Caller ID information displays on telephone LCDs after a call is answered (1~300 seconds in one second intervals).</p> <p>Default=15 second</p>

105 System Data

Prerequisite Program: None

This command assigns system settings for your Strata CIX.

1. From the Program Menu click Advanced Configuration > System > System Data.
2. Enter System Parameter data using the table below.
3. Click **Submit**.

FIELD	DESCRIPTION
01 Executive Override	Enable break in warning tone for Executive Override. Possible values: Enable (default) or Disable
02 Station MOH	Music On Hold selection for private lines, Tie lines and stations. Refer to PRG109 for equipment MOH assignments. Possible values: Quiet Tone, External 1 ~ 15, Internal (default)
03 Ring Transfer Tone	Determines whether a call hears RBT or MOH while being transferred and prior to the destination party answering. Possible values: RBT (default) or MOH
04 Transfer Privacy	Transfer Privacy enabled: CO line buttons that have multiple appearances will only flash and ring on the transferred-to telephone; the same CO line button on other telephones will be red-busy. Transfer Privacy Disabled: CO line buttons that have multiple appearances will flash and ring on all telephones having the CO line button appearance. Possible values: Enable (default) or Disable
05 Privacy Override	Enables warning tone to members of a call prior to that call's being subject to Privacy Override or Attendant Monitor. Possible values: Enable or Disable (default)
06 Credit Card Code	Enter Service Identifier for Credit Card Calling. If no value is entered in this field any previously programmed data is lost. Possible values: Up to 32 digits (default = no value)
07 Credit Card Digits	Minimum Dial Digits required for Credit Card Calling. This should be the quantity of digits in a credit card number. If this quantity of digits is not dialed when making credit card calls, the caller will be disconnected. This is to ensure that the call is charged to a credit card. DRL tables in Program 111 and OLGs in Program 306 must be enabled with credit card calling for this feature to be active. Users must be assigned to a DRL table enabled with credit card calling and call out on a credit card calling enabled OLG for this feature to be applied to the call. Possible values: 1~32 (default = 21)
08 E911 Service	Enable E911 Service availability. Possible values: Enable (default) or Disable

FIELD	DESCRIPTION
09 DR Override by SSD	Enable DR Override by System Speed Dial. Possible values:Enable (default) or Disable
10 Auto Station Release	Enable Automatic Station Release - when the other party disconnects the station is automatically set to idle. Possible values:Enable (default) or Disable
11 ISDN SPID	Enable Auto Service Profile Identifier (SPID). Possible values:Operable or Not Operable (default)
12 Night Mode Relay	Assign BIOU Relay as the Night Relay. This relay activates when the system is in the Night Mode. Possible values:0~8 (default = 0) BIOU1 provides relays 1 to 4; BIUO2 provides relays 5 to 8 Note CIX100 (ACTU) and CIX200 (LCTU): The built-in relay is programmed as relay 5. For this operation, in Program 100 the BIOU2 must be installed in Cabinet 2, Slot 5, PCB code 20.
13 BGM External Paging	Set the External Page Group Number that includes the external paging zones to which BGM will be sent. See Program 503. Possible values:0~4 (CIX100) 0~8 (CIX200) 0~16 (CIX670) 0~24 (CIX1200) (default = 0)
14 Lost Call Destination	Enter Lost Call Destination. Any valid DN such as PDN, PhDN or Pilot DN. Possible values:Any DN (Up to 5 digits) (default = no value)
15 COS Override Code	Class of Service Override Code Digits (1-8 digits). The digit length of COS override codes. COS override codes are set in Program 510. Possible values:1~8 (default = 1)
16 Multi-Conference	Enable Multi-Conference capabilities for Analog Internal Calls and Outgoing Calls. Possible values:Enable or Disable (default)
17 Calling Number Display	Enable Calling Number Display. If a soft key display competes with a Caller ID, the Caller ID displays if enabled. Otherwise, the soft key function will continue to be displayed. Possible values:Enable (default) or Disable

FIELD	DESCRIPTION
18 Night Bell Relay	<p>Assign BIOU Relay (1~8) as the Night Relay - this relay activates when the system is in the Night Mode.</p> <p>BIOU1 provides relays 1 to 4.</p> <p>BIOU2 provides relays 5 to 8</p> <p>Note The CIX100 ACTU and CIX200 LCTU built-in relay is programmed as relay 5. For this relay operation, a virtual BIOU2 is installed, as default, in a virtual equipment position - Cabinet 2 slot 5. (Cab. 02 slot 05, PCB code 20, in prog. 100)</p> <p>To install an actual BIOU2 and disable the ACTU built-in relay, use the programming telephone to remove the virtual BIOU2 and then install the actual BIOU2 in Cab. 01/slot 01~08 in the normal manner.</p>
19 Display Preference	<p>Select whether to display DNIS or Caller ID.</p> <p>Possible values:DNIS (default) or Caller ID</p>
20 Transit Counter	<p>Select the Networking Transit Counter. This device limits the number of nodes through which a Strata Net call can pass before being terminated as a lost call.</p> <p>Possible values:0~128 (default = 1)</p>
21 Primary Clock	<p>Enter data as xxyyzz. (xx = cabinet, yy = slot, zz = channel)</p>
22 Secondary Clock	<p>zz=channel 01 if clock source is RPTU or RDTU zz=channel 01, 02, 03, or 04 if clock source is RBUU/RBUS or RBSU</p> <p>Example: If the Primary Clock Source should be assigned to an RPTU in Cabinet 5, slot 2, enter 050201.</p> <p>Cabinet numbers:</p> <p>CIX100 and CIX200: Select 01 for Base and Expansion cabinet. CIX670: Select 01 for Base and 02~07 for Expansion cabinets. CIX1200: Select 01 for Base and 02~12 for Expansion cabinets</p> <p>Slot numbers:</p> <p>CIX100: Select 01~04 for Base slots and 05~08 for Expansion slots. CIX200: Select 01~03 for Base slots and 01~04 for Expansion slots. CIX670: Select 01~08 for Base slots and 01~10 for Expansion slots. CIX1200: Select 01~08 for Base slots and 01~10 for Expansion slots</p>
23 Call History Prefix 1	<p>Add the dialing prefix 1 when using the callback feature in Call History.</p> <p>Possible values:Add (default) or Do Not Add</p>
24 Emergency Digits Sent	<p>Enter an alternative emergency dialing string. If no value is entered in this field any previously programmed value is overwritten.</p> <p>Possible values:Up to 5 digits (default = 911)</p>
25 DP Make Ratio	<p>Select the Dial Pulse Make/Break ratio.</p> <p>Possible values:33% (default) or 40%</p>

System

FIELD	DESCRIPTION
26 Call Button Jumping	<p>Select whether to execute Jumping LED.</p> <p>If enabled, line calls move from a telephone DN button to a line button after they are answered. After the call is answered the DN button is cleared to receive another call. With this operation the DN acts as an answer button for the telephone. This operation only applies if the line that is answered has a CO, GCO, or Pooled line button appearance on the telephone. If disabled, line calls remain on the DN after they are answered.</p> <p>Possible values: Enable (default) or Disable</p>
27 Set Domestic Code	<p>Set to 0 (zero) to enable the CIX to insert the leading zero when receiving a National CLI.</p>
29 CPN Numbering Plan	<p>Called Party Number numbering plan format.</p> <p>Possible values: Unknown (default) or ISDN</p>
30 SLT Recall Timer	<p>Hooking = 100ms, On-Off Hook = 500ms</p>
31 Analog Trunk Hunting	<p>This parameter defines the order in which analog trunks are selected during the outgoing call trunk selection process.</p> <p>Possible values: Terminal (default) or Cyclical</p>
32 Display Check Sum Error	<p>Enable a System Checksum error to be displayed and an error log to be created.</p> <p>Possible values: Enable or Disable (default)</p>
33 Analog Tie Line Disconnect Timer	<p>Analog Tie Line Disconnect Timer enables tandem analog Tie lines to automatically disconnect if the timer expires.</p> <p>Possible values: Enable or Disable (default)</p>
34 Analog DID Method	<p>Analog DID method: Normal (DTMF)/MFC-R2 3 digits/MFC-R2 4 digits</p> <p>Possible values: Normal (default), MFC-R2 3, MFC-R2 4</p>
35 ALaw/MuLaw	<p>Choose the companding technique appropriate to the local PSTN. Mu Law in North America.</p> <p>Possible values: A Law or Mu Law (default)</p>
39 Std. Tel. Ringing Cadence	<p>Select the Ringing Cadence for Standard Telephone circuits.</p> <p>Note This does not apply to Digital or IP telephones.</p> <p>Ringing Type 1 External Ring: 20Hz, 1sec. ON - 3sec. OFF Internal Ring: 20Hz, 0.4sec. ON - 0.2sec. OFF 0.4sec. ON - 3sec. OFF Recall: 20Hz, 1sec. ON - 1sec. OFF</p> <p>Ringing Type 2 Ringing Type 2 is the same Ringing Cadence as DK. External Ring: 20Hz, 0.4sec. ON - 0.2sec. OFF 0.4sec. ON - 3sec. OFF Internal Ring: 20Hz, 1sec. ON - 3sec. OFF Recall: 20Hz, 1sec. ON - 3sec. OFF</p>

FIELD	DESCRIPTION
40 Sys CF Cascade	<p>Enable: A call that forwards to a device that is also System Call Forwarded will be sent to the device's System Call Forward destination.</p> <p>Note If enabled, the SCF alternate destination set in Prog 500-05 will be ignored.</p> <p>Disable: A call that forwards to a device that is System Call Forwarded will not follow the device's System Call Forward.</p> <p>Possible values: Enable or Disable (default)</p>
41 CSTA B-Ch. Operation	<p>Enabled - CSTA shall provide full 'B' Channel path information. Disabled - CSTA shall provide channel group only.</p> <p>Possible values: Enable (default) or Disable</p>
42 ISDN Complete IE Option	<p>Whether to append Sending Complete IE into SETUP message and INFO message in ISDN.</p> <p>Possible values: Enable (default) or Disable</p>
43 Repeat Last No. Dialed	<p>Enable - store dialed numbers that are not complete in the last number dialed buffer.</p> <p>Disable - only store complete telephone numbers in the last number dialed buffer.</p> <p>Possible values: Enable (default) or Disable</p>
44 Default Calling Number	<p>Enabled - the system will send the default Calling Number to the PSTN when stations make ISDN calls in the local node.</p> <p>Disable - the system will not send the default Calling Number to the PSTN on ISDN calls in the local node.</p> <p>Possible values: Enable or Disable (default)</p>
45 DSS Ringing Indication	<p>Select whether DSS LEDs should flash red, light steady or not light when their respective Directory Numbers are ringing/DND.</p> <p>Ringing – DSS LEDs flash red when their respective Directory Numbers are ringing or in DND.</p> <p>Idle – DSS LEDs are idle (not lit) when their respective Directory Numbers are ringing and flash when in DND.</p> <p>Idle/DND-On – DSS LEDs are idle (not lit) when their respective Directory Numbers are ringing and steady lit when in DND.</p> <p>Possible values: Ringing (default), Idle or Idle/DND On</p>
46 Caller ID for Forward, Transfer or Recall	<p>Enable this feature if CO line Caller ID should display on the LCD of a station that receives a Forwarded, Transferred, or Recall call.</p> <p>Disable this feature if the originating Station Name\PDN should display on the LCD of a station that receives a Forwarded, Transferred, or Recall call.</p> <p>Possible values: Enable (Default) or Disable</p>
47 Type of Number on Calling Party Number	<p>ISDN Calling Party Number type of number setup message format.</p> <p>Possible values: System (Default), Unknown, International, National, Network, Subscriber, Abbreviated Enable call.</p>

System

FIELD	DESCRIPTION
48 Numbering Plan Identification on Calling Party Number	ISDN Calling Party Number numbering plan ID Setup message format. Possible values: System (Default), Unknown, ISDN, Data, Telex, National Std, Private
50 LCD Keystrip Refresh Interval	The CIX processor can automatically send a refresh signal to all LCD keystrips. This is the time period, measured in hours, between refresh commands sent to the telephone LCD keystrips. Possible values: 0~24 hours (Default is 1 hour.) 0 = No refresh sent
51 Caller ID Line Access Code	This is the line or trunk access code the telephones will automatically dial to access an outgoing line when pressing the Call softkey to dial a selected Caller ID telephone number. Default is 9 (Maximum of 8 characters)

System Call Forward

Program Number(s): 500 and 504

Set up System Call Forward (SCF) parameters using the following programs:

1. Complete the System Call Forward Record Sheets.
2. From the Program Menu, click Advanced Configuration > System > System Call Forward. The System Call Forward Destination screen displays.
3. Enter Program 500 data.
4. Enter Program 504 data.
5. Click **Submit**.

500 / 504 System Call Forward Assignment

Prerequisite Program: None

This assignment is used to configure up to 32 system call forward patterns. Station DNs are assigned to these patterns in the station COS assignments.

Note The Administrator programs the condition of transfer by setting Call Type, Period and Telephone Status. Destinations 1 and 2 should be programmed after transfer conditions are set.

FIELD	DESCRIPTION
00 SCF Template	Select the SCF pattern number to configure. Possible values:0~4 (CIX/CTX100 & CTX28 & CIX40), 0~10 (CIX/CTX670 & CIX200 Basic), 0~32 (CIX/CTX670 Exp), 0~10 (CIX200 Basic HCTU only), 0~48 (CIX1200 Exp. HEXAU or HEXBU) (default = no value)
01 Call Type	Select the type of call that should forward in this pattern. Possible values:CO Loop or Grd, DID, Tie, Ring Transfer and Internal (default = no value)
02 Period	Select the system time period in which this SCF pattern should operate. Possible values:Day, Day2 or Night (default = Day)
03 Telephone Status	Select the telephone DN status that should cause this SCF pattern to operate. Possible values:No Forwarding, Busy, No Answer, Busy No Answer or DND (default = No Forwarding)
04 Destination 1	Enter the first destination to which the call should forward. Possible values:Up to 32 digits (default = no value)
05 Destination 2	Enter an alternate destination to which the call should forward. Possible values:Up to 32 digits (default = no value)



System Call Forward Copy

The copy function enables you to selectively copy SCF destinations to any or all SCF segments and any or all SCF templates. It combines Programs 500 and 504 on the same screen.

1. Select Advanced Configuration > System > System Call Forward > a SCF template (1-32), and then a Telephone Status (example "Busy No Answer"). The System Call Forward screen displays showing the status of the first available call forwarding system.
2. Select the needed values from the drop-down menus for the System Call Forward and Telephone Status fields. These fields are required. As soon as the second field is selected the full page displays for editing.

Note If it is not yet configured, the Telephone Status field indicates No Forwarding.

3. Select Call Type and Period by highlighting the desired line in the display.
4. Type the needed information into the Destination 1 and 2 fields. Destination 1 is always required, Destination 2 is optional.
5. Click **Submit** to send the data to the CIX.
6. Click **Submit** to send the destination assignments to the CIX
... or click **Copy** to display the Copy dialog box. You can click on **Copy** at any time to copy Destinations to any SCF template, Call type and period, including all SCF segments and templates.

Copy Dialog Box

To copy SCF Destinations to any selected SCF assignment click **Copy** on the System Call Forward screen. The System Call Forward Range Copy screen displays.

To select the Destination(s) that should be copied

1. You can remove a destination entry by removing the checkmark from it.
2. Select the appropriate Period, Call type, Status and SCF assignments to which the destination(s) should be copied.
3. Click **Copy Now**. Your entries are submitted to the CIX and the destination(s) are copied to all assignments that you selected.

Possible Errors

- If you attempt to remove Destination1 (only) when there is a Destination2 assigned.
- If you attempt to assign Destination2 when Destination1 is not assigned.

Notes

- If you check "Prompt on Error," the copy function stops if one of the above errors occurs. You are then given a choice to continue or abort. Continue skips the error and does not perform the copy.
- If you do not check "Prompt on Error," all errors, if any, are skipped and the copy is not executed.
- You can assign or remove both destinations at the same time without causing an error.

System Call Forward Table View

SCF Table View shows the entire set up of all available system call forward levels.

To access the SCF Table View

Select Advanced Configuration > System > SCF Table View.

See [Table Views](#) in Chapter 2 for table functionality.

501 System Speed Dial

Prerequisite Program: None

System Speed Dial consists of up to 800 pre-programmed numbers each containing up to 32 digits. If the number being entered exceeds the 32 digits, the next speed dial location will automatically be appended to create longer numbers. One other speed dial location can be nested within the number for dialing a common routine with the number (see “516 Station Speed Dial” on page 5-38 for more information about nesting).

1. Complete the System Speed Dial Record Sheet.
2. From the Program Menu, click Advanced Configuration > System > System Speed Dial. The System Speed Dial screen displays.
3. Enter Program 501 data.
4. Click **Submit**.

FIELD	DESCRIPTION
00 Speed Dial Bin	Enter the speed dial bin location. Possible values:000~799 (default = no value)
01 Number	This is the dialable number stored in the speed dial bin. Possible values:Up to 32 digits, 0~9, *, # and Pauses (default = no value) To enter pauses enter Px, where x equals 1~9 (seconds), which is the length of the pause.
02 Name	This is the Name that appears on Telephone LCD dial directories. Possible values:Up to 8 ASCII characters (default = no value)

System Speed Dial Table View

System Speed Dial Table View shows the entire set up for all speed dial numbers.

To access the System Speed Dial Table View

Select Advanced Configuration > System > System Spdial Table View.

Day Night Service

Program Number(s): 112, 106 and 113

Note Refer to Automatic Day Light Savings Time Change, Program Number “[121 Automatic Day Light Savings Time Change](#)” on [page 10-4](#).

The programs that follow are used to set up Day and Night modes in Strata CIX.

1. Complete the Day/Night Mode Record Sheet.
2. From the Program Menu click Advanced Configuration > System > Day Night Services. The Day Night Mode Assignment screen displays.
3. Select the Tenant number for which the daily schedules will be configured.
Possible values: 1~8 (default = no value)
4. Enter the Calendar Day (YYYYMMDD) to assign a Working Day Type schedule
... or click on one of the following buttons:
 - **List** – View a summary list of programmed Calendar days.
 - **Copy** – Copies the currently viewed record to another record(s).
 - **Get Default** - Restores factory default data.
5. Enter remaining Program 112 data.
6. Enter Program 106 data.
7. Enter Program 113 data.
8. Click **Submit**.

112 Day/Night Mode Calendar

Prerequisite Program: 106

This program enables you to assign Working Day Types for up to 128 unique Calendar Days. These settings override the default system schedules in the CIX to enable Day/Night scheduling for unique circumstances.

FIELD	DESCRIPTION
00 Calendar Day	Enter the Calendar Day for which to assign a Working Day Type schedule. Possible values: YYYY = Year, MM = Month, DD = Day (default = no value)
01 Working Day Type	Select the Working Day Type. Possible values: Delete, Work Day, Non-Work Day or Holiday, (default= no value)

106 Day/Night Mode “Type of Day” Mapping Table Assignment

Prerequisite Program: 113

The Day of the Week schedule defines each day as the type of day the schedule shall follow. These types of days are called Work Day, Non-work Day, and Holiday. Each day of the week can be classified.

FIELD	DESCRIPTION
01 Monday	Assign the type of day schedule that is to be used for each day of the week. Possible values: Work Day, Non-work Day (default) or Holiday
02 Tuesday	
03 Wednesday	
04 Thursday	
05 Friday	
06 Saturday	
07 Sunday	

113 Day/Night Mode Schedule per Tenant Assignment

Prerequisite Program: None

The Day/Night Mode daily schedule defines the times for the start of the Work Day, Non-work Day, and Holiday for each of the modes (Day, Day2, Night) per Tenant. Each “type of day” defined in “[106 Day/Night Mode “Type of Day” Mapping Table Assignment](#)” on [page 4-25](#) requires an assigned schedule. Complete the Day/Night Mode Record Sheet.

Note The start time for Day 1 mode equals the end time for Night mode.

FIELD	DESCRIPTION
Tenant Number	Select the Tenant number for which the daily schedules will be configured. (This feature is available with R2.2 or higher.) Possible values:1~8.
Work Day	Enter the Day1, Day2 and Night Mode start time for Work Day day type.
• 01 Day 1 Mode	Possible values:hhmm; hh = hour (00~23, 99), mm = minutes (00~59, 99) (default = 9999)
• 02 Day2 Mode	Note 9999 deletes or skip modes.
• 03 Night Mode	
Non-Work Day	Enter the Day1, Day2 and Night Mode start times for Non-Work Day day type.
• 04 Day 1 Mode	Possible values:hhmm; hh = hour (00~23, 99), mm = minutes (00~59, 99) (default = 9999)
• 05 Day2 Mode	
• 06 Night Mode	Note 9999 deletes or skip modes.
Holiday	Enter the Day1, Day2 and Night Mode start times for Holiday Day day type.
• 07 Day 1 Mode	Possible values:hhmm; hh = hour (00~23, 99), mm = minutes (00~59, 99) (default = 9999)
• 08 Day2 Mode	
• 09 Night Mode	Note 9999 deletes or skip modes.

PAD Values

PAD Values Interface

eManager now displays PAD values as a worksheet (partial example below). To change a value click on the number. The line will expand and up/down arrows (spin arrows) will appear. Click on the arrows to adjust the PAD level. The changes are only in the worksheet until it is submitted. You can change as many PAD values as you like, then submit once to change the system database.

Net Gain < 0dB < Net Loss		Compared to default				Change Com	
Sender PAD Device Number		1	2	3	4	5	6
Analog Telephone	1	0	0	0	6	6	6
DKT	2	0	0	0	6	6	6
Analog Trunk	3	0	0	6	6	6	6
T1 Trunk	4	6	6	6	0	0	0
ISDN Station	5	6	6	6	0	0	0
ISDN Trunk	6	6	6	6	0	0	0
Conference Bridge	7	0	0	0	0	0	0
Music Source	8	0	0	0	0	0	0
External Paging Device	9	0	0	6	6	6	6
IPT1000 Telephone	10	-6	3	-6	0	0	0
IPT2000 Telephone	11	12	3	12	12	12	12
PAD Group 1	101	0	0	0	0	0	0

Click on a value to change it.

Export

The Worksheet can be exported. The Export button will store the worksheet as a comma delimited file on the local PC. The exported file can be opened and modified using word processing or spreadsheet programs.

Import

A worksheet file can be imported as a worksheet. The worksheet can be compared to the default PAD values or to the system database.

The PAD value worksheet can be exported before making changes to the PAD settings. If necessary, the old settings can be restored by importing the worksheet file.

Compare

When a worksheet is compared to the system database or the default values, the differences can be seen as highlighted values in the worksheet.

Load Default

Loads the PAD Table default values into the worksheet. Click on the **Submit** button to restore the default PAD values in the CIX database.

CAUTION! Any PAD groups you have created are not part of the default. These groups will be lost when the default values are restored.

PAD Table

Program Number(s): 107, 108 and 114


Assign PAD groups, PAD tables and PAD conference tables using these programs.

1. From the Program Menu click Advanced Configuration > System > PAD Table.
The PAD Table Assignment screen displays.
2. Enter Program 107 data.
3. Enter Program 108 data.
4. Enter Program 114 data.
5. Click **Submit**.

107 PAD Table Assignment

Prerequisite Program: None

Assigns additional Sender and Receiver PAD values to PAD groups in the PAD table.

FIELD	DESCRIPTION
01 Sender PAD Device Number	<p>Enter Sender PAD device or group. See Table 4-2 or use drop-down menu.</p> <p>Possible values: Analog telephone, DKT, Analog trunk, T1 trunk, ISDN station, ISDN trunk, CONF bridge, Music source, EXT. paging, IPT-B, IPT-L/SIP, MIPU/GIPU_IPT2000/IP5000, MIPU/GIPU-Strata Net, SIP Trunk, PAD group 1~17. (default = no value.)</p> <p>CIX100 - 6 PAD group numbers CIX200/670/1200 Basic - 10 PAD group numbers CIX670, CIX1200 Expanded - 32 PAD group numbers</p>
02 Receiver PAD Device Number	<p>Enter Receiver PAD device or group number. See Table 4-2 or use drop-down menu.</p> <p>Possible values: Same as above CIX100 - 6 PAD group numbers CIX200/670/1200 Basic - 10 PAD group numbers CIX670, CIX1200 Expanded - 32 PAD group numbers)</p>
03 PAD Loss	<p>Enter PAD Value (see Table 4-2 or use the drop-down menu). The value shown represents the net effect.</p> <p>Note To PAD is to insert loss; therefore, “negative loss” equals net gain.</p> <p>Possible values: 1 = 6 dB Net Gain 2 = 3dB Net Gain 3 = 0dB 4 = 3dB Net Loss 5 = 6dB Net Loss 6 = 9dB Net Loss 7 = 12dB Net Loss 8 = 15dB Net Loss (default = no value)</p> <div style="text-align: center;"> <p>More volume</p>  <p>Less volume</p> </div>

Program 107 PAD Table Example

If the Sender is an analog telephone (PAD device number 1) and the receiver is a T1 trunk (PAD device number 4), then the PAD value is 6. (6 = 9dB Net Loss).

PAD group numbers are assigned in Program 108 PAD Group Assignment.

Table 4-2 Program 107 PAD Table

		PAD Device or Group Number of Receiver (Listener)																				
		Analog Telephone	DKT	Analog Trunk	T1 Trunk	ISDN Station	ISDN Trunk	CONF Bridge	Music Source	Ext. Paging	IPT1000 Telephone	IPT2000/IP5000 Tel.	LIPU Strata Net	BIPU Strata Net	PRI Strata Net	MIPUGIPU/ IPT2000/IP5000	MIPUGIPU/Strata Net	MIPUGIPU/Trunk	PAD Group 1	PAD Group 2	:	PAD Group 110
PAD Device No. of Sender (Speaker)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	101	102	:	110
1	Analog Tel.	0	0	0	6	6	6	X ¹	-	0	0	0	0	0	0	0	0	0	0	0		
2	DKT	0	0	0	6	6	6	0	-	0	3	0	0	0	0	0	0	0	0	0		
3	Analog Trunk	0	0	6	6	6	6	X ¹	-	6	0	0	0	0	0	0	0	0	0	0		
4	T1 Trunk	6	6	6	0	0	0	0	-	6	3	0	0	0	0	0	0	0	0	0		
5	ISDN Station	6	6	6	0	0	0	0	-	6	3	0	0	0	0	0	0	0	0	0		
6	ISDN Trunk	6	6	6	0	0	0	0	-	6	3	0	0	0	0	0	0	0	0	0		
7	Conf. Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8	Music Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9	Ext. Paging	0	0	6	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0		
10	IPT1000 Tel.	-6	3	-6	0	0	0	-6	-	-6	0	0	0	0	0	0	0	0	0	0		
11	IPT2000/IP5000 Tel	12	3	12	12	12	12	12	-	6	0	0	0	0	0	0	0	0	0	0		
12	LIPU Strata Net ²	12	0	12	12	12	12	12	6	6	0	0	0	0	0	0	0	0	0	0		
13	BIPU Strata Net ²	0	0	-3	-3	-3	-3	-3	-3	3	0	0	0	0	0	0	0	0	0	0		
14	PRI Strata Net ²	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0		
15	MIPU/GIPU/ IPT2000/IP5000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16	M/GIPU/Strata Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17	MIPU/GIPU SIP Trunk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 1	PAD Group 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10 2	PAD Group 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
110	PAD Group 10																					

1. X data set for PAD Conference Table Assignment. 2. Available with CIX R4.1 MN023 and later software. * The default values for PAD Group is 0 db. The default values shown in the table above are valid for CIX R3 software release 10MK041, CIX R4 release 10MN019 and 12MN202 or later. These are supported by eManager V4.10A37 ad V4.12A02 and later.

108 PAD Group Assignment

Prerequisite Program: None

You can enter up to 32 additional device groups to the PAD table to deal with exceptions to the default table.

FIELD	DESCRIPTION
00 PAD Group Device Type	Enter the Device Type. Possible values: Station, Analog trunk, T1 trunk, ISDN trunk, CONF bridge, Music source, EXT. paging (default = no value.)
01 PAD Group Number	Enter the PAD Group Number. Possible values: 0~6 (CIX100) 0~10 (CIX200, CIX670 Basic, CIX1200 Basic) 0~32 (CIX670 Exp, CIX1200 Exp) (default = 0)

Table 4-3 Program 108 PAD Group Device Type Examples

Device Type	Possible Values
Station	0~99999 (PDN)
ISDN Trunk	Channel Group No. 1~128
Analog Trunk, T1 Trunk	Trunk Number 1~264
Conference Bridge	None (Conference Bridge is only one)
Music Source	Music Port 1~15
External Paging Device	Zone Relay Number 1~8

114 PAD Conference Assignment

This program enables you to assign PAD values for combinations of analog trunks and telephones in conference.

FIELD	DESCRIPTION
01 PAD Conference Trunks	Enter the number of analog trunks using Table 4-4 below. Possible values:0~6 (default = 0)
02 PAD Conference Telephones	Enter the number of analog telephones. See Table 4-4 below. Possible values:0~8 (default = 0)
03 PAD Conference Value	Enter the desired PAD Value for the combination of analog trunks and telephones specified in 01 PAD Conference Trunks and 02 PAD Conference Telephones above. The value shown shows the net effect. Note To pad is to insert loss; therefore, "negative loss" equals net gain. Possible values: 1 = 6 dB Net Gain 2 = 3dB Net Gain 3 = 0dB 4 = 3dB Net Loss 5 = 6dB Net Loss 6 = 9dB Net Loss 7 = 12dB Net Los 8 = 15dB Net Loss (default = no value).

110 Password

Table 4-4 Program 114 PAD Conference Table

		Number of Analog Telephones								
		0	1	2	3	4	5	6	7	8
Number of Analog Trunks	0	0	0	0	0	0	3	3	6	6
	1	0	0	0	0	3	3	3	6	
	2	3	3	3	3	3	6	6		
	3	6	6	6	6	6	9			
	4	9	9	9	9	9				
	5	9	9	9	9					
	6	9	9	9						

Prerequisite Program: None

This command assigns the password. The system has two passwords levels. Logging into the system with the Level 1 password enables the user to administer all system programs while the level 2 password provides restricted program administration.

1. From the Program Menu click Advanced Configuration > System > Password.
2. Enter 00 Password Level.
3. Enter 01 Password.
4. Click **Submit**.

FIELD	DESCRIPTION
00 Password Level	Enter the digit 1 or 2 for the password as follows: Possible values: Enter 1 to set the unrestricted administration password. Enter 2 to set a restricted administration password. Level 2 users can administer all programs but are restricted from initializing the CIX and from updating the CIX software (default = 0000 (password will not display)).
01 Password	Enter a 1~16 digit password for the selected level. Note Only one password can be set for each level. Possible values: Up to 16 ASCII character (default = no value)

109 Music on Hold

Prerequisite Program: None

This command assigns external Music on Hold (MOH) and Background Music (BGM) sources.

1. From the Program Menu click Advanced Configuration > System > Music on Hold.
The External Music on Hold Source Assignment screen displays.
2. For fields 01~07, click in the adjacent radio button to activate MOH/BGM.
3. For fields 08~15, enter the equipment location identifier and check the Connected box to activate.
4. Click **Submit**.

FIELD	DESCRIPTION
MOH/BGM #1 (BECU)	For MOH/BGM #2~#7, click in the radio button to enable MOH/BGM for the specified BIOU (MOH/BGM #1 enabled by default). Possible values: Enable (default) or Disable
MOH/BGM #2 (BIOU1-J1)	
MOH/BGM #3 (BIOU1-J2)	
MOH/BGM #4 (BIOU1-J3)	
MOH/BGM #5 (BIOU2-J1)	
MOH/BGM #6 (BIOU2-J2)	
MOH/BGM #7 (BIOU2-J3)	

FIELD	DESCRIPTION
MOH/BGM #8 (RSTU)	Enter the analog station card equipment number to which MOH/BGM source #9~1510 is connected.
MOH/BGM #9 (RSTU)	Enter data as XXYYZZ:
MOH/BGM #10 (RSTU)	XX=cabinet 01~07
MOH/BGM #11 (RSTU)	YY=slot 01~10
MOH/BGM #12 (RSTU)	ZZ=circuit 01~16
MOH/BGM #13 (RSTU)	Example: If the MOH/BGM source should be assigned to an RSTU in cabinet 5, slot 2, circuit 3; enter 050203.
MOH/BGM #14 (RSTU)	1. A PDN can not be assigned to an BSTU/BSTCIU/RSTU/BSLU/ASTU/LSLU equipment number if it is to be a MOH circuit.
MOH/BGM #15 (RSTU)	If a PDN is assigned to the circuit that will connect to a MOH/BGM source, you must first delete it using PRG201. 2. On CIX100, ASTU=010901 and 010902. 3. On CIX200, LSLU=010401 and 010402. Cabinet numbers: <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. Slot numbers: <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots; 05~09 for Exp. • CIX/CTX100: Virtual Slot for ACTU Relay = Cab 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots; 01~10 for Exp. • CXI1200: Select 01~08 for Base slots; 01~10 for Exp. • CTX28 and CIX40 assignments are hard coded and cannot be changed. • Virtual Slot for GCTU Relay = Cabinet 02, Slot 05. 01, 01 - 8 digital tel on motherboard (CTX28, CIX40 R1HW and R2HW). 01, 02 - 3 CO lines on motherboard (CTX28, CIX40 R1HW), 4 CO lines (CIX40 R2HW) 01, 03 - no card (CTX28, CIX40 R1HW), GVPH (CIX40 R2HW) 01, 04 - 1 (Base) or 2 (GSTU) analog station ports (CTX28, CIX40 R1HW and R2HW) 01, 05 - GVMU (CTX28), GVPH (CIX40 R1HW), GIPx, MIPU or GCOCIH (CIX40 R2HW) 01, 06 - GIPx, MIPU16 or GCOCIH (CIX40 R1HW), no card (CTX28, CIX40 R2HW) 01, 07 - 8 digital tel on GCDU (CTX28, CIX40 R1HW and R2HW). 01, 08 - 3 CO lines on GCDU (CTX28, CIX40 R1HW and R2HW).

I/O Device

Program Number(s): 803, 801 and 804

These commands assign LAN devices, RS-232C devices and device relationships for I/O Logical Devices SMDR, SMDI, CTI and physical ports.

1. From the Program Menu click Advanced Configuration > System > I/O Device.
2. The tab sections are; I/O Logical Device (803), LAN Device (801), and RS232 Serial port (804).

803 SMDR SMDI CTI Port Assignments

This program assigns one of the following:

- SMDR and CIX Proprietary Integration to the logical device and BSIS, RS-232 port numbers.
- ACD server, CIX Proprietary Integration and Attendant Console to BECU, Network Jack logical device and LAN port numbers. Refer to [Table 4-6](#) on [page 4-39](#).

FIELD	DESCRIPTION
00 Logical Device Number	<p>Select the 3 digit logical device number for SMDR, SMDI, and LAN devices or Network application. See Table 4-5.</p> <p>Possible values: 100 = SMDR 200~206 = CTI LAN devices or PCs (default = no value) - Do not use for My Phone Application or Feature Flex. 208 = Feature Flex (Do not use for anything else.) 300 = SMDI or CIX Proprietary Integration 400 = BLF (for CIX Attendant Console) 500 = DSS (for Telephone, DSS Console, and ADM DSS buttons) 600 = Traffic Measurement</p>
01 Device Connection	<ol style="list-style-type: none"> 1. Select RS-232 for serial connection to SMDR or SMDI devices or PCs. These devices are connected to BSIS, RS-232 ports. 2. Select LAN for Strata eManager, ACD Server, SMDR LAN connection, CIX Proprietary Integration, and Attendant Console PC. These devices are connected to the BECU Network Jack directly or via a HUB or LAN. <p>Possible values: None (default), LAN or RS-232</p>

FIELD	DESCRIPTION
Device Port No.	<p>Select the Device Port numbers (one port per device).</p> <p>Possible values: For a RS-232 connection: 1~4 (default = 1) For an LAN connection: 1~9 (default = 1) For BLF Networking: 11 For DSS Networking: 12</p> <p>Note</p> <ul style="list-style-type: none">• SMDR and SMDI devices can be assigned to any BSIS RS-232 Port.• LAN devices and PCs can be assigned to logical Ports 1~9 according to the following logical device number assignments: LAN Port1 = device 200 LAN Port2 = device 201 LAN Port3 = device 202 LAN Port4 = device 203 LAN Port5 = device 204 LAN Port6 = device205 LAN Port7 = device206• For Network SMDR, when the Device Port is LAN, set the Client TCP Port Number to: 6000 - SMDR Call Accounting device that supports receiving SMDR data from multiple CIX nodes on one TCP port. 600x - SMDR Call Accounting device that does not support receiving SMDR data from multiple CIX nodes on one TCP port. Set each CIX node to a unique value. The MDR Call Accounting device must be capable of receiving data from each client port simultaneously.

Table 4-5 Device Table

Logical Device	Physical Device				Define I/O Logical Device Number
	LAN	PPP	RS-232C	Smart Media or Secure Digital	
SMDR	OK	-	OK	-	100
CTI	OK	-	-	-	200
	OK	-	-	-	201
	OK	-	-	-	202
	OK	-	-	-	203
	OK	-	-	-	204
	OK	-	-	-	205
	OK	-	-	-	206
JTAPI/Info Manager™/VCS™	OK	-	-	-	207
Feature Flex	OK	-	-	-	208
Stratagy or other SMDI	OK	-	-	-	300
Attendant BLF	OK	-	-	-	400
Attendant DSS	OK	-	-	-	500
Traffic Measurement	OK	-	OK	OK	600
SMDI	OK	-	OK	-	300

System

801 Network Jack LAN Device Assignment

Prerequisite Program: 803 on [page 4-35](#).

This screen assigns Strata CIX LAN parameters, enabling PC applications to connect to the BECU network jack.

1. From the Program Menu click Advanced Configuration > System > I/O Device.
The Equipment Assignment screen displays.
2. Click the LAN Device tab. 801 Network Jack LAN Device Assignments screen displays.
3. Enter Program 801 data. Refer to [Table 4-6](#) on [page 4-39](#).

FIELD	DESCRIPTION
00 LAN Port Number	Enter the port number of the LAN device to be assigned or select from the list. Refer to “ 803 SMDR SMDI CTI Port Assignments ” on page 4-35 . Possible values: 1~12 (default = no value)
01 Protocol	Select Communication Protocol. Possible values: TCP (default) or UDP Note Select UDP for Network DSS and TCP for CIX applications.
02 PC Operation Type	Select the Operation Type. <ul style="list-style-type: none"> • If Server is selected, make an entry in 04 Server Port Number. • If Client is selected, make an entry in 05 Client IP Address. Possible values: Server (default) or Client
03 Data Flow	Select the data flow protocol for CIX and PC communications. Possible values: Synchronous or Asynchronous (default = Asynchronous) Possible values:
04 Server Port Number	Enter the Server Port Number and proceed to 07 Read Retry Number. This field is required if Server was selected in 02 PC Operation Type above. If not, leave this field blank and proceed to 05 Client IP Address. Possible values: 0~65535 (default = 0)
05 Client IP Address	Enter the Client LAN IP Address. This field is required if Client was selected in 02 PC Operation Type above. Possible values: 0~255 for each octet (default = 0)
06 Client Port Number	Enter the Client Port number Possible values: 0~65535 (default = 0) For Central LAN SMDR in a Strata Net use the same port number if the SMDR Application supports receiving data from multiple nodes on one port (i.e. 6000). Use a unique port number in each node if the SMDR Application does not support receiving data from multiple nodes on a single port (i.e. Node 1=6000, Node 2=6001). Refer to Figure 4-1 on Page 4-39 .
07 Read Retry Counter	Set the maximum number of Read Retries. Possible values: 0 ~ 10 (default = 1)

FIELD	DESCRIPTION
08 Write Retry Counter	Set the maximum number of Write Retries. Possible values: 0 ~ 10 (default = 1)
09 Caller Name Set To CSTA	The Caller Name can be sent to the CSTA application. Possible values: Yes - Net Phone (Set the Caller Name to CSTA) or NO - Other CTI device (Do not send Caller Name) (Default)

Table 4-6 I/O Device Information

Program 803 SMDR SMDI CTI Port Assignments	Feature Flex	SMDI LAN CIX Proprietary MAS	SMDI LAN CIX Proprietary ES/IES32	BLF Attendant Console	DSS Buttons (DSS Console, DKT, & ADM)
Logical Device No.	208 CTI #8	300 SMDI #0	300 SMDI #0	400 BLF	500 DSS
Device Connection	LAN	LAN	LAN	LAN	LAN
Device Port No	8	10	10	11	12
Program 801 LAN Device Assignments	Feature Flex	SMDI LAN CIX Proprietary MAS	SMDI LAN CIX Proprietary ES/IES32	BLF Attendant Console	DSS Buttons (DSS Console, DKT, & ADM)
LAN Port No	8	10	10	11	12
Protocol	TCP	TCP	TCP	TCP	UPD
PC Operation Type	Server	Client	Client	Server	Server
Data Flow	Asynchronous	Asynchronous	Asynchronous	Asynchronous	Asynchronous
Server Port No.	1117	0	0	6000	3000
Client Port No.	0	1000	5000	0	0
Client IP	0	IP address of MAS 192.168.254.252	IP address of ES / IES32 192.168.254.252	0 0 0 0	0 0 0 0
Retry No.	1	1	1	1	1
Write Retry Counter	1	1	1	1	1

System

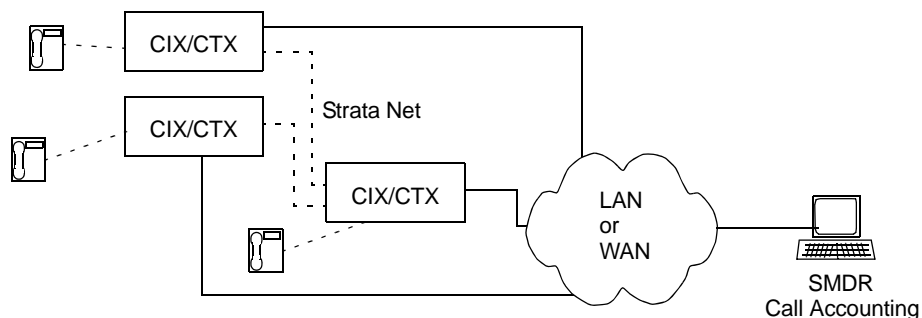


Figure 4-1 SMDR LAN Connection in a Strata Net

804 BSIS RS-232 Serial Port Setup

Prerequisite Program: None

Use this screen to setup the RS-232 serial ports on the BSIS PCB.

1. From the Program Menu click Advanced Configuration > System > I/O Device.
The Equipment Assignment screen displays.
2. Click the RS232 Serial Port tab. The 804 BSIS RS232 Serial Port Set Up screen will display.
3. Enter Program 804 data.
4. Click **Submit**.

FIELD	DESCRIPTION
00 BSIS Port (1~4)	Enter the BSIS PCB port number. Possible values:1~4 (default = no value)
01 Port Speed	Select the data speed for the BSIS port in bits per second (bps). Possible values:300, 1200, 2400, 4800, 9600 (default), 19200, 38400 or 57600 Note The total combined maximum speed of BSIS ports cannot exceed 57,600 bps.
02 Port Parity	Select the parity error checking method used by the BSIS port. Possible values:None, Even or Odd (default)
03 Data Bits	Select Data Length. Possible values:7 Bits (default) or 8 Bits
04 Flow Control	This setting indicates the type of flow control used between the BSIS port and the SMDI or SMDR device. To enable the CIX to buffer call records set this field to Flow. Possible values:None (default) or Flow
05 Wait Timer	Select the maximum time to wait for connection. The Timer value can be one through 255 seconds. Select 0 to set to permanent waiting. Possible values:0~255 (default = 30)

115 Advisory Messages

Prerequisite Program: None

Specifies a set of messages that users may apply to their telephone to provide status information when others call their station. When the user sets a message on a telephone, LCD telephones that call this telephone will display the message. When the user sets a message, the message can be customized to include a variable directory number, time or date as part of the message.

1. From the Program Menu click Advanced Configuration > System > Advisory Messages.
The Advisory Message Assignment screen displays.
2. Select the Message Number.
3. Enter the desired message in 01 Message.
4. Select 02 Additional Digits Type.
5. Click **Submit**.

FIELD	DESCRIPTION
Message Number	Select from 5 pre-programmed messages or 5 custom messages. All messages (0~9) can be edited; the first 5 messages have commonly used default values. Possible values: 0~4 = preprogrammed messages, 5~9 = custom messages (default = 0)
01 Message	Defines the text portion of the LCD Advisory Message to be displayed. The total message text, plus the user entered variables (4-digit time or date; or 1~5 digit DN) cannot exceed 16 characters total. Possible values: Up to 16 ASCII characters (default = no value)
02 User Entered Variable	Defines the text portion of the LCD Advisory Message to be displayed. The total message text, plus the user entered variables (4-digit time or date; or 1~5 digit DN) cannot exceed 16 characters total. Possible values: None (default), DN, Time or Date

Table 4-7 Advisory Message Default Code Table

#	Advisory Message	Type of Additional
0	OUT TO LUNCH	None
1	IN A MEETING	None
2	CALL	Directory Number
3	BACK AT	Time
4	RETURN ON	Date
5	(No Data)	None
6	(No Data)	None
7	(No Data)	None
8	(No Data)	None
9	(No Data)	None

116 Data Initialize

Prerequisite Program: None

This program is used to initialize the tables of selected programs in the Strata CIX system.

1. From the Program Menu click Advanced Configuration > System > Data Initialize.
The Data Initialize screen displays.
2. Select a Program to initialize from the 01 Command No. dialog box.
3. Click **Submit**.

Table 4-8 Data Initialize Programs

Program Numbers	Program Name	Page #
500	500 / 504 System Call Forward Assignment	4-21
520 521 522 523 524 525 526 527 529	LCR Guide Page	9-13
530 531 533 534 651 531 533 534	Destination Restriction Guide Page	9-10
651	651 Private Routing Plan Analysis	9-33
653	653 Private Route Choice Table Assignment	9-34
654	654 Private Route Definition Table Assignment	9-35
655	655 Private Network Digit Modification Table Assignment	9-35

120 Tenant Data Assignment

Prerequisite Program: None

This program enables you to select an Attendant or Night Bell to ring when dialing 0 in Day 1, Day 2 or Day 3 mode for up to eight different Tenants. You can also assign the general purpose relay to the Night Bell in this program.

1. From the Program Menu, click Advanced Configuration > System > Tenant Data.
2. Enter the Tenant Number or use the pull-down to select a number.
3. Enter data.
4. Click **Submit**.

FIELD	DESCRIPTION
00 Tenant Number	Select Tenant. Possible values: 1~8. No Data (Default)
01 Dial 0 Call Day 1 Dst Type	This determines the destination type for calls dialing the Tenant Attendant Access Code in each tenant for each time mode (Day 1, Day 2 and Night). Important! The Tenant Attendant Access Code must be assigned in Prog 102. If it should be 0, the Attendant Console Group Access Code, which is 0, must be deleted. Possible values: No Data (default), Dialing Digits, Night Bell
02 Dial 0 Call Day 2 Dst Type	
03 Dial 0 Call Night Dst Type	
01 Dial 0 Call Day 1 Dst Digits	Enter the PDN of the Attendant to ring when dialing Tenant Attendant Access Code in Day, Day2, or Day 3 mode.
02 Dial 0 Call Day 2 Dst Digits	Possible values: Up to 32 digits for each Day Mode selected (default =no data)
03 Dial 0 Call Night 3 Dst Digits	
04 Night Mode Relay	Enter the General Purpose relay number assigned to the Night Bell. BIOU relays 1~8. This operation activates the relay continuously when the system is in the night mode. Possible values: BIOU 1 = relay 1~4 BIOU 2 = relays 5~8 ACTU, GCTU and LCTU = relay 5
05 Night Bell Relay	Enter the General Purpose relay number assigned to the Night Bell. BIOU relays 1~8. This operation activates the relay when a CO line or DID rings when the system is in night mode. The CO or DID line must be assigned to ring the night bell. Possible values: BIOU 1 = relay 1~4 BIOU 2 = relays 5~8 ACTU, GCTU and LCTU = relay 5

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This chapter provides Strata CIX station programming information for programmers using the Strata eManager programming interface.

Assignment

Program Number(s): 200, 204, 214, 205, 213, 215, 208, 210, 216, 260, and 502

The following programs assign station data.

Basic/200 Station Data

Prerequisite Program: 100 [page 4-1](#)

This command assigns stations to the system.

1. Use the Basic Station Record Sheets to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > Station > Assignments.
3. Click on the Basic tab.
4. To modify an existing station enter its DN number in the Primary DN field or select a DN from the list on the right side of the screen.
5. To create a new DN with custom settings click **Create**. A dialog box will appear.
 - Select DKT/SLT/IPT_B if you are creating a Digital Key Telephone, Single Line Telephone or IPT-1020SD
 - Select IPT_L/SIP if you are creating an IPT2000-, IP5000-series or a SIP telephone.
 - Enter the desired values.
 - Click **Submit**.
6. Delete – Enter a Primary DN or a range of Primary DNs to delete and click **OK**.
7. Change DN – Enter a DN in the Primary DN field and click **Change DN**. Enter the new DN assignment and click **OK**.
 - Setup the DN by adding values to the remaining fields.
 - Click **Submit**.

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260)

00 Prime DN	Prime DN (enter an existing PDN or enter a PDN you wish to create for a new station).
01 Type	<p>Assign device types to GIPx, MIPU, LIPU/LIPS ports:</p> <p>IPT2000-series telephones and IP Softphones are IPT (require End Point licenses).</p> <p>SIP telephones are SIP (require End Point license).</p> <p>IP Attendant Consoles are ATTENDANT (require Basic Port License).</p> <p>VM Ports are VOICE MAIL (require Basic Port License and MAS HMP resource).</p> <p>ACD Announcers are ACD ANNOUNCE (require Basic Port License and MAS HMP resource).</p> <p>Note IPT1020-SD telephones cannot be assigned to GIPx, MIPU, LIPU/LIPS; they must be assigned to BIPU-M in Prg 200.</p>
02 PDN Equipment Number	<p>Enter the PDN equipment number (0000 means auto assignment).</p> <ul style="list-style-type: none"> • IPT1020-SD must be installed on BIPU-M; IPT1020 cannot be installed on LIPU/LIPS, MIPU or GIPx. • SIP phones must be installed on LIPU/LIPS, MIPU or GIPx; SIP phones cannot be installed on BIPU-M • IPT2000 series and IP Softphones can be installed on LIPU/LIPS, MIPU, GIPx or BIPU-M (see Prg 260 for LIPU/LIPS, MIPU or GIPx PDN assignments). MIPU and GIPU require R5.0 software or higher. <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07. • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX100: ACTU Relay Equipment= Cab 02, Slot 05. • CIX100: ASTU Equipment=010901 and 010902 • CIX200: Base/Exp.01~04 • CIX200: LSLU Equipment=010401 and 010402. • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10 <p>CTX28 and CIX40 assignments below are hard coded and cannot be changed.</p> <p>01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW</p> <p>01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW</p>
03 LAN Interface Number	<p>Enter "1" for an LIPU, GIPx or MIPU, enter "2" for an LIPS.</p> <p>Possible values: 1 (Default) or 2</p>

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

04 Circuit Type	<p>Extension: Should be assigned to PDNs that are associated with Digital or Standard telephones</p> <p>Voice Mail: Should be assigned to PDNs associated with Voice Mail RSTU circuits.</p> <p>Possible values: Extension or Voice Mail (default = Extension)</p>
05 COS Day1	<p>Class of Service for Day1 mode.</p> <p>Possible values: 1~ 32 (default = 1)</p>
Day2	<p>Class of Service for Day 2 mode.</p> <p>Possible values: 1 ~ 32</p>
Night	<p>Class of Service for Night mode.</p> <p>Possible values: 1 ~ 32 (default = 1)</p>
06 DRL Day1	<p>Destination Restriction Level for Day1 Mode (used for credit card calling).</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
Day 2	<p>Destination Restriction Level for Day2 Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
Night	<p>Destination Restriction Level for Night Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
07 FRL Day1	<p>Facilities Restriction Level for Day 1 Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
Day 2	<p>Facilities Restriction Level for Day 2 Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
Night	<p>Facilities Restriction Level for Night Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
08 LCR Group	<p>Least Cost Routing Group Number.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
09 QPL Day1	<p>Queuing Priority Level for Day 1 Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
QPL Day 2	<p>Queuing Priority Level for Day 2 Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
QPL Night	<p>Queuing Priority Level for Night Mode.</p> <p>Possible values: 1 ~ 16 (default = 1)</p>
10 Station LCD Name	<p>Enter the name that should be displayed on telephone LCDs for this PDN.</p> <p>Possible values: 16 ASCII Characters (default = no data)</p>

Station

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

11 Dialing Progress Tone	Type of Tone to hear after dialing LCR access code. Possible values: Dial Tone (Default), Entry Tone or Silence
12 System Call Forward	System Call Forward group number. 0~4 (CIX/CTX100 & CTX28 & CIX40), 0~10 (CIX/CTX670/1200 Basic & CIX200), 0~32 (CIX/CTX670 with expansion processor), 0~48 (CIX1200 with A or B expansion processor). Default = 0.
13 Call Pickup	The station privilege to activate Call Pickup. Possible values: Permitted (Default), Group Only, Not Permitted
14 Bearer Capability	ISDN Bearer Capability the PSTN is expecting from non ISDN stations: 3.1kHzAudio (data and speech) or Speech. Important! Standard telephone type data devices (modems, G3-Fax signals) must be set for 3.1KHz audio on ISDN lines. The Strata Net IP network does not support 3.1KHz (data and speech). All standard telephone equipment must be set to 'Speech' if making calls over Strata Net IP. Possible values: Audio (Default) or Speech
15 Display DN	If this station is a member of a Hunt Group that has a Pilot Number and Pilot Display Number set in Prog 209-02 and Prog. 209-04 respectively, enter the HG Pilot Display Number in this field. This number will display on the LCD of telephones when calling or when called by this station or VM port. This is necessary for proper operation of Hunt Groups, including centralized Voice Mail, over Strata Net. Possible values: Dial String of 1~ 5 digits
16 CESID	E911 Calling Party Information identifier for this station (CESID). Should be a valid NANP telephone number. Possible values: Up to 16 digits (default = no data)
17 Emergency Call Group	The Emergency call group that this station belongs to. Possible values: 1 (default) ~ 8
18 Remote CF/DND Password	Password to remotely set or cancel DND or Station Call Forward from another CIX station or, for Call Forward only, from an external DISA line. Note: DND cannot be set/canceled remotely from a DISA line. Possible values: 1 ~ 4 digits (default = no data)

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

19 VMID Code	<p>Enter the voice mailbox number that should answer calls when this PDN calls voice mail, or when this PDN is called and then forwards to voice mail (this number is prefixed by codes in Prg 579, 11~16).</p> <p>Valid entries: digits 0~9, * and #, maximum 10 characters.</p> <p>This VMID code is sent to the voice mail device in SMDI packets or DTMF tones on direct calls to voice mail from the PDN and on calls to the PDN that forward to voice mail.</p> <p>Note: see Prog. 580 for SMDI or DTMF choice.</p> <p>Possible values: 1 ~ 10 digits (default = no data)</p>
20 VM MW Center Port	<p>Message Waiting Center DN.</p> <p>Enter the VM PDN or Pilot DN number that should display on telephone LCDs when calling Voice Mail or receiving calls from Voice mail.</p> <p>Possible values: Valid DN (default = no data)</p>
21 Travel COS Change	<p>Privilege Change the Traveling Class of Service Override Code.</p> <p>Possible values: Enabled or Disabled (default = Disabled)</p>
22 TGAC Override	<p>Trunk Group Access Code Override for Attendant console.</p> <p>Possible values: Enabled or Disabled (default = Disabled)</p>
23 Service Tones	<p>Disable Services Tone for Data Privacy. Service tone, such a Call Waiting Tone, should be disabled for modems, FAX machines, and similar devices.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
24 CW and ROB Tone	<p>Enable/Disable the station to receive call waiting (camp-on) and ring over busy (rob) tone.</p> <p>CW tone is always two beeps.</p> <p>ROB tone can be two beeps or continuous as set in PRG 204, 27.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
25 Name Display	<p>Privilege to put the user name in the list display of large LCD (Directory Assistance)</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
26 Door Over DND	<p>Enable DND to be overridden by a door phone.</p> <p>Possible values: Override or Not Override (default = Not Override)</p>
27 Set System Speed Dial	<p>Privilege to set System Speed Dial numbers.</p> <p>Possible values: Enabled or Disabled (default = Disabled)</p>
28 Network COS	<p>Network Class Of Service number.</p> <p>Possible values: 1~ 32 (default = 1)</p>
29 Auto OCA	<p>OCA occurs automatically when making a call to a busy station that allows OCA calls to be received.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>

Station

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

30 Originate OCA	<p>The privilege to make OCA calls to other stations.</p> <p>Important!: This privilege must be disabled for all Voice Mail and Auto Attendant ports.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
31 RSTU Supervision	<p>Devices connected to RSTU circuits that do not automatically hang up, and connect to CO lines that do not provide disconnect supervision, should be set with Not Received. This enables the auto disconnect Tandem timer in PROG 104, PBO6 for these types of connections.</p> <p>Possible Values: Received or Not Received (default = Received)</p>
32 Station SpDial Bins	<p>The number of station speed dial bins allocated to this station.</p> <p>Possible values: 0 ~ 100 (maximum=100 per station).</p>
33 Call Forward Dial Tone	<p>When the handset is picked up the user will hear stutter dial tone if Station Call Forward is set on the telephone.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
34 Dialing Digit Restriction	<p>After the Extension has made a call it can be prevented from dialing any subsequent digits.</p> <p>Possible values: Enabled or Disabled (default = Disabled)</p>
35 CO Park & Hold	<p>Enabled: When this station parks a line call, CO or GCO buttons of the parked line that appear on other stations will be on hold. This will allow the other stations to press the CO or GCO button to pickup the parked call.</p> <p>Disabled: When this station parks a line call, CO or GCO buttons of the parked line that appear on other stations will appear busy. This will prevent the other stations to press the CO or GCO button to pickup the parked call.</p> <p>Possible values: Enabled or Disabled (default = Disabled)</p>
36 MW & DND Dial Tone	<p>Enable: When this station goes off hook it will receive stuttered dial tone when it has a message waiting indication. The station will receive a busy tone burst before dial tone when in the DND mode.</p> <p>Disable: This station will receive normal dial tone when it has a message waiting or when it is in the DND mode.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>
37 Activate Message Waiting	<p>Enable: This station is allowed to activate station-to-station message waiting on other stations by dialing the other station number plus 7, 8, or 9, or by pressing the Msg key.</p> <p>Disable: This station can not activate station-to-station message waiting on other stations by dialing the station number plus 7, 8, 9, or by pressing the Msg key.</p> <p>This parameter does not apply to Voice Mail ports; they use the special Message Waiting access codes.</p> <p>Possible values: Enabled or Disabled (default = Enabled)</p>

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

38 Tenant Number	<p>Enter the Tenant number to which this PDN should be assigned.</p> <p>Possible values:1~ 8 (default = 1)</p>
39 Hook-Switch Recall	<p>Enable Recall for Digital Telephones for normal operation.</p> <p>Disable Recall on Standard Telephones that produce hook-switch bounce when they are hung-up. This prevents annoying ring recalls when the user hangs up on a call.</p> <p>Possible values:Enabled or Disabled (default = Enabled)</p>
40 Auto-Campon to PDN	<p>Enable - to allow auto-campon to this PDN when busy and called by a CO line even if the CO line group has auto-campon disabled in Program 304-17.</p> <p>Disable - to not allow auto-campon to this PDN when called by a CO line if the CO line group has auto-campon disabled in Program 304-17.</p> <p>Note</p> <p>Auto-campon will always occur on the PDN if the calling CO line group has auto-campon enabled in Program 304-17 regardless of how this option is set.</p> <p>Auto-campon will be applied or not to PhDNs according to the PhDN owner PDN setting for this option.</p> <p>Possible values:Enabled or Disabled (default = Enabled)</p>
41 LCR PDN Code	<p>Enter the number of digits that determine when to send the LCR PDN code. The PDN code is registered in the LCR Modified Digits Table.</p> <p>Possible values:G711, G729A or None (default = G729A)</p>
42 Network Calling Number	<p>Enter the CLID telephone number that should be sent for this station when making external calls through the Strata Net ISDN network (32 digits max.). When this station makes outgoing calls through the Strata Net network this number will be sent over the Strata Net network to the terminating PSTN connected to the far-end node (providing this is allowed by the PSTN). This number will be displayed as the Caller ID number at the terminating external telephone. This number is not sent to local PSTNs connected to the node from which the call is originated, nor is it sent when making conventional Tie line calls that terminate on a PSTN at a far-end node.</p> <p>Possible values:32 Digits Max.</p>
43 Personal Password	<p>Enter the Personal Admin password for this station. This is also the My Phone Manager Password and the IP Mobility Login password (refer to FK49).</p> <p>Possible values:16 Characters Max</p>
44 Personal Admin Level	<p>Enter the Personal Admin user privilege level for this station.</p> <p>Possible values:Normal, Super 1 or Super2 (default = Normal)</p>
45 Speaker OCA	<p>Enable or disable Speaker OCA on an IP telephone. When speaker OCA is assigned to an IP set an additional IP port is assigned to the IP. If there is no available IP port S-OCA cannot be assigned and an eManager error will occur.</p> <p>Possible values:Enabled or Disabled (Default)</p>

Station

Table 5-1 Station Assignment Data for IP, and SIP Telephones (Prog 260) (Continued)

49 Use Login Authentication

Whether or not to apply the Login Password Authentication - Uses the Personal Password (43)

Possible values: Enabled or Disabled (Default)

50 Use Transfer Registration

Whether or not to apply Transfer Registration - Set to Enable to allow IP Mobility for this DN.

Possible values: Enabled or Disabled (Default)

Note Assign a "Phone Logout" feature key on this DN.

51 Connecting Equipment Number

Enter the PDN equipment number (0000 means auto assignment).

- IPT1020-SD must be installed on BIPU-M; IPT1020 cannot be installed on LIPU/LIPS, MIPU or GIPx.
- SIP phones must be installed on LIPU/LIPS, MIPU or GIPx; SIP phones cannot be installed on BIPU-M
- IPT2000 series and IP Softphones can be installed on LIPU/LIPS, MIPU, GIPx or BIPU-M (see Prg 260 for LIPU/LIPS, MIPU or GIPx PDN assignments). MIPU and GIPU require R5.0 software or higher.

Cabinet numbers:

- CIX100: Base, Exp.01
- CIX200: Base 01, Exp.02
- CIX670: Base 01, Exp 02~07.
- CIX1200: Base 01, Exp 02~12

Slot numbers:

- CIX100: Base 01, Exp.05~08
- CIX100: ACTU Relay Equipment= Cab 02, Slot 05.
- CIX100: ASTU Equipment=010901 and 010902
- CIX200: Base/Exp.01~04
- CIX200: LSLU Equipment=010401 and 010402.
- CIX670/1200: Base 01~08
- CIX670/1200: Exp.01~10

CTX28 and CIX40 assignments below are hard coded and cannot be changed.

01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW

01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW

Station PDN Selective Copy

This screen gives you the option of selecting either all or some of the parameters to be copied to the destination PDNs.

Using this screen you can do any of the following functions:

- Copy to multiple destination PDNs.
 - Check All to select all the parameters, or select individual/multiple parameter(s) to be copied.
1. Select Advanced Configuration > Station > Assignments. Enter the Primary DN.
 2. Click **Selective Copy**. The Selective Copy screen displays.
 3. Check Highlight All to select all the parameters or select individual/multiple parameter(s) to be copied.

Note If you want to copy almost all items and leave out a few, you can check Highlight All and then click on the items that you don't want to copy to deselect them.

4. Click **Copy Now** to start the copying process. End of Copy is displayed when copy is complete.

Note You can return to the previous page and/or reselect copy to different destination PDNs by clicking **Back**.

PDN Table View

The PDN Table View displays the following parameters set in Program 200/260—Station Equipment Number, Type, Extension/Voice Mail, Primary DN, User Name, PDN VMID, COS, DRL, FRL, LCR Group, System Call Forward Template, Network COS, the quantity of Station Speed Dial bins and Tenant.

To access the extended list

Select Advanced Configuration > Station > Assignments and click the **PDN Table View** button. The Extended List spreadsheet displays after it downloads from the CIX. This takes some time depending on the CIX connection speed and database size.

The screen may be kept up and moved around to use as a reference and can be printed. The Extended List spreadsheet can be sorted by all 20 columns and sorting can be toggled between Ascending and Descending order. The entire table can be printed using the **Print** button on the screen.

204 DKT Parameters

Prerequisite Program: 200 [page 5-1](#)

This command is used to set up DKT digital telephone station parameters.

1. Use the DKT Parameters Record Sheet to record your desired DKT settings.
2. From the Program Menu, click Advanced Configuration > Station > Assignment.
3. Click on the DKT tab.
4. To modify an existing station, enter its DN number in the Primary DN field or select a DN from the list on the right side of the screen.
5. To create a new DN with custom settings click **Create**. A dialog box will appear.
 - Select DKT/SLT/IPT_B if you are creating a Digital Key Telephone, Single-line Telephone or IPT-1020SD.
 - Enter the desired values.
 - Click **Submit**.
6. Delete – Enter a Primary DN or a range of Primary DNs to delete and click **OK**.
7. Change DN – Enter a DN in the Primary DN field and click **Change DN**. Enter the new DN assignment and click **OK**.
 - Setup the DN by adding values to the remaining fields.
 - Click **Submit**.

FIELD	DESCRIPTION
01 Station Type	<p>Select the Station Type. When set to Attendant the system can support four circuits.</p> <p>Possible values:Extension (default) or Attendant</p>
02 Key Strip Pattern	<p>This option allows you select a pre-defined keystrip pattern and submit it to the digital telephone. It does not display what pre-defined keystrip (if any) has been assigned to the telephone.</p> <p>Use the Key tab screen to view or edit telephone keystrip assignments.</p> <hr/> <p>CAUTION! Submitting a keystrip pattern will overwrite existing keys programmed on a telephone.</p> <hr/> <p>Default key strip patterns for digital telephones. The selected pattern is applied to the 'Key Strip Type' parameter.</p> <p>None – applies PDN to button 01 and blank to all other buttons.</p> <p>Pattern 1 – applies PDN to button 01, plus line buttons and DND.</p> <p>Pattern 2 – applies PDN to button 01, plus line buttons, One-Touch buttons and DND.</p> <p>Pattern 3 – applies PDN to button 01 and blank to all other buttons. (DKT3014/3214 uses only Pattern 1 or None).</p> <p>Possible values:Pattern 1, 2 or None (default)</p>

FIELD	DESCRIPTION
03 Key Strip Type	<p>Select the number of feature buttons to assign to this station.</p> <p>Note Although the scroll down menu enables you to choose any value from 1~24, valid values are 10, 14, and 20.</p> <p>Possible values: 1, 3, 7, 8, 10, 14, or 20 (default)</p> <p>Applies 1, 3, 10, 14, or 20 button keystrip type to digital telephones: 1 and 3 button keystrips apply to DKT2001, DKT3001/3201 , and DP5008 7 button keystrips apply to DKT3007/32307 and SoftIPT 8 button keystrips apply to IPT2008-SDL 10 button keystrips apply to DKT2010, DKT3001/3201, DP5018, DP5022, DP5122, DP5130, IP5122-SD -SDC and IP5131-SDL.</p> <p>Note To set as or change from DP5130 or IP5131-SDL, refer to Keystrip Type - parameter 39.</p> <p>14 button keystrips apply to the Large LCD DKT3014/3210 20 button keystrips apply to DKT2020, DKT3020/3220, DP5032, DP5132 and IP5132-SD</p>
04 Add on Modules	<p>SelectThe Number of DADM or LM Add-on-Modules assigned to this station.</p> <p>If the Add-on-Module is an LCD Line Module, LM5110, identify it as such in parameter 40 and/or 41 of this program.</p> <p>Possible values:None (default), 1 unit, or 2 units</p>
05 Tone First /Voice First	<p>Set PDN to have Tone First or Voice First signaling when called.</p> <p>For each iES32 PDN, set to "Tone First"; if set to Voice First iES32 will not answer.</p> <p>Possible values:Tone or Voice (default)</p>
06 OCA Type	<p>Select the OCA type. This field must be programmed with Auto OCA Originate below.</p> <p>Possible values:Handset (default) or Speaker</p>
09 Handsfree MIC Setting	<p>If you call a station configured for Voice First signaling you can use this parameter to enable the called parties microphone from your DKT.</p> <p>Possible values:Enable or Disable (default = Enable)</p>
10 Handsfree Tone	<p>If you call a DKT configured for Voice First signaling you can use this parameter to send a splash tone to the called party.</p> <p>Possible values:Enable or Disable (default = Enable)</p>
11 Ext. Ring Repeat	<p>Enable repetitive ringing for incoming CO / PBX / Centrex signals. Disabling this parameter defaults to standard CO ringing pattern (1 sec on / 3 sec Off).</p> <p>Possible values:Enable or Disable (default = Disable)</p>

Station

FIELD	DESCRIPTION
13 Off Hook Preference	<p>Select Off Hook Preference.</p> <p>Possible values: Idle, Ringing, Prime, No Preference, Prime and Idle, Prime and Ringing or Ringing and Idle (default)</p> <p>When a digital telephone user goes off hook, presses the Spkr Button or dials a digit while the telephone is idle (Hot Dial Pad), the telephone will select an idle PDN or Line button or answer an incoming call according to the preferences set in this command.</p> <p>This command works in conjunction with the 14 PDN/Line Preference and 15 Ringing Preference programs.</p> <p>The possible values are described as follows:</p> <ul style="list-style-type: none"> • Idle – The telephone will select an idle DN or Line button depending on the 14 PDN/Line Preference choice. In either case priority is always the lowest numbered button that is idle. The telephone will not answer ringing calls automatically. • Ringing – The telephone will answer a ringing call (any PDN, secondary DN, PhDN, or any Line type button) by call type or longest ringing button depending on the 15 Ringing Preference choice. The telephone will not automatically select a DN or Line button when going off hook to originate a call. • Primary DN – The telephone will automatically try to select the PDN button, if idle or ringing, no matter what the status is of other buttons on the telephone. • No Preference – The telephone will not select any button when the user goes off hook or presses the Spkr button. This selection will also disable the telephone's Hot Dial Pad feature. • Primary DN and Idle – The telephone will automatically try to select the PDN button if idle or ringing. If the PDN is busy the telephone will select an idle Line button (14 PDN/Line Preference - Line Preference) or another idle DN button (14 PDN/Line Preference - PDN Preference). • Primary DN and Ringing – The telephone will automatically try to select the PDN button if idle or ringing. If the PDN is busy the telephone will select a ringing Line button (14 PDN/Line Preference - Line Preference) or a ringing DN button (14 PDN/Line Preference - PDN Preference). • Ringing and Idle – The telephone will always answer any ringing call according to 15 Ringing Preference. If a call is not ringing it will select an idle Line button (14 PDN or Line Preference - Line Preference) or idle DN button (14 PDN or Line Preference - PDN Preference).
14 PDN/Line Preference	<p>Offhook preference button type.</p> <p>Possible values: CO Key or DN Key (default)</p> <ul style="list-style-type: none"> • CO Line buttons - Line buttons (any type CO, Pooled or Group CO line button) have priority over DN buttons with 13 Off Hook Preference choices. The lowest numbered line button on the telephone has priority over other line buttons for idle selection. • Primary DN button - DN buttons (any type PDN, Secondary DN or PhDN button) have priority over Line buttons with 13 Off Hook Preference choices. The PDN button has first priority for idle selection. The lowest numbered DN button on the telephone has priority over other DN buttons for idle selection if the PDN button is busy. <p>Note Off hook ringing selections are also based on 15 Ringing Preference choices.</p>

FIELD	DESCRIPTION
15 Ringing Preference	<p>Ringing call answer preference.</p> <p>Possible values: Longest or Call Type (default)</p> <ul style="list-style-type: none"> • Longest Ringing - any call type - Calls are answered in order of the longest ringing line no matter what type of call (FIFO). • Longest Ringing - by call type priority - Call Type priority is applied to the longest ringing button. <p>Call Type Priorities are fixed in software as shown below:</p> <ul style="list-style-type: none"> • Emergency Calls • Hands Free Calls (after it is switched to ringing by the caller) • ACD calls • Recalls (Hold recall, Automatic call back, ABR, etc.) • External Calls (DID, DIT DISA line calls etc.) • Internal Calls (station, Attendant, Tie line, door phone, etc.)
16 Text Message Display	<p>Select whether to display an LCD text message. Immediate displays the message. Not immediate does not display the message.</p> <p>Possible values: Immediate (default) or Not Immediate</p>
17 Call History Memory	<p>Enter the number of calls to be stored in memory for this station.</p> <p>Possible values: 0~100 (def = 0) Increments of 5 (0, 5, 10, 15, 20, ... 100)</p> <p>Note Up to the system max: CIX40, 100 = 660, CIX200, 670 Basic, 1200 Basic = 1000, 670 Exp = 2000, CIX1200 Exp = 3000</p>
18 DTMF Back Tone	<p>Enables audible DTMF when dialing from a DKT to a trunk or Voice Mail port. Padded dialing mutes the volume level to the caller not the called trunk or VM device.</p> <p>Possible values: Padded, DTMF Tone (default) or No Tone</p>
19 Continuous DTMF	<p>Enable / Disable Continuous DTMF for DKT2000 and DTK3000 series telephones.</p> <p>Enabled allows the telephone to send DTMF tones to the far end continuously as long as the key on the dial pad is held down.</p> <p>Note</p> <ul style="list-style-type: none"> • For each iES32 PDN, set to 'Not Continuous' - if set to 'Continuous', outdial notification to pagers and calls to AMIS nodes will not function properly. • DKT1000 series telephones do not support continuous DTMF. DKT1000 series telephones must be set to 'Not Continuous' or they will misdial. <p>Possible values: Continuous (default) or Not Continuous</p>
20 Display Language	<p>Select the LCD Display Language.</p> <p>Possible values: English (default), British English, French, Spanish</p> <p>Note The display language must also be set at IPT2008-SDL and IP5131-SDL stations using access code #495.</p>

Station

FIELD	DESCRIPTION
21 Adapter	<p>Select the Adapter Type (Desktop OAI or Attendant Console).</p> <ul style="list-style-type: none"> • BPCI – for USB interface • BATI – for PC Attendant Console Interface <p>Possible values:None (default), BPCI or BATI</p>
22 Blind Transfer	<p>Set Blind Transfer Action (Attendant Type Only).</p> <p>Possible values:Leave or Separate (default)</p>
23 Mail Box Selection	<p>Select the method to enter the destination Mailbox for Call Recording. If set to Auto the CIX uses the VMID of the station initiating the record function.</p> <p>Note</p> <ul style="list-style-type: none"> • The DN assigned as the MSG center in PROG 200 is used to call the VM port or Hunt group (PROG 200 FK 22). • When set to Auto the VMID of the station initiating the record function is sent to Stratagy ES as the destination mailbox. • When set to Manual Input the user may enter any valid mailbox followed by the “#” sign. If the user presses “#” without additional data the CIX will send the VMID of the originating station. <p>Possible values:Auto or Manual (default)</p>
24 MIC Init. Value	<p>Turn on the microphone automatically when making a speakerphone call.</p> <p>Note The microphone must be enabled.</p> <p>Possible values:On (default) or Off</p>
25 Microphone	<p>Enable microphone.</p> <p>Possible values:Enable or Disable (default = Enable)</p>
26 Speaker Mode Tones	<p>Enable telephone to receive Call Waiting (Camp-on) and Ring Over Busy (ROB) Tone while on a speakerphone call.</p> <p>Possible values:Yes (default) or No</p>
27 Ring Over Busy Cycles	<p>Set ROB to ring two times or continuously.</p> <p>Possible values:Two Cycles or Continuous (default)</p> <p>Note See PRG200, 26 to enable ROB to be sent to individual telephones.</p>
28 Attd Overflow Dest.	<p>Select overflow destination for attendant.</p> <p>Possible values:Up to 32 ASCII characters (default = none)</p>
29 Trunk Test and Verify	<p>Allow Trunk Tests and Verification.</p> <p>Possible values:Yes or No (default)</p>
30 Auto Line Hold	<p>Enable Automatic Line Hold. This parameter allows a station to “line hop” from one call to another automatically by placing the first call on hold.</p> <p>Possible values:Enable or Disable (default = Disable)</p>

FIELD	DESCRIPTION
31 Call Progress Dependency	<p>Allows the telephone to be set to ring or not ring when busy on a call. If a telephone has multiple DNs (PDN + PhDNs) set this parameter to the Line Mode.</p> <p>Line Mode: Calls will ring the telephone when the user is talking on a line or DN button if the telephone has multiple DN or line buttons in a hunt configuration. If Call Forward Busy/No Answer is set, the telephone will Ring No Answer, and then forward when a call is delivered to the telephone while the user is talking on a DN or CO line button.</p> <p>Terminal Mode: Callers will receive busy tone when any DN or CO line button on the telephone is in use. If Call Forward Busy/No Answer is set on the telephone, a call to the telephone will forward immediately when a call is delivered while the user is talking on any DN or CO line button.</p> <p>Possible values: Line Mode (default) or Terminal Mode</p>
32 Programming Mode	<p>Enable: Allows the telephone to enter the Programming Mode. Disable: Restricts the telephone from entering the Programming Mode.</p> <p>Possible values: Enable or Disable (default = Enable)</p>
33 Stop Sending LCD Data	<p>Turn this parameter On to stop sending LCD information to this port. This must be turned on for Stratagy iES32 voice assistant ports.</p> <p>Possible values: On or Off (default = Off)</p>
34 Administrator Phone	<p>Enable to allow this telephone to function as an Administrator telephone.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
35 Pool Line No Flash	<p>Enable this feature if pooled line buttons should only flash when they ring this telephone. If disabled, pooled line buttons will flash on this telephone when the pooled line is ringing any telephone - even if not ringing this telephone.</p> <p>Possible values: Enable or Disable (default = Enable)</p>
36 Exclusive Hold	<p>Enable: If the user presses the Hold button twice in succession the telephone places the current call on Exclusive Hold.</p> <p>Disable: The telephone cannot place calls on Exclusive Hold.</p> <p>Possible values: Enable or Disable (default = Enable)</p>
37 Dial Directory - Off Hook	<p>Enable: Allows access to the telephone Dial Directory by going off-hook, pressing the Spkr button or pressing the first softkey on the left side of the LCD.</p> <p>Disable: Denies access to the telephone Dial Directory by going off-hook or pressing the Spkr button. User must press the first softkey on the left side of the LCD to access the Directory Dial feature.</p> <p>Note This option only applies to 7, 10, and 20 button telephones with small LCDs.</p> <p>Possible values: Enable or Disable (default = Disable)</p>

Station

FIELD	DESCRIPTION
38 Dial Directory - Make Call	<p>Enable: Allows user to originate a call by going off-hook, pressing the Spkr button or pressing the CALL softkey after finding a name using the small LCD telephone Dial Directory feature.</p> <p>Disable: User must press the CALL softkey to originate a call using the small LCD telephone Directory Dial feature. After finding a name, nothing will happen when going off-hook or pressing the Spkr button.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
39 LARGE LCD PHONE	<p>Select DP5130/IP5131 if this is a DP5130-SDL/IP5131-SDL or DP5130-FSDL large LCD telephone with programmable LCD keys.</p> <p>Note If this is a DP5130/IP5131 type telephone, 10 buttons must be selected in parameter 03 of this program.</p> <p>Select NOT DP5130/IP5131 for all other telephone types.</p>
40 ADM1 - LCD KEYSTRIP	<p>Select LM5110 if Add-on-Module 1 is a LCD Line Module with programmable LCD keys.</p> <p>Select NOT LM5110 for all other KM or DDADM types</p> <p>Possible values: 1: Not LM5110 (Default) 2: LM5110</p>
41 ADM2 - LCD KEYSTRIP	<p>Set this value to LM5110 if the add-on module 2 is an LCD line module with prgrammale LCD keys.</p> <p>Possible values: 1: Not LM5110 (Default) 2: LM5110</p>
To Remove an LM5110 Add-on Module	<p>To remove an LM module (ADM 1 or ADM2)</p> <ol style="list-style-type: none"> 1. Change FK 40 for ADM1, change FK 41 for ADM 2 to Not LM5110 - then click on Submit. 2. Change FK 4 to One or None as appropriate. - then click on Submit.

Feature Button Patterns

The following tables show the various feature button patterns available for **FB02** above.

Table 5-3 20 Button (when FB03 value is 20)

	PATTERN1	PATTERN2	PATTERN3
FB01	Primary DN	Primary DN	Primary DN
FB02	CO 1	CO 1	No Data
FB03	CO 2	CO 2	No Data
FB04	CO 3	CO 3	No Data
FB05	CO 4	CO 4	No Data
FB06	CO 5	CO 5	No Data
FB07	CO 6	CO 6	No Data
FB08	CO 7	CO 7	No Data
FB09	CO 8	CO 8	No Data
FB10	CO 9	CO 9	No Data
FB11	CO 10	CO 10	No Data
FB12	CO 11	CO 11	No Data

Table 5-3 20 Button (when FB03 value is 20) (Continued)

	PATTERN1	PATTERN2	PATTERN3
FB13	CO 12	CO 12	No Data
FB14	CO 13	Single Touch Button	No Data
FB15	CO 14	Single Touch Button	No Data
FB16	CO 15	Single Touch Button	No Data
FB17	CO 16	Single Touch Button	No Data
FB18	CO 17	Single Touch Button	No Data
FB19	CO 18	Single Touch Button	No Data
FB20	Do Not Disturb	Do Not Disturb	No Data

Table 5-4 10 Button (when FB03 value is 10)

	PATTERN1	PATTERN2	PATTERN3
FB01	Primary DN	Primary DN	Primary DN
FB02	CO 1	CO 1	No Data
FB03	CO 2	CO 2	No Data
FB04	CO 3	CO 3	No Data
FB05	CO 4	CO 4	No Data
FB06	CO 5	Single Touch Button	No Data
FB07	CO 6	Single Touch Button	No Data
FB08	CO 7	Single Touch Button	No Data
FB09	CO 8	Single Touch Button	No Data
FB10	Do Not Disturb	Do Not Disturb	No Data

Table 5-5 14 Button (when FB03 value is 14)

	PATTERN1	PATTERN2	PATTERN3
FB01	Primary DN	Primary DN	Primary DN
FB02	CO 1	No Data	No Data
FB03	CO 2	No Data	No Data
FB04	CO 3	No Data	No Data
FB05	CO 4	No Data	No Data
FB06	CO 5	No Data	No Data
FB07	No Data	No Data	No Data
FB08	CO 7	No Data	No Data
FB09	CO 8	No Data	No Data
FB10	CO 9	No Data	No Data
FB11	CO 10	No Data	No Data
FB12	CO 11	No Data	No Data
FB13	Do Not Disturb	No Data	No Data
FB14	No Data	No Data	No Data

Station

214 DSS Console Assignment

Prerequisite Program: 200 [page 5-1](#)

This assignment allows up to eight Direct Station Selection (DSS) Consoles to be assigned to a station. The assignment is referenced to the stations's Primary DN.

1. From the Program Menu, click Advanced Configuration > Station > Assignment.
2. Click on the DSS tab.
3. Enter a DN number in the Primary DN field or click the list on the right side of the screen
4. Enter the Equipment number in which the DSS(s) is installed.
5. Get Default will set all data to the factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
Prime DN	Enter the PDN of the station that is to be associated with the DSS console(s). Possible values:Any string up to 5 digits (default = no value).
01~08 DSS Equipment No. 1~8	<p>Enter the DSS equipment number.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07. • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX100: ACTU Relay Equipment = Cab 02, Slot 05. • CIX100: ASTU Equipment=010901 and 010902 • CIX200: Base/Exp. 01~04 • CIX200: LSLU Equipment=010401 and 010402. • CIX670/1200: Base 01~08 • CIX670/1200: Exp. 01~10 <p>CTX28 and CIX40 assignments below are hard coded and cannot be changed.</p> <p>01, 01 - 8 digital telephones on motherboard - 28, 40 R1HW and R2HW 01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW 01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW 01, 07 - 8 digital telephones on GCDU - 28, 40 R1HW and R2HW</p> <p>Example: If the DSS console should be connected to a BDKU in cabinet 5, slot 2, circuit 3; enter 050203.</p> <p>Note If a PDN is assigned to the DSS equipment number, it must be deleted using PRG201 before attempting to assign the DSS console.</p>

Key

Program Number(s): 205, 213, and 215

Prerequisite Program: 200 [page 5-1](#) and 204 [page 5-10](#)

The Feature Button assignments enable each button on the telephone to be addressed and coded to represent a function or feature to be performed. Some feature buttons require additional parameters to completely define the key (e.g., a Phantom DN needs a directory number, ringing assignment, and the tone pitch when ringing occurs).

1. Use the Feature Button Record Sheet to plan your FB assignments.
2. From the Program Menu, click Advanced Configuration > Station > Assignment.
3. Click on the Key tab.

Notes

- To Program DSS buttons, Program 214 should be completed.
 - To program ADM buttons (ADM 1 or ADM 2), FB04 (Add on Modules) in Program 204 must be set to One or Two.
4. Enter one of the following in the Primary DN field:
 - Primary DN to program DKT FBs.
 - Primary DN plus an ADM number to Program ADM FBs.
 - Primary DN plus DSS Key Assignment button to program DSS FBs
... or click one of the following buttons:
 - **List** – view a summary list of programmed DKTs.
 - **Extended List** – view a detailed list of programmed DKTs.
 - **Copy** – After entering the source DN in the *Primary DN* field, click **Copy** and designate which FB buttons to copy (click the DKT Phone header to select all). Enter the destination DN and click **OK** (range is permitted).
 - **Cross Copy** – This button enables you to copy specific keys from a station's keypad to desired keys of other station keypads. This function is available only with Strata eManager R2.1 and above. Refer to "[Cross Copy](#)" on [page 5-21](#) for steps to use this function.

Distinctive Ringing – Enables you to set different incoming ringing tones for internal and external calls on a Prime DN. Ten different tones are available. This can be set from Programs 205, 213 and 215.

To set Distinctive Ringing double-click the button that you want to set distinctive ringing. A dialog box displays.

Click the drop-down arrows to set the External and Internal tone pitches. The possible values are shown in Table 5-6.

Notes

- You must have the following versions of processor boards for Distinctive Ringing:
 - CIX100: ACTU1A, V.2D or later
 - CIX200: LCTU
 - CIX 670: BECU1A, V.1C or later
 - CIX1200: HCTU1
- For any older versions of processor boards, you can assign only "01" to Tone Pitch for internal calls and you can assign only "11," "13," "15," or "17" to Tone Pitch for external calls.
- Ringing tone pitch has no effect on telephone volume.

- When programming External Ringing Repeat with a Distinctive Ringing Pitch, we recommend that you use pitches “11” or “12” and not “17” or “18”.
- Incoming recall tone cannot be changed.
- Calls to Tie lines adopt the internal call pitch.

Table 5-6 Internal and External Call Ringing Tones

Tone No.	Frequency and Cadence
01	500 Hz 1 sec. On, 3 sec. Off, repeat
02	1300 Hz 1 sec. On, 1 sec. Off, repeat
11	500/640 Hz 1 sec. On, 3 sec. Off, repeat
12	500/640 Hz 1 sec. On, 1 sec. Off, repeat
13	860/1180 Hz 1 sec. On, 3 sec. Off, repeat
14	860/1180 Hz 1 sec. On, 1 sec. Off, repeat
15	1300/1780 Hz 1 sec. On, 3 sec. Off, repeat
16	1300/1780 Hz 1 sec. On, 1 sec. Off, repeat
17	860/1180 Hz 0.5 sec. On, 1300/1780 Hz 3 sec. Off, repeat
18	860/1180 Hz 0.5 sec. On, 1300/1780 Hz 1 sec. Off, repeat

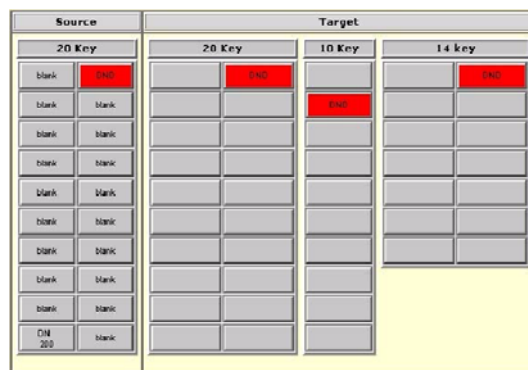
5. Click on the FB to program (the button turns from yellow to red).
6. Click the desired option from the blue parameter buttons on the right.
 - Directory No – Assign a Primary DN key, Secondary/Phantom DN, Phantom DN Message Waiting, or DSS key to this FB. See ["Directory Number Sub-parameters"](#) on [page 5-22](#) for more details.
 - CO Lines – Assign FB as a CO, GCO or a Pooled Line. See ["CO Lines Sub-parameters"](#) on [page 5-22](#) for more details.
 - Features – Assign ABR, ACB, DND, Short Flash, Long Flash, Privacy, Privacy Release, BGM Key, Program Access, Account Code, Application Starting, Split Key, or System Alarm feature to this FB.
 - Call Control – Activate Speed Dial, Release Button, Release/Answer, Cancel, Source Party, Destination Party, CLID or Night Transfer from this FB.
 - Call Forward – Set Call Forwarding assignments for this FB. Forward All Calls, Forward Busy, Forward No Answer, Forward Busy No Answer, Forward Ext/All Call, Forward Ext/Busy, Forward Ext/No Answer and Forward Ext/Busy No Answer are available selections.
 - Park Page – Assign Call Park Orbit, All Paging, Group Paging, All Emergency Paging, Individual Emergency Paging and Paging Answer Feature access to this FB.
 - Call Pickup – Assign FB to a Pickup-Group, Pickup-Directed Terminal, Pickup-Directed Group, Pickup-Directed DN, Pickup-Any External, Pickup-CO Retrieve, Pickup-Local Retrieve, Pickup-Remote, Pickup-Directed DN Retrieve and Pickup-On Hold and Incoming.
 - Door Lock – Enable FB to unlock Door Lock. See ["Door Lock Sub-parameters"](#) on [page 5-23](#) for more details.
 - Voice Mail – Enable FB to Record or Pause/Resume Voice Mail.
 - Attendant – Assign Out Dial, Attendant Answer, Overflow, Position Busy, Trunk Test, Attendant Loop or Supervised Loop Key Attendant features to this FB.
 - ACD – Assign Log In/Out, Available/Unavailable, Work Unit, ACD Help, ACD Pickup, End WrapUp, Join ACD Call, Monitor ACD Call, Start/End Shift, Display Status, or UCD Agent Login/Out features to this FB.
 - One Touch – Assign FB as a One Touch button. See ["Setting the One Touch Button"](#) on [page 5-21](#).

- Split – Assign FB to Split the connected party and the conference master from the conference (for private call). (Join button is used to reconnect both parties to the conference.) The Split button should *not* be assigned to a DKT2304-CT cordless telephone.
 - Blank – Clear FB assignment.
7. Click on one feature in the sub-parameter dialog box. If no other settings are required, the FB displays an abbreviation for the selected feature.
 ... or if you select Directory No, CO Lines or Door Lock parameters, additional fields are required. See the tables that follow for more details. Follow the directions in each pop-up dialog box.
 On DP5130 telephones and LM5110 ADMs the keystrip label entered here will appear on the LCD.
 8. To modify an existing feature button double-click the feature button and make the change in the appropriate dialog box that displays.
 9. Click **Submit**.

Cross Copy

Use the following steps to cross copy keys from one station to the keys of another station's keypad:

1. From the Key Page, enter the Prime DN.
2. Click **Submit**.
3. Click the **Cross Copy** button. The Source and Target Copy screen displays (shown right). Enter the "Copy To" PDNs
 ... or click **Select** to select the target PDN.
4. From the Source DKT, select key to be copied.
5. Click the **Copy Now** button. The Detail report screen displays.
6. Click **Done**. Target DKT with the copied key displays.
7. Verify the key copied.



Setting the One Touch Button

Follow the step above 1–8 above to assign an FB as a One Touch button. Then complete the following steps:

1. Double-click the key assigned as One Touch.
2. The following dialog box displays
 This dialog box is used to define each button with the One Touch Data.
3. Enter the One Touch data, then click **OK**.

Example 1: Setting up a One Touch button to transfer to Voice Mail.

Select the Cnf/Trn from the white box on the right, CNF displays in the One Touch Data field. Then type #407 after CNF displays in the One Touch Data box. It adds Cnf/Trn #407 in the One Touch Data. Click **OK**. Then click **Submit**.

Example 2: To originate a call from the PDN, select the FK as 01 if the PDN is on the first key then add the telephone number next to FK01 in the One Touch Data box.

Cancel clears the changes and takes you back to the previous page.

Directory Number Sub-parameters

FIELD	DESCRIPTION
Primary DN	<ol style="list-style-type: none"> 1. Select Ringing Assignment for Day1, Day2 and Night. Possible values: No Ring, Immediate Ring, Delayed Ring1 and Delayed Ring2. 2. Select Tone Pitch. Possible values: 1~4 (default = 1)
Secondary/Phantom DN	<ol style="list-style-type: none"> 1. Enter DN Number. Possible values: Any string up to 5 digits 2. Select Ringing Assignment for Day1, Day2 and Night. Possible values: No Ring, Immediate Ring, Delayed Ring1 and Delayed Ring2. 3. Select Tone Pitch. Possible values: 1~4 (default = 1)
Phantom DN Message Warning	<p>Enter Phantom DN No. Possible values: Any string up to 5 digits</p>
DSS Key	<p>Enter DSS Primary DN No. Possible values: Any string up to 5 digits</p>

CO Lines Sub-parameters

FIELD	DESCRIPTION
CO	<ol style="list-style-type: none"> 1. Select CO Line #. Possible values: 1~56 (CIX200), 1~64 (CIX100), 1~96 (CIX670 Basic, CIX1200 Basic), 1~264 (CIX670 Exp, CIX 1200 Exp A), 1~440 (CIX1200 Exp B), (default = no value) 2. Enter Owner DN. Possible values: Any string up to 5 digits 3. Select Ringing Assignment for Day1, Day2 and Night. Possible values: No Ring, Immediate Ring, Delayed Ring1 and Delayed Ring2. 4. Select Tone Pitch. Possible values: 1~4 (default = 1)

FIELD	DESCRIPTION
GCO	<ol style="list-style-type: none"> 1. Select GCO No. Possible values: 1~20 (CIX200, CIX670 Basic, CIX1200 Basic), 1~32 (CIX100), 1~128 (CIX670 Exp, CIX1200 Exp A), 1~220 (CIX1200 Exp B), (default = no value) 2. Select Index. Possible values: 1~128 (CIX200, CIX670), 1~32 (CIX100), 1~220 (CIX1200) (default = no value) 3. Enter Owner DN. Possible values: Any string up to 5 digits 4. Select Ringing Assignment for Day1, Day2 and Night. Possible values: No Ring, Immediate Ring, Delayed Ring1 and Delayed Ring2. 5. Select Tone Pitch. 1~4 (default = 1)
Pooled Line Key	<ol style="list-style-type: none"> 1. Select Pool Line No. Possible values: 1~32 (CIX100), 1~50 (CIX200, 670 Basic, 1200 Basic), 1~28 (CIX670 Exp, 1200 Exp A) 1~220 (CIX1200 Exp B) (default = no value) 2. Select Ringing Assignment for Day1, Day2 and Night. Possible values: No Ring, Immediate Ring, Delayed Ring1 and Delayed Ring2. 3. Select Tone Pitch. 1~4 (default = 1)

Door Lock Sub-parameters

FIELD	DESCRIPTION
Door Unlock	Select Door Lock No. Possible values: 1~10 (default = 1)

Station Flexible Button Assignments

Use the Record Sheets for 10-button and 20-button Telephones and Record Sheets for the DKT3014/3214 to plan your Station Flexible Button Assignments.



Timer

Program Number(s): 208

Prerequisite Program: 200 [page 5-1](#)

Assigns timing parameters to Primary DNs.

1. Complete the Station Data Record Sheets.
2. From the Program Menu click Advanced Configuration > Station > Assignment.
3. Click on the Timer tab.
4. Enter a DN in the Primary DN field or select an existing record by clicking one of the following buttons:
 - **List** – select from the list of programmed DKTs on the right side of the screen.
 - **Copy** – Enter a DN in the Primary DN field and click **Copy**. Enter a new DN to assign existing Station Timer settings.
5. Select the desired values. See descriptions below.
6. Click **Submit**

FIELD	DESCRIPTION
Prime DN	Enter the Prime DN. Possible values: Up to 5 digits (default = no value)
01 ABR Retry Count	Enter the number of retry attempts made by ABR when dialing a busy telephone number. Possible values: 5~20 (default = 15)
02 ABR Retry Interval Timer	Select the amount of time (in seconds) ABR waits between dialing attempts. Possible values: 30~180 (default = 60)
03 ABR Recall Timer	Select the number of seconds ABR will call back the station after receiving ring back tone from the dialed number. Possible values: 5~60 (default = 20)
04 Hold Recall Timer	Select the number of seconds before a held call recalls. Possible values: 0~255 (default = 60)
05 First Interdigit Timer	Enter the First Interdigit Timer in seconds. Possible values: 1~180 (default = 15)
06 Second Interdigit Timer	Enter the Second Interdigit Timer in seconds. Possible values: 1~180 (default = 5)
07 Ring Xfer No Answer Timer	Enter the Ring Xfer No Answer Timer in seconds. Possible values: 1~600 (default = 32)

Emergency Ringdown Assignment

Program Number(s): 216

Prerequisite Program: 200 [page 5-1](#)

Assigns Emergency Ring Down parameters to Primary DNs.

1. Complete the Station Data Record Sheets.
2. From the Program Menu click Advanced Configuration > Station > Assignment.
3. Click on the RingDown tab.
4. Enter a DN number in the Primary DN field or select an existing record by clicking one of the following buttons:
 - **List** – select from the list on the right side of the screen.
 - **Extended List** – view a detailed list of programmed DKTs.
 - **Copy** – Enter a DN in the Primary DN field and click **Copy**. Enter a new DN to assign existing Station Timer settings.
5. Select the desired values. See descriptions below.
6. Click **Submit**

FIELD	DESCRIPTION
01 Emergency Ringdown	Enable an Emergency Ringdown Number. Possible values: Enable or Disable (default = Disable)
02 Emergency Ringdown Timer	Enter the length of off-hook time that will cause a DN to originate an Emergency. Possible values: 0~60 (default = 0) Note For DKT, IP, and IPT stations, do not set the time to more than 30 seconds.
03 Destination	Enter the destination DN for the Emergency Ringdown. Possible values: Up to 5 digits (default = no value)

206 Phantom DN

Prerequisite Program: 200 [page 5-1](#)

This command assigns Phantom DN parameters.

1. Complete the Phantom DN Record Sheet.
2. From the Program Menu, click Advanced Configuration > Station > Phantom DN.
The Station Phantom DN screen displays.
3. Enter a Phantom DN number or click one of the following buttons:
 - **List** – view a summary list of programmed Phantom DNs.
 - **Copy** – Enter the Phantom DN to copy data from, then click **Copy** and designate a Phantom DN to copy the data to. Click **OK**.
 - Get Default - Sets all data to factory defaults.
4. Click **Submit**.

FIELD	DESCRIPTION
Phantom DN	Enter Phantom DN. Possible values: Up to 5 ASCII characters (default = no value)
01 Owner PDN	Set Phantom DN's Owner Station. Possible values: Up to 5 ASCII characters (default = no value)
02 Tone/Voice First	Choose Tone First or Voice First signaling. Possible values: Tone First (default) or Voice First
04 Display DN	Enter the number displayed on the calling telephone that rings this Phantom DN number. Possible values: Up to 5 ASCII characters (default = no value) This number is overridden by the number in Program 209, FB04 (if assigned) and if the Phantom DN is in a hunt group. When calling from this Phantom DN the number displayed on the called telephone appears in order of priority as follows: This number in Program 209, FB04 (if assigned) and if the PhDN is in a hunt group. ... or this number in Program 200, FB15 (if assigned). ... or the calling telephone's PDN.
05 System Call Forward	Select the System Call Forward value. Possible values: 0~4 (CIX100), 0~10 (CIX200, 670 Basic, 1200 Basic), 0~32 (CIX 670 Exp.), 0~48 (CIX1200 Exp), (default = 0)

FIELD	DESCRIPTION
06 VM ID Code	<p>Enter the voice mailbox number that should answer calls when this PhDN calls voice mail; or when this PhDN is called and then forwards to voice mail (this number is prefixed by codes in Program 579, FB11~FB16).</p> <p>Possible values: Digits 0~9, * and #, up to 10 characters (default = no value).</p> <p>This VMID code is sent to the voice mail device in SMDI packets or DTMF tones on direct calls to voice mail from the PhDN and on calls to the PhDN that forward to voice mail (see Program 580 for SMDI or DTMF choice).</p> <p>Note Do not enter a VMID code in this field if this PhDN is associated with a PDN in a multiple DN hunt group (Program 209, FB06).</p> <p>The associated PDN's VMID code (Program 200, FB19) will be sent to voice mail.</p>
09 Message Center	<p>Enter the Message Waiting Center DN, VM Pilot Number or lowest member of VM hunt group.</p> <p>Up to 7 ASCII characters (default = no value)</p>
10 User Name	<p>Enter the name that should be displayed on telephone LCDs for this PhDN.</p> <p>Possible values: Up to 8 ASCII characters (default = no value)</p>
11 Display Name	<p>Select radio button for user name to be included in the list display of Large LCD (Directory Assistance).</p> <p>Possible values: Enable or Disable (default = Disable)</p>

209 Hunt Group

Prerequisite Program: 200 [page 5-1](#)

This command assigns Station Hunting Group data.

1. Complete the Hunt Group Record Sheet.
2. From the Program Menu, click Advanced Configuration > Station > Hunt Group.
The Station Hunt Group displays.
3. Click on the Group tab.
4. Enter a Group Number for an existing record or click one of the following buttons:
 - **Create** – Assign a new Hunt Group with custom settings.
 - **Get Default** - Sets all data to factory defaults.
5. Click **Submit**.

FIELD	DESCRIPTION
Group Number	Hunt Group Number Possible values: 1~90 (CTX28, CIX40 CTX100), 1~200 (CTX670 Basic & CIX200), 1~640 (CTX670 Exp) 1~200 (CTX1200 Basic HCTU only), 1~1100 (CTX670 Exp HEXAU or HEXBU) (default = no value)
01 Hunt Method	Select Hunt Method Possible values: Distributed (for voice mail and UCD hunt groups - MAS Voice Mail Ports connected to a GIPx, MIPU, LIPU or LIPS interface that should be set as IP Voice Mail, or Circular (for Multiple DN hunt groups) (default)
02 Pilot Number	Enter Pilot Directory Number. This is the number that is dialed to call the hunt group. Possible values: Up to 5 ASCII characters (default = no value) any type of hunt group can have a pilot number. Note Any type of hunt group can have a pilot number. Distributed hunt groups must have a pilot number. Voice mail hunt groups should be distributed with a Pilot Number. Multiple DN hunt groups should be circular with no Pilot Number.
04 Number to Display	Enter the number that is displayed when called by, or when calling any member of the hunt group. Possible values: Up to 5 ASCII characters (default = no value) Note This number should be the DH Group Pilot number for Voice Mail hunt groups. This number could be the PDN of a Multiple DN hunt group, in which case the number would override the number assigned in Program 200, FB15 for PDNs and Program 206, FB04 for Phantom DN's.
05 Pilot No. SCFwd	Allows you to assign a system call forward pattern to the Pilot Number of a hunt group. Possible values: 0~4 (CIX/CTX100 & CTX28 & CIX40), 0~10 (CIX/CTX670 & CIX200 Basic), 0~32 (CIX/CTX670 Exp), 0~10 (CIX200 Basic HCTU only), 0~48 (CIX1200 Exp. HEXAU or HEXBU) (default = 0)

FIELD	DESCRIPTION
06 Multiple DN Hunt	<p>Enable if hunt group is created for multiple DN operation. Multiple DN hunt groups should be circular with no pilot number. Set to disable for UCD group.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
07 DHG Auto Camp-on	<p>Whether to execute Automatic Camp On to the distributed hunt group or not.</p> <p>Possible values: Enable or Disable (default = Disable)</p> <p>Should be applied to VM Distributed hunt groups so callers automatically camp on to voice mail when all VM ports are busy. Does not apply to circular or serial hunt groups.</p> <p>Set to Enable for UCD group</p>
08 UCD Enable/Disable	<p>To turn on or off the Universal Call Distribution feature.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
09 UCD MOH Source	<p>Select which MOH interface will be connected to the music source of the Universal Call Distribution. This source will be played to calls in the UCD Queue.</p> <p>Possible values: No MOH Source, BIOU-1-J1~J3, processor MOH Jack, BIOU-2-J1~J3, XSTU-1~8</p> <p>Note Maximum 128 calls in queue at one time.</p> <p>The number of calls waiting in the queue times the number of agents in the system must be less than 128. For example, two UCD groups - group #1 has 10 agents and group #2 has 15 agents. Group #1 can have only 3 calls queued (10x3 = 30) when group #2 already has 6 calls in the queue (15x6 = 90). A total of 120.</p>
10 UCD Overflow Timer	<p>Select the amount of time that UCD calls should remain in the UCD Queue before they overflow.</p> <p>Possible values: 1 to 3600 seconds in 1 second intervals (default = 300 seconds)</p> <p>Note The overflow destination is the destination assigned to the UCD Pilot System Call Forward-No Answer Timer.</p>
11 UCD RBT Timer	<p>If no UCD agents are available when a call is routed to the UCD group the caller will hear Ring Back Tone (RBT) for the length of time set for this timer. After this time expires the caller will be routed from RBT to the UCD MOH interface.</p> <p>Possible values: 0~30</p> <p>Default = 10</p>

Station

218 Station Hunt Assignments

Prerequisite Program: 209 [page 5-28](#)

This program assigns station DNs to hunt groups using Program 209 and assigns the rotation order in which DNs are hunted.

1. Complete the Hunt Group Record Sheet.
2. From the Program Menu, click Advanced Configuration > Station > Hunt Group.
The Station Hunt Group Assignment screen displays.
3. Click on the Member tab.
4. Enter a Member Number for an existing record or click one of the following buttons:
 - **List** –Select from the list of programmed hunt groups on the right side of the screen.
 - **Add** – Assign a new station DN to the hunt group number entered above.
 - **Append** – Assign a new DN as the last DN in a hunt group’s hunt order.
 - **Modify** – Highlight an existing DN in the hunt order and change the station DN assignment.
 - **Delete** – Delete station DN assignment to Hunt Order number.
 - Get Default - Sets all data to factory defaults.
5. Click **Submit**.

FIELD	DESCRIPTION
Hunt Group Number	<p>Enter an existing hunt group number or use the List, Add, Append, Modify, or Delete buttons as described above.</p> <p>Possible values:0~18 (CTX28), 0~32 (CIX40), 0~90 (CIX/CTX100), 0~200 (CIX/CTX670 & CIX200 Basic), 0~640 (CIX/CTX670 Exp), 0~200 (CIX1200 Basic HCTU only),</p> <p>Possible values:0~1100 (CIX1200 Exp. HEXAU or HEXBU) (default = no value)</p>
01 Hunt Order	<p>This field assigns a station DN position within a hunt group’s hunt order. The hunt order is selected automatically by Strata eManager. Programmers should assign the last station in the hunt order first and assign the first station in the hunt order last.</p> <p>Possible values:1~72 (CIX100), 1~160 (CIX200, CIX670/1200 Basic), 1~560 (CIX670 Exp, CIX1200 Exp A), 1~1100 (CIX1200 Exp B) (default = no value)</p>
02 DN	<p>By selecting the Insert button you can add a new DN to the hunt group’s hunt order. Enter the desired DN in the pop-up dialog box.</p> <p>To modify an existing entry use the Modify button as described above.</p> <p>Possible values:Up to 5 ASCII characters (default = no value)</p>
03 DN Set Type	<p>Modify (replace) an existing assignment.</p> <p>Possible values:Modify (default) or Insert</p>

Hunt Group Table View

Hunt Group Table View enables you to view all hunt groups and its members.

To access the Hunt Group Table View

Select Advanced Configuration > Station > Hunt Group Table View.

See [Table Views](#) in Chapter 2 for table functionality.

Note This table has more functions in addition to the regular functionality found in other table views.

The Navigation Bar has the following additional buttons:

- **Delete** – Click on a row to delete any directory number from a Hunt Group then click the **Delete** button. When the Delete button is active the Add button and the Delete Group button will not be active. To unselect a row that is selected (in yellow), click the row again.
- **Add** – To add directory numbers to a hunt group select the Hunt Group in the table view from the Navigation drop down in the Navigation bar, then click the **Add** button.

If no rows are selected, the **Add** button is active. Click the **Add** button to add members to Hunt Groups. When you click the **Add** button the Add dialog box displays.

Select the DN from the Available Directory Numbers box, then click the **Arrow** button in the center. This moves the DN to Hunt Group box on the left. Click **Add Now** to Save the entry or **Cancel** to cancel. Clicking **Add Now** automatically refreshes the table view.

In the dialog box, if you want 6200 to appear before 5200, click 6200 on the right, then click 5200 on the left and then click the arrow in the center.

- **Select All** and **Unselect All** – Clicking these buttons selects or unselects all groups in a table.

Paging Group

502 Terminal Paging Group Assignment

Prerequisite Program: 200 [page 5-1](#)

Assigns Primary DN(s) to Paging Group(s).

1. From the Program Menu click Advanced Configuration > Station > Page Group.
2. Enter a DN in the Primary DN field or select an existing record by clicking one of the following buttons:
 - **List** – select from a summary list of programmed DKTs on the right side of the screen.
 - **Copy** – Enter a DN in the Primary DN field and click **Copy**. Enter a new DN(s) to assign existing Paging Group settings.
3. Select the desired values. See descriptions below.
4. Click **Submit**.

FIELD	DESCRIPTION
00 Primary DN	<p>Enter the Prime DN of the station to be assigned to paging groups. A station may belong to more than one paging group.</p> <p>Note You can have up to 72 stations in a paging group in the CIX100 and up to 120 stations in a paging group in the CIX200, CIX670 & CIX1200.</p> <p>Page Group capacity:</p> <ul style="list-style-type: none"> • CIX100, CIX40 & CTX28, 4 Page Groups • CIX670 Basic & CIX200, 8 Page Groups • CIX670 Expanded, 16 Page Groups • CIX1200 Basic, 8 Page Groups (HCTU only) • CIX1200 Expanded, 24 Page Groups (HEXAU or HEXBU) <p>Possible values: Up to 5 ASCII characters (default = no value))</p>
01~16 (CIX40, 100, 670)	<p>Check to assign the DN to this paging group.</p> <p>Page Group capacity:</p> <ul style="list-style-type: none"> • CIX100, CIX40 & CTX28, 4 Page Groups • CIX670 Basic & CIX200, 8 Page Groups • CIX670 Expanded, 16 Page Groups • CIX1200 Basic, 8 Page Groups (HCTU only) • CIX1200 Expanded, 24 Page Groups (HEXAU or HEXBU)
19-26 for PG17~24 (CIX1200 only)	<p>Note Note: You can have up to 72 stations in a paging group in the Strata CIX100 and up to 120 stations in a paging group in the Strata CIX 200/670/1200.</p> <p>Possible values: On or Off (default).</p>

FIELD	DESCRIPTION
17 All Page Group	<p>Check to assign the DN to this paging group.</p> <p>Page Group capacity:</p> <ul style="list-style-type: none"> • CIX100, CIX40 & CTX28, 4 Page Groups • CIX670 Basic & CIX200, 8 Page Groups • CIX670 Expanded, 16 Page Groups • CIX1200 Basic, 8 Page Groups (HCTU only) • CIX1200 Expanded, 24 Page Groups (HEXAU or HEXBU) <p>Note Note: You can have up to 72 stations in a paging group in the Strata CIX100 and up to 120 stations in a paging group in the Strata CIX 200/670/1200.</p> <p>Possible values: On or Off (default)</p>
18 All Emergency Page Group	<p>Check to assign the DN to the All Emergency Page Group.</p> <p>Page Group capacity:</p> <p>CIX100, CIX40 & CTX28, 4 Page Groups</p> <p>CIX670 Basic & CIX200, 8 Page Groups</p> <p>CIX670 Expanded, 16 Page Groups</p> <p>CIX1200 Basic, 8 Page Groups (HCTU only)</p> <p>CIX1200 Expanded, 24 Page Groups (HEXAU or HEXBU)</p> <p>Note You can have up to 72 stations in a paging group in the Strata CIX100 and up to 120 stations in a paging group in the Strata CIX 200/670/1200.</p> <p>Possible values: On or Off (default)</p>
19 Page Group 17~24	<p>Check to assign the DN to this paging group.</p> <p>Page Group capacity:</p> <p>CIX100, CIX40 & CTX28, 4 Page Groups</p> <p>CIX670 Basic & CIX200, 8 Page Groups</p> <p>CIX670 Expanded, 16 Page Groups</p> <p>CIX1200 Basic, 8 Page Groups (HCTU only)</p> <p>CIX1200 Expanded, 24 Page Groups (HEXAU or HEXBU)</p> <p>Note You can have up to 72 stations in a paging group in the Strata CIX100 and up to 120 stations in a paging group in the Strata CIX 200/670/1200.</p> <p>Possible values: On or Off (default)</p>



Paging Group Table View

Paging Group Table View enables you to view all paging groups and its members.

To access the Paging Group Table View

Select Advanced Configuration > Station > Paging Group Table View.

See [Table Views](#) in Chapter 2 for table functionality.

For functionality on Delete, Add, Select All and Unselect All, refer to "Hunt Group Table View" on [page 5-31](#)

Note The **Add** button works a little different on this table. When you click **Add**, the Add dialog box displays. Select the entry by clicking on it and then click the **Add Now** button.

210 Pickup Group

Prerequisite Program: 200 [page 5-1](#)

The Call Pickup Group assignments specify which group numbers this station will participate in when either the Group Call Pickup or the Group Directed Call Pickup features are invoked. A user may be assigned to more than one group.

FIELD	DESCRIPTION
01~48	<p>Click in the radio button to Indicate which Call Pickup Group(s) this station is to participate in. A station can be assigned to more than one group.</p> <p>Possible values:check = On; or unchecked = Off (default)</p> <p>Note 01~05 CIX40/100 and CTX28, 01~10 CIX200/670/1200 Basic, 01~32 CIX670 Expanded, 01~48 CIX1200 Expanded.</p>

Pickup Group Table View

Pickup Group Table View enables you to view all Pickup groups and members.

To access the Paging Group Table View

Select Advanced Configuration > Station > Pickup Group Table View.

See [Table Views](#) in Chapter 2 for table functionality.

For functionality on Delete, Add, Select All and Unselect All, refer to "Hunt Group Table View" on [page 5-31](#).

Note The **Add** button works a little different on this table. When you click **Add**, the Add dialog box displays. Select the entry by clicking on it and then click the **Add Now** button.

Multiple Call Group

To set up Multiple Call/Delayed Ringing you must have a Multiple Call (MC) Group set in Program 517. You can register up to 25 calling members for every MC Group in Program 518. You can set each member to be Immediate, Delayed Ring 1, or Delayed Ring 2. The Delayed Ring times are independently adjustable (1~180 seconds) for each Multiple Call Group Member.

Important! Immediate Destinations can only be PDNs (Digital and/or Standard Telephones) and PhDNs. See Member Requirements below.

Delay Destinations can be PDNs of standard telephone circuits only and Voice Mail Hunt Group Pilot Numbers (not Multiple DN Hunt Groups).

Incoming Call to Multiple Call (MC) Group

The following can occur when calling members are set as Immediate, Delayed Ring 1, or Delayed Ring 2.

- If the members of an MC Group are assigned Immediate ring, the call is received at all destinations immediately. In this case, each destination LCD displays the same incoming call information.
- If the MC Group destination (member) is assigned to Delayed Ring 1 or Delayed Ring 2, each destination will start to ring when the delay time runs out. During the delay time the member PDN or PhDN button will flash red but not ring.

Important! Delay Destinations can be PDNs of standard telephone circuits only and Voice Mail Hunt Group Pilot Numbers (not Multiple DN Hunt Groups).

- If some MC Group destinations are busy, incoming calls ring only idle destinations. However, if the camp-on feature is in effect incoming calls will camp-on to busy destinations.
- Members can be assigned to multiple MC Groups.

MCPN Owner Privileges

When you assign members to an MC group the member assigned to Index 1 in Program 518 is considered the owner of the group. The owner of the group is the only member entitled to the following privileges:

- The owner is the only member in the group that can receive Automatic Call Back calls and Message Waiting Indications.
- The ringing option for the owner is always set to Immediate ring.
- The owner can be a PhDN or PDN.

Member Requirements

The table below has details for members that can and cannot be in a group.

Members that can be in a Group	Members that cannot be in a Group
PDNs	Pilot DNs - ACD, MCP
PhDNs	CO Line Access Codes
Station Hunt Group Pilot DNs	Attendant Consoles and BATI or DKTs assigned to the Attendant in programming.

Important!

- Immediate Destinations can only be PDNs (Digital and/or Standard Telephones) and PhDNs.
- Delay Destinations can be PDNs of standard telephone circuits only and Voice Mail Hunt Group Pilot Numbers (not Multiple DN Hunt Groups).
- Attendant Consoles cannot be members of multiple call groups and cannot overflow to MC groups. Assigning Attendant Consoles to MC groups will cause Attendant Consoles to malfunction. Do not set Attendant Consoles to overflow to MC groups.

Call Forward Activation

System and Station Call Forward can be set up for each Multiple Calling (MC) Group. The Call Forward Remote Access Code is used to activate or de-activate Station Call Forward of MC Group. System Call Forward is activated/deactivated using Strata eManager. The MC Group can also be set as the destination of System or Station Call Forward.

517 Multiple Calling Group Assignment

Multiple Call/Delayed Ringing which enables you to delay ring to voice mail and auto attendants.

1. From the Program Menu, click Advanced Configuration > Station > Multiple Calling Group.
2. Click **Create**. A dialog box displays.
3. Enter a calling group index in the dialog box.

The calling group index can be 1~16 (CIX100), 1~32 (CIX200, CIX670 Basic), 1~64 (CIX670 Expanded) 1~32 (CIX1200 Basic), 1-96 (CIX1200 Expanded)

4. Click **OK**. Parameter 01 MC Group Pilot Number gets highlighted.
5. Enter the DN of the MC group. This number should not conflict with an existing telephone number.
6. Verify and change other parameters.
7. Click **Submit**. The group index displays on the left of the program name.

FIELD	DESCRIPTION
Multiple Call Group Number	Select a group number. Possible values: 1~16 CTX28, 1~16 CIX40, 1~16 CTX/CIX/100, 1~32 CIX200, 1~32 CTX/CIX 670 BCTU only or BBCU only, 1~64 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~32 CIX1200 HCTU only, 1~96 CIX1200 HCTU + HEXAU, 1~96 CIX1200 HCTU + HEXBU
01 MC Group Pilot Number	Enter the pilot directory number that should be assigned to the Multiple Call Group. This can be any number, 1~5 digits, that does not conflict with numbers in the current system number plan. Possible values: 1~5 digits (default = no data)
02 Ring Delay 1 Timer	Set the timer in seconds. Possible values: 1~180 (default = 12)
03 Ring Delay 2 Timer	Set the timer in seconds. Possible values: 1~180 (default = 24)
04 System Call Forward	Assign a system call forward template number to the multiple calling group. Possible values: 0~4 CIX/CTX100 & CTX28 & CIX40, 0~10 CIX/CTX670 & CIX200 Basic, 0~32 CIX/CTX670 Exp., 0~10 CIX200 Basic HCTU only, 0~48 CIX1200 Exp. HEXAU or HEXBU (default = 0)
05 Voice Mail ID	Enter the VM call forward ID digits for the multiple calling group. Possible values: Up to 10 digits (default = no data).

518 Multiple Calling Members Assignment

Prerequisite Program: 517

Use this program to assign members to a group.

1. From the Program Menu, click Advanced Configuration > Station > Multiple Calling Group.
2. Click the Member tab.
3. Select the Index Number, then enter the Member DN.

Important! Immediate Destinations can only be PDNs (Digital and/or Standard Telephones) and PhDNs.

Delay Destinations can be PDNs of Standard Telephone circuits only and Voice Mail Hunt Group Pilot Numbers (not Multiple DN Hunt Groups).

Note Each group can have up to 25 members. You can have up to 64 groups.

4. Submit is greyed out because the members are automatically submitted as they get added.

Note The buttons on this screen are dynamic. When you select an empty index number the **Add** button displays. When you select an existing index number the **Modify** and **Remove** buttons display. Modify enables you to edit, while Remove deletes the multiple ringing group index number.

FIELD	DESCRIPTION
Multiple Call Group Number	Multiple Call Group Number CIX100, enter 1~16. CIX200, CIX670 Basic enter 1~32. CIX670 Exp enter 1~64, CIX1200 Basic, enter 1~32, CIX1200 Exp enter 1~96
01 MC Group Member Index	Select an index to add a new PDN, PhDN or hunt pilot to this MC Group. Select an existing MC Group Member DN to Modify or Delete the member.
02 Member Type	Select Dialing Digits for all Member DNs. Possible values: No Data or Dialing Digits (default = No Data)
03 Member DN	Select an index to add a new member to this MC Group; or select an existing Member DN to Modify or Delete the member. To add a Member DN, enter a PDN, PhDN, or Hunt Group Pilot number that exists in the system, then select which ringing option should be assigned to the member (Member DNs can be in multiple MC Groups). Possible values: Up to 32 digits (default = No Data)
04 Ringing Options	Select: Immediate, Delay 1 or Delay 2 ring. Note <ul style="list-style-type: none"> • Immediate ring assignments will continue to ring when Delay 1 & 2 ring assignments ring. • Delay 1 ring assignments will continue to ring when Delay 2 ring assignments ring. • Delay ring PDN and PhDN buttons will flash red and not ring immediately after the MC Group is called; they will ring and flash green when their delay ring timers expire.

Station

516 Station Speed Dial

Prerequisite Program: 200 [page 5-1](#)

Up to 100 pre-programmed speed dial numbers (up to 32 digits each) can be assigned to each station. speed dial numbers are stored in “bins” and each station accesses the speed dial numbers by entering the speed dial bin number from their respective stations. The following advanced speed dialing features are available in Strata CIX.

- Speed Dial Bin Linking – Whenever a speed dial number exceeds the 32-digit speed dial bin memory limitation the digits exceeding the 32 digit limitation are automatically stored into the adjacent speed dial bin. The entire string is activated by using the primary speed dial bin number.

Note Bin-linking is automatic. Any previously programmed data in the “adjacent speed dial bin” as described above is overwritten. Furthermore, if a number exceeding the maximum allowable dial digit length is overwritten with a new number which complies to the 32-digit restriction, the excess digits recorded in the next bin (from the previous entry) is treated as a unique speed dial record.

- Speed Dial Number Nesting – A speed dial number can be nested into another speed dial number. For example, if an international dialing prefix is used often, program the prefix in any speed dial bin. Then in another speed dial bin program the first bin number + the number to dial. When the second speed dial bin is activated, Strata CIX first retrieves and dials the international dialing prefix from the first bin location, then adds the numbers to dial.

1. From the Program Menu, click Advanced Configuration > Station > Speed Dial. The Station Speed Dial screen displays.
2. Enter Program 516 data.
3. Click **Submit**.

FIELD	DESCRIPTION
Primary DN	Select the PDN assigned the speed dial number.
01 Speed Dial Bin	<p>Enter the station speed dial bin number. A station can have up to 100 speed dial bins.</p> <p>Possible values:00~99 (default = no value)</p> <p>Note Adding bin numbers here will automatically increment the number of speed dial bins available to the station in increments of 10 speed dial bins. The number of speed dial bins available to the station can also be assigned and displayed in Prog 200, 35 - Station SpDial Bins. Example: If bin number 50 is entered here, 50 speed dial bins will automatically be assigned to the station and will also be displayed in Prog 200, 35.</p>

FIELD	DESCRIPTION
02 Number	<p>This is the dialable number stored in the speed dial bin.</p> <p>Possible values: Up to 32 digits, 0~9, *, # and Pauses (default = no value)</p> <p>To enter pauses enter Px, where x equals 0~9 (seconds), which is the length of the pause, 0=10 seconds.</p> <p>Note</p> <ul style="list-style-type: none"> • If the number being entered exceeds the 32 digits, the next speed dial location will automatically be appended to create longer numbers. • Also another speed dial bin can be nested within another bin for dialing common numbers. If speed dial bin 100 has long distance access digits 1010321, these digits can be nested in to other speed dial bins by using *100 as the first digits of the other bins. Example: Putting *10017145563425 into speed dial bin 150 would cause SD150 to dial the access digits plus the number 10132117145563425. • If you are programming from the telephone, the digits * and # have a special meaning when programming speed dial numbers. The # digit indicates the end of entry and * is an escape character. To dial the digits * or # as part of the number; enter ** or *#. To enter pauses enter *0~*9. The second digit represents the number of seconds for the pause function.
03 Name	<p>Enter the LCD Name that displays on LCD dial directories.</p> <p>Possible values: Up to 8 characters (default = no value)</p>

Station Speed Dial Table View

Station Speed Dial Table View shows the entire set up for all speed dial numbers.

To access the System Speed Dial Table View

Select Advanced Configuration > System > System Speed Dial Table View.

See Table Views on page 2-56 for table functionality.

PDN Table View

This screen shows the entire list of available PDNs.

To access the Station Speed PDN Table View

Select Advanced Configuration > Station > PDN Table View.

Note See Table Views on page 2-57 for table functionality.

ISDN

The following programs assign ISDN data to stations.

Program Number(s): 202 and 217

202 ISDN BRI Station

Prerequisite Program: 100 [page 4-1](#)

This command assigns ISDN BRI stations.

1. Complete the ISDN Station Data Record Sheet. From the Program Menu, click Advanced Configuration > Station > ISDN > Basic.
The ISDN Basic Station Assignment screen displays.
2. Enter a Primary DN for an existing record or click one of the following buttons:
 - **List** – view a summary list of programmed DNs.
 - **Create** – Assign a new Primary DN with custom BRI Station settings.
 - **Copy** – Enter a DN in the Primary DN field and click **Copy** to make a new DN assignment with BRI Station settings copied from the DN entered in the Primary DN field.
 - **Delete** – Enter an ISDN Primary DN to delete and click **OK**.
 - **Change DN** – Enter a DN in the Primary DN field and click **Change DN** to assign a new DN to the ISDN BRI Station.
3. Set up ISDN BRI Station using the Program Detail table below.
4. Click **Submit**.

FIELD	DESCRIPTION
Primary DN	Enter the PDN. When a required DN is not programmed, the DN is regarded as a new station. The system assigns default data as defined in 217 ISDN Station Data . Possible values: Up to 5 digits (default = no value)
01 PDN Equipment No.	Enter the BRI equipment number assigned to this PDN. This is the cabinet, slot, and circuit number of the RBUU/RBUS or RBSU/RBSS interface PCB to which the PDN is or should be, assigned. Enter data as xxyzz: Example: If the PDN should be assigned to a BDKU in cabinet 5, slot 2, circuit 3, enter 050203. Cabinet numbers: CIX100: Select 01 for Base and Exp cabinet. CIX200: Select 01 for Base and 02 for Exp cabinet. CIX670: Select 01 for Base and 02~07 for each Exp cabinet. CIX1200: Select 01 for Base and 02~12 for each Exp cabinet Slot numbers: CIX100: Select 01~04 for Base slots and 05~08 for Exp slots. CIX200: Select 01 ~ 04 for either cabinet. CIX670: Select 01~08 for Base slots and 01~10 for Exp slots. CIX1200: Select 01~08 for Base slots and 01~10 for Exp slots
02 ISDN Channel Group	Enter the ISDN Channel Group number. Possible values: 1~32 (CIX100), 1~48 (CIX200, CIX670 Basic) 1~128 (CIX670 Exp), 1~48 (CIX1200 Basic), 1~128 (CIX1200 Exp A), 1~220 (CIX1200 Exp B) (default = 1)

FIELD	DESCRIPTION
03 ISDN Protocol	Select the ISDN protocol. Only Bearer capabilities specified by the protocol can be entered in this field. The Initial value for ISDN Protocol corresponds to information set in the hardware level. Possible values: Nat'l ISDN (default), ETSI, TTC or Nat'l ISDN Nortel Note National ISDN = North America, ETSI = England and TTC = Japan.
04 Type Connection	Select Point to Point or Point to Multi-point connection type. Possible values: Point to Point (default) or Point to Multi-point
05 BRI Station COS • Day1 COS • Day2 COS • Night COS	Select the BRI Station Class of Service assignments. Possible values: 1~32 (default = 1)
06 BRI Station DRL • Day1 DRL • Day2 DRL • Night DRL	Select the BRI Station Destination Restriction Level assignments. Possible values: 1~16 (default = 1)
07 BRI Station FRL • Day1 FRL • Day2 FRL • Night FRL	Select the BRI Station Facilities Restriction Level assignments. Possible values: 1~16 (default = 1)
08 LCR Group	Select the Least Cost Routing Group number to which this BRI Station belongs. Possible values: 1~16 (default = 1)
09 BRI Station QPL • Day1 QPL • Day2 QPL • Night QPL	Select the BRI Station QPL assignments. Possible values: 1~16 (default = 1)
10 Speech Capability	Bearer Capability Speech See Table 5-7 on page 44 . Possible values: Enable or Disable (default = Enable)
11 3.1 KHz Audio	Bearer Capability 3.1kHzAudio See Table 5-7 on page 44 . Possible values: Enable or Disable (default = Enable)
12 7 KHz Audio	Bearer Capability 7kHzAudio. See Table 5-7 on page 44 . Possible values: Enable or Disable (default = Disable)
13 64Kbps Unrestricted	Bearer Capability unrestricted digital information 64kbps. See Table 5-7 on page 44 . Possible values: Enable or Disable (default = Enable)
14 56Kbps Unrestricted	Bearer Capability unrestricted digital information 56kbps
15 2 x 64Kbps Unrestricted	Bearer Capability unrestricted digital information 2x64kbps

FIELD	DESCRIPTION
16 B Channel Selection	Select originating B Channel method. Possible values: <ul style="list-style-type: none"> • Exclusive – (default) Channel is indicated and no alternative is acceptable. • Preferred – Channel is indicated and any alternative is acceptable. • Any Channel – Channel is indicated and any channel is acceptable.
17 Idle B Channel Selection	Choose Idle B Channel selection method. Possible values: Forward Cyclic, Backward Cyclic, Forward Terminal or Backward Terminal (default) <ul style="list-style-type: none"> • Select Forward Cyclic (from lowest to highest number of B-channel). • Select Backward Cyclic (from highest to lowest number of B-channel). • Select Forward Terminal for the lowest number B-channel (The Low-Low B-channel selection). • Select Backward Terminal for the highest number B-channel. (The High-High B-channel selection)
18 Interdigit Timer 1	Select the Interdigit timer value to time-out during dial tone. Possible values: 1~180 (default = 15)
19 Interdigit Timer 2	Interdigit timer value to time-out after the first digit is dialed. Possible values: 1~180 (default = 5)
20 CESID	Enter the CESID value for 911 calls. Possible values: Up to 16 ASCII characters (default = no value)
21 Number Voice Calls Allowed	Select the Number of Voice Calls Allowed. If a selection is not made, previously written data in this field is erased. Possible values: One or Two (default) Note If One is selected the other channel is reserved for Data.
22 Service Tone Permission	Enable Service Tone Permission. Select Disable for modems and faxes. Possible values: Enable or Disable (default = Disable)
23 TGAC Override	Enable TGAC Override. Possible values: Enable or Disable (default = Disable)
24 Change System Speed	Enable System Speed Dial changing permission. Possible values: Enable or Disable (default = Disable)
25 Network COS	Enter the Network COS value. If a selection is not made, previously written data in this field is erased. Possible values: 1~32 (default = 1)
26 DN2~32 DN8	Add a DN to this BRI Station. When a DN is entered into one of the seven available fields, default data as defined in 217 ISDN Station Data is applied to the DNs. If a selection is not made, any previously written data in this field is erased. Possible values: Up to 5 ASCII characters (default = no value)

FIELD	DESCRIPTION
33 Auto OCA	<p>Enable OCA to occur automatically when making a call to a busy station that allows calls to be received.</p> <p>Possible values: Enable or Disable (default = Enable)</p>
34 Originate OCA	<p>Enable this station to make OCA calls to other stations.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
35 Station SpDial Bins	<p>The number of station speed dial bins allocated to this station.</p> <p>Possible values: maximum=100</p>
36 Call Forward Dial Tone	<p>When the handset is picked up the user will hear stutter dial tone if a call forward is enabled</p> <p>Possible values: Enable or Disable (default = Disable)</p>
37 Dialing Digit Restriction	<p>After the ISDN extension has made a call it can be prevented from dialing any subsequent digits.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
38 MW/DND	<p>Enable: When this station goes off hook, the station will receive stuttered dial tone when it has a message waiting indication, and the station will receive a busy tone burst before dial tone when in the DND mode.</p> <p>Disable: This station will receive normal dial tone when it has a message waiting or when it is in the DND mode.</p> <p>Possible values: Enable or Disable (default = Enable)</p>
39 Tenant Number	<p>Enter the Tenant number to which this PDN should be assigned.</p> <p>Possible values: 1 ~ 8 (default = 1)</p>
40 Auto-Campon to PDN	<p>This feature allows automatic camp-on to a PDN even when it is busy and called by a CO line. If automatic camp-on to PDN is enabled, a call to a PDN can camp-on even if the CO line group has auto camp-on disabled in Prog 304-17.</p> <p>Possible values: Enable: Allow auto camp-on to PDN or Disable: No auto camp-on to PDN</p>
41 LCR PDN Code	<p>Enter the number of digits that determine when to send the LCR PDN code. The PDN code is registered in the LCR Modified Digits table.</p> <p>Possible values: Three Digits or Four Digits (default = Three Digits)</p>
42 Network Calling Number	<p>Enter the CLID telephone number that should be sent for this station when making external calls through the Strata Net ISDN network (32 digits max.). When this station makes outgoing calls through the Strata Net network, this number will be sent over the Strata Net network to the terminating PSTN connected to the far-end node (providing this is allowed by the PSTN). This number will be displayed as the Caller ID number at the terminating external telephone. This number is not sent to local PSTNs connected to the node from which the call is originated, nor is it sent when making conventional Tie line calls that terminate on a PSTN at a far-end node.</p> <p>Possible values: Up to 32 digits (default = no data)</p>

Table 5-7 BRI Bearer Capability of ISDN

Bearer Services		Belcore Nat'l ISDN	ETSI	TTC	
Circuit Mode	Speech	X	X	X	
	3.1kHz Audio	X	X	X	
	7kHz Audio		X	X	
	Unrestricted Digital Information	64 kbps	X	X	X
		Rate adaptation from 56 kbps	X		
		2x64		X	X

217 ISDN Station Data

Prerequisite Program: 202 [page 5-40](#)

Set ISDN Station parameters to define ISDN capabilities.

1. Complete the ISDN Station Data Record Sheet.
2. From the Program Menu, click Advanced Configuration > Station > ISDN > Station Data. The ISDN Individual Station Data Assignment screen displays.
3. Enter a Primary DN for an existing record or click one of the following buttons:
 - **List** – view a summary list of programmed Hunt Groups.
 - **Copy** – Enter a DN in the Primary DN field and click **Copy** to make a new DN assignment with BRI Station settings copied from the DN entered in the Primary DN field.
4. Set up ISDN Station Data using the Program Detail table below.
5. Click **Submit**.

FIELD	DESCRIPTION
Primary DN	Enter Primary DN. Possible values:Up to 5 digits (default = no value)
01 Station Name	Enter the name that should be displayed on telephone LCDs for this PDN. (Max. 8 characters with R1.0~R2.20; Max.16 characters with R2.21 and above. Possible values:Up to 9 ASCII characters (default = no value)
02 Dial Method	Select the audible tone when dialing. Possible values:Dial Tone (default), Entry Tone or No Tone
03 System Call Forward	Select the System Call Forward assignment for this station. Possible values:0~4 (CIX100), 0~10 (CIX200, CIX670/1200 Basic), 0~32 (CIX670 Exp), 0~48 (CIX1200 Exp) (default = 0)
04 CF Password	Protect the System Call Forward settings by creating a password. Possible values:Up to 4 digits (default = no value)
05 Door Phone Override DND	Enable the Door Phone ringing indicator to override Do Not Disturb. Possible values:Enable or Disable (default = Disable)

FIELD	DESCRIPTION
06 Emerg Call Group	<p>Select this station's emergency call group. Possible values: 1~8 (default = 1)</p>
07 COS Override Code	<p>Enable Class of Service Override. Possible values: Enable or Disable (default = Disable)</p>
08 Display DN	<p>Enter the DN to be displayed on the LCD. Possible values: Up to 5 digits (default = no value)</p>
09 VMID Code SMDI	<p>Enter the voice mailbox number that should answer calls when this PDN calls voice mail, or when this PDN is called and then forwards to voice mail (this number is prefixed by codes in Prog 579, 11~16). Possible values: Digits 0~9, * and #, up to 10 characters (default = no value). Note This VMID code is sent to the voice mail device in SMDI packets or DTMF tones on direct and forwarded calls to the PDN. See Prog 580 for SMDI or DTMF choice.</p>
12 Name Display	<p>Whether to put the user name in the list display. Possible values: Enable or Disable (default = Disable)</p>
13 CPN Presentation to SBus	<p>Determine what is sent to an SBus extension from an incoming ISDN trunk Possible values: DN, CPN or DN AND CPN (default = DN)</p>

Setup Wizards

There are three station setup wizards—PDN Range, Multiple DN, and VMID Range. Each of them are described below.

PDN Range Setup Wizard

This wizard is a programming time saver that reduces the time it takes to create or change Primary Directory Numbers (PDN) and assign them to phones. The wizard guides the user to create a range of desired PDNs to be assigned to a range of available station ports.

1. Select Advanced Configuration > Station > Setup Wizard > PDN Range.
Review the instructions that display on the Wizard screen.
2. Click **Start**. The Primary DN Setup Wizard screen displays.
3. Select the appropriate radio buttons and enter the data in the other fields.
 - Range of associated PDN equipment.
 - Selection to overwrite the existing PDNs.
4. (Optional) Click **Number Plan** button to access Numbering Plan page.
5. (Optional) Click **PDN Table View** button to view existing PDN Table.
6. Press **Start** to create PDNs.

The screen containing the PDN assignments displays.

Note The first available equipment number (card slot/circuit) is automatically used to create the first PDN, etc.

Multiple DN Assignment Wizard

Important!

- To avoid conflicts on new installations you should use this wizard immediately after establishing and assigning Primary DNs on telephones, especially before you program key strips or hunt groups.
- The wizard can be used to assign Multiple DNs to new stations when adding new station cards.

This wizard substantially reduces CIX installation time when you need multiple DN buttons on telephones. Multiple DNs are required in most CIX installations.

The wizard automatically programs multiple buttons onto telephones to operate as PDN buttons on the telephones. This wizard automatically groups the telephone's PDN button with the Phantom Directory Number (PhDN) buttons so they all operate like PDNs on the telephone—this simulates Strata DK multiple PDN operation. You will not have to set Call forward or VMID codes for the PhDNs since they automatically assume the PDN Call Forward and VMID code assignments.

On these screens you need to specify how many button appearances should appear as PDNs on each telephone or range of telephones (the number of buttons including the PDNs plus the PhDNs). You should also specify the starting PhDN and Hunt Group number to be used to set up the multiple DN groups.

Important! Make sure you know exactly how many multiple DNs should be on each telephone before using this wizard. After running the Multiple DN wizard, deletions or additions to Multiple DN assignments must be made manually, one-by-one, for each telephone PhDN button and Multiple DN hunt group. The wizard does not support changing existing Multiple DN assignments in this version of Strata eManager.

1. Click Advanced Configuration > Station > SetUp Wizard > Multiple DN.
The Multiple DN Assignment Wizard screen display.
2. Click **Start**. Strata eManager automatically assigns the:
 - Appropriate number of PhDN buttons onto the telephone. These operate as PDN buttons on the telephone. PhDNs are assigned in sequence starting with the first button above the PDN.

CAUTION! If other buttons were installed in a PhDN location they will be overwritten.

- Appropriate telephone as the owner of the PhDN buttons starting with the PhDN you specified.
 - PDN of the telephone as the name of the PhDN buttons.
 - PDN and appropriate PhDNs of the telephone to the appropriate Multiple DN Hunt group, starting with the Hunt group number you specified.
3. Based on your requirements, enter the necessary fields.
 4. Click **Start** to generate the request. The screen will change.

Important!

- This is a report that provides the Multiple DN assignments that will be sent to the CIX.
 - Ensure that this information is correct before you click **Continue**. You can change the assignments by clicking **Back**.
5. Click **Continue** to generate results into the CIX database.

Note To modify these entries later you will have to use the appropriate individual program assignments.

6. Review the configuration screen. This is how the multiple DNs are assigned in the CIX after the wizard is done.
7. (Optional) To print the configuration results, click **Print**.
8. To exit, select a command from the Program pane.

VMID Range

This wizard reduces CIX programming time when you need to assign Voice Mail ID (VMID) codes. The wizard will automatically assign specified VMID codes for a range of Primary DNs, PhDNs, and/or Pilot DNs.

Specify the range of PDNs, PhDNs, or Pilot DNs that should have VMID code assignments. Then select the VMID code assignment method.

The three code assignment methods are to assign the VMID to:

- Be the same number as the appropriate DN (PDN, PhDN or Pilot DN).
- Start at a specific number and increment by one for each consecutive DN.
- Be the same number for all DNs.

In addition to the above assignments, specific digits including * and # can be added to the front and/or back of each VMID. This is not for Stratagy codes 91, 92, etc., they are set in Program 579.

You can program a range of VMID codes for PDNs, PhDNs and/or Pilot DNs.

1. Select Advanced Configuration > Station > Setup Wizard > VMID Range.
2. The VMID Range Setup Wizard displays.
3. Click **Start**. The input screen of the VMID Range Setup Wizard displays.

Station

Setup Wizards

4. Select the type of VMID that should be assigned to the PDN, PhDN or Pilot DN. Then select the assignment method and the digits, if any, to be added to front and/or end of each VMID.

Note DN range is supported. VMID prefix and/or suffix are supported.

5. Click **Start** to submit the settings to the CIX database.
The result requested will display on the screen.
6. (Optional) Click **Print** to save a hard copy of the VMID assignment.

This chapter provides trunk programming information for the Strata CIX.

304 Incoming Line Group

Program Number(s): 304

Incoming Line Groups (ILG) is a line selection feature which enables the use of external trunk or private line groups for incoming service.

1. Complete the Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > ILG.
The Trunk ILG screen displays.
3. Enter an ILG number or click one of the following buttons:
 - **List** – select from the summary list of ILGs on the right side of the screen.
 - **Create** – Assign a new ILG with default settings.
 - **Copy** – Enter an ILG in the Group Number field and click **Copy** to make a new ILG assignment with settings copied from the ILG entered in Group Number.
 - **Delete** – Delete an ILG.
 - **Get Default** - restores all data to factory defaults.
4. Enter Program 304 data.
5. Click **Submit**.

304 Incoming Line Group Assignment

Prerequisite Program: None

This assignment is used to configure ILGs only, OLGs are configured in the Outgoing Line Group Assignment 306. The same line can be placed in an ILG and OLG.

FIELD	DESCRIPTION
00 Group Number	Enter the group number of the line group that should be configured. Possible values:0~32 (CIX100), 0~50 (CIX200, 670/1200 Basic), 0~128 (CIX670 Exp, 1200 Exp A), 0~220 (CIX1200 Exp B) (default = no value)
01 Group Type	Select the ILG Type. Possible values:Analog (default) or ISDN
02 Trunk Type	Select the Trunk Type. Possible values:CO (default) or Tie
03 Service Type	Select CO Trunk Service Type. Possible values:DID or DIT (default)
04 Private Service Type	Select the Tie Trunk Service Type. This field is required when Trunk Type is Tie. Possible values:Standard (default) or StrataNet
05 GCO Key Number	Select ILG GCO Key Group for DIT mode (see Trunk Type above). The same GCO cannot belong to different ILGs. Note: If CO keys are assigned in PRG205 to ring lines in this group, GCO assignments will be ignored and will not ring Possible values:0~32 (CIX100), 0~50 (CIX200, CIX670/1200 Basic), 0~128 (CIX670 Exp, 1200 Exp A), 0~220 (CIX1200 Exp B) (default = no value)
06 Pooled Key Number	Select ILG Pooled Line Key Group for DIT mode. The same Pooled Line Group cannot belong to different ILGs. Note: If GCO or CO keys are assigned to ring lines in this group, Pooled key assignments will be ignored and will not ring. Possible values:0~32 (CIX100), 0~50 (CIX200, CIX670/1200 Basic), 0~128 (CIX670 Exp), 0~220 (CIX1200 Exp) (default = no value)
07 COS	Select Class of Service Day 1, Day 2 and Night Values. Possible values:1~32 (default = 1)
08 DRL	Select Destination Restriction Level Day 1, Day 2 and Night Values. Possible values:1~16 (default = 1)
09 FRL	Select Facilities Restriction Level Day 1, Day 2 and Night Values. Possible values:1~16 (default = 1)

FIELD	DESCRIPTION
10 QPL	Select Queuing Priority Level Day 1, Day 2 and Night Values. Possible values:1~16 (default = 1)
11 DID Digits	Select number of DID digits received from CO. Possible values:0~7 (default = 0)
12 Speech/3.1 KHz	Select Bearer Capability 3.1 KHz Audio or Speech. Possible values:Audio (default) or Speech
13 Ringing Timer Delay 1	Select time to ring the Delay 1 destination. Possible values:1~60 sec. (default = 12)
14 Ringing Timer Delay 2	Select time to ring the Delay 2 destination. Possible values:1~60 sec. (default = 24)
15 Interdigit 1 Timer	Select Interdigit 1 timer value. Possible values:1~180 sec. (default = 15)
16 Interdigit 2 Timer	Select Interdigit 2 timer value. Possible values:1~180 sec. (default = 5)
17 Auto Camp-on	Enable Automatic Camp-on. Possible values:Enable (default) or Disable.
18 Calling Number ID	Select whether the Calling Number Identification is provided by the User side or Network side. Possible values:User Provided (default) or Network Provided
19 Intercept	Enable Intercept. A call is transferred to a special destination called intercept position when the destination of a trunk line call is not determined with DID, DIT or DISA. Intercept is also activated when the destination is determined, but the call cannot be terminated due to a defect or an incorrect number. If the system has a simplified attendant console, the attendant console is usually specified to terminate the call. This function ensures termination of a trunk line call. Possible values:Enable or Disable (default)
20 Send Dial Tone	Whether or not to send dial tone to the originating system (for Tie trunks). Possible values:Enable or Disable (default)
21 TGAC Override	Enable Trunk Group Access Code (TGAC) override. Possible values:Enable or Disable (default)
22 Network COS	Enter the COS to be used in Traveling Classmark for Strata Net. Possible values:1~32 (default = 1)
23 LCR Group	Enter the LCR Group number. Calls from this ILG cannot tandem if this field is not entered. Possible values:1~16 (default = 1)

FIELD	DESCRIPTION
24 Change COS Override Code	Enable authority to change COS Override Code. Possible values: Enable or Disable (default)
25 Register Speed Dial Codes	Enable authority to create system speed dial codes. Possible values: Enable or Disable (default)
26 Originator Invoke OCA	Enable authority for the originator of a call to invoke OCA when encountering a busy station. Possible values: Enable or Disable (default)
27 Senderized Tone Mode	Send DTMF tones as a complete number rather than digit-by-digit. Possible values: Dial Tone (default), Entry Tone or Silence
28 Emergency Call Group	Used to enable E911 calling across a Strata Net network. The Strata Net ILG is assigned to an Emergency Call Group in the same way a station is in Program 200 FB17. Without this assignment, the call will not attempt to complete to one of the trunks in the Emergency Group and will result in an abandoned call. See Program 550, Enhanced 911 Emergency Call Group Assignment. Possible values: 1~8 (default = 1)
29 Tenant Number	Enter the Tenant number to which this DID number should be assigned. Possible values: 1~8.
30 Call-By-Call Cause	Enter the condition for which incoming ISDN calls disconnect when programmed for Call-By-Call (min./max.). User Busy: Cause 17 Circuit/Channel congestion: Cause 34

306 Outgoing Line Groups

Prerequisite Program: None

OLG is a line selection feature which enables the use of external trunk or private line groups for outgoing service. Assign and configure up to 128 OLGs (the same line can be placed in an OLG and an ILG).

1. Complete the OLG Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > OLG. The Trunk Outgoing Line Groups (OLG) screen displays.
3. Enter an OLG number in the Group Number field for an existing record ... or click one of the following buttons:
 - **List** – choose a summary list of programmed OLGs on the right side of the screen.
 - **Create** – Assign a new OLG with default settings.
 - **Copy** – Enter an OLG in the Group Number field and click **Copy** to make a new OLG assignment with settings copied from the OLG entered in Group Number.
 - **Delete** – Delete an OLG.
 - **Get Default** - restores all data to factory defaults.
4. Enter Program 306 data.
5. Enter Program 531. See [“Destination Restriction Guide Page”](#) on page 9-10 for details.
6. Enter Program 514. See [“514 SMDR for OLG Assignment”](#) on page 9-43 for details.
7. Click **Submit**.

FIELD	DESCRIPTION
Group Number	Enter the OLG Group number. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CTX670 HCTU + HEXAU, 1~220 CTX670 HCTU + HEXBU (default = no value)
01 Group Type	Select the OLG Type. Possible values: Analog (default), ISDN, SIP
02 Trunk Type	Select the Trunk Type. Possible values: CO (default) or Tie
03 Service Type	TIE Trunk Service Type. Possible values: Standard (default) or StrataNet
04 GCO Key1 Number	Select the first GCO Key Group number. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = no value)

Trunks

FIELD	DESCRIPTION
06 Pooled Key1 Number	Select first Pooled Line Key Group number. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = no value)
07 Pooled Key2 Number	Select second Pooled Line Key Group number. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = no value)
08 COS	Select Day 1, Day 2 and Night Values. Possible values: 1~32 (default = 1)
09 FRL	Select Day 1, Day 2 and Night Values. Possible values: 1~16 (default = 1)
10 QPL	Select Day 1, Day 2 and Night Values. Possible values: 1~16 (default = 1)
11 Speech/3.1 KHz	Bearer Capability 3.1 KHz Audio or Speech. Possible values: Audio (default) or Speech
12 MOH Source	Select MOH Source. Possible values: Silence, External1~15, Internal (default)
13 Account Code	Whether or not Forced Account Code is applied when using this OLG. Possible values: Enable or Disable (default)
14 Destination Restriction	Whether or not Destination Restriction is applied when using this OLG. Possible values: Enable or Disable (default)
15 Credit Card Calling	Whether or not to enable Credit Card Calling using this OLG. Possible values: Enable or Disable (default)
16 Send CESID	Whether or not E911 CESID information is sent (enabled) on this OLG. Possible values: Enable or Disable (default = Disable)
17 Strata Net Sending Type	Digit sending mode for Strata Net only. Possible values: Cut Through or Senderized (default = Cut through)
18 Network COS	Select Network COS number. Possible values: 1~32 (default = 1)
19 Recall on AC15	This enables or disables the sending and detection of a recall signal on AC15 TIE lines. (This applies to the PACU PCBs only.) Possible values: Enable or Disable (default = Disable)

300 Trunk Assignment

Prerequisite Program: 100 [page 4-1](#)

Assigns an analog or T1 trunk (line) and its parameters to the system. Click on each tab to navigate through the programs. The trunks assigned to the equipment display on the left of the screen. The first column displays the trunks used and the second column displays the equipment. You can also sort based on trunks and equipment.

Important! You must have Internet Explorer (IE) 6.0 on your PC for the sort to work correctly.

1. Complete the Trunk Assignment Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > Assignment. The Trunk Basic Assignments screen displays.
3. Enter a Trunk Number
 ... or click one of the following buttons:
 - **List** –choose from the summary list of programmed trunks on the right side of the screen.
 - **Create** – Assign a new trunk with default settings.
 - **Copy** – Enter a Trunk Number and click **Copy** to make a new trunk assignment with settings copied from the OLG entered in Group Number.
 - **Delete** – Delete a trunk.
 - **Get Default** - restores all data to factory defaults.
4. Enter Trunk Assignment Data.
5. Click **Submit**.
6. Click the [Go Timer/DIT](#) link to view Programs 308 and 310 (see [“308 Trunk Timer”](#) on [page 6-12](#) for details).

Note When assigning CAMA trunks for E911 (R2.22 MH232 and later, or M3.10 MK024 and later systems) set Release Supervision and Answer Supervision to Enabled.

FIELD	DESCRIPTION
Line Number	Enter the Line Number. Possible values: 1-6 CTX28, 1-31 CIX40, 1~64 CTX/CIX/100, 1~96 CTX/CIX 670 BCTU only or BBCU only, 1~264 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~96 CIX1200 HCTU only, 1~264 CIX1200 HCTU + HEXAU, 1~440 CIX1200 HCTU + HEXBU (default = no value)

FIELD	DESCRIPTION
01 Line Equipment No.	<p>Enter the line equipment number. Equipment numbers are required when assigning a new line to the system.</p> <p>Enter data as XXYYZZ:</p> <p>XX=cabinet 01~12 YY=slot 01~10 ZZ=analog trunk circuit 01~32</p> <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07. • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Base 01, Exp.05~08 • CIX200: Base/Exp.01~04 • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10 <p>CTX28 and CIX40 assignments below are hard coded and cannot be changed.</p> <p>. 01, 02 - 3 CO lines on motherboard - 28, 40 R1HW, 4 CO lines - 40 R2HW 01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW 01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW 01, 08 - 3 CO lines on GCDU - 28, 40 R1HW and R2HW.</p>
02 Incoming Line Group	<p>Assign the trunk to an Incoming Line Group. Two-way trunks need to be members of one incoming and one outgoing line group.</p> <p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
03 Outgoing Line Group	<p>Assign the trunk to an Outgoing Line Group. Two-way trunks need to be members of one incoming and one outgoing line group.</p> <p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>

FIELD	DESCRIPTION
04 Dial Mode	<p>Enter the Dial Mode.</p> <p>Possible values: DP 10PPS, DP 20PPS or DTMF (default)</p> <ul style="list-style-type: none"> • DP 10 PPS = Rotary Dial, 10 PPS • DP 20 PPS = Rotary Dial, 20 PPS
05 Signaling	<p>Enter the signaling type.</p> <p>Possible values: DID, Loop (default), Ground, Tie, LP (Jpn), SR (Jpn) or ACU (UK)</p>
06 Start Method	<p>Enter the Start Method. This setting defines the start protocol method used between the PSTN and this trunk (for DID/Tie trunks).</p> <p>Possible values: Immediate Start (default), Timing Start or Wink Start</p>
07 Release Supervision	<p>Enable Release Supervision from the CO.</p> <p>Possible values: Received or Not Received (default)</p> <p>Note When assigning CAMA trunks for E911 (R2.22 MH232 and later, or M3.10 MK024 and later systems) set this to Enabled.</p>
08 Answer Supervision	<p>Enable Answer Supervision from the CO.</p> <p>Possible values: Received or Not Received (default)</p> <p>Note When assigning CAMA trunks for E911 (R2.22 MH232 and later, or M3.10 MK024 and later systems) set this to Enabled.</p>
09 Trunk Name	<p>Enter the trunk name.</p> <p>Possible values: Up to 14 ASCII characters (default = no value)</p>
10 External Ring Repeat	<p>This option determines what ring signal is sent to telephones when a line rings the telephone. Select Supplied (CO Ring Repeat) to use the ring signal supplied by the CO or Centrex line. Select Not Supplied (CIX Ring) to use the standard ring signal supplied by the CIX.</p> <p>Important! Ring Not Supplied must be used on all DISA lines for proper ringing operation.</p> <p>Possible values: Supplied (CO Repeat) - (default) or Not Supplied (CIX Ring)</p>
11 DTMF Back Tone	<p>Select DTMF Back Tone type.</p> <p>Possible values: Padded, DTMF Tone (default) or No Tone</p>
12 Hunt Order	<p>The order within the trunks OLG in which the trunk will be seized for outgoing calls.</p> <p>Enter 1 for the first trunk seized, 2=next trunk, etc. Enter 999 for the last trunk to be seized.</p> <p>Possible values: 1~264 or Last One (default = 1)</p>

FIELD	DESCRIPTION
13 Immediate Cut-Through	<p>This option should be enabled on a line only if the talk-path must be established immediately after seizing a selected outgoing line.</p> <p>Example, a line connected to a Central Office Ringdown circuit.</p> <p>Possible values: Enable, Disable (default)</p> <hr/> <p>CAUTION! This option will bypass Destination Restriction and E911 digit analysis. Do not enable this option on a line where these functions are required.</p> <hr/> <p>This option is available only on Ground and Loop, analog or T1 circuits. It should not be enabled for Tie, DID, ISDN and StrataNet lines.</p>
14 CO Line Guard Time	<p>The interval between the release of a CO line and its eligibility to be seized again.</p>

313 Caller ID

Prerequisite Program: 300 [page 6-7](#)

This program assigns Caller ID circuits to the CO Line to which the circuit is connected. The ANI, DNIS, DID formats for T1 and analog DID CO Lines are also defined.

1. Complete the Caller ID Assignment Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > Assignment, then click the Caller ID tab. The Trunk Caller ID Assignments screen displays.
3. Enter a Trunk Number in Trunk Index for an existing record or click one of the following buttons:
 - **List** – choose from the summary list of programmed trunks on the right side of the screen.
 - **Copy** – Enter the Trunk Number in the Trunk Number field and click **Copy** to make new Caller ID trunk numbers.
4. Enter Caller ID Assignment data.
5. **Get Default** - restores all data to factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
Trunk Number	Enter the Trunk Number. Possible values: 1-6 CTX28, 1-30 CIX40, 1~64 CTX/CIX/100, 1~96 CTX/CIX 670 BCTU only or BBCU only, 1~264 CTX670 BCTU + BEXU or BBCU + BECU, 1~96 CIX1200 HCTU only, 1~264 CIX1200 HCTU + HEXAU, 1~440 CIX1200 HCTU + HEXBU (default = no value)
01 Signaling Method	Specify the format for the interface being used. Possible values: Nothing (default), ANI/DNIS-MCI, ANI/DNIS-Sprint or CLASS (Caller ID)
02 Signaling Contents	Specify the contents of the ANI/DNIS format. Possible values: ANI and DNIS, ANI only, DNIS only or DID only (default = no value).
03 CLASS Equipment No.	If the CLASS type is chosen, the trunk must be assigned to a Caller ID circuit. Enter the RCIU/RCIS equipment number as xxyyzz. Notes <ul style="list-style-type: none"> • CLASS equipment numbers are required when assigning a trunk to an RCIU/RCIS circuit. • It can also be used to display the equipment location of existing caller ID circuit to trunk assignments. Example: If the trunk should be connected to a caller ID circuit (RCIU/RCIS) in cabinet shelf 5, slot 2, circuit 3, enter 050203.

308 Trunk Timer

Prerequisite Program: 300 [page 6-7](#)

These commands assign Trunk timers.

1. Complete the Trunk Timer/DIT Record Sheet.
2. From the Program Menu, click Trunk > Assignment, then click the Timer tab. The Trunk Timer and DIT Assignments screen displays.
3. Enter Trunk equipment number field. Enter Program 308 data.
 - **List** – choose from the summary list of programmed trunks timers on the right side of the screen.
 - **Copy** – to copy to trunk timer ports.
 - **Get Default** - restores data to factory settings.
4. Click **Submit**.

FIELD	DESCRIPTION
Line No.	<p>Enter the trunk equipment number. Equipment numbers are required when assigning a new trunk to the system. It can also be used to display the equipment location of existing trunks.</p> <p>Enter data as XXYYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01~12 • YY=slot 01~10 • ZZ=analog trunk circuit 01~08 <p>or</p> <ul style="list-style-type: none"> • ZZ=T1channel 01~24 <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07 • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX200: Base/Exp.01~04 • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10 <p>CTX28 and CIX40 assignments below are hard coded and cannot be changed.</p> <p>01, 02 - 3 CO lines on motherboard - 28, 40 R1HW, 4 CO lines - 40 R2HW</p> <p>01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW</p> <p>01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW</p> <p>01, 08 - 3 CO lines on GCDU - 28, 40 R1HW and R2HW.</p>

FIELD	DESCRIPTION
01 Auto Release	<p>The Automatic Release timing: Select Disable if the CO does not send the automatic release signal on the Loop start line. If the CO does send the auto release signal, also known as Calling Party Control, set the detect duration time to 95ms or 450ms depending how long the CO opens the loop to disconnect the line.</p> <p>Possible values: Disable, Detect 95ms or Detect 450ms (default)</p>
02 Short Flash	<p>Select Short Flash Time</p> <p>Possible values: 0~15, where 1 = 100msec. (default = 5, which is .5 seconds) 0 = no flash, 1 = .1 sec., 2 = .2 sec. – 15=1.5 sec. 5 is the most common duration of a hookflash signal</p> <p>When a telephone initiates the short flash signal to the CO line (using the short Flash feature button or access code #450). The duration of a short flash is determined by this command. Normally this signal is used to hookflash a centrex line. The short flash range is 0 to 1.5 seconds in increments of 0.1 seconds.</p>
03 Long Flash	<p>Select Long Flash Time.</p> <p>Possible values: 0, 5, 10, 15, 20, 25 and 30, where 5 = .5 seconds. (default = 5)</p> <p>When a telephone initiates the long flash signal to the CO line (using the Long Flash feature button or access code #451). The duration of a long flash is determined by this command. Normally this signal is used to disconnect the line. The long flash range is 0 to 3 seconds in increments of 0.5 seconds. Possible values: 0=no flash, 5=.5 sec., 10=1sec. 15=1.5 sec., 20=2 sec., 25=2.5 sec., 30=3 sec.</p>
04 Pause after Flash	<p>Pause time after flash. After a flash signal is sent to a CO line, this timer determines when the line will start to send the dialed digits to the other end.</p> <p>Possible values: 0~5, 0 = immediately sent, and 1sec.delay to 5 sec.delay (default = 1 second delay before sending digits)</p>
05 Response Timer	<p>The response timer is for analog DID/TIE lines that have the “start method” set for “Timing” in Prg300-06. After a line is seized this timer determines when the line will start to send the dialed digits to the other end.</p> <p>Possible values: 0=immediatly sent, and 50 msec.delay to 500 msec.delay (default = 500 msec delay before sending digits)</p>
06 Call Abandon Timer	<p>The interval after which the CIX stops sending ring tone to stations when an incoming call is abandoned (caller hangs up before the call is answered).</p> <p>Possible values: 6 Seconds or 8 Seconds (default)</p>

310 DIT Assignment

Prerequisite Program: 300 [page 6-7](#)

This program assigns DIT Number Analysis Table for DIT trunks. DIT trunks are ground and Loop start trunks.

1. Complete the Trunk Timer/DIT Record Sheet.
2. From the Program Menu, click Trunk > Assignment, then click the DIT tab. The DIT Assignments screen displays.
3. Enter Trunk equipment number field. Enter Program 310 data.
 - **List** – to view a summary list of programmed trunks timers.
 - **Copy** – to copy to trunk timer ports.
4. Click **Submit**.

FIELD	DESCRIPTION
Line No.	<p>Enter the trunk equipment number. Equipment numbers are required when assigning a new trunk to the system. It can also be used to display the equipment location of existing trunks.</p> <p>Enter data as XXYYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01~12 • YY=slot 01~10 • ZZ=analog trunk circuit 01~08 <p>or</p> <ul style="list-style-type: none"> • ZZ=T1 channel 01~24. <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07. • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX200: Base/Exp.01~04 • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10 <p>CTX28 and CIX40 assignments below are hard coded and cannot be changed. 01, 02 - 3 CO lines on motherboard - 28, 40 R1HW, 4 CO lines - 40 R2HW 01, 05 – GVMU - 28, GVPH - 40 R1HW, GIPx, MIPU or GCOCIH - 40 R2HW 01, 06 – GIPx, MIPU16 or GCOCIH - 40 R1HW, no card - 28, 40 R2HW 01, 08 - 3 CO lines on GCDU - 28, 40 R1HW and R2HW.</p>

FIELD	DESCRIPTION
01 Day1 Destination Type 02 Day2 Destination Type 03 Night Destination Type	<p>Select Destination Type for each.</p> <p>Possible values: No Data (default), Dialing Digits, DISA, Built-in Modem, or Night Bell</p> <ul style="list-style-type: none">• No Data – no destination will ring when the line rings into the system.• Dialing Digits – assigns the line to ring the directory number or access code defined in the Destination Digits assignment.• DISA – assigns the line to ring in as a DISA call. DISA dial tone will be returned to the caller.• Modem – assigns the line to ring the remote maintenance modem on the CIX processor. Used to call into the system with an eManager PC and modem.• Night Bell – Assigns the line to cause the night relay to pulse (one-sec. close / 3-sec. open)
Day1 Destination Digits Day2 Destination Digits Night Destination Digits	<p>Enter Destination, Directory Number or Access Codes for each, only if Dialing Digits is selected as Destination Type.</p> <ul style="list-style-type: none">• If Dialing Digits is the Destination Type, enter the Directory Number that the line should ring. If the line should ring over external page, enter #31xx, where xx is the external Page group number.• If the default page access code #31 was changed, use the new page access code as the leading digits.• Line access codes and network routing numbers can also be entered to route incoming calls back out to a public or private network number. <p>Possible values: Up to 32 digits (default = no value)</p>
04 MOH Source	<p>Select the Music On Hold source for the line. Quiet Tone means no music on hold for the selected line.</p> <p>Possible values: Quiet Tone, External1~15, Internal (default)</p>

309 Direct Inward Dialing

This command assigns DID number analysis tables to ILGs.

1. Complete the DID Assignment Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > DID.
The Trunk DID Assignments screen will display.
3. Select an ILG Number.
4. Enter a DID Number in the 01 DID Number field or click one of the following buttons:
 - **List** – choose from the list of programmed DIDs on the right side of the screen.
 - **Create** – Make a new DID assignment using default settings.
 - **Copy** – Enter a DID Number in 01 DID Number and click **Copy** to make a new DID assignment with settings copied from the DID Number entered.
 - **Delete** – Delete a DID.
 - **Get Default** - restores data to factory defaults.
5. Enter DID Assignment data.
6. Click **Submit**.

FIELD	DESCRIPTION
ILG Group Number	Select the ILG number. Possible values: 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CTX670 HCTU + HEXAU, 1~220 CTX670 HCTU + HEXBU (default = 0)
01 DID Number	Enter a DID number. Possible values: 1~7 digits may include wild card "?" where "?" = 0~9 (default = no value).
02 MOH Source	Set Music On Hold source for the DID number. Quiet tone means no music on hold for the selected DID number. Possible values: Quiet Tone, External 1~15, or Internal (default)
03 GCO Key Group	Enter GCO Key Group Number that should ring for this line group. Note: If CO Key or Dialing Digits are assigned as a ringing destination this assignment will be ignored and will not ring. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)

FIELD	DESCRIPTION
04 Pool Key Group	<p>If this line group is not assigned to ring a CO, GCO, or a Pooled line key, enter the Destination type that should ring:</p> <p>No Data - no destination will ring when the line rings into the system.</p> <p>Dialing Digits - assigns the line to ring the directory number or access code defined in the Destination Digits assignment.</p> <p>DISA - assigns the line to ring in as a DISA call - DISA dial tone will be returned to the caller.</p> <p>Modem - assigns the line to ring the remote maintenance modem on the CIX processor. Used to call into the system with an eManager PC and modem.</p> <p>Night Bell - Assigns the line to cause the night relay to pulse (one-sec.close/3-sec.open).</p> <p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
05 Audio Day1 Dst Type 06 Audio Day2 Dst Type 07 Audio Night Dst Type	<p>If this line group is not assigned to ring a CO, GCO, or a Pooled line key, enter the Destination type that should ring:</p> <p>No Data - no destination will ring when the line rings into the system.</p> <p>Dialing Digits - assigns the line to ring the directory number or access code defined in the Destination Digits assignment.</p> <p>DISA - assigns the line to ring in as a DISA call - DISA dial tone will be returned to the caller.</p> <p>Modem - assigns the line to ring the remote maintenance modem on the CIX processor. Used to call into the system with an eManager PC and modem.</p> <p>Night Bell - Assigns the line to cause the night relay to pulse (one-sec.close/3-sec.open).</p> <p>Possible values: No Data (default), Dialing Digits, DISA, Built-in Modem or Night Bell</p>
Audio Day1 Destination Audio Day2 Destination Audio Night Destination	<p>Enter the Destination Directory Number or Access Code.</p> <p>Possible values: Up to 32 digits (default = no value)</p> <p>If Dialing Digits is the Destination Type enter the Directory Number that the line should ring. If the line should ring over external page, enter #31xx, where xx is the external page group number. If the default page access code #31 was changed, use the new page access code as the leading digits.</p> <p>Line access codes and network routing numbers can also be entered to route incoming calls back out to a public or private network number.</p>
08 Data Day1 Dst Type 09 Data Day2 Dst Type 10 Data Night Dst Type	<p>Select the Destination Type for data calls.</p> <p>Possible values: No Data (default), Dialing Digits, DISA, Built-in Modem or Night Bell</p>

FIELD	DESCRIPTION
Data Day1 Destination Data Day2 Destination Data Night Destination	<p>Enter the Destination Directory Number or Access Code.</p> <p>Possible values: Up to 32 digits (default = no value)</p> <p>If Dialing Digits is the Destination Type enter the Directory Number that the line should ring. If the line should ring over external page, enter #31xx, where xx is the external page group number. If the default page access code #31 was changed, use the new page access code as the leading digits.</p> <p>Line access codes and network routing numbers can also be entered to route incoming calls back out to a public or private network number.</p>
11 DNIS VMID Code	<p>Enter the VM mailbox number which should answer calls for this DID/DNIS number.</p> <p>Possible values: Up to 10 digits (default = no value)</p> <ul style="list-style-type: none"> This code is only sent if using SMDI VM integration in Program 580, 01. This code is replaced after voice mail answers by the DTMF code set in Program 309, 15 DID/DNIS DTMF VMID code - if programmed. Therefore, if using Program 309, 15 code, this VMID code is not necessary. <p>This mailbox number is sent to voice mail on a DID/DNIS call that rings directly to voice mail and on a direct DID/DNIS call to a DN that forwards to voice mail before it is answered by the DN.</p> <p>If a DID/DNIS call is answered by a station and then transferred to a DN that forwards to voice mail, this mailbox number of the DID/DNIS number or the forwarding DN's mailbox number will be sent to voice mail per Program 579, 01.</p> <p>If this VMID code is not set, direct DID/DNIS calls will go to the VM general greeting and DID/DNIS calls that forward from a DN to VM will go to the DN's VMID mailbox.</p> <p>This Voice Mailbox number is added to SMDI packets direct and forwarded DID\DNIS calls to voice mail as explained above.</p>
12 DNIS Name	<p>Enter DNIS name. Names are assigned from eManager (not programming phones).</p> <p>Possible values: Up to 16 ASCII characters (default = no value)</p>
15 DID/DNIS No. DTMF VMID	<p>Enter the VM mailbox number which should answer calls for this DID/DNIS number.</p> <p>Possible values: Digits 0~9, * and #. For a pause enter Px, where x=0~9 (seconds), up to 10 characters (default = no value).</p> <p>This mailbox number will be sent to voice mail on a DID/DNIS call that rings directly to voice mail and on a direct DID/DNIS call to a DN that forwards to voice mail before it is answered by the DN.</p> <p>If a DID/DNIS call is answered by a station and then transferred to a DN that forwards to voice mail, this mailbox number of the DID/DNIS number or the forwarding DN's mailbox number will be sent to voice mail per Program 579, 01.</p> <p>If this VMID code is not set, direct DID/DNIS calls will go to the VM general greeting and DID/DNIS calls that forward from a DN to VM will go to the DN's VMID mailbox. This voice mailbox number is sent to the VM port as DTMF digits after the VM port answers a DID/DNIS call as explained above. These digits are sent to the VM port if the CIX is set for SMDI or DTMF integration in Program 580, 01.</p>
16 Tenant Number	<p>Enter the Tenant number to which this DID number should be assigned.</p> <p>Possible values: 1(default)~8.</p>

318 DID Intercept Assignments

Prerequisite Program: 304 [page 6-2](#)

This command assigns the DID Routing table when DID numbers are undefined or not received.

1. Complete the DID Intercept Assignment Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > DID Intercept.
The DID Intercept Assignments screen displays.
3. Enter an ILG Number or choose from the list of programmed ILGs on the right side of the screen.
4. Enter DID Type in the 01 Type field.
5. Enter DID Intercept Assignment data.
6. Get Default - restores data to factory defaults.
7. Click **Submit**.

FIELD	DESCRIPTION
ILG Number	Enter ILG number. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)
01 Type	No DID - set destination that should ring when the received DID number does not match DID numbers in this group's DID table. Not Determined - set the destination that should ring when the normal programmed ringing destination is disconnected. Possible values: No DID (default) or Not Determined
02 MOH Source	Select Music On Hold. Possible values: Quiet Tone, External 1~15, or Internal (default)
03 Group CO Destination	GCO Key Group number. Possible values: 0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)
04 Pooled Line Group	POOL Line Key Group Number. Possible values: 0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)

FIELD	DESCRIPTION
05 Audio Day1 Dst Type 06 Audio Day2 Dst Type 07 Audio Night Dst Type	<p>Select the Audio/Speech call Day1 destination type.</p> <p>Possible values: No Data (default), Dialing Digits, DISA, Built-in Modem or Night Bell</p> <ul style="list-style-type: none"> • No Data – no destination will ring when the line rings into the system. • Dialing Digits – assigns the line to ring the directory number or access code defined in the Destination Digits assignment. • DISA – assigns the line to ring in as a DISA call. DISA dial tone will be returned to the caller. • Modem – assigns the line to ring the remote maintenance modem on the CIX processor. Used to call into the system with an eManager PC and modem. • Night Bell – Assigns the line to cause the night relay to pulse (one-sec.close/3-sec.open)
Audio Day1 Dst. DN Audio Day2 Dst DN Audio Night Dst DN	<p>Enter the Destination Directory Number. Destination DN is only required if the destination type is Dialing Digits.</p> <p>Possible values: Up to 32 ASCII characters (default = no value)</p>
08 Data Day1 Dst Type 09 Data Day2 Dst Type 10 Data Night Dst Type	<p>Select the data call Day1 destination type.</p> <p>Possible values: No Data (default), Dialing Digits, DISA, Built-in Modem or Night Bell</p> <ul style="list-style-type: none"> • No Data – no destination will ring when the line rings into the system. • Dialing Digits – assigns the line to ring the directory number or access code defined in the Destination Digits assignment. • DISA – assigns the line to ring in as a DISA call. DISA dial tone will be returned to the caller. • Modem – assigns the line to ring the remote maintenance modem on the CIX processor. Used to call into the system with an eManager PC and modem. • Night Bell – Assigns the line to cause the night relay to pulse (one-sec. close / 3-sec. open).
Data Day1 Dst DN Data Day2 Dst DN Data Night Dst DN	<p>Enter the Destination Directory Number. Destination DN is only required if the destination type is Dialing Digits.</p> <p>Possible values: Up to 32 ASCII characters (default = no value)</p>

FIELD	DESCRIPTION
11 DID/DNIS No. VMID	<p>Enter the VM mailbox number which should answer calls for this DID/DNIS number.</p> <p>Possible values: Up to 10 digits (default = no value)</p> <p>Note This code is only sent if using SMDI VM integration in Program 580, 01. This code will be replaced after voice mail answers by the DTMF code set in Program 318, 15 DID/DNIS DTMF VMID code - if programmed. Therefore, if using Program 318, 15 code, this VMID code is not necessary.</p> <p>This mailbox number will be sent to voice mail on a DID/DNIS call that rings directly to voice mail and on a direct DID/DNIS call to a DN that forwards to voice mail before it is answered by the DN.</p> <p>If a DID/DNIS call is answered by a station and then transferred to a DN that forwards to voice mail, this mailbox number of the DID/DNIS number, or the forwarding DN's mailbox number will be sent to voice mail per Program 579, 01.</p> <p>If this VMID code is not set, direct DID/DNIS calls will go to the VM general greeting. DID/DNIS calls that forward from a DN to VM will go to the DN's VMID mailbox.</p> <p>This Voice Mailbox number is added to SMDI packets of direct and forwarded DID\DNIS calls to voice mail as explained above.</p>
12 DID/DNIS Name	<p>Enter DNIS Name. DNIS names can be assigned from eManager (not from programming phones).</p> <p>Possible values: Up to 16 ASCII characters (default = no value)</p>
15 DID/DNIS No. DTMF VMID	<p>Enter the VM mailbox number which should answer calls for this DID/DNIS number.</p> <p>Possible values: Digits 0~9, * and #. For a pause enter Px, where x=0~9 (seconds), up to 10 characters (default = no value).</p> <p>This mailbox number will be sent to voice mail on a DID/DNIS call that rings directly to voice mail and on a direct DID/DNIS call to a DN that forwards to voice mail before it is answered by the DN.</p> <p>If a DID/DNIS call is answered by a station and then transferred to a DN that forwards to voice mail, the mailbox number of the DID/DNIS number or the forwarding DN's mail box number will be sent to voice mail per Program 579, 01.</p> <p>If this VMID code is not set, direct DID/DNIS calls will go to the VM general greeting and DID/DNIS calls that forward from a DN to VM will go to the DN's VMID mailbox.</p> <p>This voice mailbox number is sent to the VM port as DTMF digits after the VM port answers a DID/DNIS call as explained above. These digits are sent to the VM port if the CIX is set for SMDI or DTMF integration in Program 580, 01.</p>

Service

Program Number(s): 311 and 319

These commands assign Direct Inward System Access (DISA) properties.

1. From the Program Menu, click Advanced Configuration > Trunk > Service.
The Trunk Services screen displays.
2. Enter Program 311 data.
3. Enter Program 319 data.
4. Click **Submit**.

311 DISA Security Code

Prerequisite Program: None

Assigns DISA parameters.

FIELD	DESCRIPTION
01 DISA Enabled	Enable DISA security code. Possible values:Enable or Disable (default)
02 DISA Code	Enter DISA security code. Only required if DISA Security Code is marked as necessary. Possible values:Up to 15 digits (default = no value)
03 Response Timer	Choose the time, in seconds, the CIX will wait before answering an incoming DISA call. Possible values:0~30 (default = 5)
04 Idle Timer	Choose the time, in seconds, the CIX will wait for the first DTMF tones after answering a DISA call. Possible values:0~60 (default = 10)
05 Tie Line Access	Enable this feature to allow DISA callers to access Tie lines when they call into the system. Possible values:Enable or Disable (default)

319 Intercept Treatment

Prerequisite Program: None

This command assigns Intercept positions for Strata CIX Day/Night schedules. Intercept positions are used when the destination of a trunk line call is not determined with DID or DIT.

FIELD	DESCRIPTION
Tenant Number	Select the Tenant number for which the Intercept Destinations should be assigned. Possible values: 1~8.
01 Day1 Destination Type 02 Day2 Destination Type 03 Night Destination Type	Select Destination Type for each. Possible values: None (default), Dialing Digits, or Night Bell
Day1 Destination Day2 Destination Night Destination	Enter Destination for each. Possible values: Up to 32 ASCII characters (default = no value) <ul style="list-style-type: none"> • To intercept with a DN use 0~99999 • To intercept with a Network DN use 1~32 • To intercept with Dial Digits Paging 1~16

315 T1 Trunk Card

Prerequisite Program: 100 [page 4-1](#)

This command assigns T1 Trunk Card Data to the system.

1. Complete the Trunk Timer/DIT Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > T1.
The T1 Trunk Card Data Assignment screen displays.
3. Enter T1 card location in Shelf/Slot field (xxyy). The selected slot requires a DTU Card.
 - xx = Cabinet 01~07
 - yy = Slot 01~10 or click the following buttons:
 - **List** – choose from the list of programmed trunks on the right side of the screen.
 - **Copy** – to T1 trunk equipment.
 - **Get Default** - sets all data to factory defaults.
4. Enter values for Program 315.
5. Click **Submit**.

FIELD	DESCRIPTION
T1 Equipment Location	<p>Enter the RDTU PCB equipment location.</p> <p>Enter data as XYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01~12 • YY=slot 01~10 • ZZ=analog trunk circuit 01~08 <p>or</p> <ul style="list-style-type: none"> • ZZ=T1channel 01~24. <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07. • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX200: Base/Exp.01~04 • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10
01 Coding Format	<p>Select the Coding Format.</p> <p>Possible values:None, PZC, B8ZS (default), or ZCS</p>
02 Frame Format	<p>Select the Frame Format.</p> <p>Possible values:SF Mode or ESF Mode (default)</p>

FIELD	DESCRIPTION
04 Receive PAD	Select the Receive PAD values. Possible values: None, Plus 6 dB, Plus 3 dB, Zero dB (default), Minus 3 dB, Minus 6 dB, Minus 9 dB, Minus 12 dB or Minus 15 dB
05 Send PAD	Select the Send PAD values. Possible values: None, Plus 6 dB, Plus 3 dB, Zero dB (default), Minus 3 dB, Minus 6 dB, Minus 9 dB, Minus 12 dB or Minus 15 dB

DID/DNIS Table View

This screen provides the DID/DNIS Table View on the DID command page.

Important! To avoid any errors, you must first set the digit length under Advanced Configuration > Trunk > ILG.

To access DID/DNIS table view

Click Trunk > DID/DNIS Table View

... or use Program 309.

See [Table Views](#) in Chapter 2 for table functionality.

Note You can navigate this table using the ILG and the DID/DNIS which are the first and second drop-downs between the **Previous** and **Next** buttons.

ISDN

The following program enables set up for ISDN-related system settings.

317 ISDN BRI Trunk

Prerequisite Program: 100 [page 4-1](#)

This command assigns ISDN BRI Trunks.

1. Complete the ISDN BRI Station Record Sheets.
2. From the Program Menu, click Advanced Configuration > Trunk > ISDN > BRI.
3. Enter Channel Group number or click one of the following buttons:
 - **List** – choose from a list of programmed trunks on the right side of the screen.
 - **Create** – Assign a new trunk with default settings.
 - **Copy** – Enter a Channel Group number and click **Copy** to make a new trunk assignment with settings copied from the Channel Group you entered.
 - **Delete** – Delete a trunk.
 - **Get Default** - restores data to factory defaults.
4. Enter data.
5. Click **Submit**.

FIELD	DESCRIPTION
Channel Group	Enter the BRI channel Group Number. Possible values: 1~32 (CIX40), 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~48 (CIX1200 HCTU only), 1-128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU +HEXBU) (default = 0)

FIELD	DESCRIPTION
01 Equipment Number	<p>Enter the BRI equipment number assigned to this channel group.</p> <p>Enter data as XYYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01~12 • YY=slot 01~10 • ZZ=analog trunk circuit 01~08 <p>or</p> <ul style="list-style-type: none"> • ZZ=T1channel 01~24. <p>Example: If a line should be assigned to an RBSU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers: CIX100: Base, Exp.01 CIX200: Base 01, Exp.02 CIX670: Base 01, Exp 02~07. CIX1200: Base 01, Exp 02~12</p> <p>Slot numbers: CIX100: Base 01, Exp.05~08 CIX200: Base/Exp.01~04 CIX670/1200: Base 01~08 CIX670/1200: Exp.01~10</p>
02 Protocol	<p>Select the ISDN protocol. Only Bearer capabilities specified by the protocol can be entered in this field. The Initial value for ISDN Protocol corresponds to information set in the hardware level.</p> <p>Possible values: Nat'l ISDN (default), ETSI, TTC or Nat'l ISDN Nortel National ISDN = North America, ETSI = England and TTC = Japan.</p>
03 ILG	<p>ILG assignments must be made for basic ISDNs to process the calls being received.</p> <p>Possible values: 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CTX670 HCTU + HEXAU, 1~220 CTX670 HCTU + HEXBU (default = 0)</p>
04 OLG	<p>OLG assignments must be made for basic ISDNs to process the calls being originated.</p> <p>Possible values: 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
06 Bearer Svc - Speech	<p>Enable speech capability. See Table 6-1, "Bearer Capability Table" on page 29.</p> <p>Possible values: Enable (default) or Disable</p>

FIELD	DESCRIPTION
07 Bearer Svc - 3.1 KHz Audio	<p>Enable 3.1 KHz audio capability. See Table 6-1, "Bearer Capability Table" on page 29.</p> <p>Possible values: Enable (default) or Disable</p>
08 Bearer Svc - 7 KHz Audio	<p>Enable 7 KHz audio capability. See Table 6-1, "Bearer Capability Table" on page 29.</p> <p>Possible values: Enable or Disable (default)</p>
09 Bearer Svc - Unrestricted 64K	<p>Enable one of the unrestricted capabilities. See Table 6-1, "Bearer Capability Table" on page 29.</p>
10 Bearer Svc - Unrestricted 56K	<p>Possible values: Enable (default) or Disable bearer capabilities for the channel group.</p>
11 Bearer Svc - Unrestricted 2x64K	<p>Possible values: Enable (default) or Disable</p>
12 Outgoing B Ch Select	<p>Select originating B Channel method.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Explicit – Channel is indicated and no alternative is acceptable. • Preferred – (default) Channel is indicated and any alternative is acceptable. • Any Channel – Channel is indicated and any channel is acceptable.
13 B Ch Selection	<p>Choose Idle B Channel selection method.</p> <p>Possible values: Forward Cyclic, Backward Cyclic, Forward Terminal or Backward Terminal (default = Backward Terminal)</p> <ul style="list-style-type: none"> • Select Forward Cyclic (from lowest number to highest number of B-channel). • Select Backward Cyclic (from highest number to lowest number of B-channel). • Select Forward Terminal for the lowest numbered B-channel. <p>Select Backward Terminal for the oldest number B-channel. (The High-High B-channel selection)</p>
14 Initialize Type	<p>Enter the Service Profile Identifier (SPID) type of initialization.</p> <p>Possible values: User Entry (Auto SPID On), User Entry (Auto SPID Off), Auto SPID or None (default)</p>
15 Initialization Display	<p>Enter the text to be displayed for SPID Initialization.</p> <p>Possible values: Up to 4 ASCII characters (default = User)</p>
16 SPID #1	<p>Enter the SPID value. These fields are required if you selected National ISDN in Protocol. When no data is entered any previously entered information is overwritten.</p> <p>Possible values: Up to 20 ASCII characters (default = No Value)</p>
17 SPID #2	
18 T-Wait Timer	<p>Enable the T-Wait Timer. This field is needed if you selected National ISDN in Protocol above. This timer, used along with the SPID, assigns random initializing SPID times to prevent BRI interfaces from re-initializing at the same time after a reset or power outage.</p> <p>Possible values: Enable or Disable (default)</p>

FIELD	DESCRIPTION
19 Voice Calls	Select the number of simultaneous voice (speech) calls that can exist at the same time on this interface. Possible values: One or Two (default)
20 Trunk Subscriber 1	Enter the telephone number for subscriber 1. Telephone number should be consistent with D channel data. If no data is entered in this field any previously programmed information is lost. Possible values: Up to 10 digits (default = no value)
21 Trunk Subscriber 2	Enter the telephone number for subscriber number 2. If no data is entered in this field any previously programmed information is lost. Possible values: Up to 10 digits (default = no value)
22 Layer 1 Short Break Tolerant	If layer 1 is interrupted for a short period of time the CIX will ignore it. Possible values: Enable or Disable (default = Enable)
23 TEI assignment	TEI (Terminal Endpoint Identifier) assignment for ISDN CO Trunk. Leave in default. Possible values: TEI FIXED, SINGLE TEI or 3:TWO TEI (default)
24 Malicious Call ID	Not supported by Strata CIX software.

Table 6-1 Bearer Capability Table

Bearer Services		Bellcore National ISDN	ETSI	TTC	
Circuit Mode	Speech	X	X	X	
	3.1 KHz	X	X	X	
	7 KHz		X	X	
	Unrestricted Digital Information	64 Kbps	X	X	X
		Rate adaptation from 56 Kbps	X		
		2x64 Kbps		X	X

302 Strata Net (PRI) and Strata Net IP (QSIG)

Prerequisite Program: 100 [page 4-1](#)

The PRI (RPTU, BPTU) and Strata Net IP (BIPU-Q) interface cards need to have a number of assignments for defining its operation. These include assigning which channels are available for use and the location of the D-channel or signaling channel. The D-channel exists on the circuit assigned in this command. Also, a number of optional functional capabilities also need to be enabled or disabled.

For BIPU-Q channel groups, parameters 01~04 must be configured; all other parameters should remain at default. All parameters should be configured for ISDN. Many of these are normally set to default.

Note PRI ILGs and OLGs are assigned using “Call-by-Call” on [page 6-35](#). Therefore, ILG and OLG must be set to **0**.

1. Complete the PRI Trunks Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > ISDN > PRI.
3. Enter Channel Group number or click one of the following buttons:
 - **List** – choose from the list of programmed trunks on the right side of the screen.
 - **Create** – Assign a new trunk with default settings.
 - **Copy** – Enter a Channel Group number and click **Copy** to make a new trunk assignment with settings copied from the Channel Group entered.
 - **Delete** – Delete a trunk
 - **Get Default** - sets data to factory defaults.
4. Enter data.
5. Click **Submit**.

FIELD	DESCRIPTION
Channel Group	<p>Channel Group Number.</p> <p>Assign the proper PAD levels to channel groups in Programs 107, 108 and 114. These levels are critical for ISDN and Strata Net IP speech levels as well as Quality Of Service.</p> <p>Possible values: 1~32 (CIX40), 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~48 (CIX1200 HCTU only), 1-128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU+HEXBU) (default = 0)</p>

FIELD	DESCRIPTION
01 Equipment No.	<p>Enter the RPTU, BPTU or BIPU-Q equipment number as xxyyzz.</p> <p>Enter data as XXYYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01~12 • YY=slot 01~10 • ZZ=T1channel 01~24 <p>or</p> <ul style="list-style-type: none"> • ZZ=analog trunk circuit 01~32 <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX100: Base, Exp.01 • CIX200: Base 01, Exp.02 • CIX670: Base 01, Exp 02~07 • CIX1200: Base 01, Exp 02~12 <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX100: Base 01, Exp.05~08 • CIX200: Base/Exp.01~04 • CIX670/1200: Base 01~08 • CIX670/1200: Exp.01~10
02 Protocol	<p>The Protocol to be followed defines the type of interface expected based upon the equipment type at the distant end of the connection.</p> <p>In North America, the choices are 1-Bellcore National ISDN; 4-Bellcore National ISDN NT; or 5-QSIG (Strata Net).</p> <p>Use IP for BIUP-Q, IP QSIG (Strata Net).</p> <p>Use QSIG for RPTU/BPTU, PRI QSIG (Strata Net)</p> <p>Possible values:National ISDN, ETSI, TTC, National ISDN Nortel or QSIG (default = None)</p>
03 Incoming Line Group	<p>ISDN and Strata Net need to have trunk group assignments to process the calls being received. If multiple trunk groups are used within the channel group, then Call-by-Call Services must be used.</p> <p>Possible values:0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)</p>
04 Outgoing Line Group	<p>ISDN and Strata Net needs to have trunk group assignments to process the calls being originated. If multiple trunk groups are used within the channel group, then Call-by-Call Services must be used.</p> <p>Possible values:1-31 CIX40, 1~64 CTX/CIX/100, 1~96 CTX/CIX 670 BCTU only or BBCU only, 1~264 CTX670 BCTU + BEXU or BBCU + BECU, 1~96 CIX1200 HCTU only, 1~264 CIX1200 HCTU + HEXAU, 1~440 CIX1200 HCTU + HEXBU (default = 0)</p>

FIELD	DESCRIPTION
05 Trunk ID Type	Identify whether the communication with the PSTN requires an identifier. Select Explicit to require an identifier. Use Implicit for Strata Net IP. Possible values:Implicit (default) or Explicit
06 Trunk ID	An identifier must be used as part of the addressing when an “explicit” identified is used to communicate with the PSTN which channel on which link is used for the given call. This identifier is assigned by the connected PSTN. Use the default for Strata Net. Possible values:0 ~ 126 (default = 0)
07 D Ch Position	PRI includes a 64-kbps D-channel (for transfer of signal information). Select the channel position to be used for D channel signaling. Note This field is used only when the span interface speed is 1.5M. If the span interface speed is 2M the value is fixed at 16. Possible values:0 ~ 24 (default = 24)
08~13 Bearer Services:	Enable the Bearer Capabilities allowed for this PRI Trunk channel group.
<ul style="list-style-type: none"> • Speech • 3.1 KHz Audio • 7 KHz Audio • Unrestr. 64K • Unrestr. 56K • Unrestr. 2x64K 	Possible values:Enable (default) or Disable Select the Channel Method (map) to identify the channels. Note In North America, only Channel Number map is used (Channel Number). See Table 6-2 . Possible values:Channel Number (default) or Slot Number
14~18 Bearer Services:	The Bearer Capabilities (384k Unrestricted (H0), 1536k Unrestricted (H11), 1920k Unrestricted, Restricted Digital Info, Trunk Video, and Unrestricted Multirate) are not used and should remain disabled.
<ul style="list-style-type: none"> • Unrestr. 384K • Unrestr. 1536K • Unrestr. 1920K • Restr. Digital • Video 	Possible values:Enable or Disable (default) Select the Channel Method (map) to identify the channels. Note In North America only Channel Number B map is used. See Table 6-2 . Possible values:Channel Number B (default), Channel Number H, Slot Map B or Slot Map H
19 Bearer Svc Multirate Unrestricted	The Bearer Capabilities 384k Unrestricted (H0), 1536k Unrestricted (H11), 1920k Unrestricted, Restricted Digital Info, Trunk Video and Unrestricted Multirate are not used and should remain disabled. See Table 6-2 . Possible values:Enable or Disable (default)
20 B Ch Selection Method	The method used for selecting an idle ‘B’ channel and the reaction if the PSTN indicates the channel is not available needs to be chosen to originate a call from CIX. Possible values:Explicit (default), Preferred or Any Channel Preferred option is recommended unless PSTN needs other choice.

FIELD	DESCRIPTION
21 B-Ch Selection	<p>The search method for choosing an idle 'B' channel shall also be specified. Backward Terminal is the normal method with the PSTN following a Forward Terminal method.</p> <p>Possible values: Forward Cyclic, Backward Cyclic, Forward Terminal or Backward Terminal (default)</p>
22 T1 Time Slot Pattern	<p>1544 Time Slot Pattern.</p> <p>Possible values: Fixed1 (default), Flexible or Floating</p>
23 E1 Time Slot Pattern	<p>2048 Time Slot Pattern</p> <p>Possible values: Fixed1 (default), Fixed2 or Flexible</p>
24 T-Wait Timer	<p>Specify whether the T-Wait timer is to be enabled or disabled. This field is only valid for Nat'l ISDN. This should not be enabled for PRI, it is only for BRI.</p> <p>Possible values: Enable or Disable (default)</p>
25 RBT on Incoming Call	<p>Enable Ringback Tone when terminating a call. This field is only valid for Nat'l ISDN.</p> <p>Possible values: Enable or Disable (default)</p>
26 Network Mode	<p>Set this span as Master or Slave for Layer 2 of a Strata Net PRI. The opposite value must be set for the node in which this Strata Net PRI terminates. This governs call setup activity and is not related to clock synchronization.</p> <p>Possible values: Master (default) or Slave</p>
27 Negotiation Priority	<p>Sets this span as Side A or Side B for Layer 3 of a Strata Net PRI. The opposite value must be set for the node in which this Strata Net PRI terminates.</p> <p>Possible values: Side A (default) or Side B</p>
28 Layer 1 Short Break Tolerant	<p>If layer 1 is interrupted for less than 90 seconds CIX will keep the current calls open.</p> <p>Possible values: Enable (default) or Disable</p>
29 2-B channel Transfer	<p>Enable this option to allow 2-B channel conference on PRI calls. This allows two PRI channels to be connected in the same Conference or Tandem call.</p> <p>Note This option must also be enabled by PRI provider to allow it to work.</p>
30 Q931 Protocol Timer	<p>Sets the Q931 Protocol Timer. If Long is set, T303 is 8s and T301 is 300s.</p>

Table 6-2 Bearer Services Table

Bearer Services		Nat'l ISDN	ETSI	TTC	
Circuit Mode	Speech	X	X	X	
	3.1 KHz Audio	X	X	X	
	7 KHz Audio		X	X	
	Unrestricted digital information	64 kbps	X	X	X
		Rate adaptation from 56 kbps	X		
		2x64		X	X
		384kbp (H0)	X	X	X
		1536kbps (H11)	X	X	X
		1920kbps (H12)		X	
		Multirate (n x 64 kbps)	X		
Restricted digital Information		X	X		
Video		X	X		
Packet Mode	Shelf/Slot/Circuit				

Call-by-Call

Program Number(s): 324 and 323

Call-by-Call service allows multiple facilities to share a PRI channel group. Traffic requirements of different facilities vary at different times and sharing B channels on a Call-by-Call basis makes it possible to use fewer B channels to perform an equivalent service to the discrete counterpart.

1. Complete the "324 CBC Time Zones" on [page 6-37](#).
2. From the Program Menu, click Advanced Configuration > Trunk > ISDN > Call by Call. The ISDN Call by Call Service screen displays.
3. Enter Channel Group number.
4. Enter Program 323 data.
5. Enter Program 324 data.
6. Click **Submit**.

323 CBC Service

Prerequisite Program: 302 [page 6-30](#)

Call-by-Call service allows multiple facilities to share the PRI channel group. Since the traffic requirements of each facility may vary at different times, it becomes possible to use fewer 'B' channels to perform the equivalent services of the discrete counterpart. This sharing the 'B' channels on a call-by-call basis can save the user money. To accomplish CBC services, each facility needs to be defined, its related Line Group assigned and minimum and maximum values for the services provided. These service parameters may be set for three different time zones thus allowing fewer or more services of different types at different times of the day. Complete the Call-by-Call Record Sheet.

FIELD	DESCRIPTION
Channel Group	Enter the Channel Group Number. Possible values: 1~32 (CTX100), 1~ 48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~ 48 (CIX1200 HCTU only), 1~128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU +HEXBU) (default = 0)
01 Index	Enter the CBC Service Index or click one of the following buttons: <ul style="list-style-type: none"> • List – view a summary list of programmed trunks. • Create – Assign a new trunk with default settings. Possible values: 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~ 48 (CIX1200 HCTU only), 1~128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU+HEXBU) (default = 0)
02 Type of Service	Select the CBC Service Type. Note To delete CBC set this field to 1: No Data. Possible values: No data (default), POTS, FX, Tie Line (Enbloc), Tie Line (Cut through), Intra LATA Out WATS, Banded Out WATTS, Inter LATA Out WATS or INWATS



FIELD	DESCRIPTION
03 Facility Code	Enter the supplied Facility code value from the PSTN. If no data is entered in this field any previously entered data is deleted. Possible values:00~31(default = no value)
04 Service Parameter	Enter the service parameters supplied from PSTN. If no data is entered in this field any previously entered data is deleted. Possible values:Up to 5 digits (default = no value)
05 Network ID	Enter the Network ID code supplied from PSTN (this field is required if you selected Inter LATA Out WATS type of service). If no data is entered in this field any previously entered data is deleted. Possible values:3 to 4 digits (default = no value)
06 Incoming Line Group	Specify the ILG for this facility. Possible values:1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~50 CIX200, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)
07 Outgoing Line Group	Specify the OLG for this facility. Possible values:1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~50 CIX200, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)
08 Min Calls Zone 1	Select the minimum number of Bch in Time Zone 1. Possible values:0~47 (default = 0)
09 Max Calls Zone 1	Select the maximum number of Bch in Time Zone 1. Possible values:0~47 (default = 47)
10 Min Calls Zone 2	Select the minimum number of Bch in Time Zone 2. Possible values:0~47 (default = 0)
11 Max Calls Zone 2	Select the maximum number of Bch in Time Zone 2. Possible values:0~47 (default = 47)
12 Min Calls Zone 3	Select the minimum number of Bch in Time Zone 3. Possible values:0~47 (default = 0)
13 Max Calls Zone 3	Select the maximum number of Bch in Time Zone 3. Possible values:0~47 (default = 47)

324 CBC Time Zones

This command assigns Call-by-Call Time Zone.

FIELD	DESCRIPTION
Channel Group	Channel Group Number Possible values: 1~32 (CIX40), 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~ 48 (CIX1200 HCTU only), 1~128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU +HEXBU) (default = 0)
01 Start Zone 1	Enter the Time Zone Starting Time (hhmm).
02 Start Zone 2	Possible values: hh = 00~23, 99 (hour); mm = 00~59, 99 (minutes); 9999 = delete time zone, (default = no value)
03 Start Zone 3	

320 B Channel

Prerequisite Program: 302 [page 6-30](#)

PRI interfaces are purchased on per interface and channel basis. The 'B' channel assignments allow for a flexible activation of channels to match the subscribed services from the PSTN. This command allows you to enable or disable each B channel on selected RPTUs.

1. Complete the B Channel Select Record Sheet.
2. From the Program Menu, click Advanced Configuration > Trunk > ISDN > B Channel. The ISDN B-Channel Assignments screen displays.
3. Enter the Equipment Number or click **List** to see a summary of programmed circuits.
4. Click the B Channel numbers that you want to activate (see Table 6-3 below for T1 and E1 B Channel default settings).
5. Click **Submit**.

Table 6-3 B Channel Defaults

B Channel Position Span Interface Speed	01~15	16	17~23	24	25~31
1.5M (T1)	ON	ON	ON	OFF (Dch Pos)	
2.0M (E1)	ON	OFF (Dch Pos)	ON	ON	ON

FIELD	DESCRIPTION
00 PRI Equipment Number	<p>Enter the ISDN RPTU equipment number: Enter data as XXYYZZ: XX=cabinet 01~12 YY=slot 01~10 ZZ=PRI channel 01~24 (USA and Canada) ZZ=E1/ETSI PRI channel 01~31 (other countries)</p> <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~08 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CXI1200: Select 01~08 for Base slots and 01~10 for Expansion slots.
01~31 B Channel ID	<p>Assign each 'B' channel as enabled or disabled for each channel on the interface. The assignments must match exactly to the subscription from the PSTN.</p> <p>Possible values: 1 = Enable, 2 = Disable (default = 1)</p>

316 Shared D Channel

Prerequisite Program: 302 [page 6-30](#)

The PRI Interface can be extended to include an additional PRI card to expand the total number of channels to 47 on a channel group. This second PRI may optionally offer a backup D channel.

1. Complete the Shared D Channel Record Sheet.
2. From the Program Menu, click Advanced Configuration Trunk > ISDN > D Channel. The Share D Channel Assignment screen displays.
3. Enter the channel group number (1~128, default = no value), or click the **List** button to view a summary list of programmed channel groups.
4. Enter data.
5. Get Default - restores data to factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
Channel Group	Channel Group Number. Possible values: 1~32 (CIX40), 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~48 (CIX1200 HCTU only), 1-128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU +HEXBU) (default = 0)

FIELD	DESCRIPTION
01 PRI Equipment Number	<p>Enter the ISDN RPTU equipment number: Enter data as XXYYZZ:</p> <ul style="list-style-type: none"> • XX=cabinet 01 • YY=03, 05, or 07 • ZZ=Channel 01 is always used to assign RPTU parameters <p>or</p> <ul style="list-style-type: none"> • XX=cabinet 02~10 • YY=01, 03, or 05 • ZZ=Channel 01 is always used to assign RPTU parameters <p>Example: If the RPTU is installed in cabinet shelf 5, slot 3, enter 050301. Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~08 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CIX1200: Select 01~08 for Base slots and 01~10 for Expansion slots.
02 Channel ID	<p>An identifier must be used as part of the addressing to communicate with the PSTN which channel on which link is used on the given call. This identifier is assigned by the connected PSTN. Possible values: 1~ 126 (default = 1)</p>
03 D-Ch Provided	<p>If a backup 'D' Channel is to be used it needs to be enabled. Possible values: D-channel or No D-channel (default)</p>
04 Backup D-Ch Position	<p>The channel position within the 24 channels must be identified to be used for the 'D' channel signaling. Possible values: 1~24(default)</p>

Calling Number

Program Number(s): 321 and 322

When calls are made using ISDN services the telephone number from which the call originates must be identified to the PSTN.

1. Complete the Calling Number Record Sheets.
2. From the Program Menu, click Advanced Configuration > Trunk > ISDN > Calling Number. The ISDN Calling Number Identification screen displays.
3. Enter the OLG Number, or click the **List** button to view a summary list of programmed OLGs.
4. Enter Program 321 data.
5. Enter Program 322 data.
6. Click **Submit**.

321 Calling Number Identification

Prerequisite Program: 306 [page 6-5](#)

The calling number ID is what is defined as the user supplied calling number. This number may be optionally screened by the PSTN to ensure only calls from valid billable telephone numbers are allowed to originate calls.

FIELD	DESCRIPTION
OLG Number	<p>Enter the OLG Number.</p> <p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
01 Default Number	<p>Enter the telephone number to use by default when originating a call. This is the number that the PSTN has registered for billing purposes.</p> <p>Possible values: Up to 10 ASCII characters (default = no value)</p>
02 Number Prefix	<p>Enter the prefix telephone number for which a DID number will be appended to create a user identified telephone number.</p> <p>Possible values: Up to 10 ASCII characters (default = no value)</p> <p>This number may or may not be a billed number but is used for Caller ID at the distant end and could be used for returning your call.</p>
03 Number Verification	<p>Specify whether the number provided should be screened by the PSTN before the call is to proceed.</p> <p>Possible values: Enable or Disable (default)</p>
04 Default Number 2	<p>Enter the second telephone number to use by default when originating a call.</p> <p>Possible values: Up to 10 ASCII characters (default = no value)</p> <p>This is the number that the PSTN has registered for billing purposes. The second number is for BRI only.</p>

322 Called Number Table

Prerequisite Program: 306 [page 6-5](#)

When calls are sent to the PSTN with Calling Number Identification Service (CNIS), the CIX can supply special CNIS information as part of the Setup Message. This program may be used for sending a unique number based on the source directing the call to the Strata CIX PRI.

FIELD	DESCRIPTION
OLG Number	<p>OLG Number.</p> <p>Possible values: 1~32 CTX/CIX/100, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~50 CIX200, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
01 Source Type	<p>Specify the type of circuit used for outgoing calls: 1- PDN; 2- GCO; 3- Pooled Line.</p> <p>Possible values: Primary DN (0~99999), Group CO (1~128) or Pool Line Group (1~128); (default = no value)</p>
02 Source Number	<p>Specify the number of the source type selected: PDN 0~9999</p> <p>GCO or Pooled Line Possible Values: 0~32 (CIX100), 0~50 (CIX200, CIX670/ CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)</p>
03 Special Number Assignments	<p>Specify the number to be sent when calling out from the source (max. seven digits). This number is appended to Program 321 FB02</p> <p>Possible values: Up to 7 digits (default = no value)</p> <p>Note Destination type and destination must be entered before a DID number can be assigned.</p>

Trunk DID/DNIS Setup Wizard

This wizard enables you to assign Direct Inward Dialing / Dialed Number Identification Service (DID/DNIS) to ILGs quickly and easily. The wizard automatically takes you through the different programs and parameters required.

Follow the steps below to start using the DID/DNIS Wizard.

Step 1: Select or Create DID/DNIS ILG

1. Select Trunk > Setup Wizard > DID/DNIS.
2. After reading the instructions on the screen, click **Start**.
Select or Create DID/DNIS ILG screen displays.
3. In the 00 DID/DNIS Incoming Line Group (ILG) field, click **Create** or from the drop-down menu, select a DID/DNIS ILG to edit.

Note Only DID/DNIS ILGs appear in the drop-down box. See table below for screen fields and field descriptions.

FIELD	DESCRIPTION
01 ILG Type	Select analog for RDDU or RDTU interface, or ISDN for RPTU interface.
11 DID/DNIS Digit Length	Select the number of digits (1~7) that compose each DID number for this DID/DNIS ILG. This is the number of DID digits sent from the CO on incoming DID/DNIS. If ANI digits are sent with DID digits, only set this parameter for the quantity of DID digits sent.
02 Line Type	DID lines should always be set as CO type lines.
03 DID/DIT Service	DID lines should always be set as DID service.
04 Std/Strata Net Service	DID lines should always be set for "Standard" service.

4. If you clicked **Create** in Step 3, the Create New DID/DNIS ILG screen displays.
Fill in the three fields on the screen and click **Create Now**. The DID/DNIS Number Range Wizard screen displays with the new information.
5. (Optional) Click **DID/DNIS Table View** to view existing DID/DNIS assignments. This table displays assignments for all DID/DNIS ILGs currently programmed in the CIX. For more details, see "[DID/DNIS Table View](#)" on page 6-25.
6. After creating or selecting a DID/DNIS ILG, click **Next**.

Step 2: Create or Delete DID/DNIS Numbers for ILG 2

1. From Step 2: 309 Create or Delete DID/DNIS Numbers for ILG 2 screen click **Create** to create a block of DID/DNIS numbers. The numbers are created in consecutive order.

Create DID/DNIS Numbers screen displays.

- Specify the first number in the DID/DNIS block.

Note The quantity of digits must match the quantity of digits assigned to the selected ILG (refer back to DID/DNIS Digit Length on the previous screen).

- Specify the DID/DNIS Number block size that should be created. This is the quantity of DID/DNIS numbers ordered from the DID/DNIS provider.
- Specify “overwrite existing” or “add to existing” DID/DNIS numbers. If no DID/DNIS numbers exist, add or overwrite is OK.

... or click **Delete** and the delete DID/DNIS number dialog box displays. Specify the first and last DID/DNIS number to delete using the drop-down boxes or check mark Delete all DID/DNIS numbers. Click **Delete Now**. The numbers are deleted.

CAUTION! Overwrite erases all existing DID/DNIS numbers currently programmed for the selected ILG.

2. (Optional) Click **DID/DNIS Table View** to view existing DID/DNIS assignments. For more details see [“DID/DNIS Table View” on page 6-25](#).
3. When finished click **Next**.

Step 3: Assign DID/DNIS Number Audio Destinations for ILG 2

1. From Step 3: 309 Assign DID/DNIS Number Audio Destinations for ILG 2 screen set the DID/DNIS Number range.

Note This step enables you to assign the ringing destinations for all DID/DNIS numbers in the selected ILG. This assignment applies only to voice (audio) calls—not to data calls.

2. Specify the range of DID/DNIS numbers for which ringing assignments should be made. Use the First Number/Last Number drop-down arrows.
3. Fill in the appropriate fields on this screen (see field descriptions below).
4. (Optional) Click **DID/DNIS Table View** to view existing DID/DNIS assignments. For more details, see [“DID/DNIS Table View” on page 6-25](#).
5. After selecting DID/DNIS ringing destination assignments click **Submit** to register them in the CIX database.
6. After creating DID/DNIS ringing destinations click **Next** to assign DID/DNIS Voice Mail ID codes. These VM codes are optional and are only used if DID/DNIS numbers have unique VM boxes to “call forward to” or “ring directly to.”

FIELD	DESCRIPTION
GCO Key Group	<p>If a Group CO Key is selected, all selected DID/DNIS numbers will ring on telephones that have this key.</p> <p>Note This selection will override any GCO or Pool Key Group assignment made in the Program 304, ILG assignments. Day/Day2/Night period assignments do not apply; GCO or Pool Keys will ring in all periods.</p>
Pool Key Group	<p>If a Pool Key Group is selected, all selected DID/DNIS numbers will ring on telephones that have this key.</p> <p>Note This selection will override any GCO or Pool Key Group assignment made in the Program 304, ILG assignments. Day/Day2/Night period assignments do not apply; GCO or Pool Keys will ring in all periods.</p>
Set for Period	<p>DID/DNIS ringing assignments can be unique for each CIX time period: Day, Day2 and Night. Select the period(s) in which the destinations should ring. Then select the destination type.</p>
Destination Type	<p>Select the type of destination:</p> <p>DISA - to call in and receive DISA dial tone.</p> <p>Built-in modem - to call in directly to the CIX modem with eManager.</p> <p>Night Bell - to call in and close the BIOU or ACTU night bell control relay.</p> <p>Dialing Digits - to call in and:</p> <ul style="list-style-type: none"> • Ring PDNs, PhDNs, and/or Pilot Numbers. • Night Ring over External Page - feature access code must be included in the dialing digits. • Access outgoing CO lines, Network Nodes and/or LCR to set up tandem calls - line access codes must be included in the dialing digits. <p>Note When Dialing Digits is the selected Destination Type you must set the Dialing Digit Range below.</p>
Set the Dialing Digits Range	<p>This selection will override any GCO or Pool Key Group assignment made in this Program or Program 304, ILG assignments.</p> <p>Select the method in which dialing digit ringing destinations should be created:</p> <p>Use DNIS as Destination - the destination digits for each DID/DNIS number will be the same as the DID/DNIS number. This option is normally used when the DID/DNIS numbers match the telephone PDNs, PhDNs etc.</p> <p>Start with - enter the number to which the first selected DID/DNIS number should ring. Ringing destinations will be assigned consecutively, starting with this number, to each consecutive DID/DNIS number.</p> <p>Only Use - all selected DID/DNIS numbers will be assigned to the dialing digits entered here.</p> <p>Add to front - these digits will be added in front of each dialing digit number.</p> <p>Add to end - these digits will be added to the end of each dialing digit number.</p>

Step 4: Assign DID/DNIS VMID Codes for ILG

1. From Step 4: Assign DID/DNIS Number VMID Codes for ILG 2 screen, assign VMID codes for all DID/DNIS numbers in the selected ILG. See field descriptions below.
2. (Optional) Click **DID/DNIS Table View** to view existing DID/DNIS assignments. For more details see ["DID/DNIS Table View" on page 6-25](#).
3. After selecting VMID code assignments click **Submit** to register them in the CIX database.

FIELD	DESCRIPTION
Set for DID/DNIS Number Range:	Specify the range of DID/DNIS numbers for which VMID code assignments should be made. Use the First Number/Last Number drop down arrows.
Set for:	The codes can be set independently for DTMF in band or SMDI Voice Mail integration.
DTMF VMID	Select to set VMID code assignments for DTMF voice mail integration.
SMDI VMID	Select to set VMID code assignments for SMDI voice mail integration.
All	Select to set VMID code assignments for DTMF and SMDI voice mail integration. Note DTMF and SMDI Voice Mail integration will not function simultaneously on the CIX.
Set the VMID Range	Select the method in which VMID codes should be created: Use DNIS as VMID - the VMID code for each DID/DNIS number will be the same as the DID/DNIS number. Start with - enter the VMID that should be assigned to the first selected DID/DNIS number. VMID codes will be assigned consecutively, starting with this code, to each consecutive DID/DNIS number. Only Use - all selected DID/DNIS numbers will be assigned to the VMID code entered here. Add to front - these digits will be added in front of each VMID code. Add to end - these digits will be added to the end of each VMID code.

325 Strata Net IP Trunk Assignment

Prerequisite Program: 100 [page 4-1](#); 304 on [page 6-1](#); 306 on [page 6-5](#)

This command assigns Strata Net IP trunks.

1. Use the record sheet to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > Trunk> Full Strata Net IP.
3. Setup the Channel Group by adding values to the remaining fields.
4. Click **Submit**.

FIELD	DESCRIPTION
Channel Group	Enter a channel group number. Possible values: Possible values: 1~32 (CIX40), 1~32 (CTX100), 1~48 (CTX670 Basic & CIX200), 1~128 (CTX670 Exp), 1~ 48 (CIX1200 HCTU only), 1~128 (CIX1200 HCTU+HEXAU), 1~220 (CIX1200 HCTU +HEXBU)
01 Equipment	Assign the Equipment Number of the LIPU/LIPS MIPU and/or GIPx card. CIX40 GIPx/MIPU card in R1 CHSU40A Cabinet is 01/Slot 06 (0106). CIX40 GIPx/MIPU card in R2 CHSU40A2 Cabinet is 01/Slot 05 (0105). Cabinet numbers: <ul style="list-style-type: none"> • CTX100: Select 01 for Base and Expansion cabinet. • CTX670: Select 01 for Base and 02 ~ 07 respectively for each Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX1200: Select 01 for Base and 02 ~ 12 respectively for each Expansion cabinet. Slot numbers: <ul style="list-style-type: none"> • CIX100: Select 01 or 03 for Base slots and 05 or 07 for Expansion slots • CIX200: Select 01 ~ 04 for either cabinet.. • CIX670: Select 01, 03, 05 and 07 for Base slots and 01, 03 and 05 for Expansion slots. • CIX1200: Select 01, 03, 05 and 07 for Base slots and 01, 03 and 05 for Expansion slots.
02 LAN Interface Number	Select "1" for an LIPU or "2" for an LIPS. Not used for MIPU/GIPU. Possible values: 1 or 2
03 Strata Net IP Channels	Enter the number of GIPU, MIPU, LIPU or LIPS channels to be assigned as Strata Net IP resources Possible values:(GIPU) 1 ~ 8, (MIPU16, LIPU, LIPS) 1 ~ 16, (MIPU24) 1 ~ 24

FIELD	DESCRIPTION
04 ILG	<p>ISDN and Strata Net IP need to have trunk group assignments to process the calls being received.</p> <p>If multiple trunk groups are used within the channel group, then Call-by-Call Services must be used.</p> <p>Possible values: 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU</p>
05 OLG	<p>ISDN and Strata Net IP needs to have trunk group assignments to process the calls being originated.</p> <p>If multiple trunk groups are used within the channel group, then Call-by-Call Services must be used.</p> <p>Possible values: 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU</p>
06 Bearer Svc - Speech	<p>The Bearer Capabilities (Speech, 3.1k Audio, 7k Audio, Unrestricted 64k, Unrestricted 56k, and 2x64k Unrestricted) allowed need to be enabled/ disabled for the channel group. Also the type of map to be used to identify the channels. Note: In North America, only Channel Number B map is used (1-Channel Number B).</p> <p>Possible values: Enable (Default) or Disable</p>
07 Bearer Svc - 3.1KHz Audio	<p>The Bearer Capabilities (Speech, 3.1k Audio, 7k Audio, Unrestricted 64k, Unrestricted 56k, and 2x64k Unrestricted) allowed need to be enabled/ disabled for the channel group. Also the type of map to be used to identify the channels. Note: In North America, only Channel Number B map is used (1-Channel Number B).</p> <p>Possible values: Enable (Default) or Disable</p>
08 RBT on Incoming Call	<p>Enable Ringback Tone to be returned on terminating the call.</p> <p>Possible values: Enable (Default) or Disable</p>
09 Q931 Protocol Timer	<p>Set Q931 Protocol Timer. If Long is set, T303 is 8s and T301 is 300s.</p> <p>Possible values: Normal (Default) or Long</p>
10 T38 Protocol	<p>Enable the T.38 Protocol for facsimile communication.</p> <p>Possible values: Enable or Disable (Default)</p>

Attendant

This chapter provides programming information for Strata CIX Attendants.

404 Attendant Group Assignment

Prerequisite Program: None

This program establishes Attendant Groups, distribution methods and alternate destinations.

1. Complete the Attendant Group Record Sheet.
2. From the Program Menu, click Advanced Configuration > Attendant > Group Assignment
The Attendant Group Assignment screen displays.
3. Select the Attendant Group Member or click one of the following buttons:
 - **List** – to view data list window.
 - **Copy** – to Attendant group numbers.
4. Enter Program 404 data.
5. Get Default - sets all data to factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
00 Attendant Group Member	Select the Attendant Group Member Number. Possible values:1 (CIX100, CIX200, CIX670, CIX1200) (default = no value)
01 Call Distribution Method	Select the Call Distribution Method for attendant console. Possible values:Most Idle First (default), or Broadcast
02 Alternate Destination	Enter the Alternate Attendant Destination (DN, Network DN or Group Pilot Number). If no data is entered in this field, any previous entries are overwritten. Possible values:Up to 32 digits (default = no value)
03 Overflow Time	Select the Attendant Overflow Time in minutes. Possible values:0~180 (default = 30)
04 Group Overflow Destination	Enter the overflow destination for this attendant group. If no data is entered in this field any previous entries are overwritten. Possible values:Up to 32 digits (default = no value)

FIELD	DESCRIPTION
<p>05 VMID Code SMDI</p>	<p>Enter the Attendant's Voice Mail ID code. If no data is entered in this field any previous entries are overwritten.</p> <p>Possible values: Up to 10 digits (default = no value)</p>
<p>07 ICI1~16 ICI10</p>	<p>For 07 ICI1~16 ICI10, select ILG Assignments for ICI Groups.</p>
<ul style="list-style-type: none"> • ILG1 • ILG2 • ILG3 • ILG4 	<ul style="list-style-type: none"> • Assign the 1st ILG to ICI Groups 1~10. • Assign the 2nd ILG to ICI Groups 1~10. • Assign the 3rd ILG to ICI Groups 1~10. • Assign the 4th ILG to ICI Groups 1~10.
	<p>Note Each ILG can only be assigned once in any of the ICI Groups.</p>
	<p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>

400 Emergency Call Destination Assignment

Prerequisite Program: None

This command assigns Emergency Call destinations to Emergency Call groups. There is one group for each Day mode (Day1, Day2 and Night).

1. From the Program Menu, click Advanced Attendant > Emergency Call.
The Emergency Call screen displays.
2. Enter Program 400 data or click one of the following buttons:
 - **Insert** – assigns the destination for the selected index.
 - **Modify** – assigns a new destination to the selected index.
 - **Remove** – removes the assigned destination from the table.
 - **Get Default** - sets all data to factory defaults.
3. Click **Submit**.

FIELD	DESCRIPTION
01 Day/Night Mode	Select the time of day mode (Day1,Day2,Night) from the table below. Possible values:Day1, Day2, Night (default = no value)
02 Called Number Index	Emergency call group number (1~4). The system will hunt through these in numerical order to find an available emergency destination. Possible values:1~4 (default = no value)
03 Emergency Call Destination	Enter the DN, pilot number or private number to be associated with the called number index. Possible values:Up to 32 ASCII characters (default = no value)
04 Action	Choose whether you are replacing an existing emergency number index or inserting one in the list. if inserting, the new entry will assume the specified index. The remaining indexes will be increased by one and the last one, 4, will be deleted. Possible values: Modify or Insert (default = Modify)

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IP Telephone Setup

This chapter contains information on system setup for IP telephones, IP telephone programming, IP interface card and IP software updates.

CIX IP Telephone Programming

The following is an outline of the Basic CIX system IP setup. This process covers the basic IP telephone programming. Each network is unique and may require additional special assignments.

Card Assignments

Advanced Config > System > Card Assignment— Assign the xIPU IP card; refer to the program guidelines for appropriate slot assignments.

MIPU, GIPU, and LIPU Configuration

Advanced Configuration > IP Telephony > LIPU Configuration — Assign the xIPU IP Address, subnet mask and gateway.

Cabinet/Slot	Select the GIPU/MIPU/LIPU card from the list
FB01	Enter the GIPU/MIPU/LIPU IP Address (default = 192.168.254.200)
FB02	Enter the GIPU/MIPU/LIPU Subnet Address
FB03	Enter the GIPU/MIPU/LIPU Default Gateway Address

BIPU Configuration

Advanced Config > IP Telephony > LIPU Configuration — Assign the BIPU-M IP Address, subnet mask and gateway.

Station Programming

Assigning PDNs to IP telephones using IP resources — This can be completed by using the eManager PDN Range wizard or manually created, **Advanced Configuration > Station > Assignments** — Program 200 (station basic).

- IP telephones assigned to BIPU-M cards are programmed in the same manner as DKTs. Any programmed (FB) used to program a DKT can be used to program an IP.
- Continue station programming in the same manner as a DKT set, including:
 - DKT Parameters
 - Key Strips

IP Telephone Data

Advanced Configuration > IP Telephony > IPT Data > IPT Data Assignment

Prime DN	Select the IP-L from the list
FB01	Station ID (will display automatically) - This will be the same as the PDN assigned in the Station Data program.
FB02	Station IP Address type. Contact the network administrator for the type. ANY = DCHP, FIX = Static
FB03	Station IP Address If FIXED enter the IP address If ANY make no entry. (After the IP telephone is configured this will populate.)
FB04	Auto Assign Station ID - Set perference
FB05	Set Station Termination Authentication Mode See note below
FB06	Station MAC Address See note below
FB07	Voice Packet Table - default = 1
FB08	Audio Codec - Set to: G.711 or G.729 Note: SoftIPT can only support G.711.
FB09	Display Software Version Number of the IP telephone - This will display automatically if the IP telephone is connected.

Note When using Terminal Authentication Mode it is recommended that the IP telephone be plugged in and configured prior to executing this program. If the IP telephone is not configured and present on the network the MAC Address must be entered manually. If the IP telephone is configured and present on the network the MAC Address will be entered automatically.

VLAN Setup

The following steps setup the VLAN tagging options and parameters.

Using the VLAN Wizard

The wizard sets the VLAN parameters on the selected IP telephones. When complete, the MIPU, GIPU, or LIPU/LIPS must be configured for VLAN.

In eManager select; **Advanced Configuration > IP Telephony > IPT VLAN Setup.**

VLAN Range Options

The IP telephones to be setup can be selected by Primary Directory Number (PDN) or by the VLAN Identification (VID) of either the PC Port or Phone Port.

- **Enter PDN Range** - Click on the list on the right side of the screen to select the PDN range. This selects one or more IP telephones from the list of IP telephones in the system.
- **Enter VID of target IP telephones** - enter either the IP telephone PC Port VID or Phone Port VID. This will select every IP telephone with the specified port VID. If both PC Port and Phone Port VID is set to 'Any' all IP telephones will be selected.

VLAN Setting Options

These options will set the selected IP telephones the parameters specified below or Resets the IP telephones selected above to the default values.

- **Set VLAN settings of IP telephones** - Set the IP telephones selected above to the parameters specified below.
- **Reset VLAN setting of IP telephones** - Reset the IP telephones selected above to the default value (VLAN tagging disabled, VID = 1 for the phone port and the PC port).

VLAN Parameters

These options will set the selected IP telephones the parameters specified below or Resets the IP telephones selected above to the default values.

- **VLAN feature** - Enable or disable VLAN tagging for the selected IP telephones.
- **PC port type** - Set the PC port on the selected IP telephones to
 - Trunk - the port is connected to a VLAN enabled device or
 - Access - the port is connected to a non-compliant device, a device that does not support VLAN tagging.

Enable VLAN on the xIPU

This program sets the VLAN parameters on the GIPU/MIPU/LIPU cards. VLAN is enabled or disabled on a per card basis. Refer to "[161 MIPU/LIPU/GIPx Configuration](#)" on [Page 8-12](#).

Setup the Packet Prioritization (IEEE802.1P) and VLAN ID (IEEE802.1Q).

CIX IP Telephone Programming Guidelines

Use the following guidelines to program your CIX IP Telephone.

Basic CIX IP Setup Using WinAdmin

1. Select Advanced Configuration > System > Card Assignments (Program 100) to set the BIPU-M cards in the appropriate slots.

BIPU-M card can only be installed in 16 channel card slots:

CIX100 slots 1~8; CIX670/CIX1200 Base slots 1~8; and CIX670/CIX1200 Expansion slots 1~6

Note If the CIX is initialized (Program 900-01) after the BIPU-M is installed, the CIX assigns the BIPU-M, code 021, to the appropriate card slots automatically.

2. Select Advanced Configuration > IP Telephony > BIPU Configuration (Program 151) to set BIPU-M IP address (check with the network administrator for IP address, subnet mask, etc.). The BIPU version number will be displayed when the BIPU is operating and is connected on the same network as WinAdmin PC.

Note If the CIX is initialized (Program 900-01) after the BIPU-M is installed, the CIX assigns the BIPU-M default parameters as shown in [Table 1-6](#) on [page 1-6](#).

3. Select Advanced Configuration > Station > Assignments > Basic to assign PDNs to IP telephones (BIPU equipment numbers) if this was not done during CIX system initialization. The WinAdmin PDN Range wizard can also be used to assign PDNs to the BIPU channels.

Note Currently IPT PDNs are listed as DKT. They will be listed as IP telephone in a future version of WinAdmin. IP telephones are programmed exactly like DKTs so any program command used for DKTs can be used for IPTs.

4. Select Advanced Configuration > IP Telephony > IPT Data (Program 250). Set 05 Station Terminal Authentication Mode to apply if the PDN assigned to a particular IP Telephone should be linked (reserved for) to that telephone's MAC address. Each telephone has a unique hard coded MAC address. This prevents other IP telephones from using the reserved PDN when an IP telephone is moved.

Note If IP telephone Authentication is applied/not applied in Program 250-05 it will override the IP telephone Authentication setting in Program 150-02.

5. If multiple CIX systems with BIPU-Ms are connected to the IP network Select Advanced Configuration > IP Telephony > System IP Data (Program 150), and set 09 IP CTX Identifier.

Enter a CIX Node identifier if more than one CIX Node is on the IP Network. This can be the same as the Strata Net Network Node ID used for this system if it is in a CIX Strata Net Network - but the two IDs are not related in software logic.

This ID must match the node number programmed in the IP telephone using **369Hold-2**, FB06.

6. Run all other CIX programs necessary to customize the features required for each IP telephone. All programs used to program digital telephones also apply to IP telephones (Program 205 keystrips, 213 Add-on-Modules, Program 204 DKT Parameters, etc.).

IP Telephone Installation and Network Connection Setup

1. Install the IP telephones using instructions in the IP telephone chapter of the *CIX and MAS Installation and Maintenance Manual*.
2. From each IP Telephone, set its network connection parameters using the **369Hold** program mode (refer to the instructions that follow).

Notes

- Some IP telephones parameters must be set from each individual IP telephone using **369Hold** programming. These parameters remain stored in the IP telephone even if the telephone is unplugged. This allows the telephone to be moved to different locations without reprogramming.
- Other IP telephone parameters must be set in IP Telephone > Station IP data (Program 250) in WinAdmin. Initially, the parameters in WinAdmin are normally kept at defaults.

150 System IP Data

Prerequisite Program: Assign the MIPU, GIPU, LIPU and BIPU cards in Program 100. Create Stations using Programs 200 and 260. Set IP telephone data assignments with Program 250.

This command assigns system-wide IP parameters.

1. Use the record sheet to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > IP-Telephony > System IP Data.
3. Enter values in the appropriate fields.
4. Click **Submit**.

FIELD	DESCRIPTION
01 Automatic Assignment of Station ID	<p>Enable Automatic Assignment of Station ID when the IP telephone has no station ID. In program 250, FB04 is the same parameter and is per terminal.</p> <p>When IP telephone searches to connect a CIX with no station ID, the CIX looks for a PDN which is set with this parameter as "automatic," and sends the PDN to the IP telephone and sets it in the setting of IP telephone.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
02 Terminal Authentication	<p>Enable this parameter if you want to set the PDN of an IP telephone.</p> <p>When enable is set, terminal authentication by MAC address of IP telephone is valid. If another IP telephone which has the same PDN is connected to the network, the CIX rejects the registration of this IP telephone because the MAC address of IP telephone is different.</p> <p>When disable is set, you can move the PDN from an IP telephone to another IP telephone and another IP telephone can be connected to the CIX.</p> <p>In program 250, FB05 is the same parameter for the terminal.</p> <p>Possible values: Enable or Disable (default = Disable)</p>
03 Diffserv	<p>Enable Diffserv (Differentiated Services) priority control if voice packets on an IP (internal) network should be prioritized with priority tagging. Higher priority, time-critical BIPU/IPT voice traffic can have preferential treatment when other traffic is running at best effort. If Diffserv is enabled you must set the 04 TOS Field Type as DSCP or TOS. Note: Diffserv is usually not a standard feature with most ISPs. Contact your ISP to make arrangements to provide Diffserv or this feature will not work correctly.</p> <p>Possible values: Enable or Disable (Default)</p>
04 TOS Field Type	<p>If 03 Diffserv is enabled, select DSCP (Differentiated Services Code Point format) or TOS (Type Of Service format).</p> <p>Then, if TOS is selected, set the packet priority level in 05 TOS Precedence Type.</p> <p>Then, if DSCP is selected, set the packet priority level in 06 DSCP.</p> <p>Possible values: TOS or DSCP (Default)</p>

FIELD	DESCRIPTION
05 TOS Precedence Type	<p>If TOS is selected in 04 TOS Field Type select a packet priority level - where Critical/ESP provides the highest and Routine provides the lowest priority.</p> <p>If TOS is selected in 04 TOS Field Type make selections in TOS Delay, TOS Throughput Delay, and TOS Reliability Type.</p> <p>Possible values: Routine, Priority, Immediate, Flash, Flash Override, or Critical/ESP (Default)</p>
TOS Delay Type	<p>If TOS is selected in 04 TOS Field Type select Normal for most cases</p> <p>Possible values: Normal (Default) or Low</p>
TOS Throughput Type	<p>If TOS is selected in 04 TOS Field Type select Normal for most cases</p> <p>Possible values: Normal (Default) or High</p>
TOS Reliability Type	<p>If TOS is selected in 04 TOS Field Type select Normal for most cases</p> <p>Possible values: Normal (Default) or High</p>
06 DSCP	<p>If DSCP is selected in 04 TOS Field Type select a priority level from 0~63.</p> <p>Possible values: 0~63 (Default = 0)</p>
07 IEEE802.1p	<p>Enable IEEE802.1p priority control if voice packets on an Ethernet LAN should be prioritized with priority tagging. Higher priority, time-critical BIU\IPT voice traffic can have preferential treatment when other traffic is running at best effort. If you enable IEEE802.1p, select which priority level to use (Voice or Best Effort) in 08 IEEE802.1p Configuration on this screen. All Ethernet devices on the LAN (routers, switches, etc., must support IEEE802.1p for this feature to work correctly.</p> <p>Possible values: Enable or Disable (Default)</p>
08 IEEE802.1p Configuration	<p>If 07 IEEE802.1p is enabled, select Voice priority for BIU\IPT voice packets to be tagged with the highest priority level.</p> <p>Possible values: Best Effort or Voice (Default)</p>
09 IP-CTX Identifier	<p>Enter a CIX node ID if more than one CIX node is on the IP network. This can be the same as the Strata Net node ID used for this system if it is in a Strata Net network - but the two IDs are not related in software logic. This ID must match the node 'number' programmed in the IP telephone.</p> <p>Possible values: Up to 5 ASCII characters</p>
10 Tail Length of Echo Canceller	<p>Enter 16ms if any IP telephone is set for a G729A codec (Prog 250-08) or if the Strata Net IP network is set for G729A codecs (Prg.672-06). If all codecs are G711, then 16ms or 32ms can be used - 32ms may reduce echo on a network that only utilizes G711 codecs. Never set this parameter to 64ms.</p> <p>Note Setting G729A codec and 32 msec will reduce the number of channels available from 16 to 12 or 32 to 24.</p> <p>Possible values: 16 (Default), 32 or 64MS</p>
11 Gain Control of IPT and BIPU	<p>Set the Voice Quality Mode to control gain of IPTs and BIPUs.</p> <p>Possible values: High (Default), Middle or Low</p>

IP Telephone Programming

IP Telephone Installation and Network Connection Setup

FIELD	DESCRIPTION
12 System IP CED Control	Whether the echo canceller is stopped by the detection of Cancel Error Detection (CED) tone (2100Hz). Possible values: Enable (Default) or Disable
13 System IP RAS Start Port	RAS (Registration Admission Status) start port number for IP telephone. Possible values: 1 ~ 65535 (Default = 1718)
14 System IP RAS Register Port	RAS (Registration Admission Status) register port number for IP telephone. Possible values: 1 ~ 65535 (Default = 1719)
15 System IP Paging Max IP telephone	Limit the number of simultaneous pages to IP telephones. Possible values: 0 ~ 160 (Default = 4)
16 System IP BGM Max IP telephone	Limit the number of IP phones to simultaneously receive background music. Possible values: 0 ~ 160 (Default = 0)
17 LIPU Strata Net Mode	Sets BIPU-Q mode to allow the MIPU/GIPU/LIPU to communicate with BIPU-Q in a Strata Net IP network. Enable - MIPU/GIPU/LIPU is in BIPU-Q mode. Strata Net IP operation in a network with one or more BIPU-Q is allowed. Disable - MIPU/GIPU/LIPU is in MIPU/GIPU/LIPU mode. Strata Net IP operation in networks with LIPUs only, no BIPU-Q, is possible. This applies only to Strata Net IP operation. This parameter has no effect on BIPU-M cards used for IP Telephones. Possible values: Disable (Default), Enable
19 Echo Canceller Tail Length for MIPU/GIPU	This applies only to the MIPU and the GIPU (BIPU, GIPH, LIPU use FK10). Possible values: 1 - 16 ms echo cancel 2 - 32 ms echo cancel 3 - 64 ms echo cancel

151 BIPU Configuration

This program is used to set up the IP address of the specific BIPU card to support the IP-Telephone. BIPU card must be assigned before configuring the specific BIPU card.

1. From the Program Menu, click Advanced Configuration > IP-Telephony > BIPU Configuration. The BIPU Configuration screen will display.
2. Enter Program 151 data.
3. Click **Submit**.

Note Refer to Program 161 - Advanced Configuration > IP-Telephony > LIPU Configuration.

FIELD	DESCRIPTION
Cabinet & Slot Number	<p>Enter the cabinet and slot number of the BIPU to be configured.</p> <p>Note: BIPU cards must first be installed using PRG100 - System\Card Assignment.</p> <p>BIPU cards can be installed in the slots listed:</p> <p>Cabinet</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~09 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CXI1200: Select 01~08 for Base slots and 01~10 for Expansion slots.
01 IP Address	Enter the BIPU IP Address.
02 Subnet Address	Enter the Subnet Address of the BIPU.
03 Default Gateway Address	Enter the Default Gateway Address of the BIPU card.
04 Version Number	This is a read-only field. The version number will automatically appear when the card is configured correctly.
05 IP Strata Net RTP Base Port	<p>The base of the 32-port range which can be used by BIPU card to assign port numbers for the IP Strata Net RTP protocol.</p> <p>Possible values: 16384~65504 (default = 20992). Only even numbers can be assigned.</p>

152 Voice Packet Configuration Table Assignment

This program assigns timing parameters to Prime DNs.

1. From the Program Menu, select Advanced Configuration > IP-Telephony > Voice Packet Configuration. The Voice Packet Configuration Table Assignment screen displays.
2. Enter Program 152 data.
3. Click **Submit**.

Note When setting Voice Packet Configuration Tables on an Strata Net IP network, the packet table settings for each node on an end-to-end connection must be the same.

Note Whenever Voice Packet Configuration Table changes are made for IP telephones on Strata Net IP nodes, Toshiba recommends pressing the reset button on the LIPU/BIPU to assure the changes take effect.

FIELD	DESCRIPTION
Voice Packet Table Number	<p>Enter the Voice Packet Configuration Table Number (1-256).</p> <p>Important! The default values in Voice Packet Table 1 are the recommended values for G.711 codecs. The default values in Voice Packet Table 2 are the recommended values for G.729A codecs. If the codec selected for an IP telephone in Program 250-08 is switched from the default G.711 to G.729A, the table used for the IP telephone is automatically switched from Table 1 to Table 2 in Program 250-07. However switching back to G.711 requires that you manually switch back to the Table 1 default parameter settings.</p> <p>Possible values: 1~128 (CIX100, CIX670 and CIX1200 Basic); 1~256 (CIX670 and CIX1200 Exp.)</p>
01 Voice Packet Trans. Int.	<p>Voice Packet Transmission Interval – This depends on the encoding method G711 or G729A. The default setting are G711: 20msec., G729A: 40msec. Note that 10msec. is only used to test - do not use 10ms. Normally, the default settings provide the best quality.</p> <p>If LAN bandwidth is not enough for these parameters and the problem is resolved to extend the interval according to the LAN requirement, you can change to G711:40msec. and G729a: 80msec.</p> <p>Note 30msec. need not be used.</p> <p>Possible values: 10 msec (available for testing only up to release 200MF008), 20 msec (default), 30 msec, 40 msec or 80 msec</p>
02 Jitter Buffer Type	<p>The default values for the selected codec is recommended. If the voice quality is not as expected you can change the jitter buffer type of DSP on LIPU/BIPU.</p> <p>Possible values: Fixed, Sequential, or Adaptive</p> <p>The default values are: G.711 = Adaptive, G.729A = Sequential (recommended).</p>

FIELD	DESCRIPTION
03 Jitter Buffer Length	The default values for the selected codec is recommended. If the voice quality is not as expected you can change the jitter buffer length. Possible values: 0~250 The default values are: G.711= 100msec., G.729A=40msec.
04	Not used
05	Not used
06	Not used
07 Packet Loss Threshold	If packet loss is more than 10, an error is recorded in the CIX error log and you cannot talk by IP telephone. The default value 5 is recommended. Possible values:0~10
08 Packet Interval for MIPU/GIPU	1 = 10 ms 2 = 20 ms (default) 3 = 30 ms 4 = 40 ms 5 = 80 ms (only when G.729A is assigned; 40ms when G.711 assigned) Possible values:1 ~ 5
09 Jitter Buffer Type for MIPU/GIPU	1 - Fixed 2 - Adaptive (default) Relative to FK02.
10 Jitter Buffer Length for MIPU/GIPU	0 to 200 ms (default = 100 ms) Corresponding to FK03
11 Maximum Acceptable Jitter Buffer for MIPU/GIPU	10 to 400 ms (default = 200 ms) Corresponding to FK04
12 Packet Loss Ratio for MIPU/GIPU	0 to 10% (default = 5%) Corresponding to FK06
13 Packet Loss Threshold for MIPU/GIPU	0 to 10% (default = 1%) Corresponding to FK07

161 MIPU/LIPU/GIPx Configuration

Prerequisite Program: None

This command defines the network configuration of an MIPU/LIPU/GIPU.

1. Use the record sheet to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > IP-Telephony > LIPU Configuration.
3. Setup the MIPU/LIPU/GIPU by adding values to the remaining fields.
4. Click **Submit**.

FIELD	DESCRIPTION
00 Cabinet & Slot Number	<p>Enter the cabinet and slot number of the MIPU/LIPU/GIPx to be configured.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~09 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CXI1200: Select 01~08 for Base slots and 01~10 for Expansion slots. • CTX28 and CIX40 assignments are hard coded and cannot be changed. • Virtual Slot for GCTU Relay = Cabinet 02, Slot 05. <p>01, 01 - 8 digital telephones on motherboard (CTX28, CIX40 R1HW and R2HW).</p> <p>01, 02 - 3 CO lines on motherboard (CTX28, CIX40 R1HW), 4 CO lines (CIX40 R2HW)</p> <p>01, 03 - no card (CTX28, CIX40 R1HW), GVPH (CIX40 R2HW)</p> <p>01, 04 - 1 (Base) or 2 (GSTU) analog station ports (CTX28, CIX40 R1HW and R2HW)</p> <p>01, 05 - GVMU (CTX28), GVPH (CIX40 R1HW), GIPx, MIPU or GCOCIH (CIX40 R2HW)</p> <p>01, 06 - GIPx, MIPU16 or GCOCIH (CIX40 R1HW), no card (CTX28, CIX40 R2HW)</p> <p>01, 07 - 8 digital telephones on GCDU (CTX28, CIX40 R1HW and R2HW).</p> <p>01, 08 - 3 CO lines on GCDU (CTX28, CIX40 R1HW and R2HW).</p>

FIELD	DESCRIPTION
01 IPU IP Address	Enter the MIPU/LIPU/GIPx IP Address. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
02 IPU Subnet Address	Enter the Subnet Mask of the MIPU/LIPU/GIPx. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
03 IPU Default Gateway Address	Enter the Default Gateway Address of the MIPU/LIPU/GIPx card. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
04 LIPS IP Address	Enter the second LIPU IP Address. The second LIPU IP address must be within the subnet address. Not used for MIPU/GIPx. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
05 LIPS Subnet Address	Enter the Subnet Mask of the second LIPU. Not used for MIPU/GIPx. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
06 LIPS Default Gateway Address	Enter the Default Gateway Address of the second LIPU. Not used for MIPU/GIPx. Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255
07 Version of IPU/IPH	Firmware version of MIPU/GIPx/LIPU is displayed. Possible values:Max 16 characters Possible values:For IPU 15 digits: IPUXX_XXY_AZXX IPUXX_XX: firmware version Y: Boot loader version AZXX: DSP Configuration File A= Country Z=Major version 0~ 9 XX=Minor version 00 ~ 99
08 Version of LIPS	Firmware version of LIPS-X is shown. Possible values:Max 16 characters
09 Available IPU/IPH IP Ports	Number of available IP ports in MIPU/GIPU/LIPU-X is shown. When speaker OCA is assigned to an IP telephone an additional IP port is assigned to the IP telephone. If there is no available IP port in the LIPU-X, no more IP telephone/SIP/Strata Net IPs can be assigned. Possible values:0~24 (MIPU24), 0~16 (MIPU16, LIPU, LIPS), 0~8 (GIPx)
10 Available LIPS IP Ports	Number of available IP ports in LIPS is shown. When speaker OCA is assigned to an IP telephone an additional IP port is assigned to the IP telephone. If there is no available IP port in the LIPS, no more IP telephone/SIP/Strata Net IPs can be assigned. Possible values:0 ~ 16
11 IPU/IPH Packet Prioritization	Enable or Disable Packet Prioritization Possible values:Enable, Disable The default value is: Disable

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FIELD	DESCRIPTION
12 IPU/IPH Packet Prioritization Type	<p>When Packet Prioritization is enabled select the type of prioritization.</p> <p>Possible values: Best Effort, Voice</p> <p>The default value is: Voice</p>
13 IPU/IPH VLAN	<p>Enable or Disable VLAN tagging</p> <p>Possible values: Enable, Disable</p> <p>The default value is: Disable</p>
14 IPU/IPH VLAN ID	<p>Set the VLAN ID</p> <p>Possible values: 1 ~ 4094</p> <p>The default value is: 1</p>
15 LIPS Packet Prioritization	<p>Enable or Disable Packet Prioritization</p> <p>Possible values: Enable, Disable</p> <p>The default value is: Disable</p>
16 LIPS Packet Prioritization Type	<p>When Packet Prioritization is enabled, select the type of prioritization.</p> <p>Possible values: Best Effort, Voice</p> <p>The default value is: Voice</p>
17 LIPS VLAN	<p>Enable or Disable VLAN tagging</p> <p>Possible values: Enable, Disable</p> <p>The default value is: Disable</p>
18 LIPS VLAN ID	<p>Set the VLAN ID</p> <p>Possible values: 1 ~ 4094</p> <p>The default value is: 1</p>
19 IP Strata Net RTP Base Port (IPU/IPH)	<p>The base port number of the 32 port range for IP Strata Net RTP protocol can be set for individual MIPU, LIPU, or GIPx cards.</p> <p>Possible values: 16384 ~ 16511</p> <p>Note Only even port numbers can be assigned.</p>
20 Strata Net RTP Base Port (LIPS)	<p>The base port number of the 32 port range for IP Strata Net RTP protocol can be set for individual MIPU, LIPU, or GIPx cards.</p> <p>Possible values: 16384 ~ 16511</p> <p>Note Only even port numbers can be assigned.</p>
21 DHCP for MIPU/GIPU	<p>Enable: MIPU/GIPx can get an IP Address via DHCP.</p> <p>Disable: IP Address must be assigned.</p> <p>Note MIPU/GIPU only. LIPU, LIPS, and BIPU do not support DHCP.</p>

250 IP Telephone (Station) Data Assignment

Prerequisite Program: None

This command configures IP stations in the system.

1. Use the record sheet to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > IP-Telephony > IPT Data.
3. Enter a DN number in the Prime DN field or select a DN from the list displayed at the right edge of the screen.
4. Setup the DN by adding values to the remaining fields.
5. Click **Submit**.

FIELD	DESCRIPTION
00 Prime DN	Enter the IP telephone Prime Directory Number (PDN)
01 Station ID	<p>Station ID is set from the IP telephone to match its PDN in station programming. The station ID is the same as the station PDN unless there is more than one CTX/CIX system with BIPU-M, GIPx, MIPU, LIPU/LIPS on the same network. In this case the station ID for each IP telephone must contain the CTX/CIX Node ID+PDN.</p> <p>Possible values:Up to 5 ASCII characters</p>
02 Station IP Address Type	<p>Select the Station IP Address to be static 'fixed' or dynamic in which case it obtains an IP address from a DHCP server.</p> <p>Possible values:Fixed or Any (Default)</p>
03 Station IP Address	<p>Enter the Station static IP Address if a static address is needed per Station IP Address Type set in 02 above.</p> <p>Possible values:XXX.XXX.XXX.XXX where XXX = 0 ~ 255</p>
04 Auto Assign Station ID	<p>Use Automatic when the IP telephone has no Station ID. Use Not Automatic when IP telephone has station ID in the IP telephone setting. In Program 150, FB01 is the same parameter for system.</p> <p>When Don't Care is set, program 150-01 precedes in Program 250-04.</p> <p>Enabling Program 150-01 is equal to using automatic in Program 250-04. Disabling in Program 150-01 is equal to not automatic in Program 250-04. When the IP telephone requests to connect to a Strata CIX with no station ID, the CIX searches for a PDN that is set in this parameter as automatic and sends the PDN to the IP telephone. The IP telephone records it in the IP telephone setting.</p> <p>Possible values:Permitted, Not Permitted or Don't Care (Default)</p>

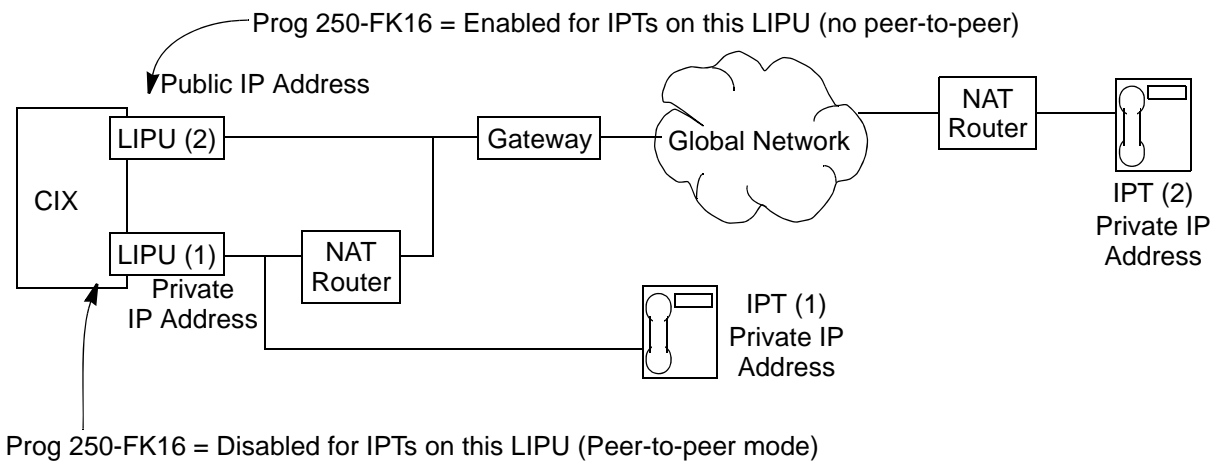
FIELD	DESCRIPTION
05 Station Terminal Authentication Mode	<p>Apply this parameter if you want to reserve a PDN for the IP telephone connected at the present time. When apply is set, terminal authentication by MAC address of the IP telephone is valid. So if another IP telephone which has the same PDN is connected to the network, the CIX rejects the registration of this IP telephone because the MAC address of the IP telephone is different. When not apply is set, you can move the PDN from an IP telephone to another IP telephone and another IP telephone can be connected to the CIX. When don't care is set, terminal authentication for this telephone is determined by Program 150-02.</p> <p>The Terminal Authentication setting Apply or Not Apply in this program overrides the Terminal Authentication setting in Program 150-02</p> <p>Possible values:Apply, Not Apply or Don't Care (Default)</p>
06 Station MAC Address	<p>Station Media Access Control (MAC) Address. This address is hard coded uniquely in each IP telephone. The MAC will only display if the IP telephone is connected to the BIPU-M and is operating properly.</p> <p>Possible values:Max 12 ASCII characters</p>
07 Voice Packet Table	<p>Select the Voice Packet configuration table that should be assigned to this IP telephone (voice tables are configured in Program 152). When the G711 Audio Codec is selected in 08 codec below, the default values in Program 152-01, Table 1 should be used. When the G.729A codec is selected in 08 Audio Codec below, the default values in Program 152-01 Table 2 should be used.</p> <p>Important: When switching the IP telephone from the G.711 to the G.729 codec (the first time), the CIX will automatically switch the Voice Packet table from Table 1 to Table 2.</p> <p>Possible values:1 ~ 128</p>
08 Audio Codec	<p>IP telephones have two built-in codecs. Select the audio codec that should be used in this IP telephone.</p> <p>The G.711codec - provides the highest voice quality but uses the most network bandwidth (about 115kbps per IP telephone when in use).</p> <p>The G.729A codec - provides less voice quality but uses the least amount of network bandwidth (about 29kbps per IP telephone when in use).</p> <p>High traffic or low speed networks may require the IP Telephones to use G729A.</p> <p>Example:</p> <p>Installing remote IP telephones connected to Cable or DSL lines, the upstream rate is usually restricted and may not provide a consistent upstream bandwidth (advertised as 128kbs but is normally less because of traffic) so the G729a codec would probable be the best choice for this situation.</p> <p>The Voice Packet Table 'Prog 250-07' and the VP Table's voice packet parameters Prog 152 must be set properly for the codec assigned.</p> <p>Possible values:G711 (Default) or G729A</p> <p>Note IP Attendant Console supports G.711 only.</p>

FIELD	DESCRIPTION
09 Display Software Version Number of IP Telephone	<p>This is read-only. If any problem occurs it is useful to analyze the problem with this version. A sample software version is DIP11NA. DIP1 represents the IP telephone model; 1NA represents software version of the IP telephone; 1N represents the version of updatable software and A means the version of not-updatable software (BootROM).</p> <p>Possible values:Max. 16 ASCII characters</p>
10 SIP Terminal URI	<p>Set the Uniform Resource Identifier of the SIP terminal. URI is to identify the IP telephone in the system. You can use A-Z, a-z and 0-9 up to 32 characters as the URI. It has to be unique in the system.</p> <p>Possible values:Max 32 ASCII characters</p>
11 SIP Terminal Password	<p>Set password for terminal authentication of the SIP terminal. This password is checked for terminal authentication when registration is performed from the SIP terminal. You can use A-Z, a-z and 0-9 up to 64 characters. It doesn't have to be unique in the system, and same password can be assigned to plural SIP terminals.</p>
12 IP Sta KeepAlive Timer	<p>Keep-alive timer for station for full IP station.</p> <p>Possible values:0 ~ 60 seconds</p>
13 Station IP DTMF Translation Mode	<p>DTMF translation mode for full IP station.</p> <p>Possible values:Tone (Default), Outband or Inband</p> <p>Note This parameter is not supported in CIX.</p>
14 Secondary Audio Codec for Full IP station	<p>IP telephones have two built-in codecs. Select the audio codec that should be used in this IP telephone.</p> <p>The G.711codec - provides the highest voice quality but uses the most network bandwidth (about 115kbps per IP telephone when in use).</p> <p>The G.729A codec - provides less voice quality but uses the least amount of network bandwidth (about 29kbps per IP telephone when in use).</p> <p>High traffic or low speed networks may require the IP Telephones to use G729A.</p> <p>Example:</p> <p>If installing remote IP telephones connected to Cable or DSL lines, the upstream rate is usually restricted and may not provide a consistent upstream bandwidth (advertised as 128kbs but is normally less because of traffic) so the G729a codec would probable be the best choice for this situation.</p> <p>The Voice Packet Table Prg250-07 and the VP Table's voice packet parameters Prg152 must be set properly for the codec assigned.</p> <p>Possible values:G711, G729A (Default), None</p>
15 Secondary Voice Packet Index	<p>CIX provides peer to peer connection when an IP telephone directly communicates with another IP telephone. A negotiation method is required to resolve differing audio codec settings on the IP telephones. When a call is established between IP telephones, the CIX will check the assignment of secondary audio codecs. If there is matching assignment, it will be applied. If there is not, the user will hear reorder tone.</p> <p>Possible values:1 ~ 128</p>

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FIELD	DESCRIPTION
16 Station IP NAT	Enable if the IP telephone is in a NAT (Network Address Translation) environment. Possible values: Enable or Disable (Default) Refer to Figure 8-1 .
17 Base UDP Port for IP Telephone Media Channel	The base UDP port for the IP telephone media channel can be set to accommodate a particular network configuration. Possible values: 1026 ~ 65532 (Default = 49154) Note Only even port numbers can be assigned.



NOTE: If the NAT router is an inconsistent/symmetric type, the IPTs on LIPU (1) should have Prog 250-FK16 set to Enabled.

When a system has LIPUs with private IP addresses and LIPUs with public IP addresses set Prog. 250 - FK16 as shown here to prevent one way speech path between IPT (1) and IPT (2).

Figure 8-1 Station IP NAT Example

260 Full IP Station Assignment

Note Release 3.0 and later only.

Prerequisite Program: CABINET SLOT PCB ASSIGNMENTS

This command assigns IP station and MAS HMP resources to the GIPx, MIPU and LIPU/LIPS interfaces.

1. Use the record sheet to record your desired Station settings.
2. From the Program Menu, click Advanced Configuration > IP-Telephony >.
3. Click on the Basic tab.
4. Enter a DN number in the Primary DN field or click one of the following buttons:
 - **List** – view a summary list of programmed DNs.
 - **Extended List** – view a detailed list of programmed DNs.
 - **Create** – Assign a new DN with custom settings by entering a DN value. Press **OK**, assign the PDN Equipment No. and click **Submit**.
 - **Selective Copy** – Enter a DN in the Primary DN field and click **Selective Copy** to make a new DN assignment with settings copied from the DN entered in the Primary DN field.
 - **Delete** – Enter a Primary DN or a range of Primary DNs to delete and click **OK**.
 - **Change DN** – Enter a DN in the Primary DN field and click **Change DN**. Enter the new DN assignment and click **OK**.
5. Setup the DN by adding values to the remaining fields.
6. Click **Submit**.

Note The max. number of IP telephones programmed on one MIPU (MIPU24) is 24; the GIPU8 is 8.

FIELD	DESCRIPTION
00 Prime DN	Prime DN (enter an existing PDN or enter a PDN you wish to create for a new station).
01 Type	<p>Assign device types to GIPx, MIPU, LIPU/LIPS ports.</p> <ul style="list-style-type: none"> • IPT2000 series, IP5000 series telephones, and IP Softphones are IPT (require End Point License). • SIP telephones are SIP (require End Point license). • IP Attendant Consoles are ATTENDANT (require Basic Port License). • VM Ports are VOICE MAIL (require Basic Port License and MAS HMP resource). • ACD Announcers are ACD ANNOUNCE (require Basic Port License and MAS HMP resource). <p>Note IPT1020-SD telephones cannot be assigned to GIPx, MIPU, LIPU/LIPS, they must be assigned to BIPU-M in Prg 200.</p>

FIELD	DESCRIPTION
02 PDN Equipment Number	<p>Enter the PDN equipment number. This is the cabinet and slot number of the GIPx,MIPU, LIPU/LIPS card (0000 means auto assignment).</p> <p>Notes:</p> <ul style="list-style-type: none"> • IPT1020-SD must be installed on BIPU-M; IPT1020 cannot be installed on LIPU/LIPS, MIPU or GIPx. • SIP phones must be installed on LIPU/LIPS, MIPU or GIPx. SIP phones cannot be installed on BIPU-M • IPT2000 series and IP Softphones can be installed on LIPU/LIPS, MIPU, GIPx or BIPU-M. • See Prg 260 for LIPU/LIPS, MIPU or GIPx PDN assignments. • MIPU and GIPU require R5.0 software or higher. <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~08 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CIX1200: Select 01~08 for Base slots and 01~10 for Expansion slots. • CTX28 and CIX40 assignments are hard coded and cannot be changed. <p>Virtual Slot for GCTU Relay = Cabinet 02, Slot 05.</p> <p>01, 01 - 8 digital telephones on motherboard (CTX28, CIX40 R1HW and R2HW).</p> <p>01, 02 - 3 CO lines on motherboard (CTX28, CIX40 R1HW), 4 CO lines (CIX40 R2HW)</p> <p>01, 03 - no card (CTX28, CIX40 R1HW), GVPH (CIX40 R2HW)</p> <p>01, 04 - 1 (Base) or 2 (GSTU) analog station ports (CTX28, CIX40 R1HW and R2HW)</p> <p>01, 05 - GVMU (CTX28), GVPH (CIX40 R1HW), GIPx, MIPU or GCOCIH (CIX40 R2HW)</p> <p>01, 06 - GIPx, MIPU16 or GCOCIH (CIX40 R1HW), no card (CTX28, CIX40 R2HW)</p> <p>01, 07 - 8 digital telephones on GCDU (CTX28, CIX40 R1HW and R2HW).</p> <p>01, 08 - 3 CO lines on GCDU (CTX28, CIX40 R1HW and R2HW).</p>
03 LAN Interface Number	<p>Enter 1 for a GIPx, MIPU and LIPU, 2 for an LIPS</p> <p>Possible values: 1 (Default) or 2.</p>

FIELD	DESCRIPTION
04	Not Used
05 COS Day1	Class of Service for Day1 mode Possible values: 1~32
Day2	Class of Service for Day 2 mode. Possible values: 1~32
Night	Class of Service for Night mode. Possible values: 1~32.
06 DRL Day1	Destination Restriction Level for Day1 Mode (used for credit card calling) Possible values: 1~16
Day 2	Destination Restriction Level for Day2 Mode. Possible values: 1~16
Night	Destination Restriction Level for Night Mode. Possible values: 1~16
07 FRL Day1	Facilities Restriction Level for Day 1 Mode. Possible values: 1~16s
Day 2	Facilities Restriction Level for Day 2 Mode. Possible values: 1~16s
Night	Facilities Restriction Level for Night Mode. Possible values: 1~16
08 LCR Group	Least Cost Routing Group Number Possible values: 1~16
09 QPL Day1	Queuing Priority Level for Day 1 Mode. Possible values: 1~16
QPL Day 2	Queuing Priority Level for Day 2 Mode. Possible values: 1~16
QPL Night	Queuing Priority Level for Night Mode. Possible values: 1~16
10 Station LCD Name	Enter the name that should be displayed on telephone LCDs for this PDN. Possible values: 16 ASCII characters
11 Dialing Progress Tone	Type of tone to hear after dialing LCR access code. Possible values: Dial Tone (Default), Entry Tone, or Silence
12 System Call Forward	System Call Forward group number. Possible values: 0~4 (CIX100), 0~10 (CIX200, CIX670/1200 Basic), 0~32 (CIX670 Exp), 0~48 (CIX1200 Exp)

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FIELD	DESCRIPTION
13 Call Pickup	<p>The station privilege to activate Call Pickup.</p> <p>Possible values: Permitted (Default), Group Only, or Not Permitted</p>
14 Bearer Capability	<p>ISDN Bearer Capability the PSTN is expecting from non-ISDN stations. 3.1kHz Audio (data and speech) or Speech.</p> <p>Important Notes:</p> <p>Standard telephone type data devices (modems, G3-Fax signals) must be set for 3.1KHz audio on ISDN lines.</p> <p>The Strata Net IP network does not support 3.1KHz (data and speech). All standard telephone equipment must be set to Speech if making calls over Strata Net IP.</p> <p>Possible values: Audio (Default) or Speech</p>
15 Display DN	<p>If this station is a member of a hunt group that has a pilot number and Pilot Display Number set in Prog 209-02 and Prog 209-04 respectively, enter the HG Pilot Display Number in this field. This number will display on the LCD of telephones when calling, or when called by, this station or VM port.</p> <p>This is necessary for proper operation of hunt groups, including centralized voice mail, over Strata Net.</p> <p>Possible values: Dial string of 1~ 5 digits</p>
16 CESID	<p>E911 Calling Party Information identifier for this station (CESID). Should be a valid NANP telephone number.</p> <p>Possible values: Up to 16 digits</p>
17 Emergency Call Group	<p>The Emergency call group that this station belongs to.</p> <p>Possible values: 1~8 (Default ~ 1)</p>
18 Remote CF/DND Password	<p>Password to remotely set or cancel DND or station Call Forward from another CIX station, or for Call Forward only from an external DISA line.</p> <p>Note: DND can not be set/canceled remotely from a DISA line.</p> <p>Possible values: 1 ~ 4 digits</p>
19 VMID Code	<p>Enter the voice mailbox number that should answer calls when this PDN calls voice mail or, when this PDN is called and then forwards to voice mail (this number is prefixed by codes in Prog 579, 11~16).</p> <p>Valid entries: digits 0~9, * and #, maximum 10 characters.</p> <p>This VMID code is sent to the voice mail device in SMDI packets or DTMF tones on direct calls to voice mail from the PDN and on calls to the PDN that forward to voice mail.</p> <p>Note: See Prog 580 for SMDI or DTMF choice.</p> <p>Possible values: 1 ~ 10 digits</p>
20 VM MW Center Port	<p>Message Waiting Center DN.</p> <p>Enter the VM PDN or Pilot DN number that should display on telephone LCDs when calling voice mail or receiving calls from voice mail.</p> <p>Possible values: Valid DN</p>

FIELD	DESCRIPTION
21 Travel COS Change	Privilege Change the Travelling Class of Service Override Code. Possible values: Enabled or Disabled (Default)
22 TGAC Override	Trunk Group Access Code Override for attendant console. Possible values: Enabled or Disabled (Default)
23 Service Tones	Disable Services Tone for Data Privacy. Service tone, such as Call Waiting Tone, should be disabled for modems, FAXes, and similar devices. Possible values: Enabled (Default) or Disabled
24 CW and ROB Tone	Enable/Disable the station to receive Call Waiting (Camp-on) and Ring Over Busy (ROB) Tone. CW tone is always two beeps. ROB tone can be two beeps or continuous as set in PRG 204, 27. Possible values: Enabled (Default) or Disabled
25 Name Display	Privilege to put the user name in the list display of large LCD (Directory Assistance). Possible values: Enabled (Default) or Disabled
26 Door Over DND	Enable DND to be overridden by a door phone. Possible values: Override or Not Override (Default)
27 Set System Speed Dial	Privilege to set System Speed Dial numbers. Possible values: Enabled or Disabled (Default)
28 Network COS	Network Class Of Service number. Possible values: 1 (Default) ~ 32
29 Auto OCA	OCA occurs automatically when making a call to a busy station that allows OCA calls to be received. Possible values: Enabled (Default) or Disabled
30 Originate OCA	The privilege to make OCA calls to other stations. Important Note: This privilege must be disabled for all voice mail and auto attendant ports. Possible Values: Enabled (Default) or Disabled
31 RSTU Supervision	Devices connected to RSTU circuits that do not automatically hang up, and connect to CO lines that do not provide disconnect supervision should be set with Not Received. This enables the auto disconnect Tandem timer in PRG 104, PB06 for these types of connections. Possible Values: Received (Default) or Not Received
32 Station SpDial Bins	The number of station speed dial bins allocated to this station. Possible values: 0 ~ 100 (maximum=100 per station).
33 Call Forward Dial Tone	When the handset is picked up the user will hear stutter dial tone if Station Call Forward is set on the telephone. Possible values: Enabled (Default) or Disabled

IP Telephone Programming

IP Telephone Installation and Network Connection Setup

FIELD	DESCRIPTION
34 Dialing Digit Restriction	<p>After the extension has made a call it can be prevented from dialing any subsequent digits.</p> <p>Possible values: Enabled or Disabled (Default)</p>
35 CO Park & Hold	<p>Enabled: When this station parks a line call, CO or GCO buttons of the parked line that appear on other stations will be on hold. This will allow the other stations to press the CO or GCO button to pickup the parked call.</p> <p>Disabled: When this station parks a line call, CO or GCO buttons of the parked line that appear on other stations will appear busy. This will prevent the other stations to press the CO or GCO button to pickup the parked call.</p> <p>Possible values: Enabled or Disabled (Default)</p>
36 MW & DND Dial Tone	<p>Enable: When this station goes off hook, the station will receive stuttered dial tone when it has a message waiting indication and the station will receive a busy tone burst before dial tone when in the DND mode.</p> <p>Disable: This station will receive normal dial tone when it has a message waiting or when it is in the DND mode.</p> <p>Possible values: Enabled (Default) or Disabled</p>
37 Activate Message Waiting	<p>Enable: This station is allowed to activate station-to-station message waiting on other stations by dialing the other station number plus 7, 8, or 9, or by pressing the Msg key.</p> <p>Disable: This station cannot activate station-to-station message waiting on other stations by dialing the station number plus 7, 8, 9, or by pressing the Msg key.</p> <p>Note: This parameter does not apply to voice mail ports, they use the special message waiting access codes.</p> <p>Possible values: Enabled (Default) or Disabled</p>
38 Tenant Number	<p>Enter the Tenant number to which this PDN should be assigned.</p> <p>Possible values: 1 (default) ~ 8</p>
39 Hook-Switch Recall	<p>1: Enable Recall for Digital Telephones for normal operation.</p> <p>2: Disable Recall on Standard Telephones that produce hook-switch bounce when they are hung-up. This prevents annoying ring recalls when the user hangs up on a call.</p> <p>Possible values: Enabled (Default) or Disabled</p>
40 Auto-Campon to PDN	<p>Enable - to allow auto-campon to this PDN when busy and called by a CO line even if the CO line group has auto camp-on disabled in Program 304-17.</p> <p>Disable - to not allow auto camp-on to this PDN when called by a CO line if the CO line group has auto camp-on disabled in Program 304-17.</p> <p>Notes</p> <ol style="list-style-type: none">1. Auto camp-on will always occur on the PDN if the calling CO line group has auto camp-on enabled in Program 304-17 regardless of how this option is set.2. Auto camp-on will be applied or not to PhDNs according to the PhDN owner PDN setting for this option. <p>Possible values: Enabled (Default) or Disabled</p>

FIELD	DESCRIPTION
41 LCR PDN Code	<p>Enter the number of digits that determine when to send the LCR PDN code. The PDN code is registered in the LCR Modified Digits Table.</p> <p>Possible values: G711, G729A (Default), None</p>
42 Network Calling Number	<p>Enter the CLID telephone number that should be sent for this station when making external calls through the Strata Net ISDN network (32 digits max.). When this station makes outgoing calls through the Strata Net network this number will be sent over the Strata Net to the terminating PSTN connected to the far-end node (providing this is allowed by the PSTN). This number will be displayed as the Caller ID number. This number is not sent to local PSTNs connected to the node from which the call is originated, nor is it sent when making conventional Tie line calls that terminate on a PSTN at a far-end node.</p> <p>Possible values: 32 Digits max.</p>
43 Personal Admin Password	<p>Enter the Personal Admin password for this station. This is also the MyPhone Manager and IP Mobility password (49).</p> <p>Possible values: 16 Characters Max</p>
44 Personal Admin Level	<p>Enter the Personal Admin user privilege level for this station.</p> <p>Possible values: Normal (Default), Super1 or Super2.</p>
45 Speaker OCA	<p>Enable or disable Speaker OCA on an IP telephone. When speaker OCA is assigned to an IP telephone, an additional IP port is assigned to the IP telephone. If there is no available IP port, S-OCA cannot be assigned and an eManager error will occur.</p> <p>Possible values: Enabled or Disabled (Default)</p>
49 Use Login Authentication	<p>Whether or not apply the Login Password Authentication - Uses the Personal Admin Password (43)</p> <p>Possible values: Enabled or Disabled (Default)</p>
50 Use Transfer Registration	<p>Whether or not apply Transfer Reg. - Set to Enable to allow IP Mobility for this DN.</p> <p>Possible values: Enabled or Disabled (Default)</p> <p>Note Assign a Phone Logout feature key on this DN.</p>

FIELD	DESCRIPTION
<p>51 Connecting Equipment Number</p>	<p>This field shows which LIPU/MIPU/GIPx (Cabinet #/ Slot#/ Port#) the IP station is connected to. This value enables the Admin to determine which LIPU/MIPU/GIPx was used to host the IP station if the IP station was created using dynamic (0000) port creation.</p> <p>MIPU and GIPU require R5.0 software or higher.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~08 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CIX1200: Select 01~08 for Base slots and 01~10 for Expansion slots. • CTX28 and CIX40 assignments are hard coded and cannot be changed. <p>Virtual Slot for GCTU Relay = Cabinet 02, Slot 05.</p> <p>01, 01 - 8 digital telephones on motherboard (CTX28, CIX40 R1HW and R2HW). 01, 02 - 3 CO lines on motherboard (CTX28, CIX40 R1HW), 4 CO lines (CIX40 R2HW) 01, 03 - no card (CTX28, CIX40 R1HW), GVPH (CIX40 R2HW) 01, 04 - 1 (Base) or 2 (GSTU) analog station ports (CTX28, CIX40 R1HW and R2HW) 01, 05 - GVMU (CTX28), GVPH (CIX40 R1HW), GIPx, MIPU or GCOCIH (CIX40 R2HW) 01, 06 - GIPx, MIPU16 or GCOCIH (CIX40 R1HW), no card (CTX28, CIX40 R2HW) 01, 07 - 8 digital telephones on GCDU (CTX28, CIX40 R1HW and R2HW). 01, 08 - 3 CO lines on GCDU (CTX28, CIX40 R1HW and R2HW).</p>

274 Remote Node IPU IP Address Assignment

Note Release 5.00 MR14 and later only.

Prerequisite Program: none

This command assigns a node ID to an MIPU/GIPU/LIPU IP Address. This is used by the IP Mobility feature to identify the home MIPU/GIPU/LIPU IP Address of a DN.

1. From the Program Menu, click Advanced Configuration > Networking > Remote IPU.
2. Enter the Remote Node ID.
3. Enter the IP Address of the MIPU/GIPU/LIPU in that remote node.
4. Click **Add**.

FIELD	DESCRIPTION
00 Remote Node ID	The Node ID of the CIX system to connect to over Strata Net.
01 Remote Node IPU IP Address	IP Address of the MIPU/GIPU/LIPU in the remote node.

IP Mobility Programming

Requirements

- CIX Software: R5.10 or higher
- SoftIPT: 02.00.0000
- MIPU: MIPU_01_01 or higher
- GIPH: GIPH_02_03 or higher
- GIPU8
- LIPU: LIPU_02_03 or higher
- eManager: V5.00 A07 or higher
- IPT20X0-SD: DIP2T2K
- IPT2008: DIP2M2K
- IPT2010: DIP2T2KX-A06
- IP5000

Note IP User Mobility will run on an MIPU/GIPU and an LIPU version LIPU_02_03 or higher. IP Mobility is not supported on the BIPU.

More IP Telephone DNs than xIPU ports

In R5 and later, software administrators are able to create more IP telephones in Program 260 than the number of xIPU ports.

When an IP telephone DN is programmed (Prog. 260) as Fixed Assignment it is registered to an available xIPU resource. The xIPU resource must be available when the DN is programmed. When the IP telephone DN is in use it will use that xIPU port. When logged out the xIPU port is held for that IP telephone DN. If an xIPU resource is not available the IP telephone DN cannot be programmed. IP licenses are not checked when the DN is programmed.

When an IP telephone DN is registered by Program 260, FB02 as Auto Assignment there is no specific xIPU resource assigned and the number of licenses is not checked. This means there can be more IP telephone DNs programmed into the CIX data base than there are xIPU resources. Also, there can be more IP telephone DNs than IP port licenses.

Feature Administration/Programming

New programming is as follows.

Table 8-1 CIX Programming Notes

Program Number	FK/Feature Code	Parameter Name/ Programming Name	Range	Default	Used Function
102	545	Logout Feature Access Code	5 Digits Max	No Data	Logout
205	545	Logout Feature Key	Feature Key Number	No Data	Logout
213	545	Logout Feature Key	Feature Key Number	No Data	Logout
215	545	Logout Feature Key	Feature Key Number	No Data	Logout
260	FB49	Whether or not apply the Login Password Authentication	Enabled/Disabled	Disabled	Login
260	FB50	Whether or not apply Transfer Reg	Enabled/Disabled	Disabled	Transfer Reg
260	FB51	Displays the PDN Equipment Number of the MIPU/GIPU/LIPU the IP telephone is connecting with	XXYYZZ XX=Cab, YY=Slot, ZZ=LAN IF No.	—	Login
674	—	Other Node MIPU/GIPU/LIPU IP Address Assignment	—	—	Login to Multi-Node

IP Telephone Programming

Table 8-2 IP Telephone Feature And Programming Notes

Upper: IPT2010, 2020, IP5122-SD, 5122-SDC, 5132-SD Lower: IPT2008, IP5131-SDL	Parameter Name	Range	Default	Used Function
Network Setting Mode SELECT=2, FB25 Network Setting (Basic) Network	Whether or not to apply Auto-Login on power up	Auto/Manual	Auto	Auto-Login on power up
Network Setting Mode SELECT = 2, FB26 Network Setting (Basic) Network	The password for authentication when Auto-Login on power up is set	16 digits Max	No Data	Auto-Login on power up
Network Setting Mode SELECT = 2, FB13 Network Setting (Basic) Network	Secondary IPU address	XXX.XXX.XXX.XXX XXX = 0 - 255	0.0.0.0	Secondary IPU address
Terminal Information SELECT=1, FB04 Terminal Information	The display of MIPU/GIPU/LIPU IP address the IP telephone is connecting with	XXX.XXX.XXX.XXX XXX = 0 - 255	—	Primary IPU address

Upper: IPT2010, 2020, IP5122-SD, 5122-SDC, 5132-SD	Parameter Name	Range	Default	Used Function
Lower: IPT2008, IP5131-SDL				
Terminal Information SELECT=2, FB27	Language Mode	US English, UK English, French/ Spanish	US English	
The IPT2008-SDL and IP5131-SDL have language change capability				

IP Mobility Programming Steps

The basics of IP Mobility setup are done in the station assignment programming. The IP Mobility features are assigned to directory numbers (DN). The steps below outline the process.

1. Assign the MIPU/GIPU/LIPU card. Refer to Requirements on Page 8-26.
2. Assign the DN that will use IP Mobility as an IP telephone_L station. In program 260:
 - FB01 –set to IPT
 - FB49 – is a password required?
 Disable (default) - no password required
 Enable - a password is required to login. Set the password in FB43
 - FB43 – The security code entered here is the IP Mobility login password when FB49 = Enable
 - FB50 – Use Transfer Registration
 Enable = IP Mobility
 Disable = This DN does not have IP Mobility
 - FB51–Read-Only field. Displays the MIPU/GIPU/LIPU equipment number for this DN.
3. For multi-node systems, assign the IP Address of the MIPU/GIPU/LIPU card in each node. Use eManager Advanced Configuration > Networking > Remote IPU (Program 674). These assignments must be made in all nodes.

Compatibility

IP User Mobility is compatible with the following:

- LIPU/LIPS (LIPU_02_03 and later)
- GIPH
- GIPU8
- MIPU16
- MIPU24

IP Mobility is not supported on the BIPU.

BIPU-M and IPT Program Update

To start updating the BIPU-M or IPT firmware, the update firmware files must be stored on FTP Server (see [Appendix B – Software and Firmware Updates on page B-1](#)). You can update the BIPU-M using Strata eManager. You cannot update BIPU-Q. If you need to update BIPU-Q, return it to Toshiba.

Strata eManager automatically disables the BIPU before any BIPU/IPT program update and preserves the initial state of the BIPU (idle or disable) after program update is done.

The BIPU program update has two processing options: sequential and simultaneous. If the FTP server is a CIX (SmartMedia) sequential processing must be used.

The IPT program update is performed sequentially only. A table sorted by BIPU shows a summary of the IPT selection. You can select multiple IPTs. You can change the selection at any time before the update process starts. The process flow is as follows:

- The BIPU corresponding to the first group of IPTs is automatically disabled (if its current status is idle)
- IPTs are updated one by one. Up to maximum 128 IPTs can be selected for one updating process.
- BIPU is re-enabled (if its initial state was idle)

These steps are repeated automatically until the entire user selection is processed.

Both the BIPU and IPT update pages have an **Abort** and **Abort All** button. The **Abort** button is available per item (BIPU, IPT), only when the current processing status allows the abort operation. Aborting the update process is allowed only in two phases “Getting the update file” and “Resetting.”

The **Abort All** button is available when an update is in progress. You can click on **Abort All** to abort all updates starting with the one currently processing. If abort operation is not allowed at the time, the message “Please wait while system has a chance to abort...” appears. All program update processes will be aborted when this is allowed by the CIX.

The synchronization between Strata eManager and the CIX is not perfect during this process. Strata eManager sends a command, then checks for the completion of the command. If you click on **Abort** at the end of the “Getting the update file” phase, Strata eManager will abort in the next phase that abort is allowed, which is resetting.

FTP Server Information

CIX SmartMedia

When FTP server is CIX-SmartMedia, the files for BIPU/IPT program update must be stored in the PROGRAM folder on SmartMedia. BIPU/IPT screens will automatically fill the Directory field in the FTP information group using the name PROGRAM, and will provide a list box with the files that exist in this directory on Smart Media.

Strata eManager Machine

When the FTP server is a Strata eManager machine, the Strata eManager installation will create a physical directory under \Strata eManager named CTXIPUPDATE. This is the physical path that you should indicate when creating CTXIPUPDATE virtual directory on the default FTP Site. The files for BIPU/IPT program update will be stored in CTXIPUPDATE directory on the Strata eManager machine. BIPU/IPT pages will automatically fill the directory field in the FTP Server information group using the name CTXIPUPDATE and will provide a list box with the files that exist in this directory on the Strata eManager machine.

External FTP

When FTP server is External FTP, not CIX - Smart Media, nor Strata eManager machine, users will have to provide all the information in the FTP information group.

Important! The External FTP Server must be used if IPT, BIPUs and/or Strata eManager do not have the same subnet address.

Strata eManager provides an External FTP list page to manage FTP information for External FTP servers. This page can be used to add, modify and remove FTP server information (user, password, IP address, directory and file) for External FTP servers or Strata eManager local machine. The information will be stored in a file on the Strata eManager machine and will be provided in a selection window when the user clicks on External FTP on the BIPU/IPT pages. This eliminates the need to enter the same FTP information for External FTP servers each time the BIPU/IPT program update is run.

BIPU Program Update

Prerequisites

1. Make sure that the networking devices between BIPU and the FTP server meet the requirements for IP-CIX (min 100Mb/s switching hub(s)).
2. Create an account on the machine designated to be the FTP server.
3. Create an FTP virtual directory on the FTP server machine and specify the physical location of the updated file on the FTP server machine.
4. The FTP server machine IP address should be configured such that it is visible by the IPT IP address.

CAUTION! Do not run other updates simultaneously.

Programming

1. From the Program Menu, click Advanced Communication > IP-Telephony > BIPU Prog Update. The BIPU Update screen displays.
2. Select card slot to be updated
3. Enter the FTP information.
4. Select BIPU Update option.
5. Click **Start** to begin the BIPU update.

FIELD	DESCRIPTION
User Name	Enter the name of a valid user account on the FTP server you select: Smart Media (CIX), local eManager or external FTP server.
Password	Enter the password of a valid user account on the FTP server you select: Smart Media (CIX), local eManager or external FTP server.
IP Address	Enter the IP address of a valid user account on the FTP server you select. For Smart Media, this is the IP address of the CIX. For the local eManager, this is the IP address of the eManager computer. For external FTP, this is the IP address of the computer used as the external FTP server.
Data Directory	This is the folder on the Smart Media card where the update file is stored. If the FTP Server is Local eManager or External Server this is a virtual FTP directory. The virtual directory path property indicates the physical location where the update file is stored.
File Name	Enter the name of the updated file (vmlinus).

External FTP List – Clicking the **External FTP List** button enables users to store external FTP server information.

FIELD	DESCRIPTION
FTP Account	
User Name	Enter the name of a valid user account on the external FTP server.
Password	Enter the name of a valid user account on the external FTP server.
Update File Location	
IP Address	Enter the IP address of the computer used as the external FTP server.
Data Directory	This is the folder on the Smart Media card where the update file is stored. If the FTP Server is Local eManager or External Server, this is a virtual FTP directory. The virtual directory path property indicates the physical location where the update file is stored.
File Name	Enter the name of the updated file.

IPT Program Update

The IPT program update function consists of retrieving the updated file from an FTP server, updating and rebooting the selected IPT.

CAUTION! Do not run other updates simultaneously.

Prerequisites

1. Make sure that the networking devices between BIPU, IPT and the FTP server meet the requirements for IP-CIX (min 100Mb/s switching hub(s)).
2. Create an account on the machine designated to be the FTP server.
3. Create an FTP virtual directory on the FTP server machine and specify the physical location of the updated file on the FTP server machine.
4. The FTP server machine IP address should be configured such that it is visible by the BIPU IP address.

Note Use the IP-B Prog. to update IP telephone sets connected to BIPU cards.
Use the IP-L Prog. to update the later IP telephone sets connected to MIPU/GIPU/LIPU cards.

Programming

1. From the Program Menu, click Advanced Configuration > IP-Telephony > IPT-B Prog Update. Then select BIPU card slot.
— OR —
From the Program Menu, click Advanced Configuration > IP-Telephony > IPT-L Prog Update. Then select LIPU card slot
2. Select IPTs to be updated.
3. Repeat step 2 and 3 for multiple updates.
4. Enter the FTP information.
5. Click **Start** to begin the IPT Program update.

Notes

- All selected IPTs are updated sequentially.
- Maximum of 128 IPTs can be selected in one IPT update process.

FIELD	DESCRIPTION
User Name	Enter the user name of the account created on the FTP server.
Password	Enter the password for the account created on the FTP server.
IP Address	Enter the IP address of the FTP server machine.
Data Directory	Enter the name of the FTP virtual directory on the FTP server.
File Name	Enter the name of the updated file (apph248.out).

This chapter covers a variety of services offered by Strata CIX. Automatic Call Distribution (ACD), Voice Mail, Destination Restriction (DR), Least Cost Routing (LCR), Networking, Station Message Detail Reporting (SMDR), External Devices, System Parameters and other miscellaneous services are discussed.

Important!

- Advanced Strata CIX programming topics are covered in this chapter. Programmers should make sure each section is thoroughly understood before proceeding to programming.
- Networking programs found in this chapter are not available with the Strata CTX28.

540 Pilot DN Assignment

Prerequisite Program: None

Pilot DNs are directory numbers that have no physical appearance, they are true virtual numbers. They can be used in CTI and Voice Mail applications. In ACD, Pilot Numbers are used as ACD group numbers. In Voice Mail applications, Pilot DNs are used to call directly, or transfer calls directly to specific voice mail boxes – this is done by setting VM as the alternate destination and using the VMID to send the call to a specific VM box.

On Multi-Node, CIX Strata Net Networks, Pilot DNs must be unique throughout the entire network. A Pilot DN of a CIX Node must not be a duplicate of any other type of DN in any other CIX Node - DN types include PDN, PhDN, Hunt Group Pilot DN or other Pilot DN.

Maximum Pilot DNs

CIX40 = 90

CIX100, CIX200 and CIX670 Basic = 100; CIX 200 and CIX670 Expanded = 256.

CIX1200 Basic = 100; CIX1200 Expanded = 256

1. Complete the Pilot DN Assignment Record Sheet.
2. Click Advanced Configuration > Station > Pilot DN.
3. Enter a Pilot DN Number or click one of the following buttons:
 - **List** – view a summary list of programmed Pilot DNs.
 - **Create** – Assign a new Pilot DN with default settings.
 - **Copy** – Enter a Pilot DN number and click **Copy** to make a new Pilot DN assignment with settings copied from the Pilot DN entered.
 - **Delete** – Enter a Pilot DN and click **OK**.
 - **Get Default** - sets all data to factory defaults.
4. Enter Program 540 data.
5. Click **Submit**.

Field	DESCRIPTION
Pilot DN	<p>Pilot DNs are directory numbers that have no physical appearance - they are true virtual numbers. They can be used in CTI and Voice Mail applications. In ACD, Pilot Numbers are used as ACD group numbers. In Voice Mail applications, Pilot DNs are used to call directly, or transfer calls directly to specific voice mail boxes – this is done by setting VM as the alternate destination and using the VMID to send the call to a specific VM box.</p> <p>Possible values: Maximum characters for Pilot DNs: CIX40 = 90 CIX100, CIX200 and CIX670 Basic: = 100, Exp: = 256 CIX1200 Basic = 100, Exp = 256</p>
01 Alternate Destination	<p>Calls to the Pilot DN will be routed to the alternate destination if the Pilot DN is not available (example: ACD after shift). If Dialing Digits is selected, enter the appropriate DN in the Alternate DN assignment.</p> <p>Possible values: No Data (default), Dialing Digits or Night Bell</p>
Alternate DN	<p>If Dialing Digits is selected as the alternate destination, enter the PDN, PhDN or hunt group pilot number to which the call should be routed.</p> <p>Possible values: Up to 32 ASCII characters (default = no value)</p>
02 Voice Mail ID	<p>If the alternate destination is voice mail, enter the voice mail ID that should be sent.</p> <p>Possible values: Up to 16 ASCII characters (default = no value)</p>

579 System Voice Mail Data

Prerequisite Program: None

This command assigns DTMF/SMDI Voice Mail interface parameters for the system.

1. Complete the System Voice Mail Record Sheet.
2. Click Advanced Configuration > System > VM Data.
3. Enter Program 579 data.
4. **Get Default** - sets all values to factory defaults.
5. Click **Submit**.

FIELD	DESCRIPTION
01 DID/DNIS VMID Option	<p>Select DN VMID to send the DN's VMID to voice mail on DID/DNIS calls that are answered and then transferred to a DN which then forwards to voice mail.</p> <p>Select DID/DNIS VMID to send the DID/DNIS number's VMID to voice mail on DID/DNIS calls that are answered and then transferred to a DN which then forwards to voice mail.</p> <p>Possible values: Before Answer Only (default), Before and After.</p> <p>If a DID/DNIS call is answered by a station and then transferred to a DN which then forwards to voice mail, the VMID of the DID/DNIS number (Program 309, FB11 or FB15) or the VMID of the forwarding DN (Program 200, FB19 or 206, FB06) will be sent to voice mail per this option.</p> <p>Note The DID/DNIS number's VMID (Prog 309, 11 or 15) is always sent to voice mail on DID/DNIS calls that ring directly to voice mail or ring a DN which then forwards to voice mail before it is ever answered.</p>
02 Cancellation Method for VM MW	<p>Select the method used to cancel voice mail message waiting indication.</p> <p>Possible values: Auto and Access Code Cancel or Access Code Cancel (default)</p>
03 Message Desk Number	<p>Enable sending of the SMDI Message Desk Number (001) in the SMDI packet; otherwise 000 for a station call or the 3-digit CO line number is sent.</p> <p>Possible values: Enable or Disable (default)</p>
04 Output of CLASS / ANI and DNIS	<p>Enable including Caller ID/ANI numbers in SMDR records.</p> <p>Possible values: Enable or Disable (default)</p>
05 Calling Number Digits Sent to VM	<p>Choose how many calling number digits are sent to VM unit.</p> <p>Possible values: 2-10 digits (default = 10)</p> <p>Note If 04 Output of CLASS / ANI and DNIS is enabled this value must be 10.</p>
06 Blank Digits Sent to VM	<p>Select SMDI-Bellcore Standard VM Interface.</p> <p>Possible values: 1 or 2 (default)</p> <ul style="list-style-type: none"> • 1 = 1985 (single space) • 2 = 1991 (two spaces)
07 Auto Cancel of VM and MW	<p>Setting of auto cancel of VM and MW (this function is not currently supported).</p> <p>Possible values: Enable (default) or Disable</p>

FIELD	DESCRIPTION
08 DTMF Duration	Select VM ID Code and System DTMF Signal Time. Possible values:80 ms (default) or 160 ms
09 Voice Mail Soft Keys	Enables CIX Proprietary Integration for Soft Key Control of VM. CIX Proprietary Integration and Soft Key Control of Voice Mail requires an iES32 or Stratagy Enterprise Server Release 3.x or higher. Possible values:Enable (default) or Disable
10 Central VM Callback	Enter the pilot DN for the centralized voice mail system. If this field is left blank the previously stored number will be deleted. Possible values:Up to 7 ASCII characters (default = no value)
11 CF - All Call Record	Enter DTMF VMID prefix string for calls arriving to voice mail via "Call Fwd All Calls." Possible values:Up to 4 ASCII characters (default = 91)
12 CF - Busy Record	Enter DTMF VMID prefix string for calls arriving to voice mail via "Call Fwd Busy." Possible values:Up to 4 ASCII characters (default = 91)
13 CF - No Answer Record	Enter DTMF VMID prefix string for calls arriving at the voice mail via "Call Fwd No Answer." Possible values:Up to 4 ASCII characters (default = 91)
14 Direct Call	Enter DTMF VMID string for a call arriving at the voice mail as a Direct Call. Possible values:Up to 4 ASCII characters (default = 91)
15 Retrieve Messages	Enter DTMF VMID string for calls arriving at the voice mail to retrieve messages. Possible values:Up to 4 ASCII characters (default = 92)
16 16 Transfer Direct to VM DN	Pilot DN of the VM as a direct transfer destination. Possible values:Up to 7 ASCII characters (default = no value)
17 Length of VM ID	Select the number of characters in VMID string. Possible values:1~10 (default = 10)
18 SMDI Call ID Packet	Enable - to send SMDI Call ID DC packet on Voice mail calls. Disable - do not send SMDI Call ID DC packet on Voice mail calls. This feature requires Stratagy R5 or higher. It should be enabled when using multi-language VM (French, Spanish, English, etc.) or other VM adaptability features. Possible values:Enable or Disable (default)
19 SMDI ANI/CLID Digit Length	Enter the number of digits to be sent to on the SMDI packet for Class, CLID, ANI, and DNIS numbers. Possible values:2~20 (default = 10)
20 Voice Mail Support on DP5000 Softkey	Enable for support of voicemail on DP5000 softkeys. Disable for DKT3000 and 2000 telephones. Possible values:Enable, Disable (default)

580 Voice Mail Port Data

Prerequisite Program: None

Assign characteristics of individual voice mail ports.

1. Complete the Voice Mail Port Data Record Sheet.
2. Click Advanced Configuration > System > VM Port Data.
3. Enter a VM Port DN or click one of the following buttons:
 - **List** – view a summary list of programmed VM Port DNs.
 - **Copy** – Enter an VM Port DN value in the field with the same name. Click **Copy** to make a new VM Port DN assignment with settings copied from the port entered in VM Port DN.
4. Enter Program 580 data.
5. **Get Default** - sets all values to factory defaults.
6. Click **Submit**.

FIELD	DESCRIPTION
00 VM Port DN	Enter the DN of an individual VM port. For direct transfer to voice mail enter the remote Node ID and Pilot DN. Possible values: Up to 5 digits (default = no value)
01 Control Method	Specify In-band or SMDI integration. Select SMDI for remote voice mail. Possible values: Inband or SMDI (default = no value)
02 Send A/D Tone	Select whether Strata CIX sends A or D tone when a station connecting to voice mail answers or disconnects respectively. Possible values: Enable or Disable (default = no value)
03 Send B Tone	Enable Strata CIX to send B tones in the event of a Blind Transfer Recall. Possible values: B Tone, No Tone or B Tone and Extension Number (default = no value)
04 End-to-end	Enable Strata CIX to send DTMF tones to voice mail in response to key presses from a digital telephone. Possible values: Enable or Disable (default = no value)
07) VM to VM Call Blocking	Set to blocking to prevent Voice Mail Auto Attendant, supervised transferred, calls from forwarding back into Voice Mail. Possible values: Blocking or Non-blocking (default)

Destination Restriction/Least Cost Routing

Programming DR/LCR features in Strata CIX requires an advanced knowledge of telephone programming. Make sure you have a thorough understanding of the discussion that follows before attempting to program these features. For details on LCR, see [“LCR Overview”](#) on [page 9-12](#).

DR Overview

Strata CIX offers DR as a major expansion of traditional Toll Restriction. Toll Restriction is used to prevent the unauthorized use of toll prefixes to the PSTN as follows:

- **1** – long distance
- **0** – operator assistance
- **011** – international

Strata CIX has expanded this to include restriction based on any string of dialed digits. Strata CIX can restrict any string of up to 13 dialed digits including ***** and **#**.

Thirteen-digit screening allows control of access to individual telephone numbers in remote area codes. Restriction of *****, **#** controls access to vertical service codes from the CO such as camp-on and call forwarding.

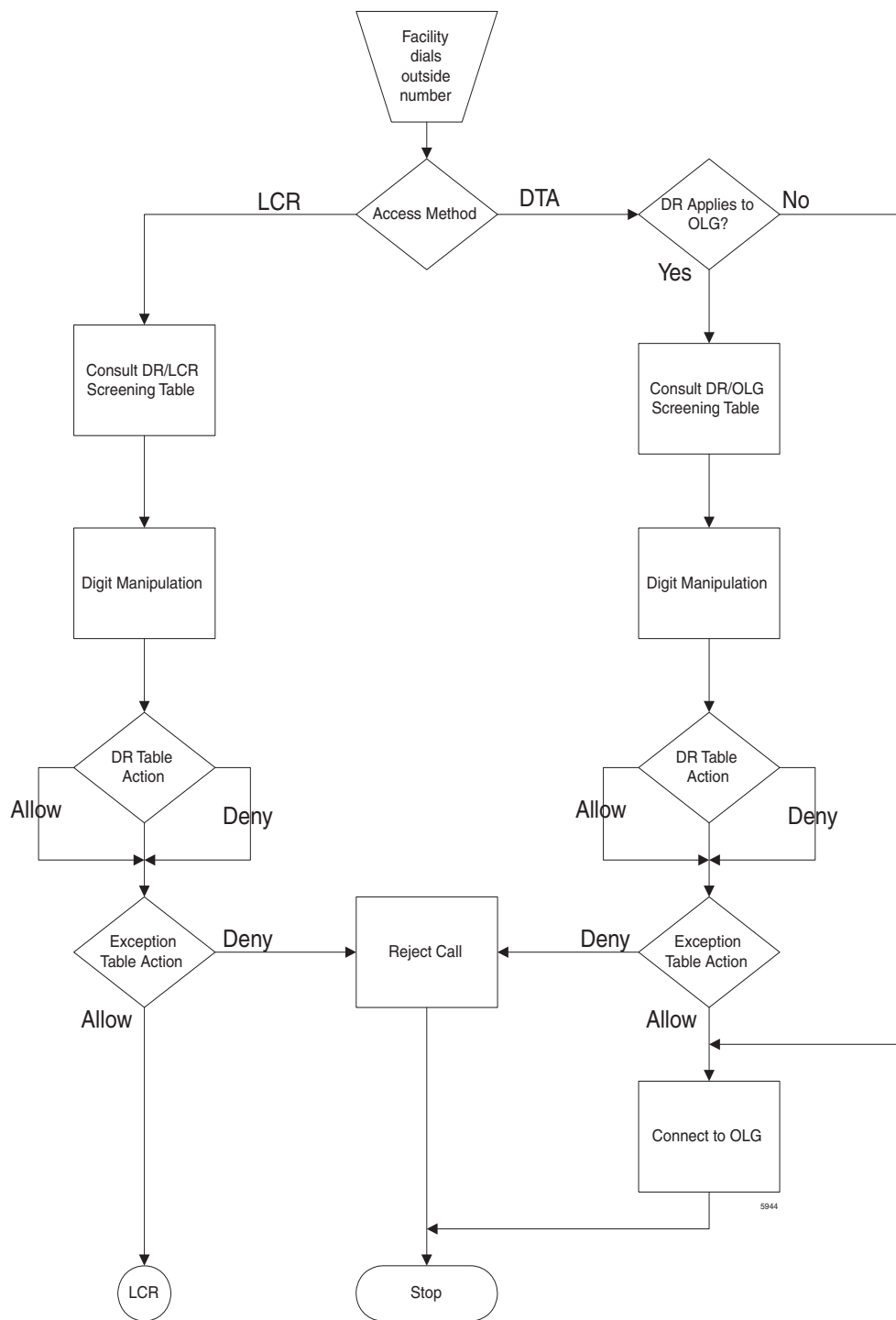
DR is always applied to calls originated through LCR and may be applied to calls originated through Trunk Group Access, Individual Trunk Access, CO Key, Group CO Key, Pooled Line Key, and Strata Net private networking. Special screening tables allow restriction of calls placed through Centrex or PBXs to which the Strata CIX may be connected.

Each OLG can be programmed to require or not require DR in [“306 Outgoing Line Groups”](#) on [page 6-5](#). If a trunk group requires DR, a table must then be established using [“531 DR Screening Table for OLG”](#) on [page 9-24](#).

DR is controlled by a DR Level (DRL) that is assigned to any station or trunk capable of making an outside call. Each of the 16 DRLs relate to a DR Table. A DR Table may be an Allow or Deny table and may be associated with an Exception Table. A Deny Toll Restriction Table contains a list of dial strings that are prohibited. Its associated Exception Table lists the dial strings within the Deny Table ranges that would be allowed. For example, a Deny table might deny access to all of Area Code 1-800. Its exception table could permit access to specific office codes within that area such as 1-800-234.

Basic Operation

The flow chart below describes the basic logic by which calls are connected or rejected as a result of DR.



Tables

Strata CIX uses two or three tables to apply DR:

- Screening Tables. There are two types of screening tables as follows:
 - LCR Screening Tables.
 - OLG-Specific Screening Tables.
- DR Table or Exception Table to the DR Table.

Screening tables are used in Behind Centrex/PBX operations to detect access codes required by the Centrex/PBX and processes them appropriately in a way that is transparent to end users.

DR/LCR Screening

DR is applied to all LCR calls using [“530 DR LCR Screening Table Assignment”](#) on [page 9-23](#). It analyzes the digits dialed after the LCR access code (typically 9).

Example: A station user dials 9 *72 1-617-234-5678. The outgoing line will serve as an incoming line that this user is attempting to forward to his home. The system administrator has created an LCR/Screening entry to prevent the forwarding of this line to the user’s home. With Skip & Apply under DR action and a Skip Length of 0, the call will be forced to present *72 to the DR table where the call will be rejected. Apply under LCR Action ensures that the entire string will be processed by LCR. In this case, Digit Modification is irrelevant.

DR Screening for OLG Table

An OLG-specific DR Screening Table is used when a call is originated through a Line Key, Pooled Line Key, Group CO Key, Trunk Group Access Code or Direct Trunk Access Code and a CO line is chosen that requires DR. The decision to apply DR to an OLG is made in [“306 Outgoing Line Groups”](#) on [page 6-5](#). If the OLG does not require DR, the call is connected to the desired line and all dialed digits, minus the Strata CIX access code, are sent.

The OLG-specific table performs two functions:

- It manipulates the digits that will be screened by the DR table.
- It creates a Pause Value that ensures that the Centrex or PBX which is the source of the trunk will receive and interpret the digits correctly. This is used to compensate for older, slower equipment.

Example: A station user dials 81-9-1-617-234-5678 where 81 is the Trunk Group Access Code for a Centrex trunk group. 9 is the Centrex LCR access code. The Skip Length of 1 tells the system how many of the first digits constitute an access code or other digits that may be ignored. The DR Action of Skip & Apply tells the system to ignore the 9 and present 16172345678 to the DR Table used in the next step in the process. The Pause Value of two seconds tells the system that, if it passes the DR Tables and is connected to a trunk, it is to pause two seconds after outdialing the 9 and before outdialing 16172345678.

DR Table

Each DRL is associated with a DR Table that defines the destinations to which a holder of that DRL is entitled to place a call. Permission may be expressed in Allow or Deny tables. The DR Table is activated by defining the table as Allow or Deny through [“523 LCR Route Plan Schedule Assignment”](#) on [page 9-20](#). The table is then populated one string at a time through [“533 DR Level Table Assignment”](#) on [page 9-25](#). The table may have up to 100 entries. Entries may include any DTMF character including * and #.

As soon as Strata CIX finds a match in the table, it acts upon it. Therefore, entering 1 in a Deny table will deny all 1+ calling to users with that DRL whereas entering 1-888 denies calls to the 888 Area Code. Exceptions can be created in the DRL Exception Table.

DRL Exception Table Assignment – Once a DR Table has been established for a DRL, its exception table can be created using [“534 DRL Exception Table Assignment”](#) on [page 9-26](#). Exceptional DR Tables are optional. Dial strings in Exception tables may be as long as 11 digits. If it was desired to deny access to every office code in the 617 area code except Directory Assistance, one would first create a deny table that included 617 and then create an associated exception table that allowed 617-555-1212.

Interaction With Other Features

Behind Centrex Operation

Behind Centrex operation for OLGs is defined in [“650 Behind Centrex Assignment”](#) on [page 9-44](#). The CIX will use the values stored here to strip local and Centrex access codes from the dial string and determine the external number being dialed. This external number will then be processed according to the DR rules described above.

Note The Centrex to which the OLG is attached may impose its own DRs.

Credit Card Calling

If a valid credit card number is detected, the CIX will not apply DR to a call because the charges for such a call are applied to the credit card rather than the outgoing line used.

Destination Restriction Guide Page

Use the Destination Restriction (DR) guide pages to program Destination Restriction.

1. Click Services > DR Guide Page.

The Destination Restriction Guide Page opening screen displays.

2. Click on any Program number to start using the Guide page.

Note Every Guide Page has Back and Next buttons to help you navigate to the previous and next programs in a group.

The Program at the end of a group has a Guide Page button instead of a Next button to take you to the main Destination Restriction Guide Page.

DR Dialing Setup

Program 530 – DR/LCR Screening table.

Use this program to define special dialing codes that are normally dialed in front of telephone numbers (example *82, *67). It defines what DR and LCR action should be applied after users dial the special code (Bypass or Skip and Apply DR).

Programs 531/650 – Centrex/PBX DR Screening table.

Use this program to define Centrex/PBX line access codes. It defines what DR action should be applied after users dial the Centrex/PBX line access code (Bypass or Skip and Apply DR). It is also used to assign OLG to this table and/or enable Centrex assume 9 dialing.

Program 117 – Public Dial Plan Digit Analysis.

Use this program to prevent standard telephone users from avoiding DR by sending DTMF tones to the PSTN before DR analysis is complete. In LCR applications, it allows calls to cut through to the PSTN immediately so users do not have to wait for a pause timer to cut through after dialing a number.

DR Digit Table Setup

Programs 111/532/533/534 – DRL Assignments.

Use this screen to define Destination Restriction tables for each DRL. It combines the following programs into a single screen for viewing, editing and copying DR tables.

111 - Used to define if the DRL allows credit card calling or not.

532 - Used to define each DR table as an Allow or Deny table.

533 - Used to add or delete digit strings from DR Exception Tables and copy selected digit strings from one DR Exception table to another DR Exception table.

534 - Used to add or delete digit strings from DR Exception Tables and copy selected digit strings from one DR Exception table to another DR Exception Table.

Table 9-1 DRL Dial String Template

DRL	Allow/Deny/Exception	Dial String	Comments
DRL1	Deny	Nothing	Deny nothing so all calling is allowed
DRL10	Allow	Nothing	Allow nothing so all outbound calls are restricted
DRL11	Deny	1, 809, 900, 976, NXX976	Denies long distance calls, pay per service toll calls, except for toll free calls and allows local calls
	Exception	1800, 1877, 1888	
DRL12	Deny	011, 1809, 1900,1976, 809,900, 976, 1NXX976, NXX976	Allows local and long distance calls, restricts pay per service toll calls, and restricts international calls

DR Class of Service Setup

Program 103 – Class of Service (COS).

Use this screen to set COS options that are related to DR and other outgoing call features.

Program 200 – Station Data.

Set the COS options that are related to DR and other outgoing call features.

Program 105 – System Parameters.

Set the system parameters related to DR and other outgoing call options.

Program 510 – Class of Service.

Setup override codes for DRLs and other related features. Override code digit length must be defined in Program 105-15, System Parameters. This feature is described as Traveling Class Override in the telephone user guide.

Program 509 – System Speed Dial DRL level.

Set the DRL, COS, FRL and OPL level that should be applied when users dial outgoing calls using system speed. This must be enabled in 105-09, system parameters.

Program 306 – Outgoing Line Groups.

Set Station options that are related to DR and other outgoing call features.

LCR Overview

LCR Analysis Process

The flowchart below represents the process by which the Strata CIX analyzes dialed digits and makes LCR decisions. The graphic is divided into four areas each described below. DR and call connection are described elsewhere in this document and are shown here only for their roles in the LCR process.

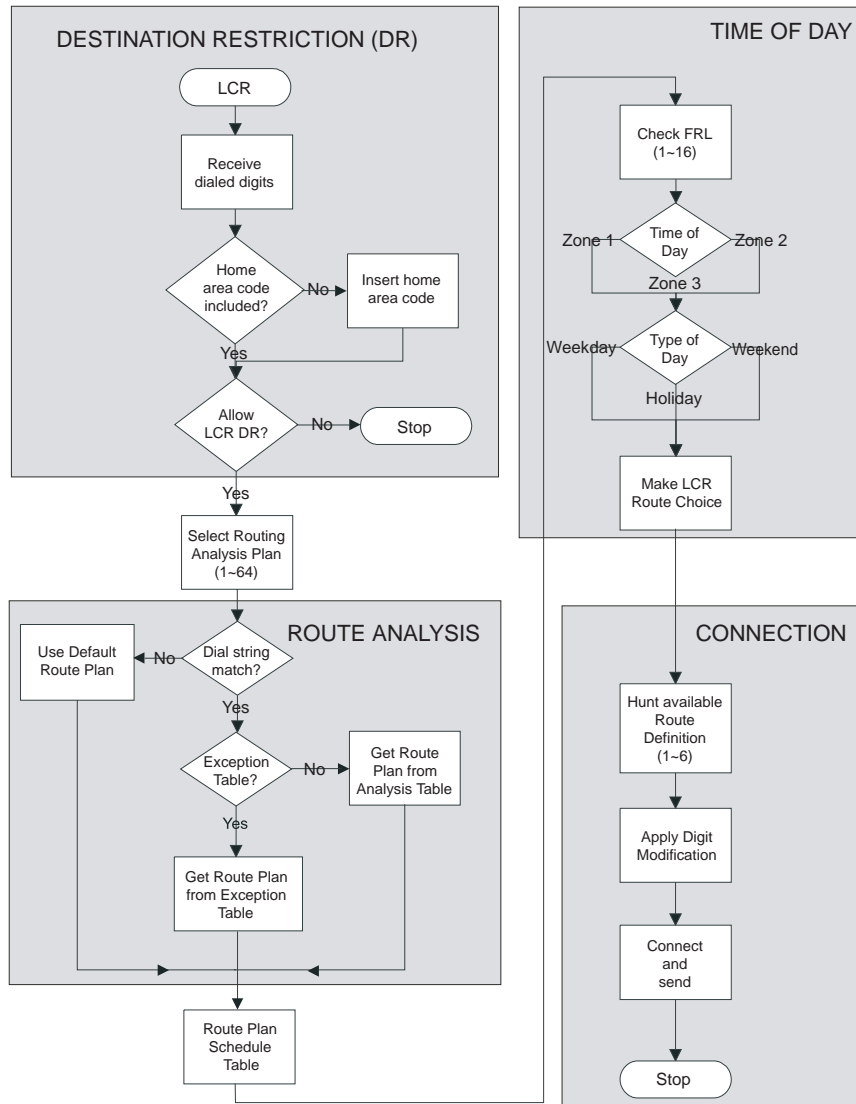


Figure 1 LCR Analysis Process Flow

DR

LCR begins with the receipt of a dial string from a facility capable of originating an outgoing call: station, automated attendant, Tie trunk, DISA trunk, DID trunk, etc. The dial string is identified as an LCR call by the presence of the LCR feature access code—typically 9. The LCR access code is removed and the remaining external digits are processed.

Route Analysis

Route Analysis chooses a route plan based on the dialed digits. The Routing Analysis Plan becomes the index into the time/date calculations described in the next section. If the Strata CIX is unable to match the dial string, it uses the default route plan which assures a route out of the system. If a match is found, the CIX determines if an exception table is associated with the dial string. If the dial string appears in the exception table, the call is assigned to the route plan stored in the exception table. Otherwise, the route plan stored in the initial table is used.

Time of Day

The Strata CIX maintains time and day values for LCR separate from those for the general system. One day can be divided into three zones, and each day can be categorized as a Weekday, Weekend, or Holiday.

Connection

Selection of a Route Choice Table begins the process of actually connecting the call to an outgoing trunk. Each Route Choice Table consists of six route definitions which operate in terminal hunt fashion to select an OLG and to apply a digit modification treatment.

LCR Guide Page

1. Complete the LCR Assignment Record Sheets.
2. Click Services > LCR Guide Page.
The Least Cost Routing Guide Page screen displays.
3. Click on any Program Number to start using the guide pages.

Note Every Guide Page has Back and Next buttons to help you navigate to the previous and next programs in a group.

The Program at the end of a group has a Guide Page button instead of a Next button to take you to the main Least Cost Routing Guide Page.

LCR Dialing Setup

Program 102 – Flexible Access Codes

Use this program to change the LCR access code. The default LCR access code is 9. You can change the default access code to any number from 0~9, *, and/or #. Enter an access code number that does not conflict with the existing numbering plan.

Program 530 – DR/LCR Screening Table

Use this program to define special dialing codes that are normally dialed in front of telephone numbers (example *82, *67). It defines what DR and LCR action should be applied after users dial the special code (Bypass or Skip and Apply DR).

Program 117 – Public Dial Plan Digit Analysis

Use this program to prevent standard telephone users from circumventing DR by sending DTMF tones to the PSTN before DR analysis is complete. In LCR applications, it allows calls to cut through to the PSTN immediately so users do not have to wait for a pause timer to cut through after dialing a number.

LCR Route Plan Setup

Program 520 – LCR Local Route Plan Assignments

Use this program to select which LCR route plan is used for local calls.

Programs 521 and 522– Route Plan Digit Analysis Table

Use this program to assign Analysis and Exception digits (digit strings) to route plan tables.

This screen enables you to view, add and delete Analysis Digits and Exception Digits.

Programs 526 and 525 – Route Definition and Modified Digits Assignments

Use these programs to assign OLG groups and modified digit tables to Route Definitions.

Program 524 – Route Choice Table Assignments

Use this program to assign Route Definitions to Route Choice Tables.

Note Double click a row to activate the **Add**, **Modify** and **Delete** buttons.

Program 523 – LCR Route Schedule Assignments

Use this program to define the Route Schedule for each Route Plan.

Table Buttons on the LCR Route Schedule Screen

Notes

- Clicking table buttons display exclusive and dynamic tables. You can move these tables anywhere on the screen by clicking the blue title bar and dragging it to a desired location.
- The tables are dynamic because you can click on any route plan on the 523 LCR Route Schedule Assignment screen and notice the table information change to pertain to that route plan.
- Route/Plan Choice – Click this button to view route plans and route choice. This table combines all information found in the Route Plan Analysis Digits table and Route Choice Definition table on a per Route Plan basis.
- Route Plan Analysis Digits – Click this button to view the Route Plan Analysis table.
- Route Choice Definition – Click this button to view the Route Choice Table view.
- Station LCR Group – Click this button to view the Station LCR Group table.

LCR Day of Week and Time Zone Setup

Program – LCR Days of the Week Assignments

Use this program to assign each day of the week as a Weekday, Weekend or Holiday.

Program 529 – LCR Route Time Zone Assignments

Use this program to define Route Plan day types and time zones.

Program 527 – LCR Holiday Assignments

Use this program to assign which days of the year should follow LCR Holiday routing assignments.

LCR COS and Station Setup

Program 103 – Class of Service

Use this program to enable or disable LCR in COS feature sets.

Program 200 – Station Data

Use this program to assign stations to COS feature sets and LCR station groups.

LCR/DR

LCR Assignment

Program Number(s): 520, 521 and 522

User access to LCR is determined by programming the following:

- **103 COS Assignment** – 29 LCR Feature (see [page 4-9](#)) enables access to LCR COS.
- **200 Station Assignment** – 07 LCR Group (see [page 5-1](#)) assigns a station to an LCR Group.
- **304 ILG Assignment** – 23 LCR Group (see [page 6-1](#)) assigns an LCR Group to an ILG.

Note Appropriate COS, DRL and FRL assignments must be made to all LCR stations and trunks.

1. Complete the LCR Assignment Record Sheets.
2. Click Advanced Configuration > LCR/DR > Assignment.
3. Enter Program 520 data.
4. Enter Program 521 data.
5. Enter Program 522 data.
6. **Get Default** - sets all data to factory defaults.

Note For steps 3~5, complete the LCR Assignment Record Sheets.

7. Click **Submit**.

520 LCR Local Route Plan Assignment

Prerequisite Program: None

This assignment is used to select which of 64 LCR Route Plans should be used to route local calls. The Local Route Plan, which must be defined in the route definition assignment, determines which CO line group is used for local outgoing calls.

FIELD	DESCRIPTION
01 Local Area Code	<p>Enter the 3-digit area code for the dialing area in which the system is installed. This is the area code of the central office that provides local CO lines to the system. If no data is entered in this field, any previously programmed data is lost.</p> <p>Possible values:3 digits (default = no value)</p>
02 Local Route Plan	<p>Enter the LCR route plan number that should be used to route local calls. Local calls are made by dialing 7-digit public telephone numbers that do not require an Area Code.</p> <p>Total Route Plans available for CTX28, CIX40, CIX200 and CIX670 basic or expanded is 64.</p> <p>Total Route Plans available for CIX1200 Basic or expanded is 128</p>
03) LCR Campon	<p>Enable - to camp-on to a line group when all lines in the group selected by LCR are busy - this will send ringback tone to the user and the user will be camped-on to the busy line group until a line becomes available to make the outgoing call.</p> <p>Disabled - to not camp-on to a busy line group when using LCR. Will send busy tone to the user when using LCR and all lines in the selected line group are busy. The user does not camp-on to the line group and will have to try to make the call again.</p> <p>Possible values:Enable or Disable (default)</p>

521 LCR Route Plan Digit Analysis Assignment

Prerequisite Program: 520 [page 9-16](#)

This command assigns number to the Route Plan Analysis Table.

FIELD	DESCRIPTION
00 Analysis Digits	<p>Enter the external digit strings (area codes, toll prefixes, service codes, etc.) to be assigned to a Route Plan.</p> <p>A Route Plan Analysis Table may have up to 1280 members in CTX28, CIX40, CIX100, CIX200 and CIX/670 basic and expanded.</p> <p>A Route Plan Analysis Table may have up to 2500 members in CTX28, CIX40, CIX100, CIX200 and CIX/670 basic and expanded.</p> <p>A digit string can only be in one table at a time.</p> <p>Digits may include wild cards 'X' and 'N' where X = 0~9 and N = 2~9.</p> <p>A digit string may be up to 7 digits for CTX28, CIX40, CIX100, CIX200 and CIX/670 basic and expanded.</p> <p>A digit string may be up to 19 digits for CIX1200 basic and expanded. (default = no value)</p>
01 Route Plan Number	<p>Enter the LCR route plan number that should be used.</p> <p>Total Route Plans available for CTX28, CIX40, CIX200 and CIX670 basic or expanded is 64.</p> <p>Total Route Plans available for CIX1200 Basic or expanded is 128.</p> <p>Entering 0 deletes the Analysis Digits from the table where they had been assigned.</p>

522 LCR Exception Number Route Plans

Prerequisite Program: 521 [page 9-17](#)

This command assigns up to 1280 dialed external digit strings to the Route Plan Exception Analysis Table which assigns each string to 1 of 64 Route Choice Tables. The values expressed here are exceptions to the values established in Program 521.

FIELD	DESCRIPTION
00 Exception Route Plan Table	<p>Enter the external digit strings (area codes, toll prefixes, service codes, etc.) to be assigned to a Exception Plan Analysis Table.</p> <p>Strings may be up to 19 digits long.</p> <p>An Exception Plan Analysis Table may have up to 1280 members in CTX28, CIX40, CIX100, CIX200 and CIX/670 basic and expanded.</p> <p>An Exception Plan Analysis Table may have up to 2500 members in CIX1200 basic and expanded.</p> <p>A digit string can only be in one table at a time.</p> <p>Digits may include wild cards 'X' and 'N' where X = 0~9 and N = 2~9. (default = no value).</p>
01 Exception Route Plan	<p>Enter the LCR route plan number that should be used.</p> <p>Total Route Plans available for CTX28, CIX40, CIX200 and CIX670 basic or expanded is 64. Total Route Plans available for CIX1200 Basic or expanded is 128.</p> <p>Entering "0" deletes the Exception Digits from the table.</p>

Route Define

Program Number(s): 524, 525 and 526

Define the participants in the LCR Route Plan. Complete the Route Choice Definition Record Sheet.

1. Click Advanced Configuration > LCR/DR > Route Define.
2. Enter Program 524 data.
3. Enter Program 525 data.
4. Enter Program 526 data.
5. **Get Default** - sets all data to factory defaults.
6. Click **Submit**.

524 Route Table to Route Definition Assignment

Prerequisite Program: 525 below

This command defines up to six possible Route Definitions for a given Route Table.

FIELD	DESCRIPTION
00 Route Choice Table	Enter the Route Choice Table to be defined. Possible values: 1~128(default = no data)
01 Route Definition 1	Enter Route Definitions to be assigned to this Route Table. Possible values: 1~128, 0 = Delete (default = no data)
02 Route Definition 2	
03 Route Definition 3	
04 Route Definition 4	
05 Route Definition 5	
06 Route Definition 6	

- Notes**
- For Field 01 Route Definition 1 enter the First Choice Route.
 - For Field 02 Route Definition 2 enter the Second Choice Route.
 - For Field 03 Route Definition 3 enter the Third Choice Route.
 - For Field 04 Route Definition 4 enter the Fourth Choice Route.
 - For Field 05 Route Definition 5 enter the Fifth Choice Route.
 - For Field 06 Route Definition 6 enter the Sixth Choice Route.

525 LCR Route Definition Assignment

Prerequisite Program: 520 [page 9-16](#)

This command assigns Route Definitions for LCR. A Route Definition consists of an OLG and a Digit Modification index.

FIELD	DESCRIPTION
00 Route Definition	Select the Route Definition number. Possible values: 1~128 (default = no data)
01 OLG Number	Select the OLG Number associated with this Route Definition. "0" means no data. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = no data)
02 Digit Modification Index	Select the Digit Modification Index associated with this Route Definition. Possible values: 1~128 (default = no data) "0" means no data.

526 Modified Digits Table Assignment

Prerequisite Program: 521 [page 9-17](#)

This command modifies LCR dialed numbers by deleting digits from, and adding digits to, the dialed numbers.

FIELD	DESCRIPTION
00 Digit Modification Index	Select the Digit Modification Index used by the LCR Route Choice table to determine the digit modification treatment to be applied. Leading digits of a dialed number may be deleted; leading and trailing digits may be added to the dialed number. Possible values: 1~128 (default = no value)
01 Delete Digits	Select the quantity of digits to be deleted from the beginning of dialed number. Possible values: 0~20 (default = 0)
02 Add Leading Digits	Enter the digit string (up to 23 characters) to be inserted at the beginning of the number. This can include pauses, and links to a maximum of 8 authorization codes. Possible values: Up to 23 ASCII characters (default = no value)
03 Add Trailing Digits	Enter the digit string (up to 23 characters) to be inserted at the end of the number. This can include pauses, and links to a maximum of 8 authorization codes. Possible values: Up to 23 ASCII characters (default = no value)

Route Schedule

Program Number(s): 523 and 528

1. Complete the Route Schedule Record Sheets.
2. Click Advanced Configuration > LCR/DR > Route Schedule.
3. Enter Program 523 data.
4. Enter Program 528 data.
5. **Get Default** - restores all data to factory defaults.
6. Click **Submit**.

523 LCR Route Plan Schedule Assignment

Prerequisite Program: None

This command assigns Route Plan Schedule Tables for LCR. Each table is a 3-dimensional array of 144 values (3 Types of Day x 3 Times of Day x 16 LCR Groups).

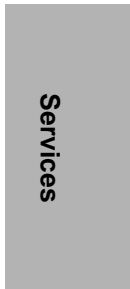
FIELD	DESCRIPTION
00 Route Plan	Enter the Route Plan Number for which to build a schedule indexed by Time of Day, Type of Day and LCR Group. Enter the LCR route plan number that should be used. Total Route Plans available for CTX28, CIX40, CIX200 and CIX670 basic or expanded is 64. Total Route Plans available for CIX1200 Basic or expanded is 128. Entering "0" deletes the Exception Digits from the table. (default = no value)
01 Type of Day	Select the Type of Day. Possible values: Weekday (default), Weekend or Holiday
02 LCR Time of Day	Select the Time Zone. Possible values: Time Zone 1, Time Zone 2 or Time Zone 3 (default = no value)
03 Station LCR Group	Select the Station LCR Group. Possible values: 1~16 (default = 1)
04 Route Choice Table	Enter the Route Choice Table Number to be used with this combination of time, type and LCR group. Possible values: 1~128, 0 = delete (default = 1)

528 LCR Public Day of Week Mapping Table

Prerequisite Program: 520 [page 9-16](#)

This command defines the days of the week as weekdays, weekend days or holidays for LCR.

FIELD	DESCRIPTION
01 Monday	Select the Day Type to assign to this day.
02 Tuesday	Possible values: Weekday (default), Weekend or Holiday
03 Wednesday	
04 Thursday	
05 Friday	
06 Saturday	Select the Day Type to assign to this day. Weekday, Weekend (default) or Holiday
07 Sunday	Select the Day Type to assign to this day. Weekday, Weekend (default) or Holiday



Public Holidays and LCR Time Zones

Program Number(s): 527 and 529

1. Complete the LCR Time Zone Record Sheets.
2. Click Services > LCR/DR > Public Holidays and LCR Time Zones.
3. Enter Program 527 data.
4. Enter Program 529 data.
5. Click **Submit**.

527 LCR Holiday Table

Prerequisite Program: None

This command assigns up to 128 holidays for LCR processing. These assignments are related to the day assignments established in Program 523.

FIELD	DESCRIPTION
00 Holiday	Enter Date (YYYYMMDD). A maximum of 128 dates is allowed. Possible values:YYYY = Year, MM = Month and DD = Day (default = no value)
01 Add/Delete	Choose to add or delete this date from the holiday table. Expired dates remain in the table unless deleted. Possible values:Add or Delete (default)

529 LCR Route Plan Time Zone Assignment

Prerequisite Program: 520 [page 9-16](#)

Defines the time zones used by each route plan for each day type

FIELD	DESCRIPTION
00 Route Plan	Select the LCR route plan number to assign to this time zone. Possible values:Total Route Plans available for CTX28, CIX40, CIX200 and CIX670 basic or expanded is 64.Total Route Plans available for CIX1200 Basic or expanded is 128. Entering "0" deletes the Exception Digits from the table.(default = no value)
01 LCR Day Type	Select a day type for which to define a time zone. Possible values:Weekday, Weekend or Holiday (default = no value)
02 LCR Time Zone	Select a time zone. Possible values:Zone 1, Zone 2 or Zone 3 (default = no value)
03 Start Time	Enter the start time for the selected time zone (hhmm). Note Enter your day type and time zone selections before entering data into this field. Possible values:hh = hour (0-23) and mm = minutes (0-59) (default = 0000)

LCR/DR Screening

Program Number(s): 530 and 531

These programs enable and set up screening for DR and LCR.

1. Complete the DR LCR Screening Record Sheet.
2. Click Advanced Configuration > LCR/DR > LCR/DR Screening.
3. Enter Program 530 and 531 data or click one of the following buttons:
 - **List** – view a summary list of programmed Screened Dial Strings or Behind Centrex Access Codes.
 - **Copy** – Enter a Screened Dial String or Behind Centrex Access Code in the field with the corresponding name. Click **Copy** to make a new assignment.
 - **Get Default** - sets all data to factory defaults.
4. Click **Submit**.

530 DR LCR Screening Table Assignment

Prerequisite Program: None

This command screens dialed digits for access codes such as Carrier Identification Codes or Behind Centrex/PBX access codes. Used only in LCR calls.

FIELD	DESCRIPTION
00 Screening Dial String	Enter the string of external digits to be screened. Possible values:Up to 7 ASCII characters (default = no value)
01 Add String to Table	Add the screening dial string to the DR LCR screening table. Possible values:Add or Delete (default)
02 Destination Restriction Action	Select DR Action. Possible values: Bypass (default) or Skip and Apply <ul style="list-style-type: none"> • Bypass – Do not apply DR. • Skip and Apply – Apply DR to the dialed digits excluding the number of digits specified in skip length.
03 Least Cost Routing Action	Select LCR Action. Possible values: <ul style="list-style-type: none"> • Apply – (default) Apply LCR to all of the external dialed digits. • Skip and Apply – Apply LCR to the dialed digits excluding the number of digits specified in skip length.
04 Digit Modification Action	Select Digit Modification application. Possible values: <ul style="list-style-type: none"> • Apply – (default) Apply digit modification from the first digit. • Retain – Retain the skipped digits and apply digit modification starting from the next digit specified by skip length. • Discard – Discard the skipped digits and apply digit modification starting from the next digit specified by skip length.
05 Skip Length	Specify the number of digits at the beginning of the dial string to be ignored before DR, Digit Modification, or LCR is applied. Possible values:0~5, 0 = delete (default = 0)

531 DR Screening Table for OLG

Prerequisite Program: None

Assigns DR Screening Table for an Outgoing Line Group (OLG). Up to four codes may be assigned per line group. Used for outgoing calls other than LCR.

FIELD	DESCRIPTION
00 Outgoing Line Group	<p>Enter the OLG Number.</p> <p>Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)</p>
01 Behind Centrex Access Code	<p>Enter the access code expected by an attached Centrex, PBX or Tie line.</p> <p>Possible values: Up to 8 ASCII characters (default = no value)</p>
02 Add or Delete Code	<p>Add or Delete the code entered above. Leaving the field empty removes an existing code. Activation requires entries in OLG Group number and 01 Behind Centrex Access Code above.</p> <p>Possible values: Add or Delete (default)</p>
03 DR Action for Centrex	<p>Apply DR to the dialed digits.</p> <p>Possible values:</p> <ul style="list-style-type: none"> • Bypass (default) – does not apply DR. • Skip and Apply– applies DR to the dialed digits excluding the number of digits specified in Skip Length.
04 Skip Length	<p>Enter the number of leading digits to be ignored by DR.</p> <p>Possible values: 0~8 (default = 0)</p>
05 Pause Length	<p>Enter the length of the pause to be inserted between dialing digits.</p> <p>Possible values: 0~10 (default = 0)</p>

Destination Restriction

Program Number(s): 532, 533, 534 and 111

Assign Destination Restriction (DR) features for the Strata CIX.

1. Complete the DR Record Sheets.
2. Click Services > LCR/DR > Destination Restriction.
3. Enter 00 DR Level (DRL).
4. Enter Program 532 data.
5. Enter Program 533 data. Click **List** to view a summary list of programmed Dial Strings.
6. Enter Program 534 data. Click **List** to view a summary list of programmed Dial Strings.
7. Enter Program 111 data.
8. Click **Submit**.

532 DR Table Allow/Deny Definition

Prerequisite Program: 533 below.

Specify the Destination Restriction (DR) Table Type using this command.

FIELD	DESCRIPTION
00 DRL Number	Select the DRL Number. Possible values: 1 ~ 16 (default = no value)
01 Type of Table	Specify whether this DR Table is an allow table or deny table. Possible values: Allow or Deny (default)

533 DR Level Table Assignment

Prerequisite Program: None

This program adds or deletes entries in the DR Table associated with the DRL entered in [Step 3](#) above.

FIELD	DESCRIPTION
00 Destination Restriction Level	Choose the DRL. Possible values: 1 ~ 16 (default = no value)
01 Dial String	Enter the string of dialed digits to be allowed or denied. Wild cards (X and N) can only be assigned through Strata eManager, not the programming phones. Possible values: 1~7 digits (default = no value)
02 Add/Delete	Add or delete the string entered in 01 Dial String above to the DR Table. Possible values: Add or Delete (default)

534 DRL Exception Table Assignment

Prerequisite Program: 533 above

Note In CTX software R1 ~ R1.2 this table only allows 11 digits. Starting with R1.3 and up 13 digits are allowed.

This program assigns a DRL Exception Table to an existing DRL table. If the DRL table is an allow table, its Exception Table must be a deny table and vice versa.

FIELD	DESCRIPTION
00 Destination Restriction Level	Enter the DRL for which you want to populate an exception table. Possible values: 1~16 (default = no value)
01 Dial String	Add the dial string you wish to be treated as an exception. Possible values: 1~ 7 digits may include wild cards "X" and "N" where X = 0~9 and N = 2~9.(default = no value)
02 Add/Delete	Add or delete the string entered in 01 DR exception table above to the DR exception table. Possible values: Add or Delete (default)

111 DR Level

Prerequisite Program: None

This program enables credit card calling for a DRL.

FIELD	DESCRIPTION
DRL Number	Enter the DRL number. Possible values: 1~16 (default = no value)
01 Credit Card Calling	Enable Credit Card Calling for this DRL. Possible values: Enable or Disable (default)

DRL Table View

The DRL table view enables you to view all programmed DRLs. This table is a read only table. To access the DRL table view Click Advanced Configuration > LCR/DR > DRL Table.

See [Table Views](#) in Chapter 2 for table functionality.

Centrex/PBX Screening Table View

The Centrex/PBX Screening Table View enables you to the Centrex/PBX Screening table.

To access the Centrex/PBX Screening Table View Click Advanced Configuration > LCR/DR > Centrex/PBX Screening Table View.

See [Table Views](#) in Chapter 2 for table functionality.

Account Codes

Program Number(s): 570, 506 and 571

Assign Account Code data to Strata CIX.

Account Codes can be verified or unverified. Verified Account Codes simultaneously function as Authorization Codes. This is achieved by restricting a telephone's calling privileges so that it cannot complete a call without entering a code. The Strata CIX compares that code to entries in the table created below and raises the telephone's restrictions to permit the call. If the dialed code cannot be found in the table, the call will be rejected. The requirement to enter an account code is established in the telephone's Class of Service.

Unverified account codes do not affect restriction levels and simply report the account code dialed in the SMDR record for further processing by call accounting equipment.

All account codes in a CIX (verified or not) must have the same number of digits (Registered Digit Length, parameter 02, in Program 570 below).

The system can be programmed to verify only a portion of an account code (Verified Program Length, parameter 01, in Program 570 below). For example, a company may choose to identify its customers with four digit numbers but have an overall account code length of eight digits. Registered Digit Length would be eight and Verified Program Length would be four. Upon entry of the first four verifiable digits and then four random digits to fill out the required length, the call would be processed.

1. Complete the data sheet.
2. Click Advanced Configuration > LCR/DR > Account Codes.
3. Enter Program 570 data.
4. Enter Program 506 data. Click **List** to view a summary list of programmed Account Codes.
5. Enter Program 571 data.
6. **Get Default** - sets all data to factory defaults.
7. Click **Submit**.

570 Account Code Digit Length

Prerequisite Program: None.

Accounting Codes need to be specified for the number of digits that are expected to be used for registering a number. This allows dialing within Strata CIX to proceed automatically once the correct account code is dialed. The following numbers are then dialed digits used for making the phone call.

A second length is provided to allow the number of digits to be used for verification of the code to be less than the total code entered, thus the code may contain two parts, one required and one part optional to the user.

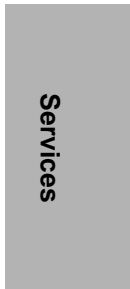
FIELD	DESCRIPTION
01 Verified Digit Length	<p>The Verified Digit Length sets the number of leading digits within an account code to be verified against the table built in 506 Verified Account Codes. The Verified Digit Length may be shorter than, or as long as, the Registered Digit Length.</p> <p>Note This field is not changed, when “506 Verified Account Codes” on page 9-29 are registered.</p> <p>Possible values:4~15 (default = 4)</p>
02 Registered Digit Length	<p>The Registered Digit Length sets the number of digits in all account codes whether voluntary, forced and/or verified.</p> <p>Note The Registered Digit Length (FB02) must be greater than or equal to the Verified Digit Length (FB01).</p> <p>Possible values:4~15 (default = 6)</p>
03 Call Forward External Override	<p>Override Forced Account Code to allow Call Forwarding to an external destination. This applies to R2.22 MH233 and later software.</p> <p>Possible values:Enable - Allows calls to a Forced Account Code station to forward without entering an Account Code. Disable - Requires the caller to enter an Account Code before the call will forward. If a valid Account Code is not entered the call will disconnect.</p>

506 Verified Account Codes

Prerequisite Program: 570 [page 9-28](#)

This program adds or deletes entries in the DR Table associated with the DRL entered in [Step 3 on 9-25](#).

FIELD	DESCRIPTION
Verified Account Code	<p>Enter the code to be used as a valid accounting code that the user will be expected to dial. The Registered Digit Length (FB02) must be greater than or equal to the Verified Digit Length (FB01).</p> <p>Number of Verified Account Codes per system: 135 (CIX/CTX100 & CTX28 & CIX40) 300 (CIX/CTX670 & CIX200 Basic) 1000 (CIX/CTX670 Exp) 300 (CIX200 Basic HCTU only) 4000 (CIX1200 Exp. HEXAU or HEXBU) Possible values:4~15 digits (default = 6)</p>
01 Verified Flag	<p>The Account Code Flag determines whether the number entered is to be used as a verified account code or not. Some applications may allow users to dial an account code which changes the restriction level for the call allowing it to be placed.</p> <p>Possible values:Set or No Set (default)</p> <p>Note To delete a Verified Account Code set this field to No Set.</p>
02 DRL	<p>This DRL will be applied to a call when this Verified Account Code is entered.</p> <p>Possible values:0~16 (default = 0)</p>
03 FRL	<p>This FRL will be applied to a call when this Verified Account Code is entered.</p> <p>Possible values:0~16 (default = 0)</p>
04 Network COS	<p>This Network COS will be applied to a call when this Verified Account Code is entered.</p> <p>Possible values:1~32 (default = 1)</p>



571 Exception Numbers for Forced Account Codes

Prerequisite Program: 506 [page 9-29](#)

Up to four telephone numbers can be programmed as exceptions to the forced and /or verified account code entries (including 911). These special codes enable numbers to bypass the verification process and proceed unhindered.

FIELD	DESCRIPTION
01 Exception Number 1	Enter a Forced Account Code Exception.
02 Exception Number 2	Possible values:Up to 4 digits.
03 Exception Number 3	Exception 1 default = 911 Exception 2~4 default = no value
04 Exception Number 4	Note One of the assigned exception numbers should be 911. Exception numbers for forced account code fields cannot be duplicated.

509 DR Override by System Speed Dial

Prerequisite Program: 105 System Data

This command assigns the service class components that are used by Destination Restriction Override By Speed Dial. DR Override must first be enabled in Program 105, System Data.

1. Click Advanced Configuration > LCR/DR > DR Override by SSD.
2. Select the COS, DRL, FRL and QPL override values.
3. **Get Default** - sets all data to factory defaults.
4. Click **Submit**.

FIELD	DESCRIPTION
01 Override COS	Select the override COS value. Possible values: 1~32 (default =1)
02 Override DRL	Select the override DRL value. Possible values: 1~16 (default =1)
03 Override FRL	Select the override FRL value. Possible values: 1~16 (default =1)
04 Override QPL	Select the override QPL value. Possible values: 1~16 (default =1)

510 COS Override Assignment

Prerequisite Program: 105 System Data

Assigns the COS, FRL, DRL and QPL to be used by COS Override. If a COS parameter has been assigned in either the original or the override COS, it will be applied.

1. Complete the COS Override Code Record Sheet.
2. Click Advanced Configuration > LCR/DR > COS Override.
3. Enter Program 510 data or Select a COS Override Index and click **Copy** to copy settings from the selected COS Override Index.
4. **Get Default** - sets all data to factory defaults.
5. Click **Submit**.

FIELD	DESCRIPTION
00 COS Override Index	Select the COS Override index. Possible values: 1~16 (default = no value)
01 COS Override Code	Select the COS Override Code as entered by users. If no data is entered in this field any previously entered data is erased. Possible values: Up to 8 ASCII characters (default = no value)
02 Set COS	Select COS number for this override code. Possible values: 1~32 (default = 1)
03 Set DRL	Select DRL number for this override code. Possible values: 1~16 (default = 1)
04 Set FRL	Select FRL number for this override code. Possible values: 1~16 (default = 1)
05 Set QPL	Select QPL number for this override code. Possible values: 1~16 (default = 1)
06 Set Network COS	Select Network COS index for this override code. Possible values: 1~32 (default = 1)

656 Local Node ID Assignment

System Availability: Not available with CTX28

Prerequisite Program: 102 [page 4-3](#)

This program assigns up to four network node IDs to process incoming network calls. Each node ID has an overlap code. Strata CIX will substitute the overlap code for the node ID before processing the call further. A network directory number consists of a node ID and the desired node.

1. Click Services > Networking > Node ID.
2. Enter Program 656 data.
3. Click **Submit**.

FIELD	DESCRIPTION
01 Primary Node ID	Enter the primary node ID for this node. This node ID identifies the node used for administering Strata Net. Possible values:Up to 6 digits (default = no value)
Primary Overlap Code	Enter the overlap code associated with the primary node ID. An overlap code is the string of digits that replaces the node ID to continue call processing. Possible values:Up to 4 digits (default = no value)
02 Local Node ID 2	Enter node ID 2 for this node. Possible values:Up to 6 digits (default = no value)
Overlap Code 2	Enter overlap code for node ID 2. Possible values:Up to 4 digits (default = no value)
03 Local Node ID 3	Enter node ID 3 for this node. Possible values:Up to 6 digits (default = no value)
Overlap Code 3	Enter overlap code for node ID 3. Possible values:Up to 4 digits (default = no value)
04 Local Node ID 4	Enter node ID 4 for this node. Possible values:Up to 6 digits (default = no value)
Overlap Code 4	Enter overlap code for node ID 4. Possible values:Up to 4 digits (default = no value)

Note The node ID can be one to six digits in length. The system uses most significant digit matching. The node ID leading digits must not conflict. For example if node ID 15 is assigned node ID 150 to 159 cannot be used. If node ID 135 is assigned node IDs 13 or 13xx cannot be used. See examples below:

Node ID 27xxx - IDs 27000 to 27999 - 1000 IDs Starting with the digits 27 are possible.

Node ID 27xx - IDs 2700 to 2799 - 100 IDs Starting with the digits 27 are possible.

Node ID 27x - IDs 270 to 279 - 10 IDs Starting with the digits 27 are possible.

Node ID 27 - ID 27 - 1 ID Starting with the digits 27 is possible.

Note Node ID digits + DN digits must be seven digits or less.

670 Remote Node Data Assignment

System Availability: Not available with CTX28

This command assigns the Remote node data (requires R1.3 and higher).

1. Click Advanced Configuration > Networking > Remote Node Data.
2. Enter Program 670 data.
3. **Get Default** - sets all data to factory defaults.
4. Click **Submit**.

FIELD	DESCRIPTION
Remote Node ID	Enter the Remote Node ID for this node. Possible values: Up to 6 digits (default = no value)
Remote Node IP Address	Enter the remote node IP address. Possible values: Up to 15 digits (default = no value)
Remote Node Port Number	Enter the Remote Node port number for this node. Possible values: 0~65535 (default = no value)

651 Private Routing Plan Analysis

System Availability: Not available with CTX28

Prerequisite Program: 656 [page 9-32](#) and 306 [page 6-5](#)

Assigns the Node IDs to Route Choice Tables for Private Networking.

1. Complete the Private Routing Plan Analysis Table Record Sheet.
2. Click Advanced Configuration > Networking > Route Plan Analysis.
3. Enter the node ID number (six digit numeral) to add to the Private Routing Plan Analysis Table.
Click **List** to see a summary list of programmed Node IDs or click **Copy** to copy data from an existing node ID. **Get Default** sets all data to factory defaults.
4. Select the Private Route Choice Table in which to add the node ID entered in [Step 3](#) above. Possible values are 1~64, 0 = Delete and default = 0.
5. Click **Submit**.

FIELD	DESCRIPTION
00 Node ID	Enter the node ID to be associated with a private route choice table number. Possible values: 1~64 (default = no value)
01~06 01 Pvt Ntwk Route Choice Table Numbers	Enter the private route choice table number to be associated with this node ID. Entering 0 deletes the node ID. Possible values: 1~64, 0 = delete (default)

Private Route Choice Definition

System Availability: Not available with CTX28

Program Number(s): 653, 654 and 655

Use these command to define Private Network Routing parameters.

1. Complete the Route Choice Definition Record Sheet.
2. Click Advanced Configuration > Networking > Route Choice.
3. Enter Program 653, 654 and 655 data.
4. Select the Private Network.
5. **Get Default** - sets all data to factory defaults.
6. Click **Submit**.

653 Private Route Choice Table Assignment

Prerequisite Program: None

Use this command to define a Private Route Choice Table. A Private Route Choice Table contains up to six Route Definitions. The system will step through these route definitions in terminating hunt fashion to find a route to the desired private networking node. There may be up to 64 Route Choice Tables.

FIELD	DESCRIPTION
00 Pvt Ntwk Route Choice Table Number	Select the private network route choice table number. Possible values: 1~64 (default = no value)
01~06 Route Definition Tables	Select route definition tables 1~6 to be used for this private network route choice. Possible values: 1~64, 0 = delete (default)

654 Private Route Definition Table Assignment

System Availability: Not available with CTX28

Prerequisite Program: None

Use this command to define a Private Route Definition. A Private Route Definition consists of an OLG and a pointer to the private digit modification table that contains the dialed digits to be deleted and/or inserted before being communicated to the distant node.

FIELD	DESCRIPTION
00 Private Network Route Definition	Select the number of the Private Route Definition to be defined or deleted. Possible values: 1~64 (default = no value)
01 Outgoing Line Group	Select the OLG to be used by this route definition. Possible values: 0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)
02 Digit Modification Table	Select the Digit Modification Table to be used by this route definition. Possible values: 1~64, 0 = delete (default)

655 Private Network Digit Modification Table Assignment

System Availability: Not available with CTX28

Prerequisite Program: None

This command assigns Digit Modification Tables for Private Networking.

FIELD	DESCRIPTION
00 Private Network Digit Modification Table	Select the private network digit modification table to be defined. Possible values: 1~64 (default = no value)
01 Deleted Digits	Select the number of leading digits to be deleted. Possible values: 1~10, 0 = delete (default)
02 Insert Leading Digits	Select the leading digits to be inserted. Possible values: Up to 23 digits (default = no value)

Mapping

System Availability: Not available with CTX28

Program Number(s): 657, 658, 659 and 660

The following programs map network and primary COS, DRL, FRL and QPL settings to each other.

1. Complete the Network Mapping Record Sheets.
2. Click Advanced Configuration > Networking > Mapping.
3. Enter Program 657 data.
4. Enter Program 658 data.
5. Enter Program 659 data.
6. Enter Program 660 data.
7. **Get Default** - sets all data to factory defaults.
8. Click **Submit**.

657 Network COS Mapping Table

System Availability: Not available with CTX28

Prerequisite Program: None

This table maps a network COS received as part of a Traveling Class Mark to a local Class of Service for access to local services. There is no translation of outgoing network COS.

FIELD	DESCRIPTION
Ntwk COS	Enter the network COS to be mapped. Possible values: 1~32 (default = no value)
01 Local COS	Enter the Local COS to be used in place of the received network COS. Possible values: 1~32 (default = no value)
02 Off-hook Call Announce	Choose whether an incoming call with this network COS can activate OCA. Possible values: Enable or Disable (default)
03 System Speed Dial	Choose whether an incoming call with this network COS can use a system speed dial number to make an outgoing call. Possible values: Enable or Disable (default)
04 COS Override	Choose whether an incoming call with this network COS can use Class of Service Override. Possible values: Enable or Disable (default)
05 TGAC Override	Choose whether an incoming call with this network COS can override local trunk group access control. Typically an attendant function. Possible values: Enable or Disable (default)

658/659/660 Network DRL/FRL/QPL Mapping Tables

System Availability: Not available with CTX28

Prerequisite Program: None

These commands are used to establish two mapping tables to equate local DRLs, FRLs and QPLs with network DRLs, FRLs and QPLs for both outbound and inbound network calls.

FIELD	DESCRIPTION
Type	Select the network DRL/FRL/QPL type. Possible values: Outbound or Inbound (default = no value) <ul style="list-style-type: none"> • Outbound – maps a local DRL/FRL/QPL to a network DRL/FRL/QPL. • Inbound – maps a Network DRL/FRL/QPL to a local DRL/FRL/QPL.
Network DRL/FRL/QPL	Enter the network DRL/FRL/QPL (for outbound) you want to map to a local DRL/FRL/QPL. Possible values: DRL/FRL/QPL1~DRL/FRL/QPL16 (1~16 (default = 1))
Local DRL/FRL/QPL	Enter the Local DRL/FRL/QPL (for inbound) you want to map to the network DRL/FRL/QPL selected in the network DRL/FRL/QPL field above. Possible values: 1~16 (default = 1)

661 Network DN Table Assignment

System Availability: Not available with CTX28

Prerequisite Program: None

This program assigns the PDN, PhDN or Pilot DNs to a CIX node ID. This includes all DNs in all CIX nodes on the CIX network except the DNs in the node you are currently programming.

This enables someone in one node to call an extension in another node without having to dial the node ID number. The caller dials the extension and the system appends the node ID. This function is transparent to the caller and the dialed party. (See example following.)

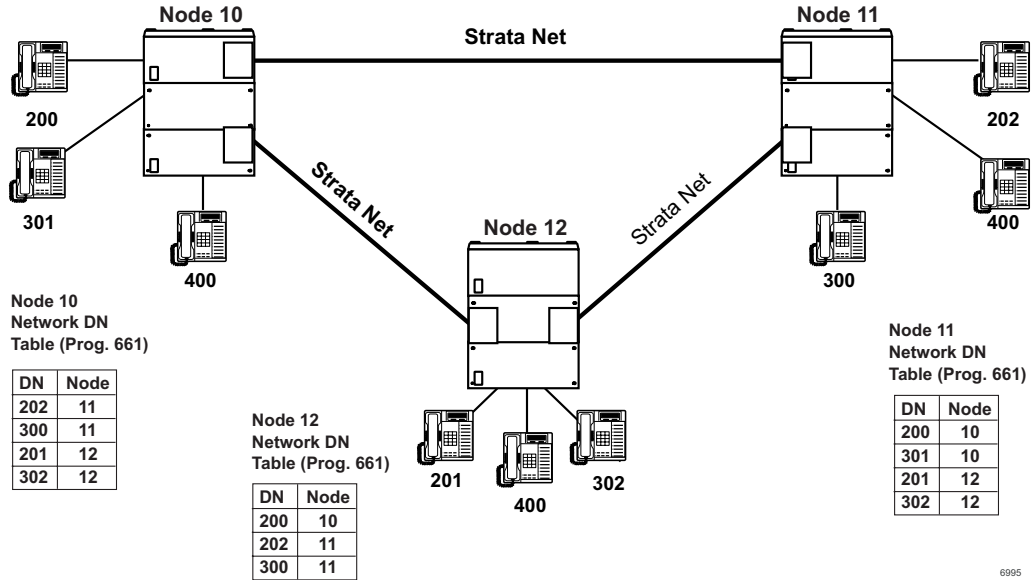
Capacity: CITX100, CIX200, CIX670 - 3000; CIX1200 - 6000

In Program 661, enter a network DN followed by its node ID. Repeat this process for each DN.

FIELD	DESCRIPTION
00 Network DN	Enter the PDN, PhDN or Pilot DNs that should be assigned to a CIX node ID. This include all DNs in all CIX nodes on the CIX network except the DNs in the node you are currently programming. 6000 (CIX1200), 3000 (CIX200 and CIX670), 1000 (CIX100) Five digits max. (Default = No Data)
01 Node ID	Enter the CIX node ID that should be assigned to the DN. Possible values: Six digits max. (Default = No Data)

Example

Refer to the illustration below and this example: When programming the DNs for telephones in node 10, enter the DNs and their node ID numbers for DNs in nodes 11 and 12 into the network DN table, Program 661.



Notes

- If the same DN exists in more than one node (i.e., DN 400), it should not be placed in the node ID tables of any node. The user must dial the node ID where the DN is located plus the DN to call the DN.
- When using network DN tables for CIX networking assign the primary node ID in Program 656, but do not assign overlap codes.

The networking tables show the DN numbers and node ID that have been assigned.

219 Network DSS Notify Data Delete

System Availability: Not available with CTX28

This program lets you disable the DSS function for the node ID entered in this screen.

Important! Don't use this program unless requested by Toshiba Technical Support.

1. Click Advanced Configuration > Networking > Delete DSS Node ID.
2. Enter the node ID of the Network DSS key Notify Data to be deleted.

Strata Net Over IP

System Availability: Not available with CTX28

To use programs 671 and 672, refer to [“Strata Net over IP Programming Guidelines”](#) on [page A-21](#).

671 IP Address Convert Table

1. Click Services > Networking > Network Over IP.
2. Enter Program 671 data.
3. **Get Default** - sets all data to factory defaults.
4. Click **Submit**.

FIELD	DESCRIPTION
Remote Node ID	Enter the node ID of the remote CIX that the primary CIX should route to in the IP private network. Possible values: Up to six digits (default = no data)
01 BIPU-Q IP Address Route 1	Enter the IP address of the remote BIPU-Q IP that should be routed to first. Possible values: Valid IP address
02 BIPU-Q IP Address Route 2	Enter the IP address of the remote BIPU-Q IP that should be used if all channels in the first BIPU-Q route is busy or disabled. Possible values: Valid IP address
03 BIPU-Q IP Address Route 3	Enter the IP address of the remote BIPU-Q IP that should be used if all channels in BIPU-Q Route 1 and 2 are busy or disabled. Possible values: Valid IP address
04 BIPU-Q IP Address Route 4	Enter the IP address of the remote BIPU-Q IP that should be used if all channels in BIPU-Q Route 1, 2 and 3 are busy or disabled. Possible values: Valid IP address
05 BIPU-Q IP Address Route 5	Enter the IP address of the remote BIPU-Q IP that should be used if all channels in BIPU-Q Route 1, 2, 3 and 4 are busy or disabled. Possible values: Valid IP address
06 BIPU-Q IP Address Route 6	Enter the IP address of the remote BIPU-Q IP that should be used if all channels in BIPU-Q Route 1, 2, 3, 4 and 5 are busy or disabled. Possible values: Valid IP address

672 Node ID Detail Information

System Availability: Not available with CTX28

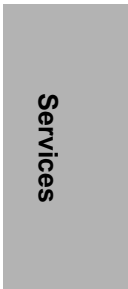
This command assigns the parameters to be used by MIPU, GIPU, LIPU or BIPU-Q1As at the remote nodes connecting to the MIPU, GIPU, LIPU or BIPU-Q1A in the local node over IP Private Networking.

Important!

- These parameters must match all nodes on the IP network.
 - When setting node ID assignments on an Strata Net IP network, the node ID assignment settings for each node on an end-to-end connection must be the same.
 - Whenever node ID assignment changes are made for IP telephones or Strata Net IP Node IDs, Toshiba recommends pressing the **RESET** button on the BIPU to assure the changes take effect.
1. Click Advanced Configuration > Networking > Network Over IP.
 2. Click Detail Info tab.
 3. Enter Program 672 data.
 4. **Get Default** - sets all data to factory defaults.
 5. Click **Submit**.

FIELD	DESCRIPTION
Remote Node ID	Node ID of remote CIX connected to this CIX with xIUP, IP networking. Refer to Program 152. Possible values: Up to six digits (default = no data)
01 IP Protocol Type	Select the desired IP protocol to be used by the xIUP at the remote node. This parameter must match on both nodes of an end-to-end connection on the IP network. Possible values: Strata Net IP (default), H.323 (do not use; H.323 is not available)
02 Voice Packet Table	Select the desired voice packet configuration table number (programmed in this CIX) to be used by the BIUP-Q1A at the remote node. Voice Packet tables are configured in Program 152. Possible values: 1~128 (CIX100, CIX200, CIX670/CIX1200 Basic) 1~256 (CIX670/CIX1200 Exp.) (default = 1)
03 TCP Connection Release	Select whether to release TCP connection when the call was released. TCP release should be enabled for normal IP calling operation. This parameter must match on both nodes of an end-to-end connection on the IP network. Possible values: Enable (default) or disable Notes <ul style="list-style-type: none"> • If disabled, the TCP connection is connected continually. • This parameter is normally used with its default, which means TCP connection is established and released for each call. If there are only two nodes on Strata Net over IP network, this parameter should be set to Disable which means TCP connection is always established.
04 H.323 Fast Connection	Fast connection should be enabled for H.323 protocol only when the remote end has this option enabled. This should be disabled for Strata Net IP. Protocol. Possible values: Enable (default) or disable

FIELD	DESCRIPTION
05 Channel Negotiation	<p>Select whether channel negotiation for Call Control is applied or not. This parameter must match on both nodes of an end-to-end connection on the IP network. This programming is applied only to H.323 protocol.</p> <p>Possible values:Enable or disable (default)</p>
06 Audio Codec	<p>Select the desired audio codec type. Important - G.711 must be used for transmission of end-to-end DTMF signaling. G.711 provides the highest voice quality but requires the most bandwidth.</p> <p>This parameter must match on both nodes of an end-to-end connection on the IP network.</p> <p>Possible values:G711(default), G.711MU, G.711A, or G729A</p>
07 DTMF Translation	<p>Select of whether DTMF translation by the control channel is enabled or not. This parameter should be enabled when using G.729A codecs and disabled if using G.711 codecs for end-to-end DTMF signaling.</p> <p>This parameter must match on both nodes of an end-to-end connection on the IP network.</p> <p>Possible values:Enable or disable (default)</p>
08 E911 Priority	<p>If E911 calls originated from this CIX should be sent over the IP network to the selected remote node, enter the E911 priority assignment that should be used for the selected remote node. Assign 0 or 1~5.</p> <p>Assign 1, the highest priority, to the remote node that has the main CAMA or ISDN E911 connection; 2~5 reduces the E911 priority with 5 providing the lowest priority - these priorities should be used for alternate network routing of E911 calls.</p> <p>If E911calls should not be sent over the IP network to the selected node, assign 0 as the E911 priority.</p> <p>Note If two or more remote nodes have the same priority, E911calls will route to the CIX with the lowest node number.</p> <p>Possible values:0 (default) ~5</p>



Miscellaneous

The Strata CIX system can monitor SMDR, Call History and Behind Centrex. Use the following programs to set up these services.

SMDR

The following enables programming for SMDR, Call History and Behind Connection settings.

Program Number(s): 512, 513 and 514

The following programs assigns system-wide SMDR parameters.

1. Click Advanced Configuration > Miscellaneous > SMDR.
2. Enter Program 512 data.
3. Enter Program 513 data.
4. Enter Program 514 data.
5. **Get Default** - sets all data to factory defaults.
6. Click **Submit**.

512 SMDR for System Assignment

Prerequisite Program: None

Assigns system-wide SMDR parameters.

FIELD	DESCRIPTION
01 Caller ID Field	Include Caller ID records in SMDR. Possible values: Enable or Disable (default)
02 B-Record for Abandoned Call	Generate B Record for an abandoned call. Possible values: Enable or Disable (default)
03 Automatic Number Identification (ANI)	Include ANI in SMDR record. Possible values: Enable (default) or Disable
04 Authorization Code	Include authorization codes in SMDR records. Possible values: Enable or Disable (default)
05 End-of-Record CR	Include a Carriage Return (CR) at the end of an SMDR record. Possible values: Enable (default) or Disable
06 Abandoned Call Record	Enable - to output an SMDR call record of the ringing time of abandoned calls that were not answered. Disable - to not output an SMDR call record of the ringing time of abandoned calls that were not answered. Possible values: Enable or Disable (default)

513 SMDR for ILG Assignment

Prerequisite Program: None

This program assigns SMDR parameters for ILGs.

FIELD	DESCRIPTION
00 Incoming Line Group (ILG)	Specify the ILG for which to set SMDR parameters. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)
01 Generate SMDR Records	Enable to generate records for this ILG. Possible values: Enable (default) or Disable
02 DNIS Field Indication	Check to include DNIS information in records for this ILG. Possible values: Enable (default) or Disable
03 B Record for Incoming Call	Enable B Record generation for incoming calls with or without incoming SMDR being enabled. Possible values: Enable or Disable (default)
04 Abandoned Call Record Output	Enable record generation for abandoned calls. Incoming SMDR must be turned on. Abandoned call records are generated whether or not incoming SMDR has been set. Enable or Disable (default)
05 Display Transferred Call Records	Select whether to charge a transferred call to the source or destination party. Possible values: Source (default) or Destination

Services

514 SMDR for OLG Assignment

Prerequisite Program: None

This command assigns SMDR parameters for OLGs.

FIELD	DESCRIPTION
00 Outgoing Line Group (OLG)	Specify the OLG for which to set SMDR parameters. Possible values: 1~6 CTX28, 1~32 CIX40, 1~32 CTX/CIX/100, 1~50 CIX200, 1~50 CTX/CIX 670 BCTU only or BBCU only, 1~128 CTX/CIX670 BCTU + BEXU or BBCU + BECU, 1~50 CIX1200 HCTU only, 1~128 CIX1200 HCTU + HEXAU, 1~220 CIX1200 HCTU + HEXBU (default = 0)
02 Outgoing Records	Generate records for outgoing calls. SMDR Record Display must be enabled. Possible values: Enable (default) or Disable
03 Charged Station	Apply the SMDR record of a transferred call to its source or its destination. Possible values: Source (default) or Destination
04 Abandoned Outbound Call	Record abandoned outbound calls Enable or Disable (default)

577 Caller History

Prerequisite Program: None

This command assigns which station stores Caller ID information for PDN,CO,GCO and POOL line buttons.

1. Complete the Call History Record Sheet.
2. Click Advanced Configuration > Miscellaneous > Behind Connection.
3. Click **Submit**.

FIELD	DESCRIPTION
Ckt Type/Number	Enter the Circuit Type and number. See the Table 9-2 below. Possible values:Up to 6 digits (default = no value)
01 Primary DN	Enter Station DN for which to store call history data. Possible values:Up to 5 digits (default = no value)

Table 9-2 Circuit Type Code Definitions

Circuit Name	Circuit Type	Circuit Number	Example
DN	1	0~99999 (DN)	if DN is 200, value is 1200
CO	2	1~264 (Trunk Number)	if CO is 30, value is 230
GCO	3	1~128 (GCO Key Group Number)	if GCO is 50, value is 350
POOL	4	1~128 (POOL Key Group Number)	if POOL is 80, value data is 480

650 Behind Centrex Assignment

Prerequisite Program: None

This feature allows Strata CIX to connect to the station side of a PBX or Centrex using a physical loop trunk interface. DR and Least Cost Routing may need to account for access codes required by the PBX or Centrex before connecting to the public network.

1. Complete the Behind Centrex Assignment Record Sheet.
2. Click Advanced Configuration > Miscellaneous > Behind Centrex Assignment.
3. **Get Default** - sets all data to factory defaults.
4. Click **Submit**.

FIELD	DESCRIPTION
00 OLG Number	Select OLG that is attached to a Centrex (or other PBX). Possible values:0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)
01 Behind Centrex	Enable Behind Centrex Operation for this OLG. Possible values:Enable or Disable (default)
02 Assume 9	Enable the Assume 9 feature. Possible values:Enable or Disable (default)
03 Pause Timer	Enter the number of seconds (0~5) the CIX will wait for second dial tone from Centrex/PBX. Possible Value: 0~5 (default = 0)

External Devices

Door Phones

Program Number(s): 507, 576 and 508

This command assigns Door Phone parameters.

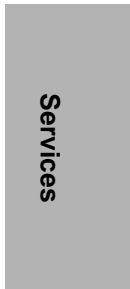
1. Complete the Door Phone Assignment Record Sheet.
2. Click Advanced Configuration > External Devices > Door Phones.
3. Enter Door Phone Number or click one of the following buttons:
 - **List** – View a summary list of programmed Door Phones.
 - **Create** – Assigns a new Door Phone with default settings.
 - **Copy** – Copies settings from an existing Door Phone.
 - **Delete** – Deletes a Door Phone.
 - **Get Default** - sets all data to factory defaults.
4. Enter remaining Program 507 data.
5. Enter Program 576 data.
6. Enter Program 508 data.
7. Click **Submit**.

507 Door Phone Assignment

Prerequisite Program: None

This assignment configures Door Phone Control Boxes (DDCBs) and Door Phones (MDFBs). DDCBs can be connected to ADKU, PDKU and/or BDKU interface PCBs. Up to three MDFBs can be connected to one DDCB. A door lock control relay may be assigned to the B output of the DDCB in place of a MDFB door phone (see [“508 Door Lock Control Assignment”](#) on page 9-48).

FIELD	DESCRIPTION
00 Door Phone Number	<p>Enter the door phone number.</p> <p>Possible values: 1~6 (CIX40, CIX100), 1~9 (CIX200, CIX670/CIX1200 Basic), 1~24 (CIX670/CIX1200 Exp.), (default = no value)</p> <p>Door phone numbering for the CIX40, CIX100, CIX670 and CIX1200 is as follows:</p> <ul style="list-style-type: none"> • DDCB 1 provides door phone numbers 1~3, 2 can be a door phone or door lock. • DDCB 2 provides door phone numbers 4~6, 5 can be a door phone or door lock.



FIELD	DESCRIPTION
01 DDCB Equipment No.	<p>Door phone numbering for CIX200, CIX670/CIX1200 Basic is as follows:</p> <ul style="list-style-type: none"> • DDCB 3 provides door phone numbers 7~9, 8 can be a door phone or door lock. <p>Door phone numbering for CIX670/CIX1200 Exp. only is as follows:</p> <ul style="list-style-type: none"> • DDCB 4 provides door phones 10~12, 11 can be a door phone or door lock. • DDCB 5 provides door phones 13~15, 14 can be a door phone or door lock. • DDCB 6 provides door phones 16~18, 17 can be a door phone or door lock. • DDCB 7 provides door phones 19~21, 20 can be a door phone or door lock. • DDCB 8 provides door phones 22~24, 23 can be a door phone or door lock. <p>DDCBs are numbered by the system automatically by DDCB Equipment (Shelf/Slot/Circuit). DDCB1 is assigned to the lowest DDCB Equipment and DDCB2 to the next lowest, etc.</p> <p>If DDCB Circuit B is set to door lock, a door phone cannot be set.</p> <p>Enter the DDCB equipment number to which the door phone should be assigned. Enter data as XXYYZZ: XX = cabinet 01~07 YY = slot 01~10 ZZ = analog trunk circuit 01~08 or ZZ = T1 channel 01~24.</p> <p>Example: If a line should be assigned to an RCOU in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Cabinet numbers: CIX100: Select 01 for Base and Exp cabinet. CIX200: Select 01 for Base and 02 for Exp cabinet. CIX670: Select 01 for Base and 02~07 for each Exp cabinet. CIX1200: Select 01 for Base and 02~12 for each Exp cabinet.</p> <p>Slot numbers: CIX100: Select 01~04 for Base slots and 05~08 for Exp slots. CIX200: Select 01 ~ 04 for either cabinet. CIX670: Select 01~08 for Base slots and 01~10 for Exp slots. CIX1200: Select 01~08 for Base slots and 01~10 for Exp slots.</p>
02 Tenant Number	<p>Enter the Tenant Number (1~8) for which the door phone should ring over external page in the system Night mode. All CIX systems provide up to 8 tenants. CTX Release 1.0 only supports Tenant 1). (default = 1)</p>

FIELD	DESCRIPTION
04 Ring Duration	<p>Enter the time in seconds that the door phone should ring destination devices when the door phone button is pressed.</p> <p>The ring time can be 3 to 30 seconds set in 3 second intervals - each 3 second interval provides one ring to the destination. Destination devices include selected DNs and page groups.</p> <p>Possible values: 3~30 (default = 9)</p>
05 LCD Name Display	<p>Enter the door phone name that should display on LCD telephones when the door phone rings the telephones, or when the telephone calls the door phone.</p> <p>Possible values: Up to 16 characters (default = no value)</p>
06 Day1 Destination 07 Day2 Destination 08 Night Destination	<p>Select the type of destination that should ring when the door phone button is pressed during the system Day1, Day2 or Night mode.</p> <p>Possible values: None (default), DN or Paging Group 1~4 (CIX100); 1~8 (CIX200, CIX670/1200 Basic); 1~16 (CIX670 Exp), 1~24 (CIX1200 Exp)</p> <p>Enter the destination number. If the ring destination type is a PDN or PhDN, enter the directory number. If the ring destination type is page, enter the page group number.</p> <p>Possible values: Up to 5 ASCII characters (default = no value)</p>

576 Door Phone Night Ring Over External Page

This assignment sets the Page Group that should ring during the system Night Mode when a door phone button is pressed. The assignment can be made for Tenant 1 only.

FIELD	DESCRIPTION
00 Tenant Number	<p>Select the system tenant number to be assigned door phone to page group/night ringing.</p> <p>Possible values: 1(default)~8</p>
01 Page Group Number	<p>Select the system page group number that should ring for the selected tenant when a door phone button is pressed during the system night mode.</p> <p>Possible values: 0~4 (CIX100), 0~8 (CIX200, CIX670, C1200 Basic), 0~16 (CIX670 Exp), 0~24 (CIX1200 Exp) (default = 0)</p>

508 Door Lock Control Assignment

This assignment is used to configure up to 10 door lock control relays. The contacts of these relays are used to control electrical door locks. One door lock relay can be assigned to each of the eight door phone control boxes (DDCB, Port -B) and/or one to each of the two BIOU PCBs (any one of the four control relays).

Note If a door lock is assigned to a DDCB, the second jack (Port B) will provide the door lock relay contacts. This jack can not be used to connect an MDFB door phone.

FIELD	DESCRIPTION
00 Door Lock Number	Enter the door lock control number to configure. Possible values: 1~3 CTX28, CIX40, 1~4 CIX100, 1~5 CIX670 Basic, 1~10 CIX670 and CIX1200 Expanded (default = no value)
01 Interface Type	Door lock control relay contacts are provided by the DDCB (Port - B) and BIOU interface control relays. Possible values: None (default), BIOU or DDCB
02 BIOU Relay Number	Assign BIOU control relay as a door lock relay. This relay activates when the door lock button is pressed or a door lock access code is dialed. Possible values: 0~8 (default = 0) BIOU1 provides control relays 1~4; BIOU2 provides control relays 5~8. Note Assign BIOU control relay (1~8) as a door lock relay - this relay activates when a door lock button is pressed or a door lock access code is dialed. BIOU1 provides control relays 1 to 4. BIOU2 provides control relays 5 to 8. The CIX100 ACTU and CIX200 built-in relays are programmed as relay 5.

FIELD	DESCRIPTION
03 DDCB Equipment No.	<p>Enter the DDCB equipment number to which the door lock should be assigned. This is the cabinet, slot, and circuit number of the BDKU/BDKS or PDKU interface PCB to which the DDCB is to be connected.</p> <p>Enter data as XXYYZZ: XX=cabinet 01~12 YY=slot 01~10 ZZ=circuit 01~16</p> <p>Example: If the DDCB interface should be connected to a ADKU, PDKU, BEDKU, or BDKU/BDKS in cabinet shelf 5, slot 2, circuit 3, enter 050203.</p> <p>Note Note: If a PDN is assigned to the DDCB equipment number it must be deleted, using PRG201, before attempting to assign the DDCB console.</p> <p>Cabinet numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01 for Base and Expansion cabinet. • CIX200: Select 01 for Base and 02 for Expansion cabinet. • CIX/CTX670: Select 01 for Base and 02~07 respectively for each Expansion cabinet. • CIX1200: Select 01 for Base and 02~12 respectively for each Expansion cabinet. <p>Slot numbers:</p> <ul style="list-style-type: none"> • CIX/CTX100: Select 01~04 for Base slots and 05~08 for Expansion slots. • CIX/CTX100: Virtual Slot for ACTU Relay = Cabinet 02, Slot 05. • CIX200: Select 01~04 for either cabinet. • CIX/CTX670: Select 01~08 for Base slots and 01~10 for Expansion slots. • CXI1200: Select 01~08 for Base slots and 01~10 for Expansion slots. • CTX28 and CIX40 assignments are hard coded cannot be changed. • Virtual Slot for GCTU Relay = Cabinet 02, Slot 05. <p>01, 01 - 8 digital telephones on motherboard (CTX28, CIX40 R1HW and R2HW). 01, 02 - 3 CO lines on motherboard (CTX28, CIX40 R1HW), 4 CO lines (CIX40 R2HW) 01, 03 - no card (CTX28, CIX40 R1HW), GVPH (CIX40 R2HW) 01, 04 - 1 (Base) or 2 (GSTU) analog station ports (CTX28, CIX40 R1HW and R2HW) 01, 05 - GVMU (CTX28), GVPH (CIX40 R1HW), GIPx, MIPU or GCOCIH (CIX40 R2HW) 01, 06 - GIPx, MIPU16 or GCOCIH (CIX40 R1HW), no card (CTX28, CIX40 R2HW) 01, 07 - 8 digital telephones on GCDU (CTX28, CIX40 R1HW and R2HW). 01, 08 - 3 COlines on GCDU (CTX28, CIX40 R1HW and R2HW).</p>

515 View BIOU Control Relay Assignments

Prerequisite Program: 100 [page 4-1](#), and 105 [page 4-15](#)

This assignment is used to view functions of the four control relays on each BIOU set in Program 105 12 Night Relay and 18 Night Bell Relay; Program 508 Door Lock Control Assignment; and Program 503 19 BGM Mute Relay. The system allows up to two BIOUs to provide a total of eight control relays. The control relays can be configured as an external BGM mute control, Night Bell control, Night Mode Control, and Door Lock Control.

Notes

- BIOU-1 relays are identified as Control Relays 1~4.
 - BIOU-2 relays are identified as Control Relays 5~8.
1. Click Advanced Configuration > External Device > BIOU Relay Type.
 2. Enter Program 515 data.
 3. **Get Default** - sets all data to factory defaults.
 4. Click **Submit**.

FIELD	DESCRIPTION
00 BIOU (1 or 2)	Enter the BIOU number. Possible values: 1 or 2 (default = no value) Note BIOU 1 and BIOU 2 are assigned in Program 100 - Card Assignment.
01 BIOU Relay 1 or 5	View the function of BIOU1, control relay 1 or BIOU2, control relay 5:
02 BIOU Relay 2 or 6	View the function of BIOU1, control relay 2 or BIOU2, control relay 6:
03 BIOU Relay 3 or 7	View the function of BIOU1, control relay 3 or BIOU2, control relay 7:
04 BIOU Relay 4 or 8	View the function of BIOU1, control relay 4 or BIOU2, control relay 8: Possible values: Not Use, Ext Paging, Night Bell, Night Relay or Door Lock (default = no value) <ul style="list-style-type: none"> • NOT USE – if the relay is not used. • PAGE MUTE – External BGM mute control activates during an external page (see “503 Paging Devices Group Assignments” on page 9-51). • NIGHT BELL – Night bell control activates during the system night mode only when incoming CO lines ring (see “102 Flexible Access Codes” on page 4-3). • NIGHT RELAY – Night mode control activates continuously during the system night mode (see “105 System Data” on page 4-15). • DOOR LOCK – Door lock control activates when a telephone's door unlock button is pressed (see “508 Door Lock Control Assignment” on page 9-48).

503 Paging Devices Group Assignments

Prerequisite Program: 502 [page 5-32](#)

Assigns BIOU Page Zone Relays to Page Groups.

1. Complete the Paging Device Group Assignment Record Sheet.
2. Click Advanced Configuration > External Devices > Paging Devices.
3. Enter 00 Zone Relay Number.
4. Check the Paging Groups that you wish to activate.
5. Select the external generic relay number.
6. Click **Submit**.

FIELD	DESCRIPTION
00 Zone Relay Number	<p>Select the BIOU page zone relay that should be assigned to the page groups below. This relay activates whenever the selected page group is paged.</p> <ul style="list-style-type: none"> • BIOU1 = Zone Relays 1~4. • BIOU2 = Zone Relays 5~8. <p>Possible values: 1~8 (default = no value)</p>
01 PG 1~16 PG 16 17 All Page Group 18 All Emergency Page Group	<p>Check the box if the selected BIOU page zone relay should activate with this page group.</p> <p>Possible values: On or Off (default)</p>
19 BGM Mute Relay 20-27 PG17~24 (CIX1200 Exp)	<p>Assign BIOU generic relay as the BGM mute relay. This relay activates whenever the external page is in use</p> <ul style="list-style-type: none"> • BIOU1 = Generic Relays 1~4. • BIOU2 = Generic Relays 5~8. <p>Possible values: 1~8 (default = 0)</p> <p>Note The CIX100 ACTU or CIX built-in relay is programmed as relay 5. For this relay operation, BIOU2 is installed, as default, in a virtual equipment position - Cabinet 2, Slot 5, PCB code 20, in Program 100. To install an actual BIOU2 and disable the ACTU built-in relay, use the programming telephone to remove the virtual BIOU2 and then install the actual BIOU2 in Cabinet 01 Slot 01~08 in the normal manner.</p>

Prerequisite Program: Program 105

This command assigns OLGs to the Enhanced 911 Emergency Call Group.

1. Complete the Emergency Call Group Assignment Record Sheet.
2. Click Services > Enhanced 911.
3. Select Program 550 data.
4. Click **Submit**.

550 Enhanced 911 Emergency Call Group

FIELD	DESCRIPTION
00 Emergency Call Group Number	Specify the Emergency Call Group. Possible values: 1~8 (default = no value)
01 OLG1~08 OLG8	Specify the first through eighth OLG to be chosen for an E911 call. Possible values: 0~32 (CIX100), 0~50 (CIX200, CIX670/CIX1200 Basic), 0~128 (CIX670 Exp, CIX1200 Exp A), 0~220 (CIX1200 Exp B) (default = 0)

This chapter discusses Strata eManager operational programming functions.

System Setup

Program Number(s): 900, 901 and 915

These programs enable programmers to simulate system Power Off/On, initialize Strata CIX, check software versions and set system clock and date.

1. From the Program Menu, click Utilities > Operations > Call Agent Restart.
2. Click **Restart** to reset Strata CIX or click Initialize CIX to delete programmed data and revert to default settings.
3. 901 CIX Version data is for viewing only.
4. Get Default - sets all data to factory defaults.
5. Click **Submit**.

900 CIX Restart

Prerequisite Program: None

From the Program Menu click Utilities > Operations > CIX/CTX Restart.

This program enables you to reset hardware and initializes or restores programmed data.

CAUTION! Both commands will drop all existing calls.

FIELD	DESCRIPTION
Restart CIX	Clicking on this button initializes a System Power Off/Power On sequence to reset hardware. All calls in progress are dropped. This is also known as an Initialize Level 2.
Initialize CIX	Clicking on this button invokes an Initialize Level 1 sequence which drops all calls in progress, erases programmed data and enters default data into the Strata CIX System. If a Toshiba SM/SD is installed in the available slot, using this option restores data from backed up from the SM/SD (see Restoring Data from SM/SD below).
Important!	Choosing Initialize CIX without installing an SM/SD Card deletes all programmed data and returns your Strata CIX to factory default settings. All previously programmed data is lost.

Restoring Data from SM/SD

When initializing with Initialize CIX, you can restore custom data that was previously programmed and stored on an SM/SD card. To do so, follow the steps below:

1. Insert an SM/SD card that contains the Progdata folder with the default.dat file. The default.dat file contains your custom settings and can be created by running Data Backup. See ["910 Data Backup"](#) on [page 10-16](#).
2. Run System Initialization by clicking Initialize CIX.

Notes

- Restoring data from the SM/SD card may take an hour or more.
 - During the restore process the telephone LCD may display date and time. This does not necessarily indicate completion of the restore process.
 - To verify completion of the restore process, access the programming mode from a telephone and enter your password. If the system enables you to continue, the data restore process is complete.
3. Remove the SM/SD card and restart the CIX again after restoring system data. This is necessary to reset BIBU-M, BIPU-Q, Strata Net, ISDN and other advanced features.

901 Display Version

Prerequisite Program: None

From the Program Menu click Utilities > Operations > CIX/CTX Restart

This program enables you to view the Active and Standby software versions installed on the Strata CIX system processor.

FIELD	DESCRIPTION
System Type	Displays the system type that is connected. Possible values: CIX1200, CIX670, CIX200, CIX100 (Active only).
Active Software	Displays the software versions.
Standby Software	These fields indicate the following: A = Indicates software for USA, Canada or Mexico. Rx.xx = Indicates the CIX release level. M0011.00 = The software version number. Note The Active software does not always have to be the same as the Standby software, although the Active and Standby software versions may be the same when you receive it from Toshiba.
DTMF, BBMS, BEXS, BSIS, Ethernet, and Modem	The check marks in these boxes indicate the hardware that is installed on the Strata CIX processor. On the CIX100: <ul style="list-style-type: none"> • Ethernet means AETS is installed on ACTU. • Modem means AMDS is installed on ACTU. • DTMF means ARCS is installed on ACTU.
DREC Version	Indicates the DTMF/ABR software.
IPL Version	Indicates basic boot-up software version.

915 Regional Selection

Prerequisite Program: None - Perform this program before doing any database programming.

From the Program Menu click Utilities > Operations > CIX/CTX Restart

This program enables you to select the country.

FIELD	DESCRIPTION														
Region	Select Region. Possible values: <table style="margin-left: 40px;"> <tr> <td>0 = USA</td> <td>7 = Singapore</td> </tr> <tr> <td>1 = Canada</td> <td>8 = Malaysia</td> </tr> <tr> <td>2 = Mexico</td> <td>9 = Indonesia</td> </tr> <tr> <td>3 = Taiwan</td> <td>10 = Sri Lanka</td> </tr> <tr> <td>4 = Hong Kong</td> <td>11 = India</td> </tr> <tr> <td>5 = Thailand</td> <td>12 = China</td> </tr> <tr> <td>6 = Japan</td> <td>13 = UK</td> </tr> </table>	0 = USA	7 = Singapore	1 = Canada	8 = Malaysia	2 = Mexico	9 = Indonesia	3 = Taiwan	10 = Sri Lanka	4 = Hong Kong	11 = India	5 = Thailand	12 = China	6 = Japan	13 = UK
0 = USA	7 = Singapore														
1 = Canada	8 = Malaysia														
2 = Mexico	9 = Indonesia														
3 = Taiwan	10 = Sri Lanka														
4 = Hong Kong	11 = India														
5 = Thailand	12 = China														
6 = Japan	13 = UK														
Important!	The region change does not take affect until the system has been initialized. This Level-1 initialize (Prog 900) will disable any database programming already in place.														

902 Set Time and Date

Prerequisite Program: None

This program enables you to change the system clock in Strata CIX.

From the Program Menu, click Basic Configuration > Date and Time.

FIELD	DESCRIPTION
CIX Date	<p>Set Strata CIX current date or select it from the date picker at right.</p> <ul style="list-style-type: none"> Select current date (YYYYMMDD). <p>Possible values: YYYY = Year, MM = Month and DD = Day</p> <ul style="list-style-type: none"> Current day of week will display once the year, month and day parameters have been entered. <p>Possible values: Sunday ~ Saturday (Read only) (default = no value).</p> <ul style="list-style-type: none"> Leap year will display based on the year entered. <p>Possible values: Leap, Leap Next x, where x = 1, 2 or 3. X. is the number of years since the previous leap year (read only) (default = no value).</p>
CIX Time	<p>Set Strata CIXs current time (hhmmss).</p> <p>Possible values: hh = hour, mm = minutes and ss = seconds (default = no value).</p>

121 Automatic Day Light Savings Time Change

Prerequisite Program: None

This program enables the CIX to automatically change the system clock according to local day light savings time (DST) changes.

From the eManger Program Menu, click Advanced > System > Daylight Saving

FIELD	DESCRIPTION
Enable Automatic Day Light Savings Time	This field is not set by default. This field must be set to allow automatic DST change.
Change Based On	<p>The method used to set the day and time of day the DST change occurs.</p> <p>Possible values: Day of week (recommended) set the day, the week and the time for the change. For example: Sunday, The first week of April at 2AM</p> <p>Date (not recommended in the USA) The the date and time for the change. Example Oct. 31, 2:00 AM</p>
Beginning of DST	Default is Sunday in the first week of April
End of DST	Default is Sunday in the last week of October
Time to begin DST	Set the time DST starts. Default is 2:00 AM
Time to end DST	Set the time DST ends. Default is 2:00 AM
Time Adjustment	Defines the exact amount of time change. Default is one hour. The time adjustment should not be long enough to cause a date change.

908 Secure Digital and SmartMedia

This program enables you to format and perform file management tasks on a Secure Digital or SmartMedia card while it is installed in the CIX processor. Secure Digital (SD) cards are required for ACTU3A (CIX100), BCTU2A (CIX670) and HCTU1A (CIX1200) processor cards.

Secure Digital or SmartMedia Card

The SD card is replacing the SmartMedia (SM) card for use as a removable, portable memory device. The SD is physically smaller than the SM card while storage capacity is the same or greater.

Notes

- 32MB or 64MB must be used for Strata CIX maintenance functions.
- The Strata CIX does not use Compact Flash or other similar types of small storage devices.

Functions

An SD or SM Card(s) is required for most of the important Strata CIX maintenance functions such as:

- Saving (Backup) and re-loading the programmed database of a particular Strata CIX system.
- Saving Event trace data files for troubleshooting problems.
- Updating or upgrading the Strata CIX operating software version.

Note The procedure below will refer to the SM/SD card. The same procedures are used for both the SmartMedia and Secure Digital card.

Administration and Use

- When the SM/SD card is used to perform one of its functions, it is installed in the SM/SD slot of the Strata CIX processor. It must be first formatted for Strata CIX operation by running Forced Format (Program 908). It is not recommended using the PC to format the SM/SD card.
 - The Strata CIX format will create five special folders. These folders and how to use them are explained below and in [Chapter 14–Data Backup and Restore](#).
1. Install the SM/SD Card into the SM/SD slot of the Strata CIX processor.
 2. From the Program Menu, click Utilities > Operations > SM/SD Card.
 3. Click one of the following:
 - Normal Format – creates any CIX SM/SD folder that does not exist already. Existing folders are not overwritten by this procedure.
 - Forced Format – erases any existing folders and files. All existing data is overwritten. It then creates the five Strata CIX folders. See [“CIX SM/SD Folders”](#) on [page 10-7](#) for more information.
 - Unmount – copies the CIX event and alarm log files from the CIX processor buffers (RAM) to the SM/SD card and then clears the buffers. It then stops CIX from writing to the SM/SD card so it can be removed without damaging it.

CAUTION! Always run unmount before removing the SM/SD card. Failure to do so can cause damage to the card.

- Transfer – copies the CIX event and alarm log files from the CIX processor buffers (RAM) to the SM/SD card and then clears the buffers.

FIELD	DESCRIPTION
Operation	Displays the procedure selected. Possible values: Normal Format, Forced Format, Unmount and Transfer.
Completion	Displays the progress and status of the procedure selected. Possible values: Processing or Complete
CIX SM/SD Folder	Contains files in the CIX SM/SD Folder. Possible values: Files listed under Admlog, Errlog, Evnttrce, Progdata, and Program folders.
Local Folder	You must manually create a new folder on your PC under CIX folder > WinAdmin > Ctmc > Ctmc_Local > SM/SD Card > New Folder The created folders will be available in the Local Folder drop-down box. You can store CIX SM/SD files on these folders (See details below).

SM/SD Card FTP File Management

1. The Smart card files can be copied from the SM/SD card to your Strata eManager PC and vice versa using the Strata eManager SM/SD FTP function. The SM/SD card must be installed in the CIX processor and formatted using Program 908 before it can be used. After it is installed and formatted the CIX will automatically store files under the Admlog, Errlog and Evnttrce folder of the SM/SD card - see CIX SM/SD folders below for details.
2. New folders must be created (with your own chosen names) on the Strata eManager PC using Windows Explorer before you can use the SM/SD FTP screen. The folders must be created under the following path which already exists on the Strata eManager PC:
CIX>WinAdmin>Ctmc_Local>SM/SDCard >Your Folder Name.
3. After the SM card has been formatted and your folders have been created on the Strata eManager PC you can manage files as described below:
 - Download: Copy files from the CIX SM/SD Card to your Strata eManager PC.
 - From the CIX SM/SD drop down, select the CIX SM/SD folder and file(s) that should be copied to the Strata eManager PC.
 - From the Local Folder drop down, select the Strata eManager PC folder to which the files should be copied to - then click on **Download**.
 - Upload: Copy files from the Strata eManager PC to the CIX SM/SD card.
 - From the Local Folder drop down, select the Strata eManager PC SM/SD folder and file(s) that should be copied to the CIX SM/SD card.
 - From the CIX SM/SD Folder drop down, select the CIX SM/SD folder to which the files should be copied to - then click on **Upload**.
 - Delete SM File: Delete files stored on the CIX SM/SD card.
 - From the CIX SM/SD drop down, select the CIX SM/SD folder and file(s) that should be deleted - then click **Delete SM** file.

CIX SM/SD Folders

Running the Normal and Forced options of this program creates five folders on the SM/SD card as follows:

- **Admlog** – The Admlog folder saves a history of CIX Administration (programming) command entries in xxx.SNP and xxx.DKT files. SNP files provide a log of Strata eManager entries and DKT files provide a log of programming telephone entries.
- **Errlog** – System error logs are saved into this folder. See Maintenance chapter, Event Trace Control Programs 903, 904 and 905 to set up trace.
- **Evnttrce** – Strata eManager Event Trace files are saved into this folder.
- **Progdata** – Your Strata CIX programmed settings are all saved in this folder. When a backup is performed, Strata CIX saves programmed data to the Progdata folder as a default.dat file.

Note To perform the backup function you must first delete any existing default.datfiles to allow CIX to create a new default.dat file.

- **Program** – The operating software of the Strata CIX is saved in this folder as a nhs.prg file.

SM/SD Errors

Any error causes the SM/SD LED to flash (0.25sec ON – 0.25sec OFF continuous) except if the SM/SD Volume Label is UPDATE; in this case the SM/SD LED will always flash.

SM/SD LED Specification

SM/SD LED, located near the SM/SD slot on the CIX processor, is lit when the following occurs:

- The SM/SD is accessed for read and write.
- Errors are detected. See above for the detail of errors.
- The SM/SD is inserted into the slot, SM/SD LED blinks once. This is because the system accesses the media to read the housekeeping data. When it does not blink, it means that the SM/SD is not detected by the system at all. If the blink does not stop, it means that any of above error is detected or the SM/SD volume label is UPDATE.

911 Remote Program Update

Prerequisites

The following are the prerequisites to Remote Update:

- The SM/SD card must be installed in the system with a backup of the current database (default.dat) file.
- Activation of the new software requires a Clear-reboot operation that will drop all existing calls and will take the system out of service from 10 minutes to an hour or more, depending on the system size.
- Requires a different system software update file (provided on the Toshiba FYI site) depending on the type of CIX system and the type of update that will be performed.

CIX Software Update Files

Each Strata CIX system type has two software update files: one for Strata eManager Remote Update and another file for local update (to use with the programming telephone procedure).

CAUTION! Using the wrong file in either case will cause the update to fail.

CIX Software Identification

Refer to the table below to identify CIX software release and builds in software file names or when verifying CIX software versions. For example, if the software ID is ML029, this means ML0 is equal to CIX Release 4.0 and nn is the software build 29.

CIX Release	Software ID
R3.0	= MJ0nn
R3.1	= MK0nn
R4.0	= ML0nn
R4.1	= MN0nn
R4.2	= MP0nn

nn = Software build level/number

Remote Update for Release 4

The remote program update is administered in the same manner as previous releases. In previous releases however, the remote update transferred approximately 200 small files. In R4 the remote update is done with one large file, the same file used for local update.

It should be noted that the eManager screen will 'freeze' while modem updates are in progress. This freeze, when using a dial-up modem connection, can last up to 60 minutes. You can check the status of the file transfer when using a dial-up modem by right clicking on the connection icon that appears in the tool tray at the bottom of the screen. (The Remote Update file size is about 9MB). Over a LAN connection remote update takes approximately 15 seconds.

CAUTION! When updating a CIX200 R3 system with the existing LCTU1A card to R4, it will be necessary to perform the update locally (remote update will not work). After the system has been updated to R4 the Remote Update function will be available.

Remote Update Operation

Important! Before starting the Remote Update process:

- An SD card must be formatted and installed in the CIX processor to perform the Remote Update Process.
 - Backup the existing database (***.dat) **before** starting the Remote Update process.
1. Program update files can be downloaded from Toshiba's FYI web site under: Software (Strata Sys) CIX System Software. Download the correct file for your system:
 - CIXYYR5.20MT0xx (current file)
 - CIXYYR3.10MK0xx
(YYY= system type; 100, 200 or 670. xx = version number.)
 2. There are two methods to uncompress the file depending on which version of eManager you are using:

eManager

- Double click the self-extracting executable and it will automatically extract the file to the Upload folder which will be visible from eManager.
- Depending on the file, it will extract to one of the following:
 - C:\eManager\Upload\CIX40-100-MT009\
 - C:\eManager\Upload\CIX200-670-MT009\
 - C:\eManager\Upload\CIX100-MK043\
 - C:\eManager\Upload\CIX200-670-MK043

Network eManager

- DO NOT UNCOMPRESS the zip file for Network eManager.
- Copy the zipped file to a folder on your computer and Browse for the file in Network eManager.

3. Load the update file in eManager/Network eManager. There are two methods to load the file depending on which version of eManager you are using:

eManager

- Go to the CIX/CTX update screen in eManager (Utilities > Operations > CIX/CTX Update).
- Click on Start Remote Upgrade Program Update, and follow the prompts.
- The nhs.prg and nhs0.ext files will be sent from eManager to the CIX SD/SM card. This can take from 30 seconds over a LAN; 45 minutes over a modem connection.
- After the update files have been sent to the SD/SM card, the CIX will decompress them and load the files from the SD/SM card to processor memory (approx. 10 minutes).
- After the update file is decompressed, the CIX will restore the database (approx. 15 minutes to two hours depending on the size of the *****.dat** file).

Network eManager

- The new CIX Software Update is located under the Maintenance > CIX Software Update.
- In the Upload window you have the option of backing up the CIX systems prior to the upgrade. If you click on the **Yes** button the database backup screen will be displayed allowing you to select the databases to backup.
- Once the backup procedure has been completed, click on the Browse button to find the corresponding CIX software update for each CIX system that needs to be updated.
- The update software must match the corresponding system, otherwise the update procedure will fail.
- Click on the **Upload file(s) to eManager** server button.
- Network eManager will then copy the update software to a designated folder in the Network eManager server.
- When all the CIX software updates have been uploaded, press the **Start** button to complete the process.

System Turn-on and Start-up Time

When a Release 4 system is turned on it takes about 30-90 seconds to operate. CIX Release 2.x and 3.x take about 15 seconds.

Programming Data File Name

You can now name the programming data file (default = default.dat) whatever you want based on the following rules:

- MS-DOS® file
- Maximum character length = 8 (does not include the extension)
- Minimum character length = 1
- Extension must be “dat”. (example: tais-a02.dat)
- The following characters cannot be used: “& * + /; < = >? [] ^ ‘”.

Remote Update for Release 1 ~ 3

Step 1: Download and Extract CIX Software

The latest released version of CIX system software Update files are posted on the Toshiba FYI site <http://fyi.tsd.toshiba.com>. To download the software files, follow the procedure below.

Step 1A: To download CIX System Software Files from FYI

1. From the Toshiba FYI website, click on Technical Services > Software (Strata Systems). The files are located under the heading CIX System Software.
2. Double-click the appropriate link (Remote Update).
3. When the Toshiba Software License Agreement screen displays, click the **Agree** button. The File Download dialog box displays.
4. Select the “Save this program to disk” radio button, then click **OK**. The Save As screen displays.
5. Save the file to an appropriately named folder that identifies the system type and software version, then click **Save**.

Step 1B: Extract Downloaded Files

1. After the file download is complete, select the Open or Open Folder button on the Download Complete screen to extract/open the files now, or select the **Close** button to extract the files later.

Notes

- The WinZip Self-Extractor screen displays if you selected the **Open** or **Open Folder** button.
 - If you selected **Close**, double-clicking the .exe file later will bring up the WinZip Self-Extractor screen.
2. In the “Unzip to folder:” field, make sure the path leads to the correct folder as shown below. If the path is incorrect, click the **Browse** button to navigate to the appropriate path, then click the **Unzip** button.
 3. Verify the unzip folder path for Remote Update: C:\Ctx\WinAdmin\Ctmc\Ctmc_local\Upload.
 4. Verify the unzipped files or folders for Remote Update: “(Correct System)_R_MXnnn”.

Note The files can also be extracted to a temporary folder and the copied to the appropriate SM/SD PROGRAM folder or Strata eManager Upload folder. The extracted (decompressed) files will be approximately 15MB.

Step 2: Perform Strata eManager Remote Program Update

This program enables you to send the new CIX system software to the CIX processor standby memory (CIX670, CIX1200) or SM/SD card (CIX100, CIX200) while the system is in use without interrupting service. After the new software is loaded into memory it can be activated at any time.

CAUTION! Activation of the new software requires a Clear-reboot operation that will drop all existing calls and take the system out of service from 10 minutes to an hour or more.

Strata eManager will automatically go back to the login screen. After Clear-reboot, you must wait until the system initializes the new software and reloads the database. After the CIX database is reloaded, you must reconnect Strata eManager to the Strata CIX and verify that the new software is loaded.

To get started

1. At the CIX site, install an SM/SD card in the CIX1200, CIX670, CIX200 or CIX100 processor. All existing files on this SM/SD card should be saved on a PC just in case they are needed later.

Notes

- An SM/SD card volume label is not necessary for CIX1200, CIX670, CIX200 or CIX100 remote update. If you use a volume label, it cannot be PRGUPDATE or PRGRESCUE0, PRGRESCUE01, etc.
 - The SM/SD card is used to back up the customer's latest system data (default.dat) which will automatically reload after the software update process is complete (see [Step 7 on 10-13](#)).
 - For CIX100 systems only, Strata eManager loads the Program Update files onto the SM/SD card before making the Update software active on the ACTU processor.
 - For CIX1200 or CIX670, Strata eManager loads the Program Update files onto the Standby Flash memory of the BECU/BBCU processor before making the update software active.
2. Make sure the Remote Update folder containing the Update files (xx.nhs) is placed properly in Strata eManager Upload folder, for example C:\Ctx\WinAdmin\Ctmc\Ctmc_local\Upload\CTX100_R_MXnnn, then you may proceed with the Remote Update procedure.

To perform the Update

1. Connect the Strata eManager PC to the Strata CIX system that should be updated via LAN or modem.
2. From the Program Menu, click Operation > Program Update. The Program Update screen displays.
3. Complete Step 1 on the Program Update screen by clicking on SM/SD Card (blue hyperlink).
This takes you to Program 908 – Format/Unmount SM/SD screen.
4. On the “Format/Unmount SM/SD Card screen,” click the **Forced Format** button to format the SM/SD card.
5. Go back to the Program Update screen (from Program Menu, click Operation > Program Update).
6. Complete Step 2 on the screen by clicking on **Data Backup**.
7. Click the green **Back Up** button to start the back up. The CIX will store the programmed data (default.dat file) on the PROGDATA folder of the SM/SD card.
8. After completing Data Backup, go back to the Program Update screen (from Program Menu, click Operation > Program Update) and complete Step 3. For field descriptions refer to the table “[Program Update Screen Field Descriptions](#)” on [page 10-15](#)
9. From the “Upload From Folders” drop-down menu on the Program Update screen, select the Remote Update folder for the CIX100, CIX670 or CIX1200 to be updated.
10. Click on Start Remote Program Update. CIX service will not be interrupted during this process.

CAUTION! Do not change the CIX Admin screen after the Update process has begun. Changing the screen, touching the keyboard etc., will cause the process to stop and fail. If for any reason the Update process stops, you must reconnect and start the process over.

Notes

- Strata eManager will send approximately 200~300 files to the Strata CIX. This will not interrupt service on the Strata CIX.
 - Strata eManager indicates the status of the Remote Update process in the “Files Uploaded” box and status toolbar. Remote Update can take from 15 minutes to more than one hour, depending on the transmission speed of the connection (i.e; LAN or modem speed).
 - After all files have been sent to the CIX completing this step of the Update process, a message displays to indicate the new system software has been sent to the CIX processor memory successfully (to the CIX670, CIX1200 standby side of flash memory or CIX100 SM/SD PROGRAM folder).
11. From the message screen that displays after the Remote Program Update files have been sent to the CIX, click **OK** or **Cancel**.

Clicking **OK** starts the Clear-reboot process and activates the new software immediately.

Clicking **Cancel** enables you to activate the software later. To activate the new software later, go to the Program Update screen and click the **Clear-reboot** button.

Important! Keep the SM/SD card installed on the Strata CIX processor to allow the programmed data to be restored automatically following the Remote Update and Clear-reboot process.

Note After clicking, Clear-reboot Strata eManager disconnects from the CIX. Wait 15 minutes to an hour or more before re-connecting Strata eManager to the CIX. The CIX must first initialize the new software and reload the customer database.

CAUTION! The Clear-reboot process drops all calls and takes the Strata CIX out of service from 10 minutes to an hour, depending on the size of the Backup data file.

After Clear-reboot is complete, the Strata CIX runs on the new software version (this is now the active side of flash memory). The Backup data has been restored from the SM/SD card to the Strata CIX processor memory. On the CIX1200 and CIX670 only, the original software version is on the standby side of flash memory.

Do not turn the CIX1200/CIX670 power off/on at this time. You must first switch the Active software from “Trial” to “Normal.”

If the system power is turned off/on while the Active side of flash memory is in the Trial mode, the original software will switch back to Active and the new software will switch back to Standby. This is to provide an automatic method of switching back to the original software version if the new version is causing problems.

12. After the CIX restarts and is functioning and re-established communication between Strata eManager and the CIX, go to Operation > System Setup and check that the new software is loaded on the Active side of the processor flash RAM.

13. CIX1200/CIX670 only: If the system is operating correctly, go to the Program Update screen and switch the Active Software to “Normal” by clicking the green **Set Normal** button.

14. From the Program Menu, click Operation > System Setup screen and click the green **Restart CIX** button or turn the Strata CIX power off/on. Strata eManager will return to the Login screen.

This is necessary to reset BIPU-M, BIPU-Q, Strata Net, ISDN and other advanced features.

CAUTION! Restarting CIX or turning the power off/on will drop all existing calls.

15. Test the system to verify that the new software is running properly by checking dial tone, making incoming and outgoing calls, internal and external calls and all other peripherals, such as voice mail, etc., are working correctly.

Important!

- If power is turned off/on or if the Strata CIX is re-started before switching the Active software from “Trial” to “Normal,” the CIX1200 or CIX670 will switch the old software back to Active.
- It is your responsibility to verify the system is working correctly after Remote Update is complete.

Note

- If the new version of software is not performing properly, on the CIX1200 or CIX670 only, you can activate the old version of software again by initiating a Clear-reboot.
- Clear-reboot swaps the active and standby sides of flash memory. You must always install an SM/SD card containing a copy of the current back up data before initiating a Clear-reboot or all programmed data will be erased.
- If the CIX100 system is not working properly with the new software, you must reinstall the original software using this Update procedure.

Table 10-1 Program Update Screen Field Descriptions

FIELD	DESCRIPTION
Upload from Folder	Select the Strata CIX type. Possible values:CIX100_R_MXnnn, CIX200_R_MXnnn, CIX670_R_MXnnn, CIX1200_R_MXnnnn
Version Number	Software version number displays. Example: A102MXnnn00. See CIX Software Identification .
Number of Files	Displays number of files that have to be uploaded. This file is static.
Files Uploaded	Displays number of files uploaded. This is a dynamic field and will change during the process.
Operation Completion	View operation status.
Copied blocks	View number of blocks copied. Possible values:0~65536 (default = 0)
Total Blocks	View total blocks to be updated. Possible values:0~65536 (default = 0)
Active Side ID	Active Side Number. Possible values:0 or 1 (default = 0)
Active Side Status	Software status display. Possible values:Normal (default), Trial, Fault, Don't care or Error
Standby Side Status	Standby Backup Type. This field will display only when connected to a CIX1200 or CIX670. It will not display when connected to CIX100. Possible values:Normal (default), Trial, Fault, Don't Care or Error

910 Data Backup

Prerequisite Program: 908 [page 10-5](#)

This program enables you to backup programmed data from Strata CIX to an SM/SD Card.

1. Install the SM/SD Card into the designated slot of the Strata CIX processor.

Note The SM/SD card must be formatted by Strata CIX and the "Progdata" folder must be empty (no Default.dat file)

2. From the Program Menu, click Operation > Data Backup.
3. Select the Backup button. Click Cancel to interrupt the selected function.
4. Click Backup.
5. The Progress field displays the progress of the selected function.

FIELD	DESCRIPTION
Backup	<p>Select one of the following buttons. When performing a Backup, you must use a formatted SM/SD card.</p> <ul style="list-style-type: none">• Backup – Backup Strata CIX data to SM/SD card. This creates a Default.dat file under the Progdata folder of the SM/SD card. <p>Notes</p> <ul style="list-style-type: none">• Default.dat is the name of the file that is created and it contains all Strata CIX programmed data. It is not default data. It is data that is currently programmed in the Strata CIX.• The Progdata folder on the SM/SD card must be empty before trying to backup data. You can use FTP to copy and delete an existing default.dat file.• Cancel – Cancel the Backup/Restore function.
Completion	<p>Current Status of Backup.</p> <p>Possible values:Completed successfully, Not completed.</p>

916 IP Configuration

Prerequisite Program: None

This program displays Network Communication IP address configuration. This program applies to the Strata CIX Network (NIC) jack connection only. It does not apply to the CIX maintenance modem. To change TCP/IP settings see [“CIX Processor NIC Interface TCP/IP Auto-programming”](#) on [page 1-9](#).

1. From the Program Menu, click Utilities > Operations > IP Configuration.
2. The following Strata CIX default address displays:
 - IP Address – **a.b.c.d**
where a.b.c.d = 0~255. This IP address is for the NIC/Ethernet only. (default = 192.168.254.253).
 - **192.168.255.254** is the Strata CIX modem fixed IP address for dial-up connections. Do not enter this IP address on this screen.
 - Subnet Mask – **e.f.g.h**
where e.f.g.h = 0~255 (default = 255.255.255.0). Octet “h” in SubNet Mask cannot be the same as octet “d” in the IP address.
 - Default Gateway (default = 0.0.0.0).
3. Select another program from the Program Menu.

FTP User Accounts

Prerequisite Program: None

This program establishes up to four FTP users for the built-in Strata CIX FTP server function located on the Strata CIX processor. These Strata CIX FTP accounts allow FTP access to the Strata CIX SM/SD card. This allows administration of the Strata CIX SM/SD folders and files.

1. From the Program Menu, click Utilities > Operations > FTP User Account.
2. Select the FTP Index. Up to four FTP users can be established.
3. Assign the FTP user's Account Name.
4. Assign the FTP user a Password.
5. Enter the default folder that this FTP account is to access. This should be /0/ which is the root folder of the Strata CIX SM/SD card.
6. Click **Submit**.

Note FTP User Accounts are stored in memory on the Strata CIX processor and are intentionally deleted for security when the Strata CIX is powered off/on or initialized.

File Information

Prerequisite Program: None

This program enables you to view lists of Alarm and Administration files stored on the Strata CIX SM/SD card. See [“902 Set Time and Date”](#) on [page 10-4](#) for more information about these files.

1. From the Program Menu, click Utilities > Operations > File Information.
2. Select from one of the following options or click **List** to see a summary list of files already programmed into the system. View the file name index, number, name, and creation and modification dates under each of the categories listed below.
 - Error Alarm Files.
 - Error Alarm Expansion Files.
 - SNMP Administrator Files (Strata eManager log).
 - DKT Administrator Files (programming telephone log).
3. Get Default - sets all data to factory defaults.

Note For a detailed description on Trace function go to [“Event Trace Control”](#) on [page 11-3](#).

Community Name

Prerequisite Program: None

This program enables you to create and set up a Community Name (or passwords) to allow access to specific Strata CIX systems.

1. From the Program Menu, click Utilities > Operations > Community Name.
2. Select the Index Number to assign to the Community or click one of the following buttons:
 - **Remove** – highlight an existing community from the table and click this button to remove the selected community from the index.
 - **Modify** – highlight an existing community from the table and click this button to modify the IP Address, Privileges and Administrator Level settings for this community.
3. Enter the remaining fields.
4. Click **Submit**.

FIELD	DESCRIPTION
Community Name	Enter the Community name. The community name is a password that is stored in the Strata CIX. To communicate with a Strata CIX, the Strata eManager PC must send a legal community name to the CIX when attempting to connect. The default community name stored in the CIX is communityName (case sensitive). The Strata CIX can store up to 10 community names.
IP Address	Enter the IP address of the community name. Each community name is associated with an IP address. This IP address is stored in the CIX with its associated community name. Possible values:a.b.c.d.; a = 0~255, b = 0~255, c = 0~255, d = 0~255 Notes <ul style="list-style-type: none"> • To allow any Strata eManager PC to connect to the Strata CIX with a particular community name, enter 0.0.0.0 as the IP address for that community name. • To allow only a specific Strata eManager PC to connect to the CIX with a particular community name, enter the static IP address of that PC for that community name.
Privileges	Select User Privilege Levels. These privileges are to assign the community name or IP address to an internal Strata CIX level. Possible values:Read (default) or Write Note Read – The user cannot modify Strata CIX data regardless of the Strata eManager User level 1~4. Write – The user can modify Strata CIX data according to the Strata eManager user level 1~4.
Administrator Level	Select Administrator Level. This level is to assign the community name or IP address to an internal Strata CIX access level. Possible values:Super User (default) or Ordinary User Notes <ul style="list-style-type: none"> • Super User – Strata CIX allows the user access to all Strata CIX commands. Super Users can only view ordinary user community names and their own community name but not other Super User community names. • Ordinary User – Strata CIX allows the user access to all Strata CIX programs except 900 Initialization/Restart and 911 Update. Ordinary users can only view their own community name.



909 MAC Address

Prerequisite Program: None

This program enables you to view the Media Access Control (MAC) Address assigned to your Strata CIX System processor PCB. The MAC address is a unique serial number that is electronically coded in the CIX processor memory at the factory – it cannot be changed. The MAC Address is also printed on the back of the processor card that is used for the CIX1200 (Processor Part Number HCTU1A), CIX670 (Processor PN BBCU1A) and CIX100 (Processor PN ACTU1A). A MAC Address must be converted to the applicable serial number utilized in Internet FYI for License code generation.

1. From the Program Menu, click Utilities > Operation > MAC Address.
2. Review your system serial number.

Note The serial number is printed on the invoice and bar code of the product shipment.

3. MAC Address displays as shown to the right. AABBCCDDEEFF = 0~9, A~F (hexadecimal values).
4. Click another program from the Program Menu.

License Control

System Availability: Not available with CTX28

Program Number(s): 913 and 914

The following programs enable you to issue and maintain License Activation settings for Strata eManager users.

Prerequisite Program: None

This program enables you to issue new licenses.

1. From the Program Menu, click Utilities > Licensing > License Control.
2. Issue a License by cutting and pasting or manually entering the 60-character string in the License Code text box.

Note If you are not adding the License Code to Strata eManager immediately, copy and save the code onto a disk. Save code in Notepad using Fixedsys font.

3. Click one of the following buttons:
 - Issue – to issue the License Code.
 - Cancel Issue – to cancel the License Code issue.
4. Activate the License entered above by selecting the delay timer.
5. Click one of the following buttons:
 - Activate – for license activation.
 - Cancel Activate – to cancel license activation.

Note Cancel Issue (step 3) and Cancel Activate buttons work only in Standby mode.

License Issue

Prerequisite Program: None

This program enables System Administrators to issue Licenses for Strata eManager users.

FIELD	DESCRIPTION
Status	Status applies to both License issue and License Activate. Displays Licensing Status. Possible values: Not yet, Issue Stand by, Issue Finished, Cancel Issue, Activate Stand by, Activate Finished or Cancel Activate
License Code	Cut and paste the License code text string or manually enter the License Code (six characters per box). Possible values: 60 characters. Note The License Code will have to be generated from Toshiba's FYI website (http://fyi.tsd.toshiba.com). After obtaining the License code from FYI save it as a Text file. Cut and paste the License code obtained from Toshiba's FYI website. The License Code is made up of the MAC Address and the number of ports. The License Code that is generated for a particular MAC Address is only good for the processor that contains that MAC Address.

License Activate

Prerequisite Program: 913 above

This program enables activation of Strata eManager licenses issued in Program 913.

FIELD	DESCRIPTION
Delay Timer	<p>Select Activation Delay Timer in hours.</p> <p>Possible values:0~24 (default = 0)</p> <p>Notes</p> <ul style="list-style-type: none"> • Enter 0 to issue or activate the license immediately or 1~24 to set the automatic delay activation feature, where 1 = 1 hour delay; 2 = 2 hour delay, etc. • After the license is activated, use the License Information screen below to check that all ports and features have been activated properly.

License Information

The following programs enable you to set up Licensing details for Strata eManager users.

Prerequisite Program: None

1. From the Program Menu, click Utilities > Licensing > License Info.
2. View Licensing details for this Strata CIX account.

This view is read-only information.

FIELD	DESCRIPTION
CIX Release Number	This is the Basic Release Number of CIX software. To view the Active Software Version, go to Operations/System Setup.
System Type	This identifies the type of CIX system to which Strata eManager is currently connected.
Maximum Number of Cabinets	This identifies the maximum number of cabinets. The total of base plus expansion cabinets.
Number of Serial Ports	<p>This identifies the number of serial ports licensed on the BSIS.</p> <p>One license is needed for each SMDR and SMDI device connected to BSIS.</p> <p>(Programs 803 and 804 assigns BSIS ports).</p>
Number Of DTMF Receivers	This identifies the number of DTMF receivers licensed. The ARCS Subassembly is required on the CIX100 processor, no additional hardware is required for CIX670 or CIX1200.
Number of Basic Ports	<p>This identifies the number of Line circuits, Station circuits and ISDN B channels licensed, and shows the number of licenses in use (or programmed).</p> <p>Station circuits use a license only when a PDN, DDS, BATI or door phone is assigned to the circuit.</p> <p>Analog and T1 line circuits use a license only when a line number is assigned to the circuit or B-channel.</p> <p>ISDN B-Channels use a license when assigned in PRI and BRI assignments.</p>

FIELD	DESCRIPTION
Strata Net Channels	This identifies the number of Strata Net channels licensed, and shows the number of licenses in use (or programmed). This license must be enabled on each CIX in a Strata Net network.
Number of CTI Sessions	This identifies the number of licensed CTI sessions. Each Attendant Console, the ACD or OASYS Sever and each third party CTI application requires one CTI session license. (Command 803 assigns CTI sessions).
Number Of Attendant Consoles	This identifies the number of Attendant Consoles licensed. One license is required for each Attendant Console. A CTI Session License is also required for each Attendant Console (see Number of CTI Sessions).
Number of Softphones	The number of Soft IP Phones licenses. Each phone requires one license.
CIX IP Telephony	Shows CIX IP Telephony is Enabled or Disabled.
Number of IP Endpoints	The number of IP Endpoints licensed, and shows the number of licenses in use (or programmed).

Alarm Control

System Availability: Not available with CTX28
Program Number(s): 919 and 920

Alarm Notification (AN) sends a notification of a system alarm condition. The notification can be sent over a network connection to an eMonitor system, other application and, optionally, to a feature button on a telephone. The alarm notification is SNMP trap data that can be sent to as many as 11 different IP addresses. Up to eight stations can have a button programmed as an Alarm Indicator. There are three categories of alarms: ISDN, T1, and System Resources.

There are two types of SNMP messages sent to the external, eMonitor, PC or Server; (1) Alarm Notification when an error condition occurs. (2) Current Alarm Condition Summary sent every 10 minutes whether an alarm has occurred or not.

The following programs enable you to control the alarm settings for a system or slot(s) for Strata eManager users.

System Alarm Control (Program 919)

From the Program Menu, click Utilities > Operation > System Alarm.

Prerequisite Program: None

This program resets all alarms and enables/disables the Current Alarm Summary notification.

FIELD	DESCRIPTION
01 Clear Alarm Buffer	<p>The Clear command resets all current alarms. This command is used to manually clear the buffer. Set to Invoke and Submit to clear the buffer. When the clear command is invoked the system will not re-send a persisting T1 or PRI alarm condition.</p> <p>When an alarm condition is clear for several seconds, the system will clear the buffer without the need to manually clear the buffer.</p> <p>Possible values: Idle, Invoke (default = idle)</p>
02 Alarm Buffer Status	<p>This command when enabled sends the alarm status to the Alarm Monitor device periodically (approx. 10 minutes).</p> <p>Possible values: Enable/Disable.</p>
System ID	<p>This number is sent in the SNMP Alarm Trap data stream to the CIX Alarm Monitor application, or any other SNMP trap monitor. It can be used as the System ID of a CIX node or the same System ID can be assigned to multiple nodes to identify a group of systems (max. 8-characters, alpha-numeric).</p>

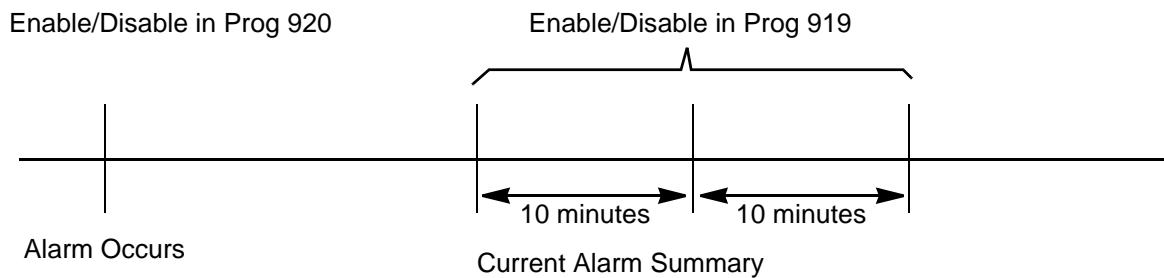
Alarm Control for Slot (Program 920)

From the Program Menu, click Utilities > Operation > Alarm Slot.

Prerequisite Program: None

This program resets all alarms and enables/disables the Current Alarm Summary notification.

FIELD	DESCRIPTION
00 Equipment Number	Enter the cabinet and slot number of the equipment to be monitored. Notes <ul style="list-style-type: none"> If you want to monitor expansion cabinet power, you must set the appropriate cabinet number (02-07) and slot number to "00."
01 Alarm Enable/Disable	Set this parameter to enable to monitor the selected equipment. Set this parameter to disable to not monitor the selected equipment. Possible values: Enable/Disable.



921 Traffic Measurement

Prerequisite Program: None

Traffic Measurement (TM), when ON, sends data each hour. The data is stored in the SD/SM card on the processor in a TRAFFIC folder or it can be sent to an external device via LAN or RS-232. Each file is named: MMDDHHNN.trf.

- MM** = Month (01 - 12)
- DD** = Day (01 - 31)
- HH** = Hour (01 - 24)
- NN** = Sequence Number

1. From the Program Menu, click Utilities >Operations > Traffic Measure.
2. Enter data.
3. Click **Submit**.

FIELD	DESCRIPTION
01 Traffic Measurement	Select Enable to run Traffic Measurement. Select Disable to stop Traffic Measurement.
02 Send TM Data to SM/SD Card	<p>Enable To send data to the SM/SD card (TRAFFIC folder) and, if setup in I/O Device configuration, to an external device (RS232c or LAN).</p> <p>Disable To send data only to the external device. The external device must be set (refer to the I/O Device configuration Program 803).</p>
03 Select Tenant to Measure	Select the System Day/Night Table to be used for the work day and non-work day and holiday definitions. This does not select TM by tenant.
04 ~ 12 Time Zones	Set the time zone (report hours) in each category.
13 Units	Traffic intensity units Possible values: Erlang or CCS
18 DTMF Receivers	Measure DTMF Receiver traffic Possible values: Enable or Disable
19 Conference Circuits	Measure Conference Circuit Receiver traffic Possible values: Enable or Disable
20 Hunting Groups	Measure Hunt Group traffic Possible values: Enable or Disable

Program 922 Specified Traffic Reports

Prerequisite Program: 921 Traffic Measurement

Traffic Reports are a summary of the traffic measurement data. Traffic Reports are stored as a file named TRAFFIC.TRF, written to the SD/SM card. The SD/SM card must be inserted in the processor before executing this program. The SD/SM card can store one traffic report. If a report is on the SD/SM card when another report is started, the new report will overwrite the old report. The TRAFFIC.trf file will be mixed in with the YYMMDDHHNN.trf files.

1. In eManager go to Utilities | Operations | Traffic Reports.
2. Enter data.
3. Click **Submit**.

FIELD	DESCRIPTION
01 Start Report	Start To start a report. Cancel To stop a report that is running.
02 First Date	The first day of TM data to be included in the report. Traffic Report Start Time - The first hour of the first day of TM data to be included in the report.
03 Last Date	The last day of TM data to be included in the report. Traffic Report Stop Time - The last hour of the first day of TM data to be included in the report.
04 Report Status	No entry. This is a status display.

Trap Destinations (IP Trap Setup)

Prerequisite Program: None

This program enables you to setup Trap IP Destination.

1. From the Program Menu, click Utilities > Operations > Trap IP Setup.
2. Select a Trap IP Index number or click **Add** to add a Trap IP index.
3. Click **Submit**.

FIELD	DESCRIPTION
Community Name	Enter the Name of the Community. This is the name assigned to the trap monitor PC or server. This is not a password. It is only used to identify the location of the trap monitor device. The default name for eMonitor is 'eMonitor' however any name can be used, such as a location name (i.e.; East Elton). Possible values:Alpha characters (default = no value).
IP Address	Enter the IP address for remote connection. This is the IP address of the CIX eMonitor PC or server or other trap monitor device. Possible values:a.b.c.d.; a = 0~255, b = 0~255, c = 0~255, d = 0~255

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IP Trap Setup

In eManager go to Utilities > Operations > Trap IP Setup.

FIELD	DESCRIPTION
IP Address	IP Address of the external console (eMonitor or other application)
Community Name	This is the community name (alphanumeric with no spaces) for the external console (eMonitor, other applications). Note This can be any name, it is not an eMonitor password. It is recommended you use a name that identifies the location of the eMonitor (i.e., the name of a city).

This chapter discusses Strata CIX maintenance functions.

Trace Function

To analyze Strata CIX problems efficiently, Toshiba needs to get the event trace data and ISDN trace data. These data sets enable analysis of the problems Strata CIX may experience. It is helpful for troubleshooting problems that are difficult to duplicate.

Please contact Toshiba Technical Support to coordinate the running of the procedures that appear in this section. Technical Support will walk you through the required steps.

Trace Data

By running traces when tests are conducted on your Strata CIX system, you ensure that data are being kept in the event your system encounters a problem. This data can be sent to Toshiba Tech Support for analysis and troubleshooting.

Strata CIX can collect the following trace data:

- Error Log (including crash dump)
- Event Trace
- ISDN L3 trace

Event traces can be performed by running Program “[Event Trace Control](#)” on [page 11-3](#), through Program 908 “[902 Set Time and Date](#)” on [page 10-4](#).

Error Log

When Strata CIX detects an error the information is stored automatically without executing a program. However, if the system locks up, you must restart the system to save the data to the Secure Digital (SD) or SmartMedia (SM) card.

Start/Stop/Store Trace Data

When you execute a test, start recording the trace data by enabling the [Event Trace Control](#) (Program 903). See [page 11-3](#). If you use ISDN extensions or trunks, please record ISDN trace data by starting “[904 ISDN Trace Location](#)” on [page 11-4](#).

To test and retrieve trace data

Note This procedure requires use of optional SD/SM reading hardware and software or FTP management with a personal computer. See “[908 Secure Digital and SmartMedia](#)” on [page 10-5](#).

1. Start your test. If a problem occurs, stop the trace (please refer to the [Event Trace Control](#) and [904 ISDN Trace Location](#) program instructions in this manual).
2. Verify the results by running the same test(s) again. If the problem can be duplicated the information contained in the trace data becomes more useful.

3. Unmount data to the SD/SM using "902 Set Time and Date" on page 10-4.
4. Remove the SmartMedia card from the Strata CIX. **Use caution** - the SD/SM device can be damaged if removed incorrectly.
5. Insert the SD/SM card into your SD/SM reader.
6. Locate the Evnttrce folder and save all files ending with .sdt and .mdt to your PC hard drive.
7. Locate the Crash Dump in the errlog folder. File extensions are .exp and .mnl and append to your hard drive.
8. E-mail the files to your Toshiba support person.

If you start recording trace data after a problem occurs, the previous data is overwritten. Make sure the required data files are stored to the SD/SM and saved to disk prior to starting another trace.

The following table shows you how much SD/SM card memory is allocated to each directory. System traffic load will determine how much data is stored in the Evnttrace log.

Table 11-1 SD/SM card file allocation size in Mega Bytes

SmartMedia Type	16MB	32MB	64MB	128MB
Errlog	2MB	4MB	8MB	24MB
Evnttrce	4MB	12MB	32MB	64MB
Admlog	2MB	8MB	16MB	32MB
Progdata	8MB	8MB	8MB	8MB
Program	0MB	0MB	0MB	0MB
Total	16MB	32MB	64MB	128MB

Event Trace Control

Program Number(s): 903, 904, 905 and 906

Prerequisite Program: None

This program enables you to trace message events occurring in the Strata CIX. Program Numbers 903, 904, 905 and 906 are consolidated in one Strata eManager screen.

1. Install the SmartMedia Card into the designated slot of the Strata CIX processor.
2. From the Program Menu, click Utilities > Maintenance > Event Trace Control.
3. Enter Program 903 data.
4. Enter Program 904 data
5. Enter Program 905 data.
6. Enter Program 906 data.
7. Trace data displays in the dialog boxes.

903 Start/Stop Trace

FIELD	DESCRIPTION
Start/Stop Trace	<p>Click in the appropriate button to start or stop Message Trace. Start Trace indicates that the system's trace data collection process has begun. Stop indicates the trace data collection process is terminated</p> <p>Before removing the SmartMedia card run Program 908. See "908 Secure Digital and SmartMedia" on page 10-5.</p> <p>Possible values: Start Trace or Stop Trace (default)</p>
Current Function	Displays the last command sent to the CIX.
Completion	Displays the progress of the current function.
Size	<p>Set the trace data size. Toshiba recommends leaving this parameter at the default setting which provides approximately 15 minutes of trace data.</p> <p>Possible values: 1~256 bytes with 1 unit = 16 bytes (default = 2)</p>
Category	<p>Select Trace data type to be stored.</p> <p>Possible values: Call Processing, Maintenance, and Call Processing and Maintenance (default)</p>

904 ISDN Trace Location

ISDN protocol event trace collection conditions are established using this program.

Note This trace can be performed on BSU and PTU cards only.

FIELD	DESCRIPTION
Cabinet/Slot/Port	Enter the Equipment Location to be traced (xxyyzz). Possible values:xx = Cabinet 01~07; yy = Slot 01~10; zz = Circuit 01~04
Trace Kind	Select the trace collection level. Possible values:LLCI Trace, Layer 2, Layer 2 & Layer 3 Trace, State Transitions Trace, ERRORS Trace, Layer 2 Trace.
Trace Level	Select the extent to which the trace collects information. Possible values:No Trace (default), Brief or Extensive

905 All ISDN Trunk Trace Selection

FIELD	DESCRIPTION
Trace all ISDN Trunks	Select whether to trace all ISDN PRI and BRI trunks. Possible values:Set Extensive (default) or Set No Trace

906 Change Trace Selection

FIELD	DESCRIPTION
Set Message Trace	Select Message Trace only. Possible values:Message Trace (default), ISDN Trace or Both
Set ISDN Trace	Select ISDN Trace only
Set Both	Select Message Trace and ISDN Trace
Current Function	Displays the last command sent to the CIX.
Completion	Displays the progress of the current function.

Error Alarm Log

Prerequisite Program: None

This program enables you to trace errors and alarms in the Strata CIX.

1. Install the SmartMedia Card into the designated slot of the Strata CIX processor.
2. From the Program Menu, click Utilities > Operations > Maintenance > Error/Alarm Log.
3. Click **Submit**.

FIELD	DESCRIPTION
Start Date	Enter the date (YYMMDD) and time (hhmmss) on which to start the log. Possible values: YY = Year, MM = Month and DD = day (default = no value) hh = Hour, mm = Minutes and ss = seconds (default = no value)
End Date	Enter the date and time on which to end the log. Possible values: YY = Year, MM = Month and DD = day (default = no value) hh = Hour, mm = Minutes and ss = seconds (default = no value)
Start Rank Code	Prioritize by selecting a rank code. Possible values: 1~99 (default = no value)
End Rank Code	Organize by selecting an end rank code. Possible values: 1~99 (default = no value)
Error Code	This field logs the number of error codes. Possible values: 0~9999999999 (default = 0)
Org. Code	This field reflects the error origination code. Possible values: 1~10 (default = no value)
Search Number	Displays the search sequence. Possible values: 1~1000 (default = 0)
Search Result Number	This field displays the search result number. Possible values: 1 or 2 (default = no value)

907 System Admin Log

Prerequisite Program: None

Use this command to Start/Stop the System Admin Log. When running this program, make sure to insert the SmartMedia card into the appropriate slot.

1. Insert the SmartMedia Card into the designated slot of the Strata CIX processor.
2. From the Program Menu, click Utilities > Maintenance > System Admin Log.
3. Click to **Start** or **Stop** the System Admin Log.
4. Click the Checking System Admin Log Completion Status button to view progress of this operation.

Note When the CIX stops logging data, it automatically sends data to the SmartMedia card. Run the Unmount command (Program 908) before removing the SmartMedia card to ensure complete data transfer.

Memory Access Operation

Prerequisite Program: None

This program enables you to manipulate memory settings.

1. From the Program Menu, click Utilities > Maintenance > Memory Access.
2. Click the Read Memory or Write Memory button to access memory.
3. Enter the memory Address to be accessed.
4. Select size of memory to access (1~256, default = no value).
5. Click one of the following buttons:
 - **New** – click this button to create a new Memory Access filename.
 - **Open** – click this button to open an existing Memory Access file.
6. Click **Submit**.
7. Click **Save** to save Memory Access file.

Note The Content box displays the contents of the memory address selected.

Components

Prerequisite Program: None

The following programs enable you to monitor the status of individual Strata CIX slots and ports.

This is the main system slot/port monitor. The Components screen allows each cabinet card slot and each card slot port to be monitored, enabled or disabled.

From the Program Menu, click Maintenance > Components > Cabinets 1~7.

Auto Fault Detection/Disable

When an error occurs in hardware resources used for a station or line, the Strata CIX system will make them busy. In this case the Strata CIX system will automatically disable the card slot or card port (circuit or channel). The Component Status/Control screen will indicate the card or port failure status with "Disabled by Fault xx" where xx is the status code in the table below. When a digital telephone is disabled the telephone's LCD will display Make Busy. The station or line card can be disabled temporarily to perform maintenance or parts replacements as well.

Note The port or slot to which your programming phone is connected cannot be set to Make Busy.

The table on the next page states the possible error codes that can be displayed in the Status column of the Main Components screen shown above.

Table 11-2 Status Column Error Codes

Component Type	Status Code	Description
Expansion Cabinet	CP	Cabinet power failure
Line/Station/Option PCB	CR	Card PCB set in Program 100, but not installed
Port (ISDN)	IL	ISDN loss of signal
Port (ISDN)	IF	ISDN frame sync failure
Port (ISDN)	IA	ISDN AIS
Port (ISDN-U)	UM	ISDN-U maintenance mode
Port (ISDN-U)	UE	ISDN-U Eoc maintenance mode
Port (ISDN-U)	UA	ISDN-U Act
Port (ISDN-U)	UB	ISDN-U aib
Port (T1)	TY	T1 Yellow alarm
Port (T1)	TB	T1 Blue alarm
Port (T1)	TF	T1 Frame sync. failure
Port (DKT)	DO	Digital Telephone not connected.

Manual Disable/Enable

The components screen allows you to enable or disable any card slot or port.

- When disabled by Disable or Forced Disable, line or stations are made busy and the status will display “disable by cmd” on the screen. On the telephone LCD, it will display Make busy.
 - Disable will disable an idle port or slot and cause ports/slots that are in use to go to Pending Disable – which go to Make Busy after they go idle. Disable waits till a call clears to disable it.
 - Forced Disable will disable an idle port or a port that is in-use (the call will be disconnected).
- Enable – removes the Make Busy condition if the slot or port is manually disabled.

Note You cannot enable a slot or port if the system automatically disabled it. The status on the screen will display Disabled by Fault.

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This chapter discusses Tools and Profile to customize and manage your Strata CIX System.

Tools

The download tool provided in Strata eManager enables you to download databases stored in system memory into a Strata eManager folder named Download. These downloaded databases can then be viewed in your PC to check for errors or other anomalies. The downloaded files are saved as files on the same drive that eManager is installed on (often the C: drive). In this path:

eManager\userdata\login name\mac address

Note that the file name will include the name you logged on to eManager with, and the MAC address of the system you logged into.

They may be opened and viewed using Excel, Word or some other application.

Download

Prerequisite Program: None

1. From the Program Menu, click Utilities > Tools > Download.
2. A list of all Strata eManager programs displays.
3. Click on the program to be downloaded. Selected programs are highlighted in green and the word Selected displays to the right. The following buttons are also available:
 - **Clear All** – click this button to clear all previously selected files.
 - **Select All** – click this button to select all programs for downloading.
4. Click the **Start Downloading** button in the top right corner of the display.
5. The system notifies you when the download is complete.

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Telephone Button Programming

13

This chapter provides a subset of the button programming interface provided with the Strata CIX. This chapter includes Button Programming for the 900 series programs. For the other programs refer to the Telephone Button Programming document.

Telephone Button Overview

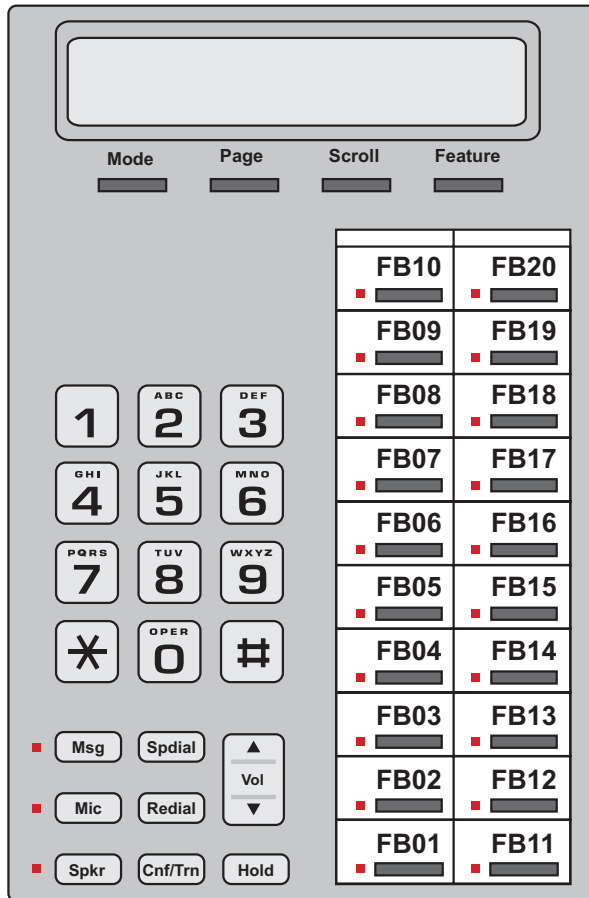
Strata CIX programmers can access the programming mode from any IP, IPT, or DKT LCD telephone except DKTs connected to an RDSU. A 20-button telephone (shown below) is required to ensure full access to all programming parameters. The telephone button programming interface enables limited programming capabilities over ranges of stations or trunks.

Note Telephones connected to an RDSU cannot be used to program the Strata CIX.

Figure 13-1 shows the telephone button pad for the DKT3020 and 3220-series digital telephone or IPT1020-SD.

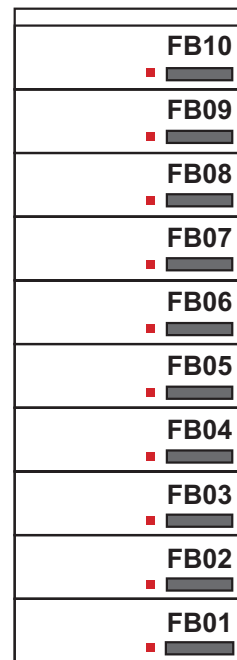
FB buttons for 20-button phones

IPT1020-SD, DKT3020-S, DKT3020-SD



FB buttons for 10-button phones

DKT3010-S, DKT3010-SD



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Figure 13-1 DKT3010/3020/3210/3220 and IPT1020-SD Button Telephones

Telephone Button Commands

1. Use the following buttons to execute the commands:
 - **Hold** – Enter.
 - **Page/Scroll** – Scroll up or down.
 - **Spkr** – This delimiter moves cursors between sub-parameter values.
 - **Volup** – Escape. Vols displays as & on the LCD. Press **Volup** to program # or * in dialing sequences.
 - **Voidown** – Back space for line editing.
 - **# # Hold** – Cancel.
 - * – Use this button between values to specify a range of objects to be programmed (e.g., 1001*1005 enables programming of stations 1001 through 1005).
 - ** – Use this button between values to specify a set of objects to be programmed (e.g., 1001**1005**1012 enables programming of stations 1001, 1005 and 1012).
 - Off-hook – lift and replace the handset to immediately exit programming mode.
2. Keep the following in mind as you maneuver through Strata CIX programs.
 - Default and/or current settings are displayed on the telephone LCD with an asterisk.
 - Some Strata CIX programs have more than 20 programmable parameters. To toggle from parameters **FB01~FB20** and **FB21~FB40** press the **Scroll** or **Page** button after entering Program Mode.
 - To view parameter options on your telephone LCD press the desired **FB** button and press the **Scroll** or **Page** button.
 - Each parameter shows a number to the left (e.g., **2:DISABLE**). Program the desired parameter by pressing the number button (in this example 2) that corresponds to your desired parameter.
 - To enter data, use the number keys.
 - To submit your program entry press **Hold**. To confirm a submitted entry, press **Hold** again.
 - To exit a program press **# # Hold**.
 - To enter the # character in your data string press the **Volup** and the # button simultaneously. An & sign appears in your LCD. Press the # button, then enter the remaining data.
 - If you get an error code, press **Hold** (twice) to continue programming. See System Error Codes in the Error Code document for error code details.

Programming Parameters

Programs can have between one and 40 programmable parameters, each represented by the **FBnn** buttons. The LEDs light up for each **FBnn** button that features a programmable parameter. Each parameter is programmed by entering values into the LCD from the telephone button pad.

1. At the SELECT PARAM prompt, press the appropriate **FBnn** button.
2. Enter the appropriate value from the telephone button pad using the Parameter Fields tables supplied with each program.
3. Press **Hold** to submit.
4. Press another **FBnn** button to program more parameters
... or press **Hold** again to program.

Programming Sub-parameters

Some commands enable programming of Sub-parameters to further refine Strata CIX settings. Internet or Network IP addresses are entered using sub-parameter data. IP addresses are displayed as four three-digit values, or Octets, separated by “periods” (e.g., 192.168.255.253). (If your programming telephone’s LCD is only capable of displaying the IP information three digits, or one Octet, at a time, selecting **FB01** in Program 916 displays the first Octet, 192, on the LCD. To view or change the next Octet (in this example 168) in the IP Address, press the **Spkr** button. Pressing **Spkr** again, displays the following Octet (in this example 255)).

The following is an example from Program 200, **FB04**. **FB04** is broken down into three sub-parameters as follows COS DAY1, COS DAY2 and COS NIGHT.

1. At the SELECT PARAM prompt, press **FB04**.
2. At the COS DAY1= prompt, enter a value from 1~32.
3. Press **Spkr**.
4. At the COS DAY2= prompt, enter a value from 1~32.
5. Press **Spkr**.
6. At the COS NIGHT= prompt, enter a value from 1~32.
7. Press **Hold** to submit.
8. Press another **FBnn** button to program more parameters
... or press **Hold** again to program a new DN.

Note To change one of the sub-parameters, you must proceed through all three sub-parameters before pressing **Hold**. For example, to change the value of COS DAY1, you must change the COS DAY1 value, then press **Spkr** twice, and finally, press **Hold**.

Button Programming Procedure

Step 1: Enter Program Mode

Enter the button sequence displayed below to enter the CIX1200/CIX670 programming interface from a DKT station.

1. Log in by pressing: **Hold Q#Q#1Q2Q3Q**.
2. At the **PASSWORD=** prompt, enter your password. Default is **0000**.
3. Press **Hold**.

Step 2: Enter Program Number

1. At the **PROG=** prompt enter the three digit program code (e.g., **200**) and press **Hold**.
2. Programmable parameters are identified by the FB LEDs that are illuminated on the DKT. Go to ["Choose a Button Sequence"](#) on [page 13-5](#) Press on the related **FBnn** button to program a parameter or if there are no illuminated FB LEDs, continue to Step 3.

Step 3: Enter FB00 Parameters

FB00 parameters designate a specific station, trunk, or circuit to be programmed. The **FB00** prompt (e.g., **EQUIP=**, **DN=**, **INDEX=**, etc.) appears automatically in the LCD screen.

1. At the **FB00** prompt, enter the desired value using the telephone number pad.
2. Press **Hold**.

Step 4: Choose a Button Sequence

Select the button sequences based on the programs required for programming the Strata CIX from the Telephone.

Program Listings

This table is a list of programs found in this chapter.

Program Number	Program Name
900	System Initialize
901	Display Version
902	Set Time and Date
903	Event Trace Control
904	ISDN Trace Location
905	All ISDN Trunk Trace
906	Event Trace Side Change
907	System Admin Log
908	Format/Unmount SmartMedia
909	MAC Address (System Serial Number)
910	Data Backup
911	Program Update
912	Make Busy Control
915	Regional Selection
916	IP Configuration

900 Series Programs

These programs are organized based on functions versus program numbers.

System Initialize

This program enables you to reset hardware and initializes, or restores, programmed data.

Program Number(s): 900

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt, enter your password and press **Hold**.

At the **PROG=** prompt enter **900** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Initialize Level	01	Press 1 or 2 to select the initialize level. Level 1 – Erases programmed data and enters default data or backed up data if a SmartMedia Card is installed (see Note). Level 2 – Simulates System Power Off/Power On operation to reset hardware.	1. Initialize Level 1 2. Initialize Level 2	1:Restart with Clear Data 2:Restart

To access programming parameters

1. Press **FB01** to choose Initialize Level 1 or 2.
2. Press **Hold** twice to initialize.

Important! Choosing Initialize Level 1 without installing a SmartMedia Card deletes all programmed data and returns your Strata CIX to factory default settings. All previously programmed data is lost.

Restoring Data from SmartMedia

When initializing with Level 1 you can restore custom data that was previously programmed and stored on a SmartMedia card. To do so, follow the steps below.

1. Install a SmartMedia card that contains the Prgdata directory with the default.dat file. The default.dat file contains your custom settings and can be created by running Data Backup. See [“Data Backup”](#) on [page 13-16](#).

Important! A CIX/CTX default.dat database can only be restored to a CIX/CTX software version that is the same or higher than the CIX/CTX software version on which the default.dat file was created. For example, a default.dat created on CTXR2.0 MF029 can be restored on an R2.0 MF030, MF031 and higher R2.1MG0XX, R2.2 MF0XX (XX = 01~99, but it cannot be restored on R2.0 MF012, MF011 and lower, or R1.X ME0XX, MD0XX, etc.

2. After installing the SmartMedia card, run System Initialization using Initialize Level 1.
Restoring data from the SmartMedia card may take an hour or more. To verify completion of the restore process access, the Programming Mode from a telephone and enter your password. If the system enables you to continue, the data restore process is complete.

Note During the restore process the telephone LCD may display date and time data. This does not necessarily indicate completion of the restore process.

Display Version

This program enables you to view current software versions for the Strata CIX system and installed options.

- Active – As the name implies, this is the current active software operating the Strata CIX system.
- Standby – This is a software version released prior to the active version. It acts as a backup in the event problems are experienced by the Active version.

Program Number(s): 901

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:

Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

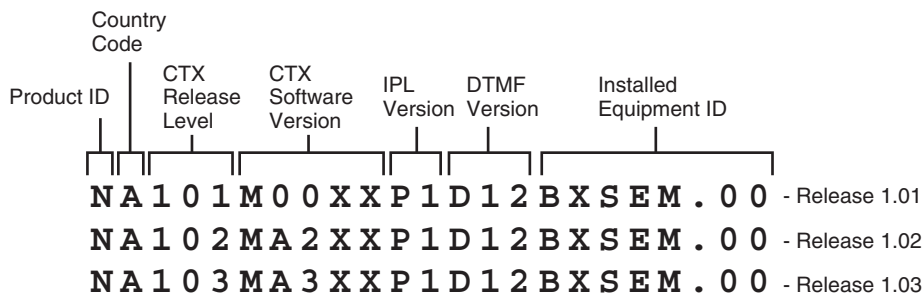
At the **PROG=** prompt enter **901** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Version Number Active	01	Display Active side software version and installed options. As the name implies, this is the current active software operating the CIX system.	6~31 digits	Installed Version
Version Number Standby (CIX1200/ CIX670 only).	02	Display Standby side software version and installed options. This is a software version released prior to the active version. It acts as a backup in the event problems are experienced by the Active version.		Installed Version

1. Press **FB01** to view the current Strata CIX software version. Press the **Scroll** or **Page** key to move the display left or right.
2. Press **FB02** to view backup Strata CIX software version.
3. Press **Hold**, then **# # Hold** to return to the **PROG=** prompt.
4. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Reading the Version Code

The figure below is an example of the Strata CIX software version code.



6499

Position	1	2	3	4	5	6	7
Version Code	A	A	520	MTxxx	Px	Dxxx	XSEM.00

- **Pos. 1 - Product ID** – This is the first character in the version code string. N designates CIX670; S designates CIX100, A designates CIX1200
- **Pos. 2 - Country Code - 2** – “A” identifies the country (USA, Canada, Mexico).
- **Pos. 3 - CIX Release Level** – This string of numbers identifies the Strata CIX Release level (NA101=R1.01, NA102=R1.02, NA103=R1.03, etc).
- **Pos. 4 - CIX Software Version** – This string of characters identifies the current software version. For the example above, the software is called “M00XX, MA2XX, MA3XX, etc,” where XX is the version number.
- **Pos. 5 - IPL Version**
- **Pos. 6 - DTMF Version** – This three character string identifies the existence of DTMF and ABR circuits and the version. The “D” designation indicates that DTMF is being applied to the Strata CIX while “12” indicates the DTMF version number. The CIX1200 DTMF version has 3 digits.
- **Pos. 7 - Installed Equipment ID** – There are five characters, each referencing a unique equipment identification value assigned to hardware installed in your Strata CIX system. If the particular hardware is not installed a “-” displays. The following are the equipment identifier designations.
 - B – BBMS is installed (CIX1200 does not use this)
 - X – BEXS is installed.
 - S – BSIS is installed.
 - E – The Ethernet is installed.
 - M – The Modem is installed.

Set Time and Date

This program enables you to change the system clock in Strata CIX.

Program Number(s): 902

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **902** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Date	01	Enter current system date in this field.	yymmdd format yy = current year mm = current month dd = current day	DATE=
Time	02	Enter the current time in this field.	hhmmss format hh = current hour mm = current minute ss = current second	TIME=

1. Press **FB01** to enter current Strata CIX Date. See table above for format.
2. Press **Hold** to program.
3. Press **FB02** to enter current Strata CIX time. See table above for format.
4. Press **Hold** to program.
5. Press **Hold** to submit, then **# # Hold** to return to the **PROG=** prompt.
6. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Event Trace Control

This program enables you to trace message events occurring in Strata CIX.

Program Number(s): 903

Prerequisite Program: None

Reference: Install SmartMedia card

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt, Enter your password and press **Hold**.

At the **PROG=** prompt enter **903** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Trace State	01	Enter 1 or 2 to Start or Stop Message Trace. Stopping the trace outputs data to the SmartMedia card. Wait for the PROG= prompt on the LCD before proceeding. Before removing the SmartMedia card run Program 908. See "Format/Unmount Secure Digital/SmartMedia" on page 13-14.	1:Start 2:Stop	1:START 2:STOP
Trace Size	02	Set the trace data size. Toshiba recommends leaving this parameter at the default setting which provides approximately 15 minutes of trace data.	1~256 (in bytes) 1 unit = 16 bytes Default = 2	SIZE=
Trace Category	03	Trace data type to be stored.	1:Call Processing 2:Maint and Admin 3:Both of the above	1.CP 2.M&A 3.CP+M&A (default)

1. Press **FB01** to enable Start or Stop trace. Use the number key pad to make your selection.
2. Press **Hold**.

Notes

- Start indicates the trace was previously started and is currently running.
 - Stop indicates the trace is not running and all trace buffer data was transferred to the SmartMedia.
3. Press **FB02** to enter trace file size. To change the setting use the number Dial Pad.
 4. Press **Hold**.
 5. Press **FB03** to set trace category. To view setting options, press the **Scroll** or **Page** button.
 6. Press **Hold** twice to execute. Wait for the **PROG=** prompt to display before proceeding.
 7. Enter another program number to continue programming or press **## Hold** again to exit programming mode.

Note When the CIX1200/CIX670 stops logging data, it automatically sends data to the SmartMedia card. A new trace file is stored on SmartMedia under the Evttrace directory. Run the Unmount command (Program 908) before removing the SmartMedia card to ensure complete data transfer.

ISDN Trace Location

This program enables set up of ISDN protocol event trace collection conditions.

Program Number(s): 904

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **904** and press **Hold**.

At the **EQUIP=** prompt enter the Shelf, Slot and Port numbers.

Notes

- Shelf, Slot and Circuit number is entered in "XXYYZZ" format where Shelf is a two digit value from 01~07 corresponding to the Strata CIX Cabinet number; slot is a two digit value from 01~10 corresponding to the Strata CIX Cabinet's PCB slot number; circuit is a two digit value from 01~04 corresponding to the Strata CIX PCB Slot's circuit number.
- Always use circuit 01 for RPTU.

FB Name	FB	Summary	Value	LCD Prompt
LLCI	01	Level of collecting LLCI values.	1:None (no information) 2:Brief (important information) 3:Detailed (all information)	1:NON
Layer 3	02	Level of collecting Layer 3 messages.		2:BRIEF
Layer 2 and 3	03	Level of collecting Layer 2 and Layer 3 messages.		3:DETAILED
State Transitions	04	Level of collecting State Transitions.		
Errors	05	Level of collecting errors.		
Layer 2 States	06	Level of collecting Layer 2 States.		

- Press **FB01** to run a LLCI Trace. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **FB02** and set CCL3 Trace Level. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **FB03** and set L2L3 Trace Level. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **FB04** and set STATE Trace Level. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **FB05** and set ERRORS Trace Level. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **FB06** and set L2 Trace Level. Press the **Scroll** or **Page** button to view Non, Brief, or Detailed options. Enter 1~3 to determine Trace Level.
- Press **Hold** to execute.
- Press **# # Hold** to return to the PROG= prompt.
- Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

All ISDN Trunk Trace

Program start/stop of packaged detailed collection of event trace functions. This program is only available in the telephone button programming mode.

Program Number(s): 905

Prerequisite Program: ["Format/Unmount Secure Digital/SmartMedia"](#) on page 13-14, ["ISDN Trace Location"](#) on page 13-11 and ["Event Trace Control"](#) on page 13-9

Reference: Install SmartMedia card

Access Sequence: Login to programming mode from your telephone button pad:

Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter 905 and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Trace All ISDN Trunks	01	Output All ISDN Trunk Events to SmartMedia.	1:On (default)	1:ON
			2:Off	2:OFF

1. Press **FB01**.
2. Select **1**, or **2** to turn on or off.
3. Press **Hold** twice to execute.
4. Press **# # Hold** to return to the PROG= prompt.
5. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Event Trace Side Change

This program enables you to manage your ISDN protocol trace. This program is only available in the telephone button programming mode.

Program Number(s): 906

Prerequisite Program: ["Format/Unmount Secure Digital/SmartMedia"](#) on page 13-14

Reference: Install SmartMedia card

Access Sequence: Login to programming mode from your telephone button pad:

Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **906** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Side Change	01	Enter desired parameter number.	1:Message	1:MESSAGE
			2:ISDN	2:ISDN
			3:Message+ISDN	3:MESSAGE+ISDN

1. Press **FB01**.
2. Select **1**, **2**, or **3** to select parameter.
3. Press **Hold** to execute.
4. Press **# # Hold** to return to the PROG= prompt.
5. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Note When the CIX1200/CIX670 stops logging data, it automatically sends data to the Secure Digital or SmartMedia card. Run the Unmount command (Program 908) before removing the Secure Digital or SmartMedia card to ensure complete data transfer.

System Admin Log

Use this command to Start/Stop the System Admin Log.

Program Number(s): 907

Prerequisite Program: None

Reference: Install SmartMedia card

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **907** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Admin Log On/ Off	01	Enter 1 or 2 to Start or Stop Admin Log.	1:Start	1:START
			2:Stop	2:STOP

1. Press **FB01**. To run System Admin Log press **1 Hold** (twice). You are sent to the PROG= prompt.
2. To Stop the log, press **FB01** and press **2** on the dial pad.
3. Press **Hold** twice and wait for the PROG= prompt to appear before proceeding.

Note When the CIX1200/CIX670 stops logging data, it automatically sends data to the SmartMedia card. Run the Unmount command (Program 908) before removing the Secure Digital or SmartMedia card to ensure complete data transfer.

Format/Unmount Secure Digital/SmartMedia

This program enables administrators to format a SmartMedia card from the Strata CIX eManager or the telephone button pad.

Note Strata CIX eManager cannot view SmartMedia files directly. Additional hardware is required to view the contents of the SmartMedia card.

Program Number(s): 908

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **908** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Control	01	Choose SmartMedia card formatting method: Normal – creates any Strata CIX SmartMedia directory that does not exist already. Existing directories are not overwritten by this procedure. Forced – erases any existing directories and files. All existing data is overwritten. See Strata CIX Secure Digital/SmartMedia Directories for more information. Unmount – writes data into SmartMedia Card. Always run unmount before removing the SmartMedia card to prevent damage to the card. Transfer – writes data from static RAM to SmartMedia Card.	1:Normal 2:Forced 3:Unmount 4:Transfer	1:NORMAL 2:FORCED 3:UNMOUNT 4:TRANSFER

1. Press **FB01** to enter parameter. Enter **1–4** as your command choice. Press the **Scroll** or **Page** button to make your selection.
2. Press **Hold** to confirm and **Hold** again to execute.
3. Wait for the **PROG=** prompt to appear before proceeding.
4. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Strata CIX Secure Digital/SmartMedia Directories

Running the Normal and Forced options of this program creates five directories on the SmartMedia card as follows:

- **Admlog** – The Admlog folder saves
- **Errlog** – System error logs are saved into this folder.
- **Evnttrce** – Strata CIX eManager Event Trace files are saved into this folder.
- **Progdata** – Your Strata CIX programmed settings are all saved in this folder.
- **Program** – The operating software and default data of the Strata CIX is saved in this folder.

When a backup is performed, Strata CIX saves programmed data to the **Progdata** folder.

MAC Address (System Serial Number)

This program enables you to display your CIX1200 or CIX670 System Serial Number.

Program Number(s): 909

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **909** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
MAC Address	01	Display System Serial Number.	12 digits	MAC Address

1. Press **FB01** to view parameter. The MAC Address is view only and cannot be changed.
2. Press **Hold** (twice) to exit to the PROG= prompt.
3. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Data Backup

This program enables you to Back up system data to a SmartMedia card.

Program Number(s): 910

Prerequisite Program: [“Format/Unmount Secure Digital/SmartMedia”](#) on page 13-14

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **910** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Backup Function	01	Start and Stop system backup. Restore function is not operational and should never be executed. Use System Initialize (Program 900) Level 1 to restore system backup.	1:Backup 2:Restore (Do not use. See Note on left). 3:Cancel	1:BACKUP 2:RESTORE 3:CANCEL
Numbers	02	The number of data blocks. This number varies depending on the amount of programming the system contains.	Variable	ALL NO=
Current Number	03	This number increments as the backup progresses. When the backup is complete this number should match the total number of data blocks displayed in Numbers (FB02).	Variable	CUR NO=
Backup State	04	All_Ok – Backup completed with no errors. Partial_Ok – Backup has completed with errors. NG – Backup has failed. Cancel – Cancel Backup. Importing – Program data is being restored. Exporting – Program data is being sent out.	1:normal end all 2:normal end part 3:abnormal end 4:cancel 5:importing 6:exporting	

Note Before running this program, make sure the SmartMedia card is properly formatted. See [“Format/Unmount Secure Digital/SmartMedia”](#) on page 13-14 for more details.

1. Press **FB01** to enter your Backup choice. Press the **Scroll** or **Page** button to view your selection options.
2. Press **1**. FB01 and FB04 should blink green.
3. Press **Hold** to execute. Press **Hold** again to Cancel. This program stops running if you exit programming mode from your telephone.

To view Backup progress

1. While the program is running (FB01 and FB04 blink green), press **FB02** to view the total number of files to be transferred.
2. Press **FB03** to view the current file number that is being transferred.
3. The Backup is complete when FB04 blinks intermittently.
4. To verify success, push **FB04**. Your telephone LCD should indicate *1.ALL_OK.
5. Press **# # Hold** to exit.

Note Do not press the **Hold** button. Pressing the **Hold** button restarts the Backup procedure.

To Restore data from the SmartMedia card to Strata CIX, see [“System Initialize”](#) on page 13-6.

Program Update

This program enables you to update the Strata CIX programs.

Program Number(s): 911

Prerequisite Program: Format SmartMedia Card

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **911** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Update Function	01	Enter 1 or 2 to identify the type of Update intended. Select 3 to cancel a running update.	1:Update 2:Reboot 3:Cancel	1:Update 2:Reboot 3:Cancel
Total Blocks	02	View total blocks to be updated (total blocks will vary depending on software versions).	0~65536 (CIX1200/670) 0~128 (CIX100) default = 0	n/a
Copied Blocks	03	View number of blocks copied.	0~65536 (CIX1200/670) 0~128 (CIX100) default = 0	n/a
Active Side Status	04	Backup Type Display	1:Normal 2:Trial 3:Fault 4:Don't Care 5:Error	1:Normal 2:Trial 3:Fault 4:Don't Care 5:Error
Stand by Side Status	05	Stand by Backup Type	1:Normal 2:Trial 3:Fault 4:Don't Care 5:Error	1:Normal 2:Trial 3:Fault 4:Don't Care 5:Error
Active Side Number	06	Active Side Number.	0 or 1 default = 0	ACT SIDE=
Status	07	View Backup Status.	1:Idle 2:Running 3:Success 4:Error	1:Idle 2:Running 3:Success 4:Error

Note Before running this program make sure the SmartMedia card is properly formatted. See ["Format/Unmount Secure Digital/SmartMedia"](#) on [page 13-14](#) for more details.

1. Press **FB01** to enter your Backup choice. Press the **Scroll** or **Page** button to view your selection options.
2. Press **1**. FB01 and FB04 should blink green.
3. Press **Hold** to execute. Press **Hold** again to Cancel. This program stops running if you exit programming mode from your telephone.

Make Busy Control

When an error occurs in hardware resources used for a station or a line fails, this feature makes them busy. The station or line card can be disabled temporarily to perform maintenance or parts replacements as well. This program is only available in the telephone button programming mode.

Program Number(s): 912

Prerequisite Program: Format SmartMedia Card

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **912** and press **Hold**.

At the **CABINET=** prompt enter the Shelf number.

Note The Shelf number is entered in "XX" format where Shelf is a two digit value from 01~07 corresponding to the Strata CIX Cabinet number. See "[Program Button LEDs](#)" below for a description of the LED display.

FB Name	FB	Summary	Value
Equipment	00	Enter Cabinet Number	01~07 (value=xx)
Slot #1	01	Enter 1 or 2	1: Set make busy
Slot #2	02		2: Clear make busy
Slot #3	03		
Slot #4	04		
Slot #5	05		
Slot #6	06		
Slot #7	07		
Slot #8	08		
Slot #9	09		
Slot #10	10		

1. Press **FB01~FB10** to enter your Make Busy selection for the appropriate Slot in the Cabinet entered in Access Sequence above.

Note The slot to which your programming phone is connected cannot be set to Make Busy.

2. Press **Hold** to execute.

3. Press **Hold** again to return to CABINET= prompt.

4. Press **# # Hold** to return to the PROG= prompt.

5. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Program Button LEDs

The LED blink pattern indicates the following:

- Red continuous blinking – PCB experienced a Make Busy status error.
- Red continuous illumination – PCB Make Busy Status mode is on.
- Green continuous blinking – PCB Make Busy Status mode is stand by.
- Green intermittent blinking – PCB Make Busy Status mode is idle.

Regional Selection

Set Operating region for your Strata CIX. This assignment sets built-in core LSI hardware parameters that are not changeable with jumpers or switches. These parameters must be set unique for each country and affect system operation.

Program Number(s): 915

Prerequisite Program: None

Reference: None

Access Sequence: From the Menu select Advanced Configuration > Utilities > Operation > CIX/CTX

Field	Description	Value	LCD Prompt
Region	Set region number. 0~2 are valid entries for North American Operations.	0~31 (USA = 0, Canada = 1, and Mexico = 2).	REGION=

Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **915** and press **Hold**.

FB Name	FB	Summary	Value	LCD Prompt
Region	01	Set region number. 0~2 are valid entries for North American Operations.	0~31 (USA = 0, Canada = 1, and Mexico = 2).	REGION=

1. Press **FB01**. Enter **0~2**. Press **Hold**.
2. Press **Hold** (twice).
3. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

IP Configuration

This program enables you to set up Network Communication Protocols.

Program Number(s): 916

Prerequisite Program: None

Reference: None

Access Sequence: Login to programming mode from your telephone button pad:
Hold Q#Q#1Q2Q3Q.

At the **PASSWORD=** prompt enter your password and press **Hold**.

At the **PROG=** prompt enter **916** and press **Hold**.

FB Name	FB	Summary	Value
IP Address	01	Enter IP Address 1. 192 = First IP Address Octet 168 = Second IP Address Octet 254 = Third IP Address Octet 253 = Fourth IP Address Octet	0~255 default = 192.168.254.253
Subnet Mask	02	Enter Subnet Mask Address 1.	0~255 default = 255.255.255.0
Default Gateway	03	Enter Default Gateway 1.	0~255 default = 0.0.0.0

Notes

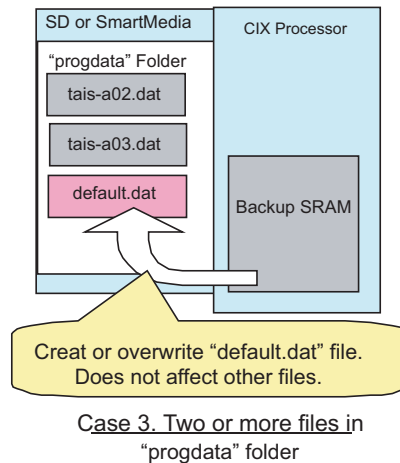
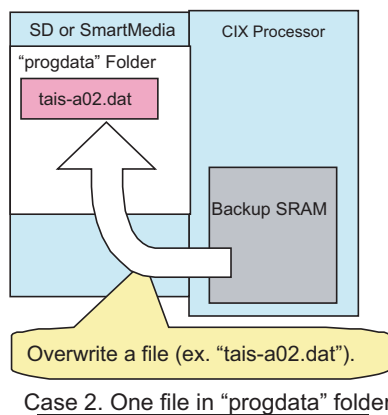
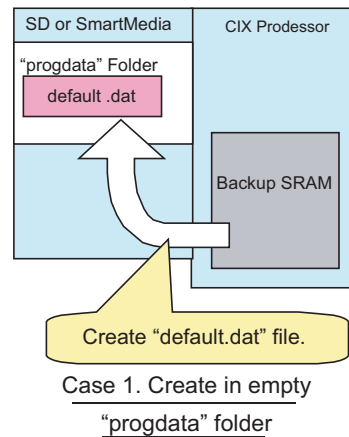
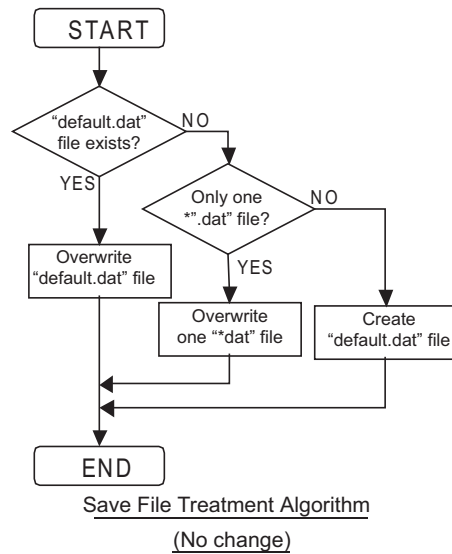
- The LCD only displays three of the twelve IP address digits at a time. Press the **Spkr** button to view the remaining digits.
 - The IP Address is the static IP address of the Strata CIX processor NIC/Ethernet connection only. The PPP IP address for the Strata CIX processor modem is always 192.168.255.254 and cannot be changed.
1. Press **FB01** to view the current TCP/IP Address 1 (press **FB02** to view the current Subnet Mask Address 1, or press **FB03** to view Default Gateway Address 1).
Press **Hold**.
 2. Enter first IP Address Octet. To keep current setting go to [Step 3](#).
 3. Press **Spkr** button and enter second IP Address Octet. To keep current setting go to [Step 4](#).
 4. Press **Spkr** button and enter third IP Address Octet. To keep current setting go to [Step 5](#).
 5. Press **Spkr** button and enter fourth IP Address Octet. To keep current setting go to [Step 6](#).
 6. Press **Hold**.
 7. Press **FB02** to configure the remaining parameters.
 8. Press **Hold**.
 9. After all parameters are entered press **Hold** to submit the new settings.
 10. You are automatically returned to the **PROG=** prompt.
 11. Enter another program number to continue programming or press **# # Hold** again to exit programming mode.

Data Backup and Restore

Backup Feature

Backing up your files creates a *.dat file. The file is automatically named default.dat (as shown in Case 1 below). If one already exists it is overwritten (as shown in Case 2). If more than two *.dat files exist in the progdata folder, a file whose name is default.dat is created (shown in Case 3).

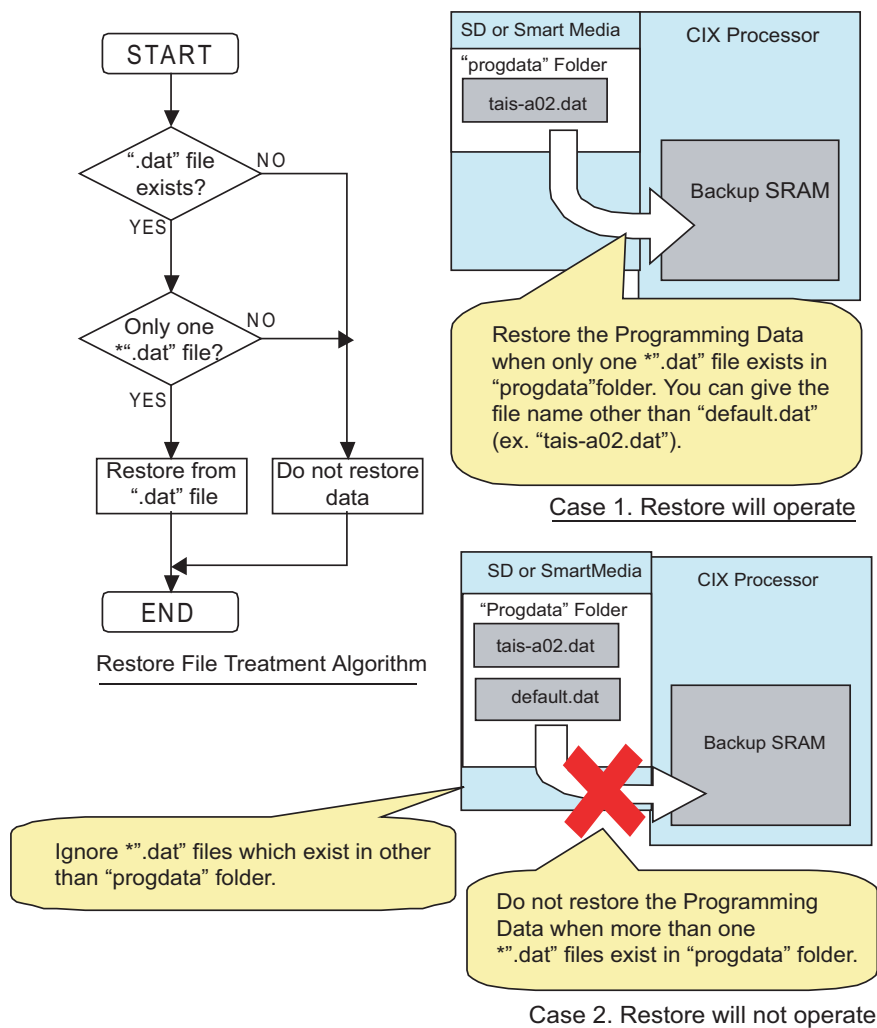
CAUTION! Release 4 will overwrite the default.dat file. This is different than previous Strata CIX/CTX versions that will not overwrite an existing default.dat file.



Restore Feature

To restore files, you can only have one programming data file whose name is `*.dat` in the progdata folder (shown in Case 1 below). You can name the file anything you want based on the rules given above.

If there are two or more "Programming data files" in the progdata folder, it cannot be used to restore files (shown in Case 2 below).



System Turn-on and Start-up Time

When a Release 4.0 or later system is turned on, it takes about 30-90 seconds to operate. CIX Release 2.x and 3.x take about 15 seconds.

R3.0 and Earlier Data Backup

This section provides Strata CIX maintenance procedures that can be activated from the programming telephone. These procedures are for R3.0 and earlier systems. For SmartMedia, refer to “[Format/Unmount Secure Digital/SmartMedia](#)” on [page 13-14](#).

1. Format the SmartMedia using “[Format/Unmount Secure Digital/SmartMedia](#)” on [page 13-14](#) (Program 908).
2. Insert the formatted SmartMedia into Strata CIX.
3. Backup data using “[Data Backup](#)” on [page 13-16](#) (Program 910). LED indicators should show the following:
 - **FB01~FB03** solid red light.
 - **FB04** intermittent green.
4. Press **FB01** and choose Backup by pressing **1** on the telephone button pad.

CAUTION! Never use Restore (2). It is not valid for current versions of CIX software and could result in corrupt databases and system mis-operation.

5. Press **Hold**. Backup for programmed data starts. The LED indicator **FB04** consistently blinks green during back up. After back up is complete, **FB04** will flash inconsistently slower.

CAUTION! Do not press Hold while Backup is being performed.

6. Press **Hold** twice to exit programming.

Backup Progress and Completion Indicators

You can monitor Backup progress by pressing the **FB02** or **FB03** buttons as follows. See “[Data Backup](#)” on [page 13-16](#) for more details.

- If the value displayed in the LCD is increasing each time **FB03** is pressed, the Backup is proceeding successfully.
- When the value displayed in the LCD for **FB03** and **FB02** are the same, the Backup process is complete.
- When the **FB04** LED returns to an intermittent green, Backup is complete.
- Press **FB04** to verify Backup is completed. If the LCD displays *1:ALL_OK the Backup was successful.

Restoring Programmed Data

To restore data from a Backup performed onto SmartMedia follow the directions below:

1. Insert the SmartMedia card that has the system's default.dat file (under the PROGDATA folder) into the Strata CIX SmartMedia slot.
2. Run Program 900 "System Initialize" on [page 13-6](#), Level 1 (ALL DATA CLEAR). See programming steps below.

Restoring data takes anywhere from 10 minutes to one hour for completion depending on the size of the database (default.dat file).

3. When the programming telephone LCD becomes active, enter the programming mode and enter your password.

Restore is complete if the system accepts the password and enables you to enter programming mode.

4. Remove the SmartMedia card and restart the CIX again after restoring system data. This is necessary to reset BIBU-M, BIPU-Q, Strata Net, Strata Net, ISDN and other advanced features.

Local Update

The following procedures are required for Local Update of all CIX systems.

Prerequisites for CIX100, CIX200, CIX670 and CIX1200 Local Update

The following are the prerequisites for Local Update:

- The SmartMedia card must be installed in the system with a Backup of the current database (default.dat) file.
- Activation of the new software requires a Clear-reboot operation that will drop all existing calls and will take the system out of service from 10 minutes to an hour or more depending on the system size.
- Requires a different system software Update file (provided on the Toshiba FYI site), depending on the type of CIX system and the type of Update that will be performed.

CIX Software Update Files

Each Strata CIX system type has two Software Update files: one for Strata eManager Remote Update and another file for Local Update (to use with the programming telephone procedure).

CAUTION! Using the wrong file in either case will cause the Update to fail.

CIX Software Identification

Refer to the table below to identify CIX software release and builds in software file names or when verifying CIX software versions.

Software Release	Software ID
R1.00 and R1.01	= M01nn
R1.02	= MA2nn
R1.03	= MA3nn
R1.3	= ME0nn
R2.0	= MF0nn
R2.1	= MG0nn
R3.0	= MJ0nn
R4.0	= ML0nn
R4.1	= MN0nn or =MN2nn
R4.2	= MP0nn
R5.0	= MR0nn
R5.1	= MS0nn
R5.2	= MT0nn

nn = Software build level/number

Step 1: Download and Extract CIX Software

The latest released version of CIX system software Update files are posted on the Toshiba FYI site <http://fyi.tsd.toshiba.com>. To download the software files, follow the procedure below.

Step 1A: To Download CIX System Software Files from FYI

1. From the Toshiba FYI website, click on Technical Services > Software (Strata Systems). The files are located under the appropriate System Software heading.
2. Double-click the appropriate link: System Software: Software (Local Update)
3. When the Toshiba Software License Agreement screen displays, click the **Agree** button. The File Download dialog box displays.
4. Select the "Save this program to disk" radio button, then click **OK**. The Save As screen displays.
5. Save the file to an appropriately named folder that identifies the system type and software version, then click **Save**.

Step 1B: Extract Downloaded Files

1. After the download is complete, select the Open or Open Folder button on the Download Complete screen to extract/open the files now, or select the Close button to extract the files later.

Notes

- The WinZip Self-Extractor screen displays if you selected the Open or Open Folder button.
- If you selected Close, double-clicking the .exe file later will bring up the WinZip Self-Extractor screen.

These files are the self-extracting .exe files.

2. In the "Unzip to folder:" field, make sure the path leads to the correct folder as shown below. If the path is incorrect, click the **Browse** button to navigate to the appropriate path, then click the **Unzip** button.
3. Verify the unzip folder path for Local Update: SmartMedia Drive:\PROGRAM

4. Verify the unzipped files or folders for Local Update of the Strata CIX100, CIX670 and CIX1200 the file name is the same "nhs.prg".

The files can also be extracted to a temporary folder and then copied to the appropriate SmartMedia PROGRAM folder or Strata eManager Upload folder. The extracted (decompressed) files will be approximately 15MB.

Step 2: Choose Strata CIX100, CIX100, CIX670 or CIX1200 for Local Update

Choose one of the following:

- Strata CIX100 Local Update
- Strata CIX200 Local Update
- Strata CIX670 Local Update
- Strata CIX1200 Local Update

Strata CIX100 Local Update

The Update process is used to change the Strata CIX software version and restore programmed data. The new software is first loaded on the SmartMedia card. It is then transferred to the Strata CIX100 processor flash RAM. The Strata CIX100 programmed data is then restored.

Step 1: Prepare SmartMedia Card with Backup of Customer Database

This SmartMedia card will contain a back up of the Strata CIX programmed data (default.dat).

1. Insert a SmartMedia card into the CIX, format it, and then back up the customer database onto the SmartMedia card using the Backup Data procedure (see the ["R3.0 and Earlier Data Backup"](#) on [page 14-3](#)).

This operation writes the default.dat file under the PROGDATA directory to the SmartMedia card.

2. Remove the SmartMedia card from the CIX and physically label it "Strata CIX Backup data."

Step 2: Prepare SmartMedia Card with a Copy of New CIX Software

This SmartMedia card will contain the new Strata CIX software file (nhs.prg) used to Update the system software:

1. Obtain the Strata CIX operating software file (nhs.prg) from Toshiba FYI and store it on an appropriately named folder on your PC (see the Download and Extract CIX Software procedure on page 1).
2. Insert a SmartMedia card into Strata CIX processor SmartMedia socket and activate the Forced Format command using Program 908; then Unmount SmartMedia using Program 908.
3. Remove the formatted SmartMedia card from the CIX and Install the SmartMedia card into a PC SmartMedia reader/writer.
4. Copy the new Strata CIX software file named "nhs.prg" into SmartMedia card PROGRAM folder.

Note It is not necessary to create a SmartMedia Card Volume label for CIX100 Update. However, if you create a volume label, do not use PRGUPDATE, PRGRESUE0, or PRGRESUE01 as volume labels.

5. Pull out the SmartMedia card and physically label it "CIX100, MXnnn" or whatever software version you are updating to.

Note After completing Steps 1 and 2 above you should have two SmartMedia cards:

- One card containing the CIX backed up database file: PROGDATA\default.dat
- One card containing the CIX software update file: PROGRAM\nhs.prg

Step 3: Update CIX100 Software

CAUTION! This operation will take the system out of service for 10 minutes to an hour or more depending on the CIX database.

1. Insert the SmartMedia card containing PROGRAM\nhs.prg file into the Strata CIX processor SmartMedia socket.
 2. From the programming telephone enter Program 911, and press Hold. Press FB01 and dial 1 (UPDATE) and then press Hold.
-

CAUTION! Pressing Hold twice will cause the Update to fail

After a short pause the Strata CIX will begin to upload the software from the SmartMedia card to the processor flash RAM causing the following:

- If FB07-LED is flashing green, it indicates that the Update process is in progress.
 - If FB07-LED is flashing red, it indicates an error. This could be caused by a corrupt or incorrect nhs.prg file or a defective SmartMedia card. Make sure the file is a CIX100 nhs.prg file and not CIX670 or CIX1200 file.
 - You can now check the Update progress using FB02 (Total) and FB03 (Copied) to view data block status. Periodically switch between FB02 and FB03 to view the data blocks.
 - When all the data blocks are copied the Strata CIX stops normal processing and all telephone LCDs go blank.
 - The processor Heartbeat LED is on steady red.
 - The processor SmartMedia LED turns on flashing rapidly at first, then flashes slowly and finally stops flashing.
 - The above will last about five to 10 minutes.
 - When the Update is complete the system begins to operate normally with default data.
3. Use Program 901 to check that the new software version of CIX software has been loaded. If you cannot enter the Program Mode the new software may still be loading.
 4. Remove the SmartMedia card (which contains PROGRAM/nhs.prg file) from the CIX processor.

Step 4: Restart and Restore Strata CIX100 Backup Data

1. Insert the SmartMedia labeled "Strata CIX Backup data" which you previously made at the start of this procedure. This card contains PROGDATA/default.dat file.
2. From the programming telephone enter Program 900. Press **FB01** and dial **1** (ALL DATA CLEAR) and then press **Hold** (twice). The Strata CIX will restart (initialize) on the new software and restore the backed up program data. The time required for this operation will vary from a few minutes to 30 minutes or more depending on the size of the database.

Step 5: Confirm Software is Updated and Backup Data is Restored

1. When the telephone LCDs display and system dial tone is available, try to log in to the Programming Mode from digital telephone. (If Update/Restore is finished, you can log in).
2. From the programming telephone check the Strata CIX version number using Program 901.
3. Turn the CIX100 power off for 5 seconds and then back on to reset QISG, ISDN and other advanced features.
4. Test the system to verify that the new software is running properly by checking dial tone, making incoming and outgoing calls, internal and external calls and all other peripherals, such as voice mail, etc., are working correctly.
5. Toshiba recommends that the SmartMedia card containing the customer data remains installed on the CIX processor. This enables you to make and back up changes using Strata eManager remotely.

Important! It is your responsibility to verify the system is working correctly after local Update is complete.

Strata CIX670 or CIX1200 Local Update

The Update process is used to change the Strata CIX software version and restore programmed data. The new software is first copied from the SmartMedia card to the standby side of the Strata CIX processor flash RAM. Then the new software on the Standby flash RAM is switched to the active mode and the original software is switched to the Standby mode for a trial run.

After swapping the software version making the new software “Active,” the Strata CIX restores the programmed data. If the system functions properly, the trial operation can be set to normal operation; if there are problems you can switch the original software back to Active.

A CIX default.dat database can only be restored to a CIX software version that is the same or higher than the CIX software version on which the default.dat file was created.

Examples:

- A default.dat created on CIXR2.0 MF013 can be restored on an R2.0 MF013, MF014 and higher.
- R2.2 MF0XX, R2.1MG0XX (XX = 01~99), cannot be restored on R2.0 MF012, MF011 and lower, or R1.X ME0XX, MD0XX, etc.

Step 1: Prepare SmartMedia Card with a Backup of the Customer Database

This SmartMedia card will contain a Backup of the Strata CIX programmed data (default.dat).

1. Insert a SmartMedia card into the CIX, format it, and then back up the customer database onto the SmartMedia card using the Backup Data procedure (see [“R3.0 and Earlier Data Backup”](#) on [page 14-3](#)).

This operation writes the default.dat file under the PROGDATA directory to the SmartMedia card.

2. Remove the SmartMedia card from the CIX and physically label it “Strata CIX Backup data.”

Step 2: Prepare SmartMedia Card with a Copy of the New CIX Software

This SmartMedia card will contain the new Strata CIX software file (nhs.prg) used to Update the system software.

1. Obtain the Strata CIX operating software file (nhs.prg) from Toshiba FYI and store it on an appropriately named folder on your PC – see [“Download and Extract CIX Software”](#) on [page 14-5](#).
2. Insert a SmartMedia card into Strata CIX processor SmartMedia socket and activate the Forced Format command using Program 908; then Unmount SmartMedia using Program 908.

3. Remove the formatted SmartMedia card from the CIX and install the SmartMedia card into a PC SmartMedia reader/writer.
4. Copy the new Strata CIX software file named "nhs.prg" into SmartMedia card PROGRAM folder.
5. Create a SmartMedia Card Volume label "PRGUPDATE" on CIX Update SmartMedia card as shown:
 - Select and right mouse click the appropriate SmartMedia drive, for example, drive E or G in some computers.
 - Click Properties.
 - Under General tab, in the Label field enter label name (in this case PRGUPDATE).
6. Pull out the SmartMedia card and physically label it "CIX670, MXnnn, "CIX1200, MXnnn"" or whatever software version you are updating to.

Note After completing Steps 1 and 2 above you should have two SmartMedia cards:

- One card containing the CIX backed up database file: PROGDATA\default.dat
- One card having the volume label "PRGUPDATE" and containing the CIX software Update file: PROGRAM\nhs.prg

Step 3: Update CIX670 or CIX1200 Software

1. Insert the SmartMedia card containing PROGRAM\nhs.prg file into the Strata CIX processor SmartMedia socket.
2. From the programming telephone enter Program 911, and press **Hold**. Press **FB01** and dial **1** (UPDATE) and then press **Hold** once. Pressing **Hold** twice will cause the Update to fail. This will not interrupt the CIX system operation.
 - If FB07-LED is flashing green it indicates that the Update process is in progress.
 - If FB07-LED is flashing red it indicates an error. This could be caused by a corrupt or incorrect nhs.prg file or a defective SmartMedia card. Make sure it is a CIX670 or CIX1200 nhs.prg file and not a CIX100 file.
 - You can now check the Update progress using **FB02** (Total) and **FB03** (Copied) to view data block status. Periodically switch between **FB02** and **FB03** to view the data blocks.
 - When FB07-LED is solid green with periodic short blinks, it indicates the first part of Update completed successfully (2 to 10 minutes).
3. After FB07 is on solid green with a periodic wink, press Hold, while in Program 911. Press **FB05** and dial **2** (TRIAL) and then press **Hold**. This will change the status of the Standby Flash Memory to trial.
4. Pull out the SmartMedia card labeled PRGUPDATE (which includes PROGRAM\nhs.prg file).
5. Insert the SmartMedia CARD labeled "Strata CIX Backup data" into processor/ SmartMedia socket. The SmartMedia LED on the processor begins to blink.

The "Strata CIX Backup data" SmartMedia card is the card you previously made that includes the Strata CIX programmed data in the default.dat file under the PROGDATA folder. If this is not done before starting Clear-reboot, all programmed data will be lost.

The next operation will take the system out of service for 10 minute to an hour depending on the size of the CIX database.

6. From the programming telephone enter Program 911 and press Hold; press **FB01** and dial **3** (CLRREBOOT) and then press **Hold**. This will Clear-reboot the system to switch the new software version from standby to active and restore Backup data.

CAUTION! This operation will take the system out of service for 10 minutes to an hour or more depending on the CIX database. Do not skip any steps or Update will fail.

Notes

- If CLRREBOOT is activated without the Backup data SmartMedia card installed, the active and standby software is swapped and the system default program data is restored.
 - The Strata CIX processor heartbeat LED stops flashing and all telephones become inactive. After a few minutes the Strata CIX initializes and starts up with new version of software as active and the original software as standby, and then restores the backed up program data from the SmartMedia card default.dat file (the processor SmartMedia LED flashes while it restores the program data to the processor RAM).
 - After CLRREBOOT has completed the new version of CIX System software will be active in Trial mode.
 - If system power is turned off/on while the Active side of flash memory is in the Trial mode, the original software switches back to active and the new software will switch back to Standby. This is to provide an automatic method of switching back to the original software version if the new version is causing problems.
7. Confirm that the software is updated and the Backup data is restored by verifying/doing the following:
 - Make sure the processor SmartMedia LED is off.
 - Log in to programming mode from a digital telephone. If you cannot log in, it means the data restore process is not completed.
 - From the programming telephone, in Program 901 make sure that the new Strata CIX system software version number is on the active side. **FB01** shows the new system software version number on the active side, and **FB02** shows the original software version number on standby side.
 8. Set the Active side of flash RAM from “Trial” to “Normal” as follows:
 - From the programming telephone, enter Program 911 and press **Hold**. Press **FB04** and dial **1** (NORMAL), then press **Hold**. The new software is on the active side running in Normal mode.
 - If Strata CIX power is turned off/on before the Active side is switched to “Normal”, the Strata CIX will automatically perform a CLRREBOOT and make the old software active.
- Note** The active side switches from “Trial” to “Normal” automatically after 24 hours if it is not done manually using Program 911.
9. Remove the SmartMedia card and turn the power off for 5 seconds and then back on to reset BIPU-M, BIPU-Q, QISG, ISDN and other advanced features.
 10. Test the system to verify that the new software is running properly by checking dial tone, making incoming and outgoing calls, internal and external calls and all other peripherals, such as voice mail, etc., are working correctly.
 11. Toshiba recommends that the SmartMedia card containing the customer data remains installed on the CIX processor. This enables you to make and backup changes using Strata eManager remotely.

Important! It is your responsibility to verify the system is working correctly after local Update is complete.

This appendix contains guides to setup and program specific applications such as Voice Mail, IP Telephony, StrataNet and others.

Voice Mail Set Up

The following steps/program sequences are provided as a guideline to programming system voice mail settings.

Analog Ports

1. Program 100 Card Slot Assignment. Assign the PCB for voice mail ports (RSTU).
2. Program 200 Station Data. Verify FB1~FB4.
 - FB03 Circuit Type – Assigns voice mail to be assigned to PDNs associated with voice mail RSTU circuits.
 - FB15 Display DN – DN to be displayed and assigned to hunt group. Manually assign DNs and equipment.
3. Program 209 Station Hunting Group. Voice mail group is determined by the hunt group.
4. Program 218 Station Hunt Group Assignment.
5. Program 579 System Voice Mail Data. Complete FB01~FB17.

Notes

- FB10 Central Message Callback – Enter the node ID and hunt group for voice mail. Used for centralized voice mail SMDI only.
 - DTMF – Message Waiting Call Back DN across Strata Net TIE lines. DTMF integration uses the number that displays in Program 200, field 15.
6. Program 580 Voice Mail Port Data. This is the collection of all ports.
 7. Program 803 IO Logical Device Assignment. You can add members to the hunt group. Assign BSIS RS-232 port for SMDI.

Note System only provides Code 300 for SMDI. Code 301 is not supported.

8. Program 804 BSIS RS-232 Serial Port setup.
9. Program 309 Direct Inward Dialing.
 - FB11 DNIS VMID Code
 - FB15 DID/DNIS Number DTMF VMID
10. Program 318 DID Intercept Assignment.
 - FB11 VMID for DNIS Number
 - FB15 DID/DNIS Number DTMF VMID

Digital Ports

1. Program the following initial settings:
 - Program 100 – Set cabinet slot PCB type to “BDKU/BDKS 16 DKTs without Spkr OCA”.
 - Program 200 – Assign stations to the slot and assign as voice mail. For example, 200~215 (for 16 ports). Set “Display DN” as the pilot number of the voice mail hunt group. This value should be the same as “Number to Display” in Program 209.
 - Program 204 – Change station’s parameters to Tone First, Adapter: BPCI. Set “Continuous DTMF” to “Not Continuous.” Copy the changes to all voice mail stations.
2. Install and program serial card BSIS in the Strata CIX.

Note CIX Proprietary Integration is required for the iES16 or iES32. A BSIS card must be installed in the Strata CIX.

3. Install a serial cable between the BSIS card and the Strategy (see CIX wiring diagrams in *Strata CIX and MAS Installation and Maintenance Manual*, Peripheral Installation chapter).
4. Specify CIX BSIS output port # and set the port type to be “300 SMDI #0” and “RS-232”.
5. Set the port attributes to:
 - Baud rate: 9600
 - Data Bits: 8
 - Parity: none
 - Flow control: 1
 - Wait timer: 0

Note Refer to Programs 803, 804, 579 and 580.

6. Program 579 System Voice Mail Data. Complete FB01~FB17.
7. Program 580 – Set all CIX voice mail ports as SMDI integration.
8. Program Station Hunting Programs 209 and 218

Telephone Station Ports

1. Program 200 Station Data.
 - FB19 VMID Code SMDI – Voice Mail ID number to send in SMDI and DTMF in-band integration for forwarded and direct calls.
 - FB22 MW to VM Port – Message Waiting center DN.
2. Program 579 System Voice Mail Data.
 - Complete 11~15. See Program 579.
3. Program 204 DKT Parameters.
 - FB23 Mailbox Selection – Used for the Voice Recording Feature. Uses the VMID from Program 200 if set to Auto or allows the user to enter any valid mailbox on Strategy followed by #.
4. Program 206 Phantom DN.
 - FB06 VMID Code – Voice Mail ID number to send in SMDI and DTMF in-band integration for forwarded and direct calls.
 - FB09 Message Center – Message Waiting center DN.

Networking Multiple Voice Mail Systems

More than one voice mail system can be connected to one network node and one or more voice mail systems can be connected to multiple nodes. Access, integration and message waiting are controlled on a call-by-call basis according to parameters assigned to individual extensions. There is nothing to prevent a single DKT from having access to four voice mail systems, each connected to a remote node.

The Primary DN and three PhDNs are each programmed with independent voice mail destinations, voice mail IDs and record and playback codes. Figure A-1 is an example for networking multiple voice mail systems to enable Soft Keys. A similar set up can be used for enabling other voice mail features.

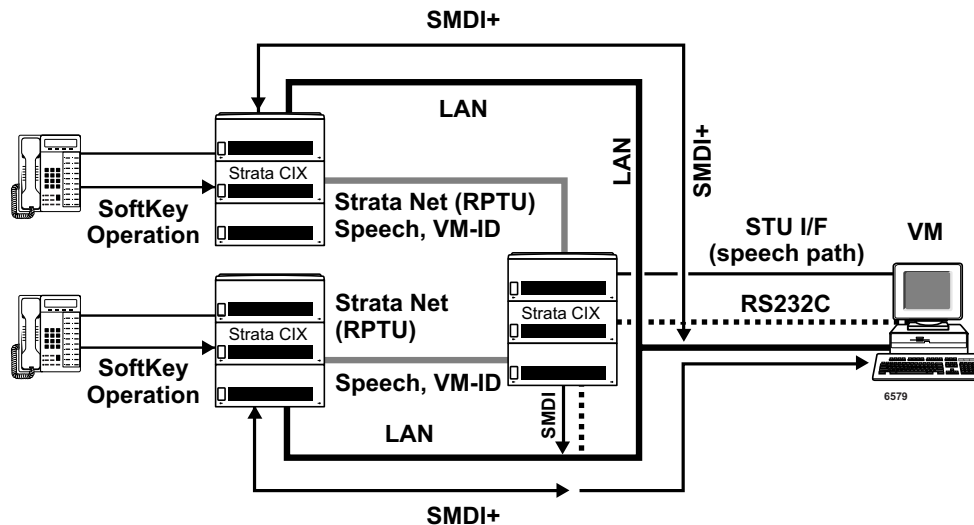


Figure A-1 Voice Mail Networking

Call Record and Soft Keys

A station can record conversations with another station or external line in a specific mailbox in voice mail (VM) using the Record function button. You can replay the recorded conversation using the message waiting button or using the voice mail menu.

Networking for Call Record and Soft Keys is available only with Stragy ES/IES R4 or higher.

Step 1: Set up Station Message Desk Interface (SMDI) for Local and Remote CIX

1. From the Program menu, select System > I/O Device. Program 803 – SMDR SMDI CTI Port Assignments screen displays.
2. Enter/Select the following:
 - FB00 Logical Device No. = select 300 SMDI #0.
 - FB01 Device Connection = LAN.
 - Device Port No. = 1~9.
3. Click LAN Device tab. Program 801 Network Jack Lan Device Assignments screen displays.
4. Enter the LAN data:
 - 00 LAN Port No. = 1~9
 - 01 Protocol = TCP
 - 02 PC Operation Type = Client

- 03 Data Flow = Asynchronization
 - 04 Service Port No. = 0 (default)
 - 05–08 Client IP 1-4 No. = 192.168.254.250
 - 09 Client Port No. = 5000
 - Client IP No. = Strategy IP Address
 - 10 Read Retry No. = 1
 - 11 Write Retry No. = 1.
5. Click **Submit**.

Step 2: Set up Remote CIX

1. From the Program menu, select Services > Voice Mail > Voice Mail Port Data. Program 580 – VM Port Data displays.
2. Enter the appropriate fields. Refer to [“580 Voice Mail Port Data”](#) on [page 9-5](#).
3. Select Station > Assignment. Program 200 – Station Data screen displays.
4. Enter the Prime DN. For Call Record, enter the Node ID and Pilot number of the local CIX (where the voice mail is located).
5. In FB22 – MW to VM Port, enter the local CIX IP address for call recording. For Remote CIX systems, assign message center including Node IP for CIX Proprietary Integration integration. This parameter enables Call Record function too.

Note Refer to [“Voice Mail Set Up”](#) on [page A-1](#) for regular voice mail set up.

Step 3: Set up Strata Net Between All Nodes

Use the following programs to set up Strata Net:

1. [“304 Incoming Line Group”](#) on [page 6-1](#).
2. [“306 Outgoing Line Groups”](#) on [page 6-5](#).
3. [“302 Strata Net \(PRI\) and Strata Net IP \(QSIG\)”](#) on [page 6-30](#)
4. [“102 Flexible Access Codes”](#) on [page 4-3](#)
5. [“651 Private Routing Plan Analysis”](#) on [page 9-33](#)
6. [“653 Private Route Choice Table Assignment”](#) on [page 9-34](#)
7. [“654 Private Route Definition Table Assignment”](#) on [page 9-35](#)
8. [“655 Private Network Digit Modification Table Assignment”](#) on [page 9-35](#)
9. [“656 Local Node ID Assignment”](#) on [page 9-32](#)

For all other voice mail set up steps refer to [“Voice Mail Set Up”](#) on [page A-1](#).

Strata CIX BRI Video Conferencing Programming

The table below shows the programs required to program a PRI line to ring to a RBSU interface to allow for Video Conferencing capabilities.

The following may differ in your system: card slot assignments, trunk groups, channel groups and BRI station numbers.

The following program changes are required once the system has been installed and initialized.

Programs	Description
Program 100	Card Assignment 105=RPTU and 107=RBSU S/T Interface with each two TIE's
Program 105	System Data Primary Clock, FB21=RPTU card slot, 10501
Program 304	Incoming Line Groups ILG=1, FB1=ISDN, FB2=CO, FB3=DID, FB4=Standard
Program 306	Outgoing Line Groups OLG=1, FB1=ISDN, FB2=CO/DID, FB3=Standard
Program 309	Direct Inward Dialing ILG=1, FB1=3000, FB5 through FB10=Dialing Digits with Destination Digits 3000
Program 302	PRI Trunks Channel Group=1, FB1=010501, FB2=Nat'l ISDN, FB3=1, FB4=1, FB7=24, FB 8=Enable, FB9=Enable, FB11=Enable, FB12=Enable, FB19=Enable
Program 320	"B" Channels FB00=010501, FB1 through FB23=Enable
Program 202	ISDN BRI Station Prime DN=3000, FB1=010701, FB2=2, FB3=Nat'l ISDN, FB4=Point to Multi-Point, FB13=Enable, FB14=Enable Prime DN=3001, FB1=010702, FB2=3, FB3=Nat'l ISDN, FB4=Point to Multi-Point, FB13=Enable, FB14=Enable Prime DN=3002, FB1=010703, FB2=4, FB3=Nat'l ISDN, FB4=Point to Multi-Point, FB13=Enable, FB14=Enable Prime DN=3003, FB1=010704, FB2=5, FB3=Nat'l ISDN, FB4=Point to Multi-Point, FB13=Enable, FB14=Enable Note FB2 must be a different channel group for each BRI station and cannot conflict with PRI channel group.

IP Telephone Quality of Service (QoS) Programming

Deploying many IP telephones on a data LAN can have some unexpected pitfalls if the network does not have the bandwidth and speed required to handle VoIP traffic. To prevent delay, jitter, and data loss for VoIP traffic and to retain the performance of your other business-critical network applications a network Voice Readiness Assessment should be completed before installing VoIP.

Important! Voice Readiness Assessments are the responsibility of the installing TSD dealer. Toshiba is not responsible for supporting problems which occur because the network on which the IP telephones are installed does not meet VoIP packet requirements.

CIX IP provides a number of adjustable tuning parameters dealing with sharing of network resources, collectively referred to as Quality of Service (QoS). Some CIX IP voice quality and packet priority parameters that can be adjusted are described below:

General QoS Adjustments

The CIX provides parameters that can be adjusted to improve IP voice quality. These are normally kept at default but may be adjusted as necessary to modify IP voice quality. Set each item individually and then test for voice quality improvements each time a parameter is changed.

1. In eManager, select IP Telephone > Station IP Data (Program 250) 08 Audio Codec and select the codec that should be enabled for individual IP telephones.
The G711 provides the best voice quality but requires the most network bandwidth. Usually G.729A is used when IP telephones are connected remotely.
2. In eManager, select IP Telephone > System IP data (Program 150) and select the 11 BIPU/IPT VQ mode setting.
3. You can assign a Voice Packet Table to individual IP telephones in IP Telephone > Station IP Data (Program 250–07) Voice Packet Table. In eManager, select IP Telephone > Voice Packet Configuration (Program 152) and configure up to 256 different tables (see below).

Voice Packet Configuration Table (Program 152)

Normally the default table settings are used. If experiencing voice quality problems, set each item individually and then test for voice quality improvements each time a parameter is changed. The default settings are shown below. The tables in this program must be assigned to individual IP telephones in IP Telephone > Station IP Data (Program 250) for them to be used by the CIX.

Important!

- When setting voice packet configuration tables on an Strata Net IP network the packet table settings for each node on an end-to-end connection must be the same.
- Whenever voice packet configuration table changes are made for IP telephones on Strata Net IP nodes Toshiba recommends pressing the **RESET** button on the BIPU to ensure the changes take effect.

Voice Packet Configuration Parameters defaults:

- Voice Packet Transmission Interval – 20 msec
- Jitter buffer type – adaptive
- Jitter buffer length – 100 (smooth out packet playback)
- Maximum acceptable delay – 200
- Packet loss threshold – 5
- Packet loss ratio – 5
- Measurement period – 1000

Priority Control Adjustments

This VoIP feature provides a framework in which voice traffic flowing on the network is prioritized over other types of traffic. CIX supports two industry standard types of Priority Control: IEEE802.1p and DiffServ (Differentiated Services). These options should be enabled simultaneously so the voice packets remain prioritized through the whole network path. IEEE802.1p prioritizes voice packets on the Ethernet (LAN) level and DiffServ prioritizes voice packets that pass through the internet, intranet, etc.

Important! Priority Control processing has two requirements for it to work accurately. All network Ethernet equipment connected to the BIPU LAN (routers, switches, etc.) must be in compliance with IEEE802.1p voice packet prioritization. When going through a network provider (ISP, etc.), the provider must support the DiffServ feature - contact your ISP for this service.

To setup priority control from eManager

1. Select IP Telephone > System IP Data.
2. For Ethernet level (LAN) voice packet priority control:
 - Enable 07 IEEE802.1p
 - Set 08 IEEE802.1p. Configuration and set "voice" or "best effort"- voice provides a higher level of priority.
3. For IP level (Internet) voice packet priority control enable 03 DiffServ
4. Set 04 TOS Field Type (TOS -Type Of Service or DSCP - Differentiated Service code point)

Note The most common type used is TOS

- If set to "TOS"
 - Set 05 "TOS Precedence type" (CRITIC/ECP ~ Routine) where CRITIC has the highest priority.
 - Set "TOS Delay type" (Normal or Low) – Low is the best service setting
 - Set "TOS Throughput" (Normal or High) – High is the best service setting
 - Set "TOS Reliability" (Normal or High) – High is the best service setting
- If set to "DSCP"
 - Set "06 DSCP" from 1~64, Basic setting should be one of the following:
 - 0 = Best effort, The default setting for most IP traffic.
 - 24 = Assured flow (AF) or Controlled Load, intended to classify streaming traffic.
 - 40 = Expedited Flow (EF) or Guaranteed, intended to classify high priority traffic. Used by VoIP gateways to mark VoIP traffic.

Networking

Strata CIX enables networking of resources using Strata Net Private Networking. Read the following discussion through before programming Strata CIX networking features.

Strata Net Private Networking

The Strata CIX introduces robust private networking, Strata Net, to the Toshiba family of telecommunications products. Based on an international standard, QSIG, Strata Net will allow multiple Strata CIX systems to share voice mail systems and attendants, share features and a coordinated numbering plan and route calls simply and easily throughout the enterprise. Strata Net is distinguished from CIX Basic Networking which provides interconnection of nodes through conventional, E&M Tie lines.

QSIG

Toshiba has adopted QSIG as the basis for Strata Net. QSIG is an open, international standard for networking PBXs. It was begun in 1994 with a memo of understanding between twelve leading PBX manufacturers. The *QSIG Handbook* can be found on the web at <http://www.QSIG.ie/>. The standards were developed and are maintained by the European Computer Manufacturers Association (ECMA), an international, Europe-based industry association founded in 1961 and dedicated to the standardization of information and communication systems. ECMA may be found on the web at <http://www.ecma.ch>.

QSIG is an intelligent and powerful signaling system, providing great flexibility in terms of network architecture. Any network node can establish routes to 128 other nodes and segmented networks can grow beyond that. New nodes can be added to the network as business needs dictate. The use of QSIG does not impose the use of a specific network topology and it can be used with any network configuration: meshed, star, main and satellite, etc.

Toshiba, like most of its competitors, has chosen to implement QSIG over Primary Rate Interface. Strata Net supports QSIG Basic Call Control that allows it to interoperate with other PBXs that conform to the QSIG standard.

Node ID

The basic logical element in Strata Net routing is the node ID. It functions similarly to the address in a packet data network. As a call is routed through the network, each node examines the leading received digits for a node ID defined in its flexible numbering plan. After first discerning a node ID, the Strata CIX then determines whether the node ID is for itself or for a remote node. If it is a remote node ID, the call goes through a routing process that selects an OLG, manipulates the digits and sends the call to the next node in the network. If the call contains the local node ID, the Strata CIX manipulates the number according to the overlap code and delivers the call to a local station, trunk or feature.

The node ID is one to six digits long. The Strata CIX knows that a node ID to which an overlap code has been assigned is for the local node and that all others are for the remote nodes.

Strata Net bases its routing decisions exclusively on the node ID and makes no attempt to analyze or restrict the remaining dialed digits. These remaining digits are not processed until delivered to the destination Strata Net node. This provides a simple, powerful tool because the programmer does not need to consider local conditions in transit nodes and does not need to fear interference with the call regardless of the path it takes through the network.

Network Directory Number

A Network Directory number consists of two elements: the node ID and the local directory number. A node ID is a string of 1 to 6 digits that identifies one node on the network. A network DN may be a simple concatenation of the two elements in which the complete node ID precedes the complete extension or the two elements may overlap. In the event of an overlap, an overlap code identifies the digits to be substituted for the received node ID.

The node ID allows a call to route through multiple Strata Net nodes until its destination node recognizes it as a local call. Local node IDs are programmed using Prog 656 Node ID. Remote node IDs are programmed in Prog 651 Network Routing Plan Analysis to define the appropriate outgoing route to the desired destination. Digits received after the node ID are passed on to the distant node without analysis.

One node may have up to four node IDs. A unique overlap code is programmed for each node ID. The overlap code allows the programmer to control the number of digits to be dialed for network calls and to create a coordinated dialing scheme across the network. If the network DN is to be a simple concatenation with no overlap, the overlap code field is left blank. All node IDs, local and remote, must be defined as such in the flexible numbering plan.

The following are examples of linked and overlapped node IDs.

Linked:

- Node ID = 789
- Extension = 2345
- Overlap Code = BLANK
- Network DN = 7892345

Overlapped:

- Node ID = 789
- Network DN = 789345
- Overlap Code = 2
- Local Extension = 2345

This simple, powerful, logical tool will support large, complex networks. It is the means by which a coordinated numbering plan can be established across all Strata Net nodes including existing systems with established numbering plans.

Network Feature Access Code

The Network Feature Access Code is similar to the network DN but is used to access features in a remote Strata Net node. Features may include routing features, such as Trunk Group Access and Least Cost Routing, or user features such as Message Waiting and Paging.

The Network FAC format is:

Node ID (1~6 digits) + Local FAC (1~5 digits) + Parameters (unlimited).

For example, **789 9 16175551212** access' node ID 789 and uses that node's LCR (9) to dial directory assistance in Boston.

Given their variability, Network FACs are usually processed without overlap codes. If a node ID with an overlap code has been established for local extensions, it cannot be used for feature access; a separate node ID must be established. If no overlap codes are used, one node ID will serve for all purposes.

Digit Manipulation

Digit Manipulation is the term for the altering of an original string of dialed digits in order to re-route a call or connect it to a specific service. Digit Manipulation is usually applied to the leading digits in the string which appear left-most in written form. Strata Net uses two forms of manipulation: overlap codes, described above for inbound calls, and network digit modification tables for outbound calls. The network digit modification tables contain up to 64 treatments in each of which as many as 10 leading digits may be deleted and as many as 23 leading digits substituted. These 64 treatments may be applied to any of 64 route definitions.

Traveling Class Mark

Calling privileges, restrictions and priorities may be imposed across Strata Net using the Traveling Class Mark. The Traveling Class Mark accompanies all calls across the network. When the call reaches its terminating node, that node uses the Traveling Class Mark to determine whether the originator of the call is entitled to the dialed facility. The mark is a single information element linked from the following:

- Network Class of Service
- Network DR Level
- Network Facility Restriction Level
- Network Queuing Priority Level

All nodes contain tables to translate between local and network DR Levels, Facility Restriction Levels and Queuing Priority Levels. DRL, FRL and QPL each require two tables: one to translate from the local level to the network level for outgoing calls and one to translate from network to local level for incoming calls.

Network Class of Service is an exception for two reasons. First, at the originating node, each station is assigned a Network Class of Service; there is no translation. The terminating node does contain a table to translate the received Network Class of Service to a local Class of Service but it adds parameters to the local Class of Service before determining how to process the call. Those parameters are:

- Permission for Off-Hook Call Announce
- Ability to register System Speed Dial numbers in the terminating node
- Ability to register Class of Service Override in the terminating node and
- Trunk Group Override Access

Time of day considerations are handled at the originating node. If a call originates in a node that is in night mode and terminates in another node, it will deliver the night mode values regardless of the condition of the terminating node.

Path Replacement

Known also as Route Optimization and Release Link, Path Replacement makes the most efficient use of talk paths between network nodes. For example, if a series of transfers around the network results in a conversation between two stations in the same node, all of the tie line circuits are released and a simple station-to-station call is established in the one node. This efficiency reduces the number of facilities to be provided and improves transmission quality by minimizing the number of links over which loss could occur.

Path Replacement applies to:

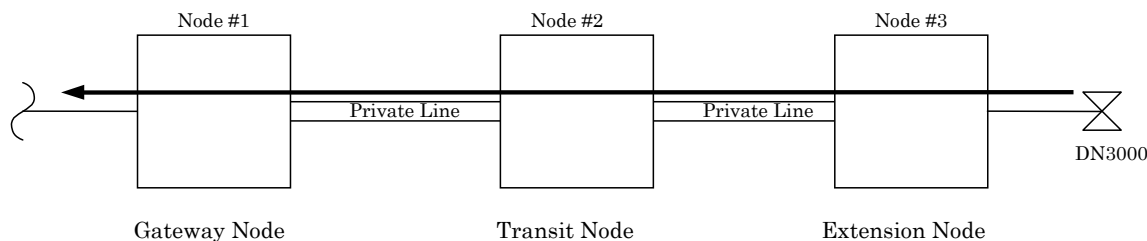
- Call Transfer
- Ring Transfer
- Station Call Forward
- System Call Forward

Coordinated Numbering Plan

A Coordinated Numbering Plan rationalizes the dialing patterns required of network users and relieves them of the need to know complicated access codes to navigate the network. The basic mechanism is the Network Directory Number described above. The combination of node ID and Directory Number appear to the user as simple extension dialing. The ability to overlap the two components reduces the number of dialed digits. If it is necessary to preserve legacy extension ranges at individual nodes, a Network Access Code can be used to resolve numbering conflicts with other nodes.

Station Message Detail Recording (SMDR)

Strata Net generates call records for incoming or outgoing calls from the nodes in which they originated or terminated. For example, if a station user in node 3 makes an outside call that is routed through transit node 2 to gateway node 1 for connection to the public network, nodes 1 and 3 generate SMDR records; node 2 does not.



The record in node #3 will include the Network DN of the calling station, the dialed digits and the OLG number and Channel Group number used to access node #2. The record in node #1 will include the ILG number and Channel Group number of the Strata Net trunk on which the call was received and the PSTN trunk to which it was connected. The record format and conditions are the same as for a single node system using the new format adopted for Strata CIX.

Station-to-station calls across Strata Net are considered internal calls and do not generate SMDR records in any nodes. Abandoned Call SMDR records are only generated for incoming calls over local trunks.

Unforced account codes are generated from the node in which they originated. Forced account codes are included in the records of the node that required them. Similarly, the node which provides DISA services is responsible for checking the DISA Security code and for generating the SMDR record. The remote node and the transit node will not generate the SMDR record.

Plowable buffers are usually attached to each network node and polled by a central call accounting system. If the buffer is not available, the Strata CIX will buffer records as shown in the table below. Equipment numbers, time stamps and call type designations assist the call accounting system in associating records for the same call from different nodes.

Table A-1 SMDR Record Buffer Capacity

System Type	Buffer Capacity
CIX1200 (HCTU)	Up to 600 records
CIX1200 (HEXAU)	Up to 2000 records
CIX1200 (HEXBU)	Up to 3000 records
CIX670 (BCTU/BEXU)	Up to 1000 records
CIX670 (BCTU)	Up to 300 records
CIX200	Up to 300 records
CIX100	Up to 100 records
CIX40	Up to 200 records
CIX28	Up to 200 records

Centralized Voice Mail

Users in multiple network nodes may use the services of a single voice mail system attached to one node. The network transmits the voice mail ID (VMID) for remote stations and the calling conditions under which the call is being directed to voice mail (Call Forward All Calls, Busy, etc.). The centralized voice mail system can control message waiting indications and provide automated attendant services throughout the network through its integration with a single node.

Centralized voice mail requires a Coordinated Numbering Plan throughout the network for proper operation. The Coordinated Numbering Plan allows the voice mail to interact with the entire network as if it were on a large PBX. Basic operations include:

- **Forward to Voice Mail** – A forwarded, busy or unanswered extension may forward across the network to the voice mail unit. Centralized voice mail notifies the voice mail of the source and calling conditions and the voice mail returns the greeting of the original target extension. Notification of calling conditions requires SMDI integration.
- **Message Retrieval** – A user can press the message button on his phone and be directed to a voice mail system connected to his own or a remote node. The call will be correctly identified as a retrieval for the correct VMID and the user will be prompted for his security code. The same operation may be programmed for PhDNs in Station Programming.
- **Message Waiting** – The voice mail system can control message waiting indications in distant switches by accessing the remote node via node ID, registering the Message Waiting Feature Access Code and specifying the desired station.
- **Automated Attendant** – Automated attendant calls to voice mail may be transferred to stations or services in distant nodes using the Network Directory Number. If the automated attendant transfers the call to a busy destination, it can activate Call Transfer with camp-on across the network simply by hanging up.

Not all Strategy features available to a single switch are available to remote Strata Net nodes. This is a result of the local node being directly integrated to the voice mail system. The following table shows the availability of voice mail features across the Strata Net.

Strategy Feature	Attached Node	Remote Node
Message Lamp Control	X	X
Forward to Voice Mail	X	X
Message Retrieval	X	X
Automated Attendant	X	X
Call Record	X	X
Soft Keys	X	X (R1.3 and higher)
Transfer Direct to Voice Mail	X	X (R1.3 and higher)

Networking Multiple Voice Mail Systems – Refer to [“Networking Multiple Voice Mail Systems”](#) on [page A-3](#).

Centralized Attendant

It is possible for one attendant to serve an entire Strata Net. Station users anywhere in the network can simply dial **0** to reach the centralized attendant. Calls to the attendant are identified with calling number and name. Incoming trunk calls to any node in the network can be routed to one attendant and then extended anywhere in the network.

Network Busy Lamp Field (BLF)

Network BLF is an indication on the CIX attendant console and digital telephones that an extension is Busy, Idle or in DND over different nodes. The Primary CIX can read the BLF information from the remote CIXs.

In order to use Network BLF, the CIX attendant console and digital telephones must have access to each CIX by LAN/WAN and requires the IP addresses of each node or CIX. Figure 2 is a BLF/DSS networking flow diagram. It shows you the types of connections required between the BLF servers, the Strata CIXs and the CIX attendant console.

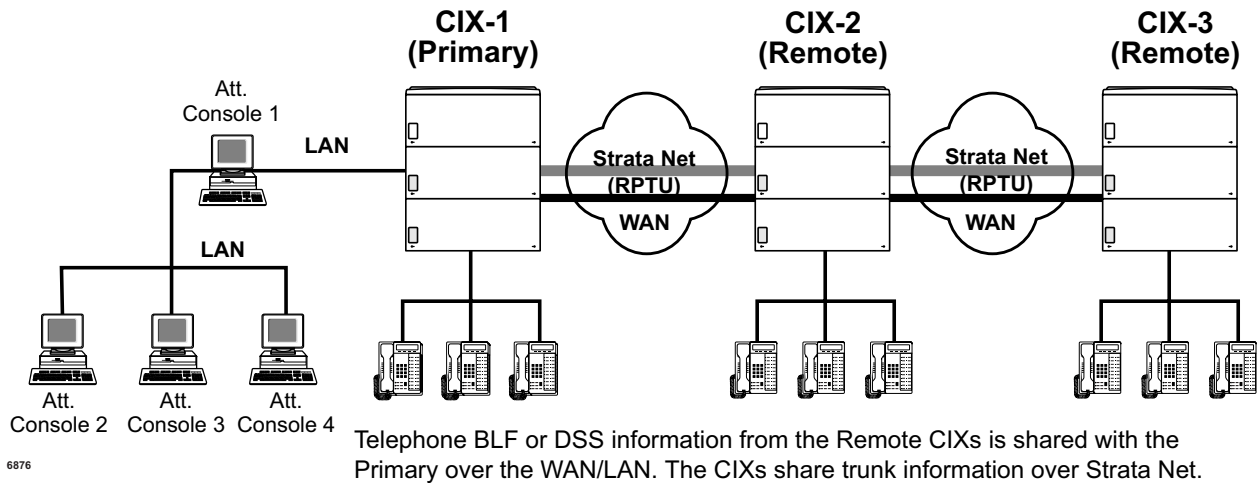


Figure A-2 BLF/DSS Networking

Note The Node ID must be independent of the Station DNs for Network BLF to work.

Network Attendant Console BLF

Follow these steps to program Network BLF as shown in [Figure 3](#):

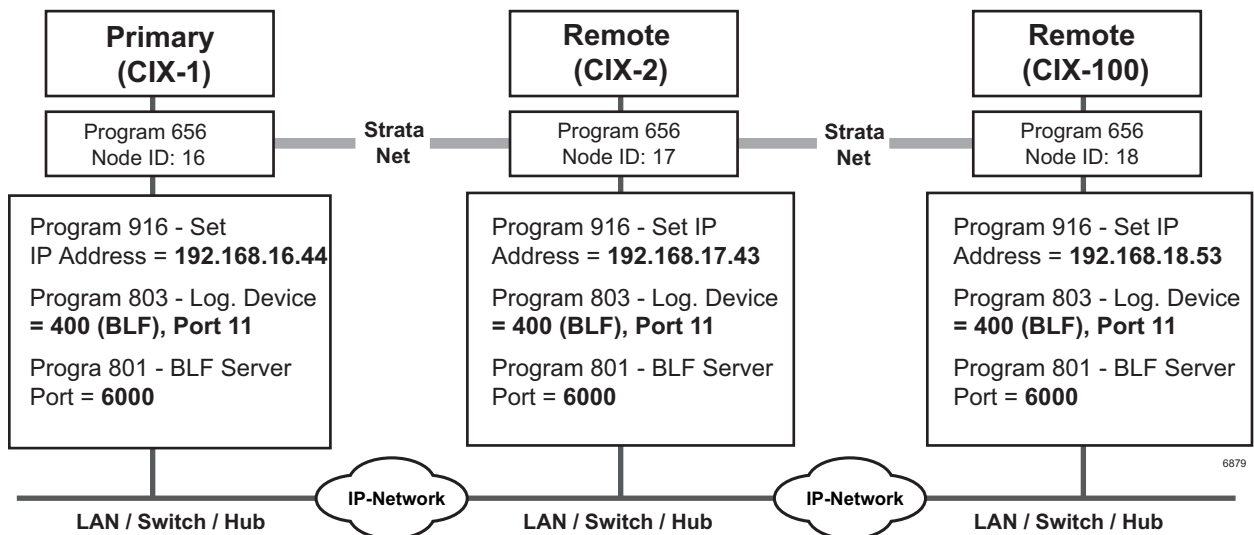


Figure A-3 Network BLF Example

Important! See steps for programming Network BLF from Strata eManager and CIX attendant console on the following pages.

Step 1: Program Network BLF from Strata eManager for CIX Attendant Console

Perform the all of the following steps on the local CIX first, then repeat them on each of the remote CIXs.

1. Create the Node ID in [“102 Flexible Access Codes”](#) on [page 4-3](#).

Note If you have already created the node ID using Strata Net, skip Step 1 and go to the next step.

2. Set up the IP address of the primary CIX using Program [“916 IP Configuration”](#) on [page 10-17](#).
3. From the Program menu, select Services > Networking > Node ID to set the primary node ID. Refer to [“656 Local Node ID Assignment”](#) on [page 9-32](#).
4. From the Program menu, select System > I/O Device. Refer to Program [“803 SMDR SMDI CTI Port Assignments”](#) on [page 4-35](#).
 - 00 Logical Device No. = 400 (BLF)
 - 01 Device Connection = LAN
 - 02 Device Port No. = 11
5. Define the LAN Device port number (11 in the example above). Select System > I/O Device, select the LAN Device tab. Refer to [“801 Network Jack LAN Device Assignment”](#) on [page 4-38](#). Make the following selections:
 - 00 LAN Port No. = 11
 - 01 Protocol = TCP
 - 02 PC Operation Type = Server
 - 03 Data Flow = Asynchronization
 - 04 Server Port No. = 6000
 - 05-08 Client IP 1-4 No. = Default

- 09 Client Port No. = Default
- 10 Read Retry No. = 1
- 11 Write Retry No. = 1

Step 2: From CIX Attendant Console Set up BLF Network

Important! Complete Step 1: “[Program Network BLF from Strata eManager for CIX Attendant Console](#)” on [page A-14](#) before you begin the following steps.

1. Click Administration view.
2. Select the BLF Network Control tab.
3. Enter the IP addresses of primary and remote CIXs.
4. Enter the Port Number (6000).
5. In the Name field, enter the Node Identified. For example, names such as Dallas, Chicago, etc., depending on where the remote CIXs are located.
6. Enter the Refresh rate. This is the frequency that the software will poll the remote site.
7. Click **Add**.
8. Enter the data for the other nodes, then click **OK**.

Notes

- When you make the directory in the CIX attendant console and when entering user information, add the node ID as prefix to the extension.
- When you start the CIX attendant console for the first time, a dialog box appears that requires the IP addresses and port numbers of each CIX.

Network DSS/BLF for Digital Telephones

Follow these steps to program Network BLF/DSS as shown in [Figure 4](#):

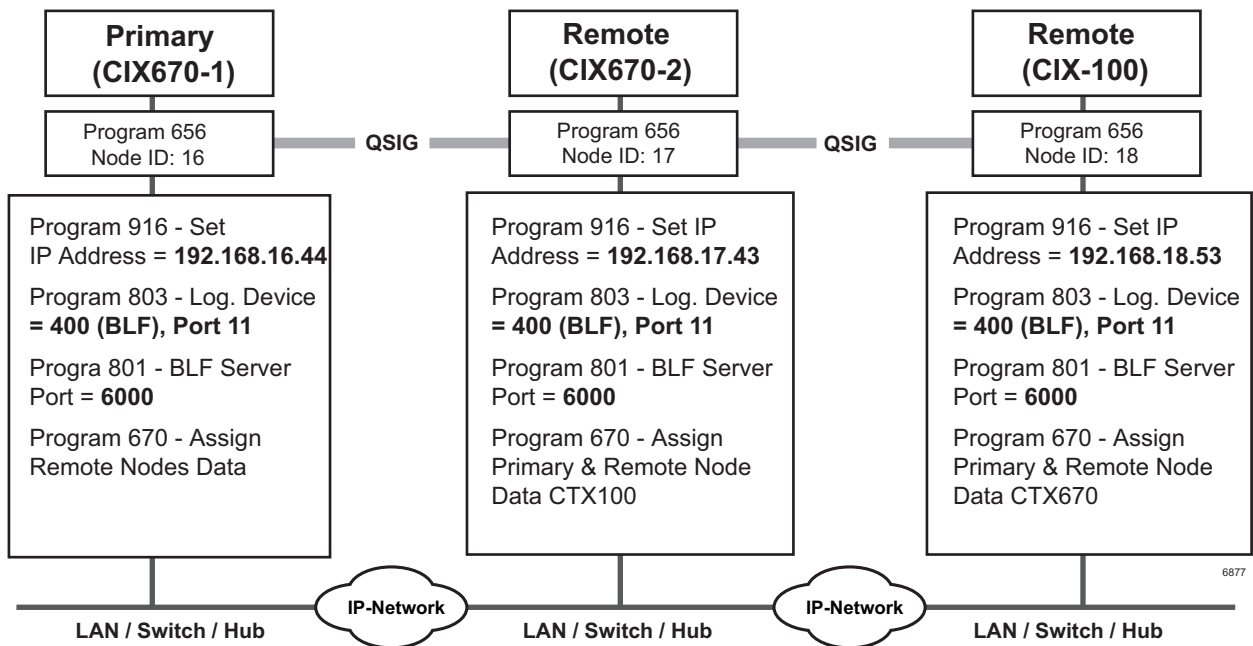


Figure A-4 Network BLF Example

Important! See steps for programming Network BLF from Strata eManager on the following pages.

Programming Network BLF from Strata eManager for Digital Telephones

Perform all of the following steps on the local CIX first, then repeat them on each of the remote CIXs.

1. Create the Node ID in [“102 Flexible Access Codes”](#) on [page 4-3](#).

Note If you have already created the Node ID using Strata Net, skip Step 1 and go to the next step.

2. Set up the IP address of the primary CIX using Program [“916 IP Configuration”](#) on [page 10-17](#).
3. From the Program menu, select Services > Networking > Node ID to set the Primary Node ID. Refer to [“656 Local Node ID Assignment”](#) on [page 9-32](#).
4. From the Program menu, select System > I/O Device. Refer to Program [“803 SMDR SMDI CTI Port Assignments”](#) on [page 4-35](#).
 - 00 Logical Device No. = 400 (BLF)
 - 01 Device Connection = LAN
 - 02 Device Port No. = 11
5. Define the LAN Device port number (11 in the example above). Select System > I/O Device, select the LAN Device tab. Refer to [“801 Network Jack LAN Device Assignment”](#) on [page 4-38](#). Make the following selections:
 - 00 LAN Port No. = 11
 - 01 Protocol = TCP
 - 02 PC Operation Type = Server
 - 03 Data Flow = Asynchronization
 - 04 Server Port No. = 6000
 - 05~08 Client IP 1-4 No. = Default
 - 09 Client Port No. = Default
 - 10 Read Retry No. = 1
 - 11 Write Retry No. = 1
6. Verify the DSS refresh time in System > System Timer, FB 23 – System Timer Network DSS Refresh Timer. Refer to [“104 System Timer”](#) on [page 4-12](#).
7. From each remote CIX, repeat steps 1~6 to set up Network BLF.

Network DSS

When you set up Network DSS, you assign the DSS numbers in the primary CIX first. Then, once you network the remote CIXs, they will use the DSS numbers set in the primary CIX.

An example of how to set up Network DSS is shown in [Figure 5](#). In this example, if CIX670-1 is the primary/host site, then CIX670-2 and CIX100 become remote sites.

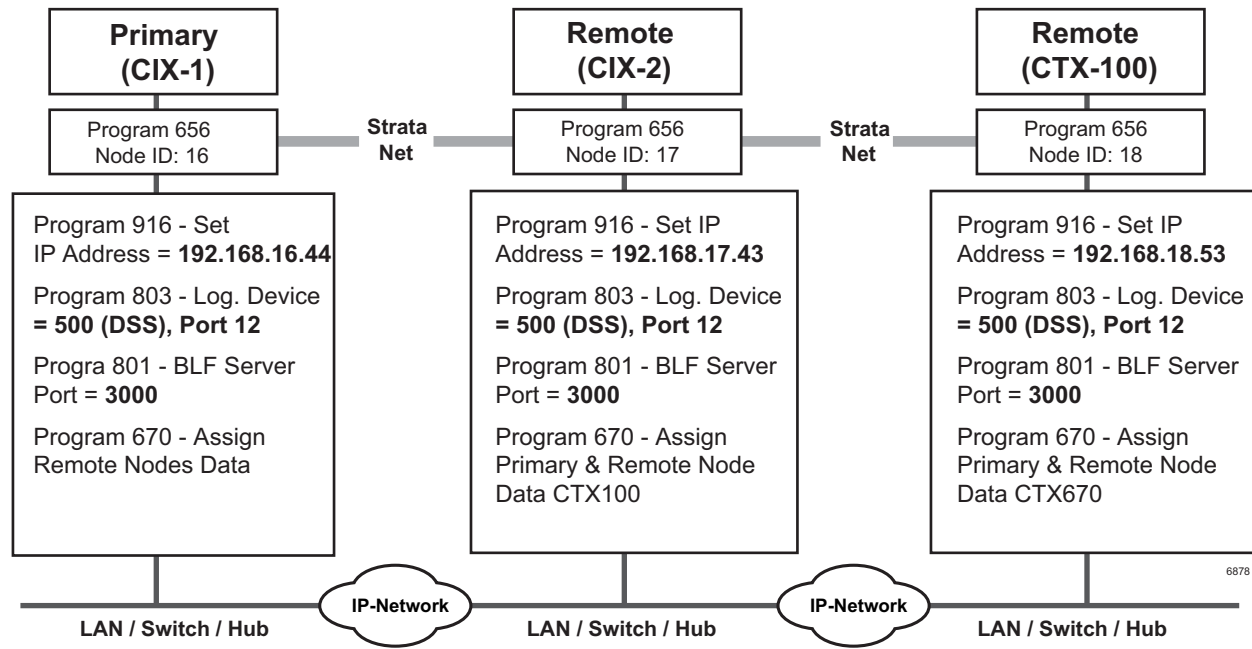


Figure A-5 Network DSS Example

Program Network DSS from Strata eManager

1. Create the Node ID in [“102 Flexible Access Codes”](#) on [page 4-3](#).

Note If you have already created the Node ID using Strata Net, skip Step 1 and go to the next step.

2. Set up the IP address of the primary CIX using Program [“916 IP Configuration”](#) on [page 10-17](#).
3. From the Program menu, select Services > Networking > Node ID to set the Primary Node ID. Refer to [“656 Local Node ID Assignment”](#) on [page 9-32](#).
4. Program the CTI Port for Network DSS. From the Program menu, select System > I/O Device. Refer to [“803 SMDR SMDI CTI Port Assignments”](#) on [page 4-35](#).
 - 00 Logical Device No. = 500 (DSS)
 - 01 Device Connection = LAN
 - 02 Device Port No. = 12
5. Define the LAN Device port number (12 in the example above). Select System > I/O Device, select the LAN Device tab. Refer to [“801 Network Jack LAN Device Assignment”](#) on [page 4-38](#). Make the following selections:
 - 00 LAN Port No. = 12
 - 01 Protocol = UDP
 - 02 PC Operation Type = Server

- 03 Data Flow = Asynchronization
 - 04 Server Port No. = 3000
 - 05-08 Client IP 1-4 No. = Default
 - 09 Client Port No. = Default
 - 10 Read Retry No. = 1
 - 11 Write Retry No. = 1
 - Select FB01 Protocol to UDP and FB04 Server Port No. to 3000. FB04 is the DSS Server Port. All other parameter can have defaults.
6. Make sure the Remote Node IP address and Network DSS port Number are consistent. From the Program Menu, select Services > Networking > Remote Node Data Assignment (Program 670).
 7. In Program 670, enter the parameters as follows:
 - Remote Node ID = 17. (This is a Strata Net Node ID. In the example above these Node IDs are 16, 17 and 18.
 - Remote Node IP Address = IP address of the remote CIX. Using Node 17 in this example, the IP address is 192.168.1.43.
 - Remote Node Port No. = 3000. This port number is the Network DSS port number. The Network DSS port number can be any available port. All Network DSS ports should also be the same, i.e; 3000 in the above example.
 8. Verify the DSS refresh time in System > System Timer, FB 23 – System Timer Network DSS Refresh Timer. Refer to [“104 System Timer”](#) on [page 4-12](#).
 9. Assign the DSS Remote Node feature key using Program 205, 213 and 215. Refer to [“Key”](#) on [page 5-19](#). DSS button can have up to seven digits, so Node ID can be included. Before R1.3 five digits were the maximum allowed in a DSS button.
 10. From each remote CIX, repeat steps 1-9 to set up Network DSS.

Network Feature Content

The following is a list of Strata CIX features that operate across multi-node Strata Net connections.

- Account Codes Forced/Voluntary/Verified*
- Automatic Busy Redial*
- Automatic Camp-on
- Automatic Release of CO
- Call Forward
- Call Park Orbits Park and Page
- Call Transfer
- Call Transfer With Camp-on*
- Call Waiting
- Caller Identification
- Class Of Service
- Conference On Hold
- Conferencing
- Consultation Hold Manual
- Credit Card Calling*
- Day/Night Modes*
- Dial For Quick Launch
- Dialed Number Identification Service
- Digital PAD
- Direct Inward Dialing
- Direct Inward System Access
- Direct Inward Termination
- Directory Number Presentation
- DISA Security Code Revision*
- Do Not Disturb *
- Do Not Disturb Override*
- Door Lock Control
- E911
- Executive Override*
- External Ring Repeat
- Flexible Numbering
- Intercept
- Least Cost Routing *
- Message Waiting
- Offhook Camp-on*
- Outgoing Call
- Recall Treatment
- Speed Dial System/Station
- Station CO Line Access
- Station To Station Connection
- System Call Forward
- Tandem CO Line Connection
- DR
- Toll Restriction Override by System Speed Dial
- Traveling Class Of Service
- Trunk Access*
- Trunk Group Access*

* Features that can be limited by Network Class of Service.

Configuration

RPTU2 PCB

The Strata CIX uses a new Primary Rate Interface PCB that can terminate either a Strata Net connection or a public PRI: the RPTU-2A. The RPTU-2A is backwardly compatible with the RPTU-1A for standard ISDN operation. The mode of operation (standard or Strata Net) is controlled by a programming parameter named "Private Service Type." This parameter must be chosen in establishing both incoming and OLGs.

Circuits

Two Strata Net nodes are connected to each other by a full or fractional DS1. The Strata Net basic call convention will select one DS0 to act as the "D" channel and the remainder as "B" channels. This allows the interconnecting DS1(T-1) to act as a Primary Rate Interface. The appropriate command set is in new firmware on the card to allow Strata CIX for signal according to CPE-to-CPE rules which differ from CPE-to-PSTN rules. Fractional DS1s may consist of 8, 12 or 16 channels including the "D" channel.

The most common type of interconnection is a leased DS-1 from a Common Carrier such as the primary telephone company or long distance provider. DS1s may also be created across fiber optics, Frame Relay equipment, IP networks or other transport media using dealer-supplied equipment as long as they conform to the following specifications.

- 1.544 MBPS
- B8ZS
- ESF

Nodes may also be connected directly over two copper pairs to a maximum distance of 738 feet. See the *Strata CIX Installation and Maintenance Manual* for pin configurations and other details.

Strata Net Programming Overview

Follow the sequences below to program Strata Net.

Step 1: Basic Incoming Network Calls

1. Establish the Node ID as part of the Flexible Numbering Plan (Program 102).

Note Node ID is located under 01 Feature Name as "Node ID (CIX network number prefix)."

2. Establish up to four Local Node IDs (Program 656) for the primary node. Each Node ID can have a unique Overlap Code.
3. Process the digit string as manipulated by the Overlap Code from Flexible Numbering Plan. The resulting number can be an extension call, feature activation, or tandem call.

Step 2: Basic Outgoing Network Calls

1. Establish the Node ID as part of 102 Flexible Numbering Plan.
2. Use Program 651 Routing Plan Analysis Table Assignment to associate each Remote Node ID with a Private Route Choice table which will provide up to six routing choices to the desired node.
3. Use Program 653 to define a Private Route Choice table. The table should contain up to six Route Definitions. The system steps through these Route Definitions in terminating hunt fashion to find a route to the desired private networking node.
4. Use Program 654 to define a Private Route Definition consisting of an OLG and a pointer into the Private Digit Modification table.
5. Use Program 655 to set up Private Digit Modification tables containing up to 64 entries. Each entry specifies the number of leading digits to be deleted from the dialed number and the dial string to be added as leading digits.

Strata Net over IP Programming Guidelines

Use the following steps/programs to program Strata Net over IP.

1. Assign the BIPU-Q, LIPU or MIPU/GIPU card using Program 100 (System > Card Assignments).
2. Use Program 151 to set up the BIPU IP address, subnet mask, and default gateway (IP Telephony > BIPU Configuration). Use Program 161 for the LIPU and MIPU/GIPU.
3. Program ILG using Programs 304 and 306 (Trunk > ILG) (ISDN, TIE, DIT, Strata Net).
4. Program OLG using Program 306 Trunk > OLG (ISDN, TIE/E&M, Strata Net).
5. Program the Channel group using Program 302 [Trunk > ISDN > PRI (IP Protocol)].
6. Assign network IDs for all nodes using Program 102 (System > Flexible Access Codes).
7. Program networking using Programs 651~656 (Services > Networking).
8. Setup Strata Net over IP routing using Programs 671 and 672 (Services > Networking > Network Over IP). See example below.
9. Use Program 320 (Trunk > ISDN > B Channel) to control the number of channels to be used. This may be necessary to limit the number of simultaneous calls allowed over the IP network. The IP network bandwidth determines how many simultaneous calls can be supported. As a general guideline one Strata Net over IP call requires a minimum of 36 kbps bandwidth.

Important! The BIPU IP address must be set in Program 151. The MIPU/GIPU/LIPU IP address must be set in Program 161. If the MIPU/GIPU/LIPU or BIPU-Q1A has a private IP address, Strata Net IP communication must be over a Virtual Private Network (VPN) connection. To avoid needing VPN for this IP connection, assign a Global IP address to the MIPU/GIPU/LIPU/BIPU-Q1A interface.

10. If voice quality is low on Strata Net over IP calls, change defaults in Program 152 for parameters FB01~FB04.

11. After assigning an IP channel group in Program 302, assign the PAD levels to the PAD Groups 1 or 2 in Program 107 (System > PAD Table) using the [“107 PAD Table Assignment”](#) on [page 4-28](#).

12. After assigning the PAD level to the PAD Table in Program 107, assign the IP channel group to the PAD group in Program 108 (System > PAD Table). Use ISDN trunk as the device type for IP Channel Group Assignments.

Important! These PAD values in steps 11 and 12 must be set properly to avoid low volume levels.

Important! Stations in different nodes that will maintain tandem connections must have tandem connection enabled in their class of service.

Example

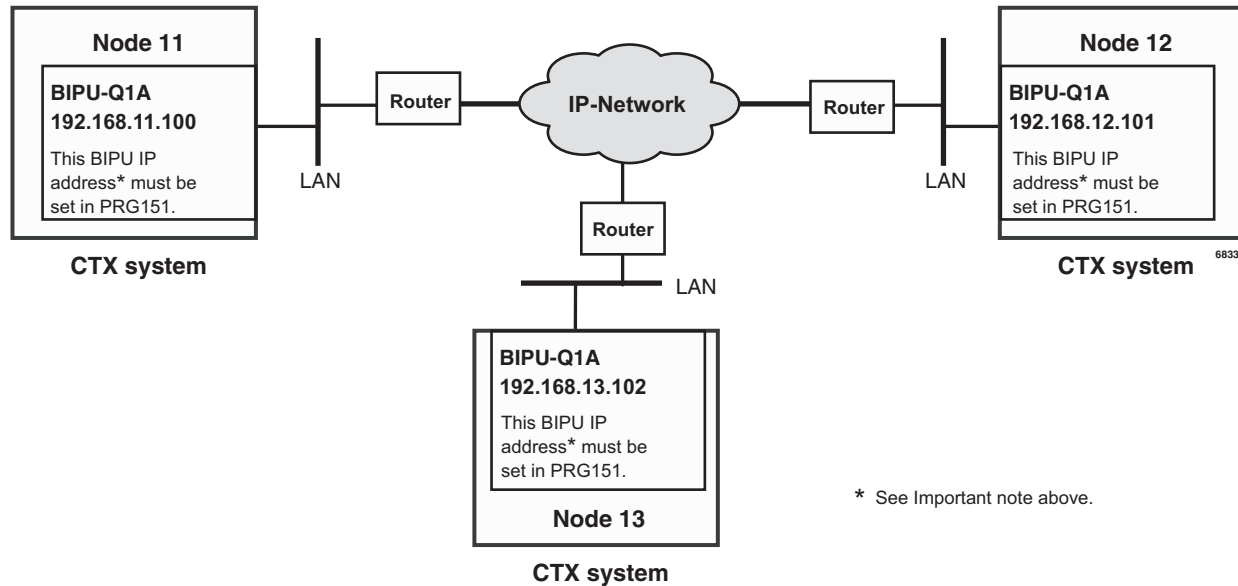


Figure A-6 Strata Net over IP Routing

To program the configuration in the above figure using programs 671 and 672

The steps below show you how to setup Node 11 to route to remote Nodes 12 and 13.

1. With eManager connected to Node 11, go to Program 672 (Services > Networking > Network Over IP > Detail Info tab).
2. Create Node 12 and verify all parameters are set to defaults.
3. Create Node 13 and verify all parameters are set to defaults.
4. With eManager connected to Node 11, go to Program 671 (Services > Networking > Network Over IP > IP Route tab). The IP addresses of BIPU-Qs connected to Node 11 are set in this program.
5. Select Node 12 and enter its BIPU-Q IP address (192.168.12.101) into IP Address Route 1.
6. Select Node 13 and enter its BIPU-Q IP address (192.168.13.102) into IP Address Route 2.

Notes

- The IP addresses used in this example are only examples, check with the facility network administrator for the IP addresses that should be used in your installation.
 - If a remote node has more than one BIPU-Q installed, its IP address would be entered in Route 2. A maximum of six remote BIPU-Qs can be assigned in each remote node. Route 1 will be used until all channels are busy, or not working, in which case Routes 2–6 will be used sequentially.
7. Repeat Steps 1–6 with eManager connected to Node 12 to set up Remote Nodes 11 and 13.
 8. Repeat Steps 1–6 with eManager connected to Node 13 to set up Remote Nodes 11 and 12.

The following ports must be enabled on all routers that pass StrataNet packets.

Function	Protocol Name	Ports	Type
Connection Request	StrataNet	4029	TCP
Call Control Channel	StrataNet	4096 - 8191	TCP
Media Channel	RTP, RTCP	16384 - 24575	UDP

IP StrataNet Node Setup for CIX

The following outlines the program steps to setup the CIX as a node in an IP StrataNet network.

Program 100 **System > Card Assignments** — Assign the L/M/G-IPU card.

Program 161 **IP Telephony > L/M/G IPU Configuration** — Assign the MIPU/GIPU/LIPU IP Address, subnet mask and gateway.

Cabinet/Slot	Select the MIPU/GIPU/LIPU card from the list
FB01	Enter the MIPU/GIPU/LIPU IP Address
FB02	Enter the MIPU/GIPU/LIPU Subnet Address
FB03	Enter the MIPU/GIPU/LIPU Default Gateway Address

Program 304 **Trunk > ILG** — Program a new Incoming Trunk Group.

FB00	Create ILG (use any available ILG number)
FB01	Group Type = ISDN
FB02	Trunk Type = TIE
FB04	Private Service Type = QSIG

Program 306 **Trunk > OLG** — Program a new Outgoing Trunk Group.

FB00	Create OLG (use any available OLG number)
FB01	Group Type = ISDN
FB02	Trunk Type = TIE
FB03	Private Service Type = QSIG

Program 325 **Trunk > Full IP Strata Net** — Program an Strata Net IP span.

FB00	Create Channel Group
FB01	Equipment Number - Cabinet / Slot location of the xIPU
FB02	LAN Interface Number = 1 for L/M/G-IPU, 2 for LIPS
FB03	Select the number of channels to use
FB04	ILG - Enter the ILG create above
FB05	OLG - Enter the OLG create above
FB06	Bearer Service = Speech
FB07	Bearer Service 3.1 KHz = Audio
FB08	RBT on Incoming Call - Enable
FB09	Q931 Protocol Timer - Normal

Program 107 **System > PAD Table** — Assign PAD levels to PAD group 1.

Program 108 **System > PAD Table** — Assign IP channel group to PAD group.

Program 102 **System > Flexible Access Codes** — Program new Node ID Code.

FB00	Create new Feature code for ALL Node IDs
FB01	Select Node ID = Network Access Code for the Remote Node

Program 656 **Strata Net > Node ID** — Assign local network node ID.

FB00	Primary Node ID = Local Node ID
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Program 655 **Strata Net > Route Choice > Private Network Digit Modification Table Assignment** — Assign digit modification to table.

Use the default assignment - Table 1 is no digit modification	
---	--

Program 654 **Strata Net > Route Choice > Private Network Route Definition Table Assignments**

FB00	Private Network Route Definition
FB01	Outgoing Line Group
FB02	Digit Modification Table

Program 653 **Strata Net > Route Choice > Private Network Route Choice Table Assignment**

FB00	Private Network Route Choice Table Number
FB01~06	Route Definition Table

Program 651 **Strata Net > Route Plan Analysis**

FB00	Node ID = All remote node IDs
FB01	Private Route Choice Table Number

Program 672 **Strata Net > Network Over IP > Detail Info Tab** - Assign Prvt Network Node ID Assignmentst

FB01	IP Protocol Type = IPQSIG
FB02	Voice Packet Table
FB03	TCP Connection Release
FB04	H.323 Fast Connection
FB05	Channel Negotiation
FB06	Audio Codec
FB07	DTMF Translation
FB08	E911 Priority

Program 671 **Strata Net > Network Over IP > IP Route** - IP Address Convert Table Assignmentst

Node ID	Select Node ID from list = All Remote Node IDs
FB01	IPU IP Adrs Rte 1 = IP adrs of local xIPU used for QSIG

IP Telephone, MIPU, GIPU, LIPU and BIPU Firmware Update Procedures

In this section, when a procedure applies only to the MIPU, GIPU, LIPU **or** BIPU the specific PCB will be referenced. When the procedure applies to the MIPU, GIPU, **and** LIPU the term MIPU/GIPU/LIPU will be used. When the procedure applies to all MIPU, GIPU, LIPU and BIPU the term xIPU will be used.

These procedures provide the steps for updating IP telephones and xIPU firmware. The procedures apply to IPT1020-SD, IPT2000-series, and IP5000-series telephones and MIPU, LIPU and BIPU-M interface PCBs.

Note The MIPU/GIPU card does not support IPT1000-series telephones.

Use eManager to perform updates. Before you start the update procedure, store the update files on a File Transfer Protocol (FTP) server. The FTP server can be:

- CIX Secure Digital (SD) or SmartMedia (SM) card
- eManager PC using Windows virtual FTP
- An external server (required if IP telephones are not in the same network domain (subnet) as the xIPU interface)

The methods below are written based on the eManager version available at the time of writing. To perform an update you can use one of the following methods:

CAUTION! Do not unplug the xIPU, press the xIPU reset button, or turn off the CIX power during the xIPU program update process. Any of these operations will damage the xIPU kernel software and require the xIPU software restoration process to enable the xIPU to function. Restoration can only be done at a Toshiba TSD repair facility.

CAUTION! Be sure that you are loading the update firmware to the correct device. Incorrect firmware can cause the device to be inoperable. For example, BIPU firmware loaded onto an MIPU, GIPU, or LIPU will cause the MIPU/GIPU/LIPU card to stop functioning. This caution also applies to IP telephones. For example, loading IPT2000 firmware to an IPT2008 will cause the IPT2008 to stop functioning. Restoration can only be done at a Toshiba TSD repair facility.

Download Firmware Update Files

Download the appropriate firmware update files from Toshiba FYI.

To download software for MIPU/GIPU/LIPU and IP telephones go to: **FYI > Software (Strata Sys) > CIX System Software**

1. Determine the type of firmware update from the choices displayed.
2. Select the firmware by clicking on the description, and follow the instructions.
3. Save the file (it will have a .zip extension) to a folder on your PC.

Note The firmware files should not be renamed. Use these files “as is” when updating firmware

Copy the IP Update Files to eManager Folders

The downloaded files must be copied to the correct SM/SD Card folder in eManager. To locate the correct folder, you must know the MAC address of the CIX system you are upgrading.

To determine the MAC address

1. Connect to the CIX with eManager.
2. Select **Utilities > MAC Address**
3. The MAC address will be displayed. Write down this number.

To copy the Update file

1. Click “My Computer”
2. Select “Local Disk (C:)” or the drive that contains the eManager program.
3. Select **eManager > UserData > Administrator**
4. Select the folder named for the MAC address of the CIX system (the MAC address will be written without the “dot notation”).
5. Select **SM/SD_CARD > PROGRAM**
6. Copy the downloaded update files to this PROGRAM folder.

Copy the IP Update Files to the SM/SD Media Card

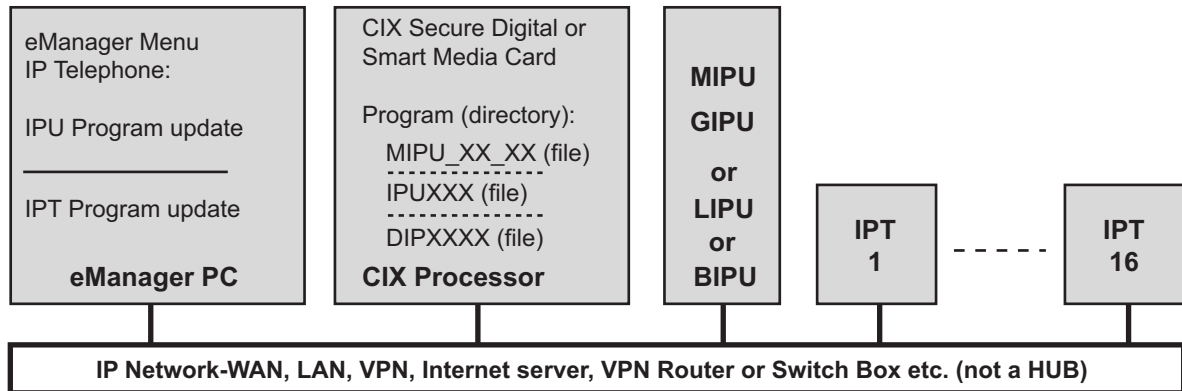
The firmware update files must be copied to the SM/SD media card in the CIX.

1. Use eManager and select **Utilities > Operations > SM/SD Card**.
2. In the “Local Folder” section, use the drop down to select “PROGRAM”.
3. Highlight the file to move to the SM/SD card.
4. In the “CTX/CIX SM/SD Media Card Folder” section, use the drop down to select PROGRAM.
5. Click the **Upload** button to move the files from the “Local Folder” to the “CTX/CIX SM/SD Media Card Folder.”
6. Now the files will be accessible by eManager for updating devices.

Method 1: Update from CIX SM/SD Card

Prerequisites

1. Requires a eManager PC and CIX SM/SD card for xIPU and IP telephone program updates.
2. Do not connect the eManager PC directly to the Strata CIX processor network jack (see Figure 1).
3. All connections must be through the network (see Figure 1).
4. The xIPU must have the same subnet address as the Strata CIX and eManager – both must be in the same domain.



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Figure B-1 FTP Server (SM/SD card) Network Connection

LIPU Update

CAUTION! Do not unplug the xIPU, press the xIPU reset button, or turn off the CIX power during the xIPU program update process. Any of these operations will damage the xIPU kernel software and require the xIPU software restoration process to enable the xIPU to function. Restoration can only be done at a Toshiba TSD repair facility.

Important! Complete all [Prerequisites](#) shown above before you do the following.

From the eManager PC connected to the CIX

Format the SM/SD

1. From the eManager PC select **Utilities > Operations > SM/SD Card**
2. "Force format" a SM (SmartMedia) or SD (Secure Digital) card using eManager.
3. Copy the LIPUXXX update file to the SM/SD card PROGRAM file folder (XXX is the LIPU firmware version level).

Copy The Firmware to the Folder

4. Select **Utilities > Operations > SM/SD Card** to Make sure the LIPUXXX file is stored on the SD/SM card under the PROGRAM directory.

Update the LIPU firmware, refer to the cautions on [Page B-1](#).

5. Select **Advanced Configuration > IP-Telephony > xIPU Prog Update**
 - a. Select card type "LIPU-X"
 - b. Select Cab/Slot of LIPU-X
 - c. Select "SM/SD Media Card" as the FTP Server Information
 - d. The User Name, Password, IP Address, and Data Directory fields will automatically populate with the correct information.
 - e. Use the drop down on the File Name field and select the LIPXXX file.
 - f. Click the **Start** button
 - g. The LIPU will be automatically disabled.
 - h. When the update is completed successfully the LIPU will be reset.

Important! The LIPU must be installed in the system, configured, and connected to the network. The LIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is complete.

BIPU Update

Important! Complete all “Prerequisites” on [page B-3](#) before you do the following.

CAUTION! Do not unplug the xIPU, press the xIPU reset button, or turn off the CIX power during the xIPU program update process. Any of these operations will damage the xIPU kernel software and require the xIPU software restoration process to enable the xIPU to function. Restoration can only be done at a Toshiba TSD repair facility.

Important! Complete all [Prerequisites](#) shown above before you do the following.

From the eManager PC connected to the CIX

Format the SM/SD

1. From the eManager PC select **Utilities > Operations > SM/SD Card**
2. “Force format” a SM (SmartMedia) or SD (Secure Digital) card using eManager.
3. Copy the BIPUXXX update file to the SM/SD card PROGRAM file folder (XXX is the BIPU firmware version level).

Copy The Firmware to the Folder

4. Select **Utilities > Operations > SM/SD Card** to Make sure the BIPUXXX file is stored on the SD/SM card under the PROGRAM directory.

Update the BIPU firmware, refer to the cautions on [Page B-1](#).

5. Select **Advanced Configuration > IP-Telephony > xIPU Prog Update**
 - a. Select card type “BIPU-X”
 - b. Select Cab/Slot of BIPU-X
 - c. Select “SM/SD Media Card” as the FTP Server Information
 - d. The User Name, Password, IP Address, and Data Directory fields will automatically populate with the correct information.
 - e. Use the drop down on the File Name field and select the BIPXXX file.
 - f. Click the **Start** button
 - g. The BIPU will be automatically disabled.
 - h. When the update is completed successfully the BIPU will be reset.

Important! The BIPU must be installed in the system, configured, and connected to the network. The BIPUs and IPTs will automatically be disabled while Update takes place and return to the idle state when Update is complete.

IP Telephone Update

Important! Complete all “Prerequisites” on [page B-3](#) before you do the following.

CAUTION! Be sure that you are loading the update firmware to the correct device. Incorrect firmware can cause the device to be inoperable. For example, BIPU firmware loaded onto an LIPU will cause the LIPU card to stop functioning. This caution also applies to IPTs. For example, loading IPT2000 firmware to an IPT2008 will cause the IPT2008 to stop functioning. Restoration can only be done at a Toshiba TSD repair facility.

From the eManager PC or External SM/SD read/write device

1. Store the update files on the SM/SD card.
2. “Force format” a SM/SD card using eManager.
3. Copy the IP5 or DIP update file under the SM/SD card PROGRAM folder.

From the eManager PC perform the update

1. Select **Utilities > Operations > SM/SD Card**. Check that the IPd or DIP file is stored on the SM/SD card under the PROGRAM directory.

Important! The LIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

2. Select **Advanced Configuration > IP-Telephony > IPT_L Prog Update**. Select the IP telephone PDN to be updated. Refer to the Cautions on [Page B-1](#).
3. Select CIX Internal (SM/SD) radio button.
4. An ftp Name and Password is inserted automatically.
5. The IP address of the CIX processor (SM/SD card) is inserted automatically.
6. Data Directory box will be: PROGRAM
7. From File Name drop down box select: IP5 file or DIP file
8. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It can take from 30 seconds up to two minutes to update the IP telephones.
 - If an error occurs, recheck file names, locations, etc., then try again.
9. Select IP telephone > Station Data, check the IP telephone version number to verify that all IP telephones have been updated properly.

To check the IP telephone firmware version directly from an IP telephone

1. Simultaneously press **369Hold** buttons on the IP Telephone.
2. At the SELECT = prompt, press **1** then press **Hold**.
3. At the Select function key prompt, press **FB01**, the IP telephone will be displayed.

Note The eManager PC cannot be connected directly to the CIX processor network jack - all connections must be through the network.

Method 2: Update from an External FTP Server

Prerequisites

1. An FTP server must be connected on the same network domain as the IP telephones. The eManager PC, CIX processor and BIPU must be in the same domain but it does not have to be the domain that supports the IP telephones and FTP server.
2. The eManager PC cannot be connected directly to the CIX processor network jack. All connections must be through the network (see Figure 2 below).

CAUTION! Do not unplug the xIPU, press the xIPU reset button or turn off the CIX power during the xIPU program update process. Any of these operations will damage the xIPU kernel software and require the xIPU software restoration process to allow the xIPU to function.

CAUTION! Be sure that you are loading the update firmware to the correct device. Incorrect firmware can cause the device to be inoperable. For example, BIPU firmware loaded onto an LIPU will cause the LIPU card to stop functioning. This caution also applies to IPTs. Restoration can only be done at a Toshiba TSD repair facility.

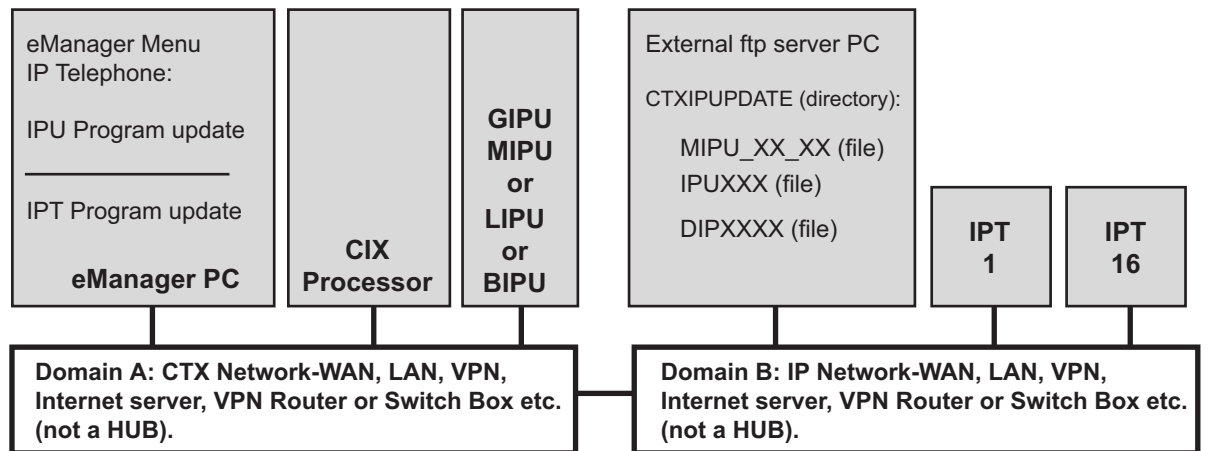


Figure B-2 FTP Server (External Server) Network Connection

Note The eManager PC cannot be connected directly to the CIX processor network jack - all connections must be through the network.

LIPU Update

Important! Complete all “Prerequisites” on [page B-7](#) before you do the following.

Store the IP update files on the external ftp sever

1. Create an ftp directory and name it CTXIPUPDATE.
2. Copy the BIPUXXX update files to CTXIPUPDATE directory (XXX is the LIPU firmware version level).

From the eManager PC perform the LIPU update

Important! The LIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

1. Select **Advanced Configuration > IP-Telephone > IPT_L Prog Update**.
2. Select the LIPU card slot.
3. Select **Other** (radio button).
4. Enter the ftp user login Name and Password.
5. Enter the IP address external ftp server.
6. From Data Directory box enter: CTXIPUPDATE.
7. From File Name box enter: LIPUXXX.
8. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It can take one to five minutes to update the LIPU.
 - If an error occurs, recheck file names, locations, etc., then try again.
9. After the update is complete, select **Advanced Configuration > IP-Telephony > IPU Configuration**. Check the xIUP version numbers to verify they have been updated properly.
 10. Press the LIPU reset button for proper initialization.

BIPU Update

Important! Complete all “Prerequisites” on [page B-7](#) before you do the following.

Store the IP update files on the external ftp sever

1. Create an ftp directory and name it CTXIPUPDATE.
2. Copy the BIPUXXX update files to CTXIPUPDATE directory (XXX is the BIPU firmware version level).

From the eManager PC perform the BIPU update

Important! The BIPUs and IPTs will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

1. Select **Advanced Configuration > IP-Telephone > IPT_B Prog Update**.
2. Select the BIPU card slot and BIPU-M card type.

Note Only BIPU-M can be updated. Only BIPU-M card slots will be shown with eManager. The BIPU type selection is not required.

3. Select Other (radio button).
4. Enter the ftp user login Name and Password.
5. Enter the IP address external ftp server.
6. From Data Directory box enter: CTXIPUPDATE.
7. From File Name box enter: BIPUXXX.
8. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It can take one to five minutes to update the BIPU.
 - If an error occurs, recheck file names, locations, etc., then try again.
9. After the update is complete, select IP Telephone > IPU Configuration. Check the xIUP version numbers to verify they have been updated properly.
 10. Press the BIPU reset button for proper initialization.

IP Telephone Update

Important! Complete all “Prerequisites” on [page B-7](#) before you do the following. Refer to the Cautions on [Page B-1](#).

Store the IP update files on the external ftp sever

1. Create an ftp directory and name it CTXIPUPDATE
2. Copy the IP5 or DIP update files to the CTXIPUPDATE directory (XXX is the IPT firmware version level).

From the eManager PC perform the update

Important! The xIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

1. Select **Advanced Configuration > IP-Telephony > IPT Program Update**.
2. Select the IP PDN to be updated.
3. Select Other (radio button).
4. Enter the external server ftp user login Name and Password.
5. Enter the IP address external ftp server.
6. From Data Directory box enter: CTXIPUPDATE.
7. From File Name box enter the software update file name.
8. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It can take one to five minutes to update the IPT.
 - If an error occurs, recheck file names, locations, etc., then try again.
9. After the update is complete, select IP Telephone > IP Telephone Data. Select the IP telephone Prime DN to check that the firmware version level has been updated properly.

To check the IP telephone firmware version directly from an IP telephone

1. Simultaneously press the **369Hold** buttons on the IP Telephone.
2. At the SELECT = prompt, press **1** then press **Hold**
3. At the Select function key prompt, press **FB01**, the IP telephone will be displayed.
4. To exit this mode, go off and on hook.

Update From an FTP Directory on the eManager PC

Prerequisites

1. Install the "File Transfer Protocol (FTP) Service" component under "Internet Information Services" on the eManager PC. This is not installed by default when installing IIS in Windows XP or 2000. See "[To create a Virtual FTP directory on the eManager PC](#)" below.
2. Create an FTP virtual directory and path to C:\CTX\eManager\CTXIPUPDATE. The drive letter must be the drive on which eManager is installed. This can be done automatically by running the "CreateFTPVdir" executable file provided by Toshiba. See "[To create a Virtual FTP directory on the eManager PC](#)" below.

To create a Virtual FTP directory on the eManager PC

Setup the Virtual FTP server function on the eManager PC for IP Updates. These procedures were written using Microsoft Windows XP, there may be some variance when using Windows 2000.

1. Install the MS Windows component FTP on your PC.

Using the Windows XP or 2000 professional installation CR-ROM, install the FTP Service on the eManager PC. To verify FTP Service is installed, it should be located under: Control Panel > Administrative Tools > Internet Information Services (IIS).

2. Go to CTXIpScripts and run "CreateFTPdir." This creates a virtual directory.

To get the "CreateFTPVdir" file go to C:\ctx\eManager\CTXIpScripts.

Download the IP Firmware files and store them on the eManager PC

1. Download the appropriate firmware update files from TSD FYI, click Technical Services > Software (Strata Systems) > CTX IP Firmware.
2. Copy the firmware update files to the CTXIPUPDATE folder on the eManager PC (C:\ctx\eManager\CTXIPUPDATE\). These files will be accessed during the IP update processes.

Notes

- Make sure the eManager PC is not connected directly to the CIX processor network jack (see the figure below).

Make all connections through the network (see the figure below).

- Make sure the IP Telephones have the same subnet address as the CIX and eManager - both must be in the same domain.

CAUTION! Do not unplug the BIPU, press the BIPU reset button or turn off the CIX power during the BIPU program update process. Any of these operations will damage the BIPU kernel software and require the BIPU software restoration process to allow the BIPU to function.

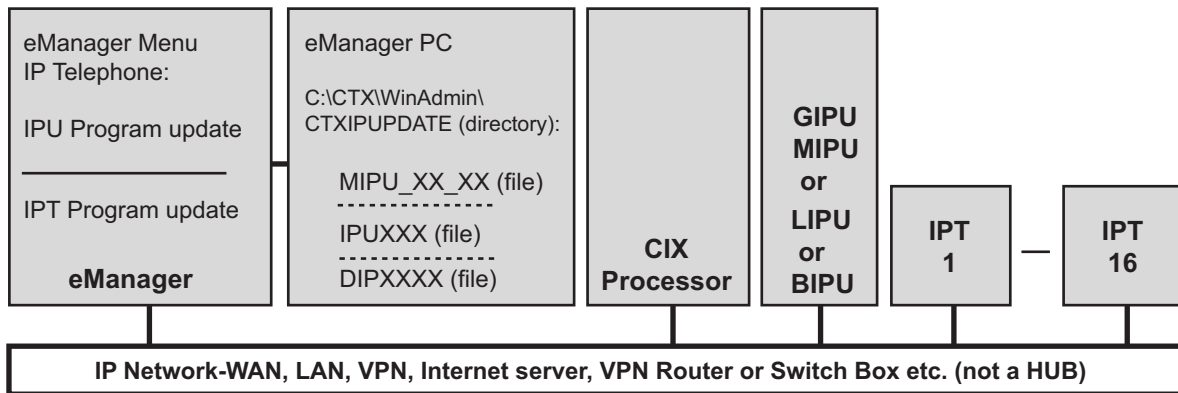


Figure B-3 FTP Server (eManager PC) Network Connection

LIPU Update

Important! Complete all “Prerequisites” on page B-10 before you do the following. Refer to the cautions “Be sure that you are loading the update firmware to the correct device. Incorrect firmware can cause the device to be inoperable. For example, BIPU firmware loaded onto an MIPU, GIPU, or LIPU will cause the MIPU/GIPU/LIPU card to stop functioning. This caution also applies to IP telephones. For example, loading IPT2000 firmware to an IPT2008 will cause the IPT2008 to stop functioning. Restoration can only be done at a Toshiba TSD repair facility.” on page B-1.

Copy the LIPUXXX file into the eManager PC CTXIPUPDATE directory.

Notes

- The directory location should be C:\Ctx\WinAdmin\CTXIPUPDATE. The drive letter must be the drive on which eManager is installed.
- (XXX in the BIPU file name is the BIPU firmware version level).

From the eManager PC perform the LIPU update

Important! The LIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

1. Select **Advanced Configuration > IP-Telephony > IPU_B Prog Update**.
2. Select the LIPU card slot(s).
3. Select Local eManager (radio button).
4. Enter the Windows User login Name and Password.

Note If in doubt, create a new Window logon User Name and password and use it in Step 5.

5. The IP address of the eManager PC is inserted automatically.
6. Select to update LIPUs one at a time or simultaneously.
7. Data Directory will be: CIXIPUPDATE
8. From File Name drop down box select: LIPUXXX
9. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It could take 1 to 5 minutes to update the LIPU
 - If an error occurs, recheck file names, locations etc. and try again.
10. After the update is complete, select **Advanced Configuration > IP-Telephony > IPU_L Configuration**. Check the LIUP version numbers to verify they have been updated properly.

BIPU Update

Important! Complete all “Prerequisites” on [page B-10](#) before you do the following. Refer to the Cautions on [Page B-1](#).

Copy the BIPUXXX file into the eManager PC CTXIPUPDATE directory.

Notes

- The directory location should be C:\Ctx\W inAdmin\CTXIPUPDATE. The drive letter must be the drive on which eManager is installed.
- (XXX in the BIPU file name is the BIPU firmware version level).

From the eManager PC perform the BIPU update

Important! The BIPUs and IPTs will automatically be disabled while Update takes place and return to the idle state when Update is complete (if they were in the idle state when the Update was started).

1. Select **Advanced Configuration > IP-Telephony > IPU_B Prog Update**.
2. Select the BIPU card slot(s).

Note Only BIPU-M can be updated. Only BIPU-M card slots will be shown with eManager. The BIPU type selection is not required.

3. Select Local eManager (radio button)
4. Enter the Windows User login Name and Password.

Note If in doubt, create a new Window logon User Name and password and use it in Step 5.

5. The IP address of the eManager PC is inserted automatically.
6. Select to update BIPUs one at a time or simultaneously.
7. Data Directory will be: CTXIPUPDATE
8. From File Name drop down box select: BIPUXXX
9. Click **Start** and observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.

Notes

- It could take 1 to 5 minutes to update the BIPU
- If an error occurs, recheck file names, locations etc. and try again.

10. After the update is complete, select IP Telephone > BIPU Configuration. Check the BIUP version numbers to verify they have been updated properly.
11. Press the BIPU reset button for proper initialization.

IPT20X0 and IPT2008 Update

Important! Complete all “Prerequisites” on [page B-1](#) before you do the following.

From the eManager PC

Copy the update file to the SM/SD card PROGRAM folder (XXXX is the IP Telephone firmware version level).

From the eManager PC perform the update

Important! The MIPU/GIPU/LIPUs and IP telephones will automatically be disabled while Update takes place and return to the idle state when Update is completed.

1. Select **Utilities > Operations > SM/SD Card**. Verify that the update file is stored on the SM card under the PROGRAM directory.
2. Select **Advanced Configuration > IP-Telephony > IPT_L Prog Update**
3. Select Cab / Slot of the LIPU that controls the telephones to be updated.
4. In IPT PDN field highlight the PDN(s) to be updated.
5. Click the **Select IPT(s)** button.
6. In the FTP Server Information section:
 - a. Select the SM/SD Media Card.
 - b. The User Name, Password, IP Address, and Data Directory will automatically populate with the correct information.
 - c. Use the File Name drop down to select the file for the IPT type.
 - d. Click **Start**.
 - e. The telephone will automatically disable and you will observe the update status: Getting Updated file\Updating\Finished Updating\Resetting\idle.
 - f. After the upgrade is successful, the telephone will reset and be available for use.

Note It can take 30 seconds to 2 minutes to update the IP telephone. If an error occurs, recheck file names, locations etc. and try again.

7. Select IP-Telephony > IPT Data, FB 09 to check the IP telephone version number to verify that all IP telephones have been updated properly.

To check the IP telephone firmware version directly from an IP telephone

1. Simultaneously press **369Hold** buttons.
2. At the SELECT = prompt, press **1** then press **Hold**, or follow the display prompts.
3. For some telephones, FB buttons will light. Pressing them one at a time will give firmware version and other data.

Note The eManager PC cannot be connected directly to the CIX processor network jack. All connections must be through the network.

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Session Initiation Protocol (SIP) is an application layer protocol used for establishing sessions in an IP network. SIP trunking allows the CIX to get PRI-like services from an Internet Telephony Service Provider using SIP.

SIP trunking is setup using the MIPU/GIPU card. The MIPU/GIPU is designed as a VoIP card able to support IP stations, Strata Net IP, and SIP trunking.

SIP trunking offers ISDN-like features over a data connection (i.e. T1 circuit). However, unlike a traditional T1 circuit, a SIP trunking enabled circuit does not have to be physically provisioned and divided to separate the voice channels from the data channels.

This Appendix provides a general overview of SIP trunks in the CIX system and specific configuration instructions for the providers listed here:

- CBeyond® - (See [“Configure CBeyond SIP Trunks”](#))
- American Broadband Services (ABS) - (See [“Configure ABS SIP Trunks”](#))
- PAETEC SIPconnect - (See [“Configure PAETEC SIP Trunks”](#))
- IPtimize VoIP Connect™ - (See [“IPtimize SIP Trunking Network Configuration ”](#))
- AT&T Flexibe Reach Service - (See [“AT&T SIP Trunking Network Configuration”](#))

Requirements

- CIX Hardware: CIX40, CIX100, CIX200, CIX670 or CIX1200
- CIX Software: R5.1 MS20 or higher
- MIPU/GIPU: MIPU16/MIPU24 (MIPU01_14 or higher)/GIPU8
- eManager: V5.0 A17 or higher
- Service provider: Provider name or contact the Toshiba Sales Applications Desk
- Soft Switch: Broadsoft, Lucent, Genband or contact the Toshiba Sales Applications Desk
- License: LIC-CIX-SIPT-CH

SIP Trunking Network Configuration Example

The example shown below is a general system plan. Refer to the specific provider sections of this document for specific network diagrams.

Figure C-1 shows a diagram of a CIX supporting SIP trunking.

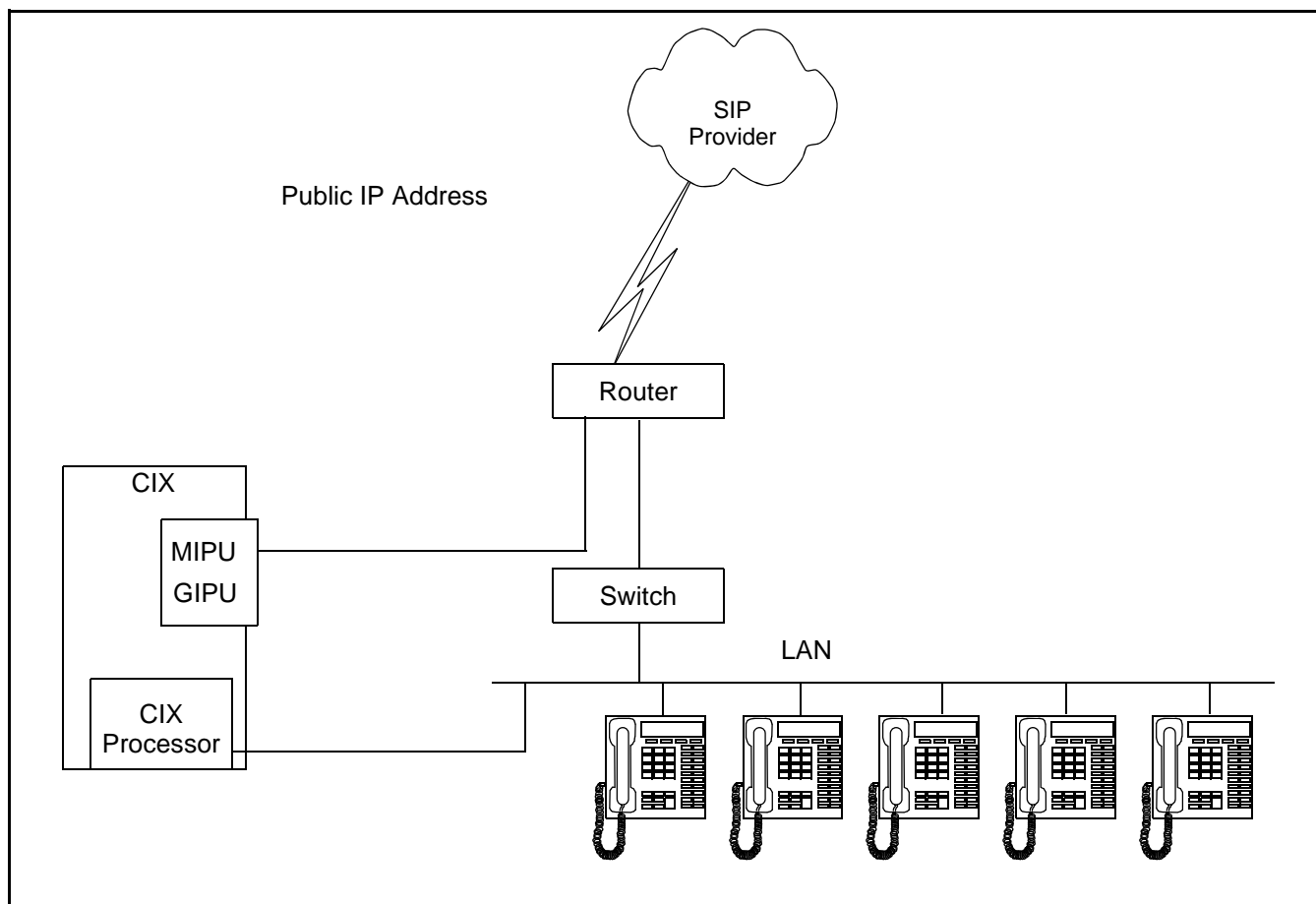


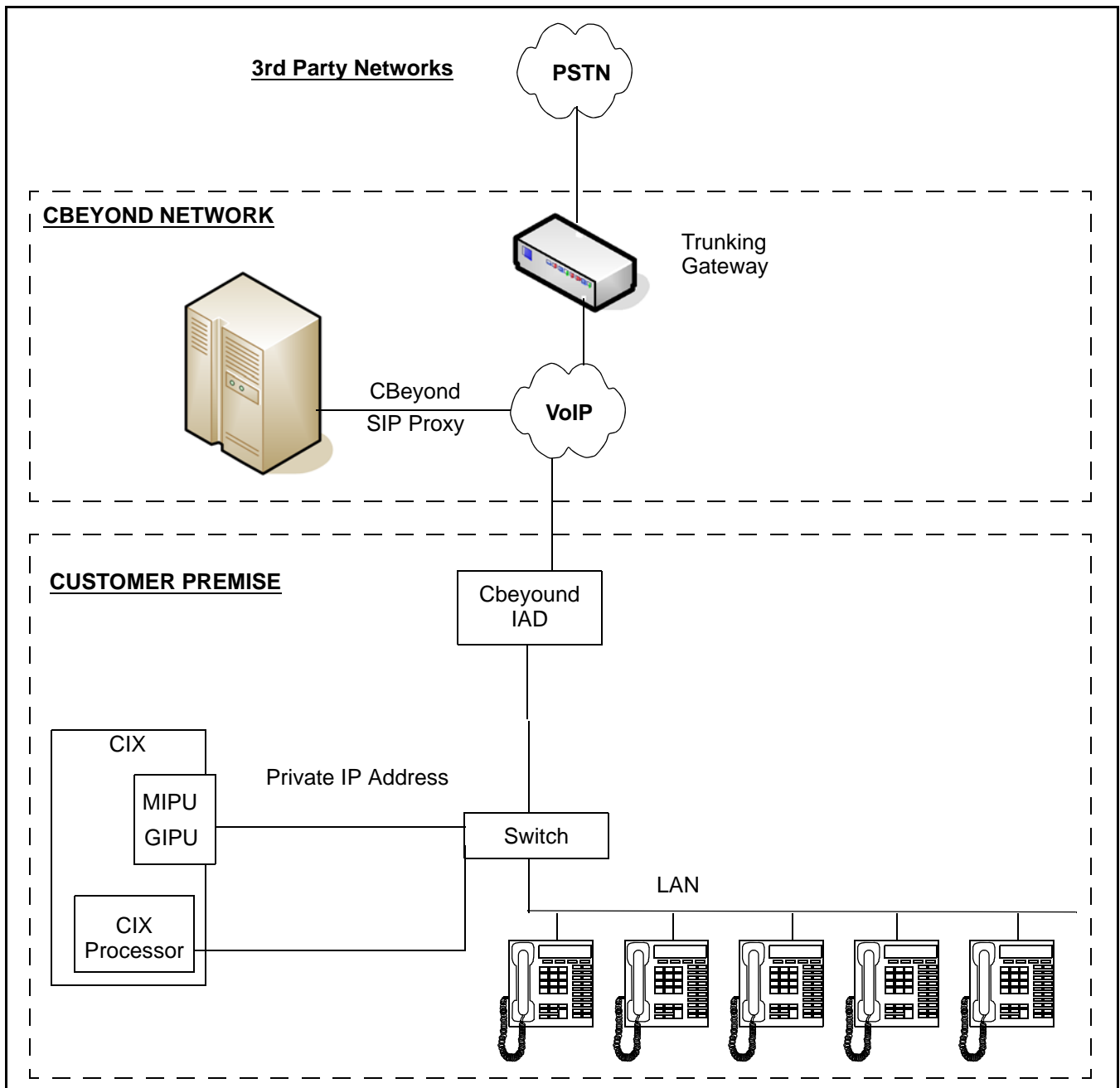
Figure C-1 CIX with SIP Trunking

There are many ways to set up a public IP address for the MIPU or GIPU. The most common way is to simply run an ethernet cable from one of the WAN interfaces on the router straight to the MIPU/GIPU.

Configure CBeyond SIP Trunks

This section details configuring the Toshiba CIX System with the MIPU/GIPU card to interoperate with CBeyond's BeyondVoice™ with SIPconnect™ Service.

CBeyond offers dynamically allocated bandwidth on its T1 circuit(s). However, unlike legacy T1 circuits, a CBeyond enabled circuit does not have to be physically provisioned and divided to separate the voice channels from the data channels. Voice traffic is marked with QOS and has higher priority than data so business grade service can be maintained. When no calls are active, all of the bandwidth is available for data.



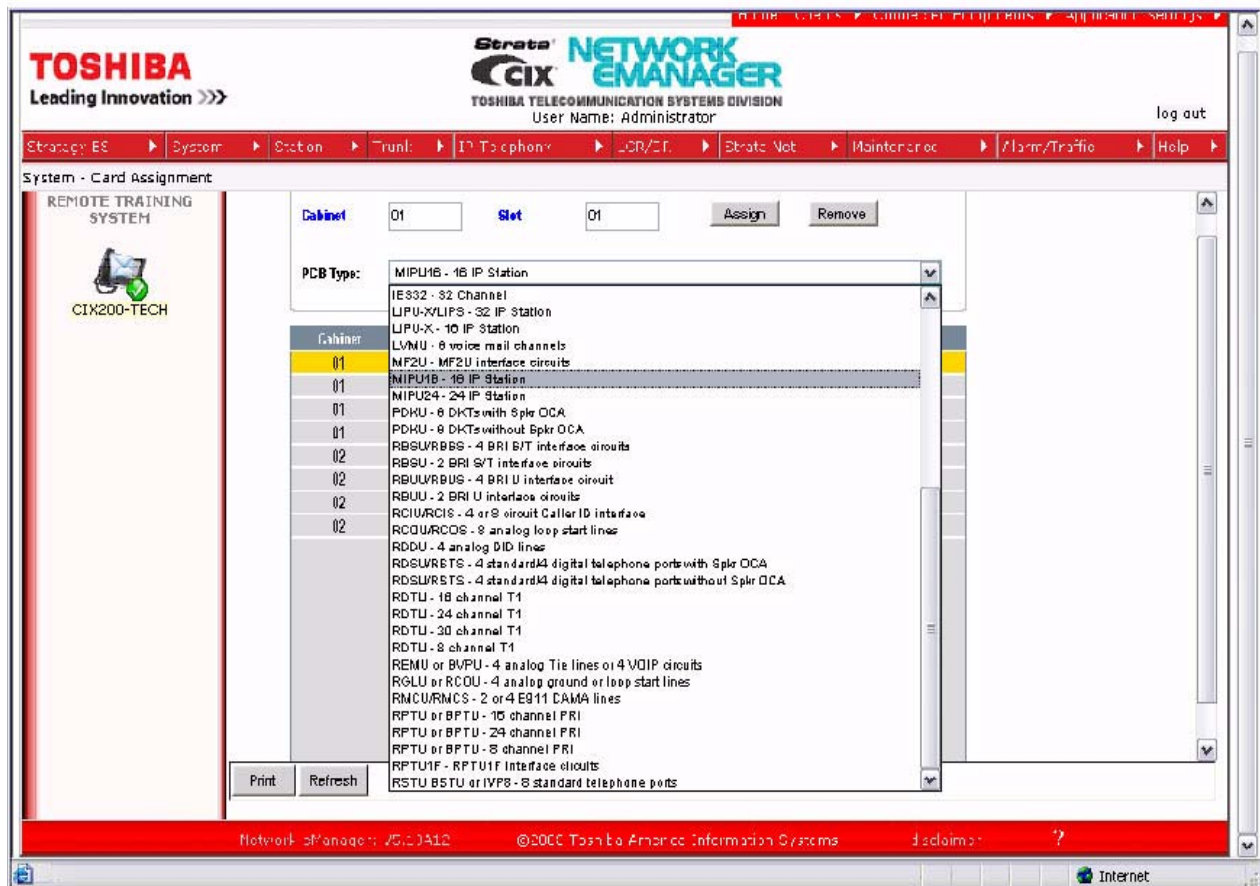
SIP Trunking

Figure C-2 CIX System SIP Trunk Configuration Using CBeyond

Programming for CBeyond SIP Trunks

Go to System > Card Assignment.

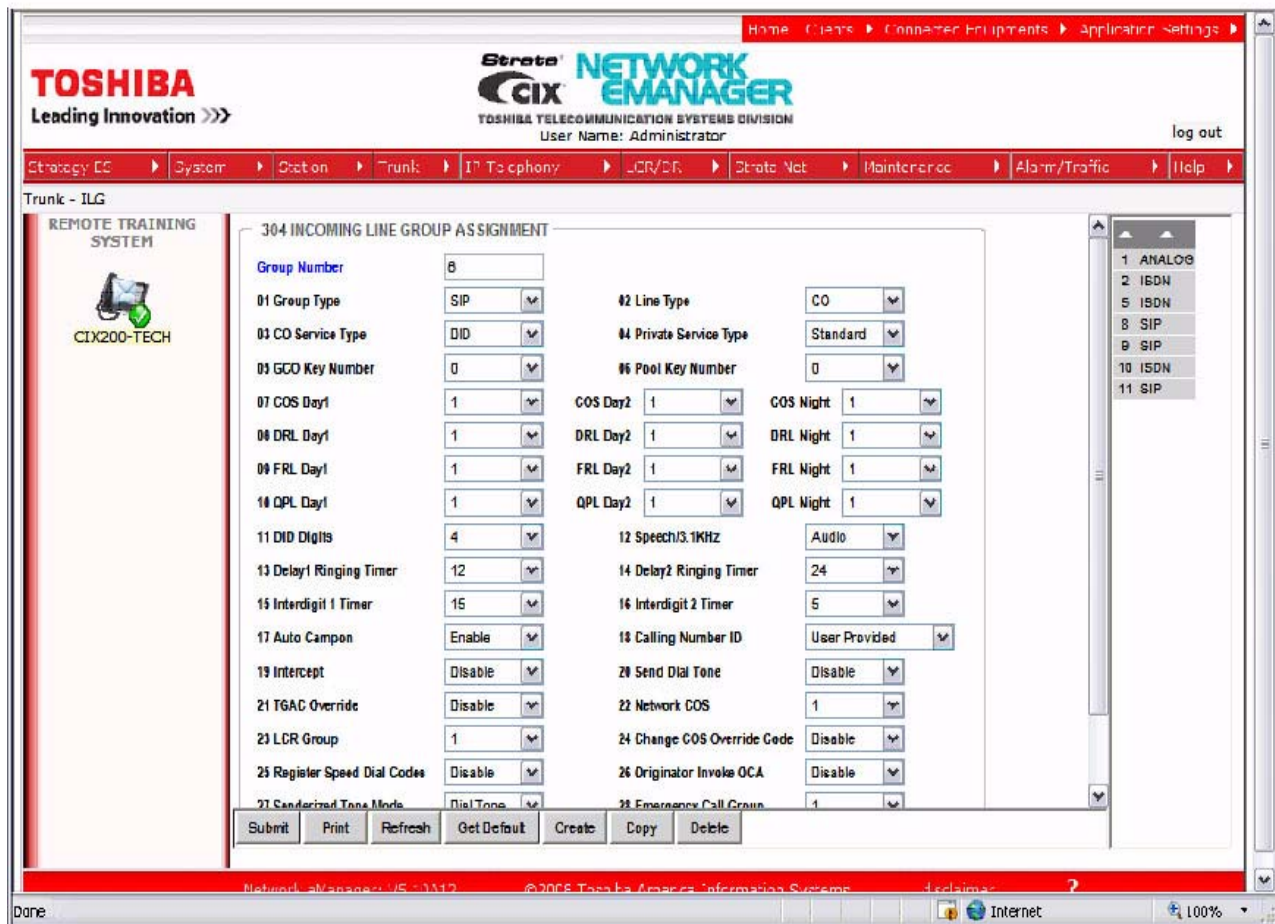
1. Set the card type for the slot holding the MIPU/GIPU.
2. Choose the type of MIPU/GIPU for use in the system. The number of channels entered must match the number of channels on the card.



Programming the Incoming Line Group

Go to Trunk > ILG.

1. For SIP trunk programming start with an ILG and OLG assignment.
2. For ILG programming create an ILG group (in this example, group number 8).
3. FB01 - Group Type: Select SIP.
4. FB03 - CO Service Type: DID.
5. FB11 - DID Digits: Number of incoming digits to use from the dialed number to route the call. Count the number of digits from the least significant digit.



Note: SIP trunking requires a license for each trunk. No channel group can successfully be programmed without a license.

SIP trunking is supported by the MIPU/GIPU card only. It can share connections of its ports between stations, IP telephones and other IPU devices. The IP telephones are the only devices that are flexibly assignable. That is, SIP stations, VM ports, SIP trunks and attendant consoles are fixed resources. IP telephones do not need to be fixed assignments (unless they are assigned a fixed equipment number - not 0000).

Assigning the Trunk DID Destination

Go to Trunk > DID.

1. FB01 - DID Number: Incoming digits used to direct the dialed number to route the call (count from the least significant digit side and will be limited to the number of digits set in Prog 204, FB11).
2. FB05-07 - Audio Day1 Dst Type, Audio Day1 Dst Digits; Day 2, Night: For example, Dialing Digits/ Extension.

DID routing must be set up to route incoming SIP calls to their desired destination. That programming is the same as any other trunk group type. If that routing is not set up, incoming Invites will fail instantly.

The screenshot shows the Strata CIX Network eManager web interface. The top navigation bar includes links for Home, Clients, Connected Equipments, and Application Settings. The main header displays the Toshiba logo and 'Strata CIX NETWORK EMANAGER' with the user name 'administrator'. The breadcrumb trail is: Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help. The current page is 'Trunk - DID'. The configuration area is titled '309 DIRECT INWARD DIALING' and contains the following fields:

ILG Group Number	8		
309 DIRECT INWARD DIALING			
01 DID Number	8400	List	
02 MOH Source	1 Processor MOH Jack		
03 GC0 Key Group	0	04 Pooled Key Group	0
05 Audio Day1 Dst Type	Dialing Digits	Audio Day1 Dst Digits	2400
06 Audio Day2 Dst Type	Dialing Digits	Audio Day2 Dst Digits	2400
07 Audio Night Dst Type	Dialing Digits	Audio Night Dst Digits	2400
08 Data Day1 Dst Type	No Data	Data Day1 Dst Digits	
09 Data Day2 Dst Type	No Data	Data Day2 Dst Digits	
10 Data Night Dst Type	No Data	Data Night Dst Digits	
11 DID/DNIS No. VMID		12 DID/DNIS Name	
13 VM Application Digits		16 Tenant Number	1

At the bottom of the configuration area, there are buttons for Submit, Print, Refresh, Get Default, Create, Copy, Delete, and DID/DNIS Table View. The footer of the page contains 'Network eManager: V5.10A13', '©2008 Toshiba America Information Systems', 'disclaimer', and a question mark icon.

Programming the Outgoing Line Group

Go to Trunks > OLD

1. Create a new OLG and designate it as SIP.
2. FB01 - Group Type: SIP
3. The rest are left at the default value.
4. An OLG access code must be created for this group.

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Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home > Trunks > Connected Equipments > Application Settings >

Strategy CC > System > Station > Trunk > IT Telephony > LCR/DF > Strata Net > Maintenance > Alarm/Traffic > Help >

Trunk - OLG

REMOTE TRAINING SYSTEM
CIX200-TECH

306 OUTGOING LINE GROUPS

Group Number: 8

01 Group Type: SIP

03 Service Type: Standard

06 Pool Key1 Number: 0

08 COS Day1: 1

09 FRL Day1: 1

10 QPL Day1: 1

11 Speech/3.1KHz: Audio

13 Account Code: Enable Disable

14 Destination Restriction: Enable Disable

15 Credit Card Calling: Enable Disable

16 Send CESID: Enable Disable

17 QSIG Sending Type: Cut Through

19 Recall on AC15: (empty)

02 Trunk Type: CO/DID

04 GCO Key1 Number: 0

07 Pool Key2 Number: 0

COS Day2: 1

FRL Day2: 1

QPL Day2: 1

COS Night: 1

FRL Night: 1

QPL Night: 1

12 MOH Source: 1 Processor MOH Jack

18 Network COS: 1

Submit Print Refresh Get Default Create Copy Delete

1 ANALOG
2 ISDN
3 ANALOG
5 ISDN
8 SIP
9 SIP
10 ISDN
11 SIP

NetworkManager V5.0.1112 ©2005 Toshiba America Information Systems Disclaimer ?

Done Internet 100%

Creating the Channel Group

1. Go to IP Telephony > SIP Trunking. The first tab is Channel Group setting, Program 326.
2. FB00 - SIP Trunk Channel Group: In this example SIP Trunk Channel Group 16 is created.
3. FB01 - Equipment: Enter the Cabinet number and slot number (four digits). In this example, 0203.
4. FB02 - LAN Interface Number = 1 (MIPU/GIPU has only one interface)
5. FB03 - Strata Net IP Channels: The TOTAL number of ports on this card that are going to be dedicated to SIP trunking. On further tabs, each OLG or ILG can be for a different service provider and still be in the same channel group. This entry is the total number of trunks from ALL the service providers.
6. FB04 - RBT (ring back tone) on Incoming Call: Enable for the CIX to provide RBT. Coordinate this response with the Internet Service Provider (ISP) trunk provider.

The screenshot displays the Strata CIX Network eManager web interface. The top navigation bar includes links for Home, Clients, Connected Equipments, and Application Settings. The main header features the Toshiba logo and the Strata CIX Network eManager title, along with the user name 'Administrator' and a 'log out' link. The breadcrumb trail shows the path: Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help. The current page is titled 'IP-Telephony - SIP Trunking' and has four tabs: 'Channel Group Setting' (selected), 'Service Definition', 'Service Assignment', and 'URI'. The 'Channel Group Setting' tab contains a form for '326 SIP TRUNK ASSIGNMENT'. The form includes the following fields:

- '00 SIP Trunk Channel Group': A text input field containing '16' and a 'List' button.
- '01 Equipment': A text input field containing '0201'.
- '02 LAN Interface Number': A dropdown menu set to '1'.
- '03 Strata Net IP Channels': A dropdown menu set to '5'.
- '04 RBT on Incoming Call': A dropdown menu set to 'Enable'.

At the bottom of the form, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer of the page contains the text 'Network eManager V5.10A12 ©2008 Toshiba America Information Systems' and a 'disclaimer' link.

Service Definition

The Service Definition tab is where the ISP providing the SIP trunk service is defined. There may be several ISPs per channel Group.

Required Entries:

1. Create the SIP Trunk Service Kind Table Index - start with index 1, if desired (11 in this example).
2. FB01 – Registration Mode: Client (default).
3. FB02 – ILG: Use the previously created ILG number.
4. FB03 – OLG: Use the previously created OLG Number.
5. FB04 – Effective Channel Number: Number of SIP trunks provided by this ISP.
6. FB05 – Domain Name: Enter the Cbeyond SIPconnect Domain in this field. The entry in this field is specific to the market for this installation (i.e. sipconnectmkt0.cbeyond.net, where mkt corresponds to the region where this system is being installed). Note that the SIPconnect Domain can be found in the SIPconnect Settings section of the Cbeyond Install Profile provided by your Cbeyond Service Coordinator.
7. FB06 – SIP Server: Enter the Cbeyond Outbound Proxy in this field. The entry in this field is specific to the market for this installation (i.e. sipconnectmkt0.cbeyond.net, where mkt corresponds to the region where this system is being installed.) Note that the Outbound Proxy can be found in the SIPconnect Settings section of the Cbeyond Install Profile provided by your Cbeyond Service Coordinator.
8. These are the only mandatory program entries. The rest can be left at the default values.

The screenshot shows the 'Service Definition' tab for a '327 SIP TRUNK SERVICE KIND ASSIGNMENT'. The configuration fields are as follows:

Field ID	Field Name	Value	Field ID	Field Name	Value
00	SIP Trunk Service Kind Table Index	11	02	ILG	11
01	Registration Mode	Client	04	Effective Channel Number	1
03	OLG	11	05	Domain Name	sipconnect-fca.atl0.cbe
06	SIP Server		07	Primary Voice Packet Configuration	1
08	Secondary Voice Packet Configuration	1	09	Registration Period	3600
10	TimerB	5	11	Recovery Timer	60
12	Network Transfer	Enable	13	User Agent Header	Disable
14	Server Header	Disable	15	Protocol Option	Disable
16	Session Timer	1800	17	Primary Audio Codec	G.711u
18	Secondary Audio Codec	G.711a	19	DTMF Transmission Method	RFC2833
20	RTCP Support	Enable	21	T.38 Support	Disable
22	SIP Server Caches	10	23	Diffserv for Media	Disable
24	TOS Field Type for Media	TOS	25	TOS Precedence Type for Media	Critical/ESP
	TOS Delay Type for Media	Normal			

Buttons at the bottom: Submit, Print, Refresh, Get Default, Create, Delete.

Footer: Network eManager: V5.20A01 ©2008 Toshiba America Information Systems

SIP Trunking

Service Assignment

The Service Assignment tab must be completed before entries can be made on the next tab. If not completed, entries attempted in the URI tab will not be saved.

Important! After URI entries are made in the URI tab, changing this program will DELETE all the URIs programmed. Once this is set, do not change it.

1. FB01 – Channel Group (16 in this example).
2. FB02 – Service Index: Select the Service Number by clicking on one of the table's line entries. Use the drop down box to select the ISP to which the URIs belong. This is to match the Service Kind Table Index number of the desired ISP. On the next tab (URI) enter the URIs (directory numbers).

Home - Clients - Connected Equipment - Application Settings

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Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator log out

Strategy CS - System - Station - Trunk - IP Telephony - LCR/DR - Strata Net - Maintenance - Alarm/Traffic - Help

IP-Telephony - SIP Trunking

Local Host
localhost

Channel Group Setting Service Definition **Service Assignment** URI

01 Channel Group 16

328 SIP TRUNK SERVICE ASSIGNMENT

02 Service Index 11 Set

Service No	Service Index
1	11
2	<Empty>
3	<Empty>
4	<Empty>
5	<Empty>
6	<Empty>
7	<Empty>
8	<Empty>
9	<Empty>
10	<Empty>
11	<Empty>
12	<Empty>
13	<Empty>
14	<Empty>
15	<Empty>
16	<Empty>

Network Manager V5.10417 ©2008 Toshiba America Information Systems

URI Programming

The SIP URI is the Telephone Number (TN) that Cbeyond provides. The MIPU/GIPU registers each TN using the same authentication credentials (FB03 and FB04). When the URI TN is dialed (from outside), Cbeyond sends a SIP INVITE just as if it were a call to a SIP station. (But an outbound call using one of the UAs does not busy out the UA against an incoming call - that is a key difference of SIP trunks.

1. FB00 – SIP URI Trunk Service Index: The service index that defines the ISP. If for instance, the service is Cbeyond, enter the TNs provided from Cbeyond.
2. FB01 – SIP URI Index: Click the Index line in the table to select one of the indexes (1-160). Proceed now to fill-in the URI data.
3. FB02 – SIP URI: Enter the TN of the URI.
4. FB03 – SIP URI User Name: Cbeyond refers to this as the “PBX Username” and can be found in the SIPconnect Settings section of the Install Profile provided by the Cbeyond Service Coordinator.
5. FB04 – SIP URI Password: The same as the authentication password. Cbeyond refers to this as the “PBX Password” and can be found in the SIPconnect Settings section of the Install Profile, provided by the Cbeyond Service Coordinator.
6. FB05 – SIP URI Channel Group: This is filled in automatically when the **ADD** button is clicked. It cannot be entered manually.

Important! URIs will register as soon as they are ADDED or MODIFIED. Otherwise, all the URIs will register when the MIPU/GIPU is reset. The UAs will re-register as required before the expiration time-out occurs.

The screenshot shows the 'URI' configuration page in the Strata CIX Network eManager. The page title is 'IP-Telephony - SIP Trunking'. The main content area is titled '329 SIP URI ASSIGNMENT' and contains the following form fields:

- 04 SIP URI Trunk Service Index: 11
- 01 SIP URI Index: 1
- 02 SIP URI: 9495833000
- 03 SIP URI User Name: 9495833000
- 04 SIP URI Password: id5v80
- 05 SIP URI Channel Group: 16
- 06 SIP URI Attribution: (empty)

Below the form fields is a table with the following columns: Index, URI, User Name, Password, and Reg. Channel Group. The table contains one row with the following data:

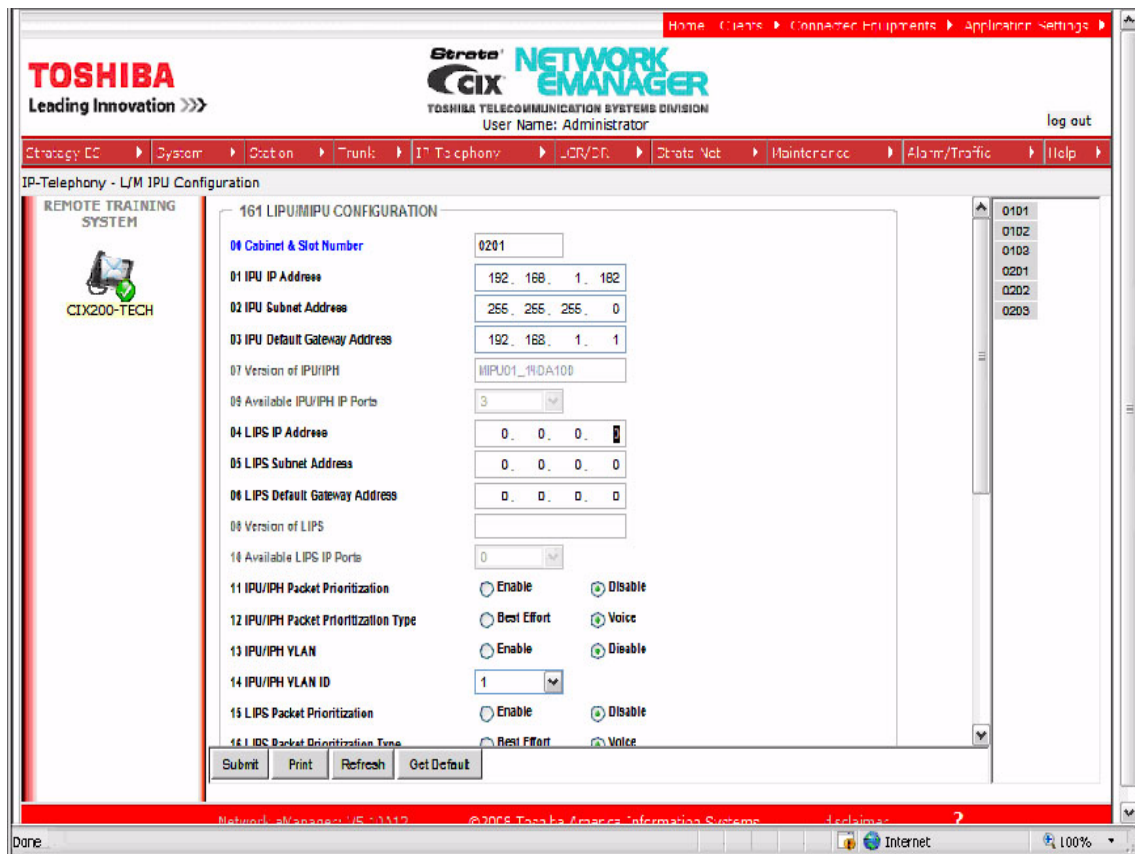
Index	URI	User Name	Password	Reg. Channel Group
1	9495833000	9495833000	id5v80	16
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

The footer of the page contains the text: 'Network eManager: V3.20A01 ©2003 Toshiba America Information Systems'.

SIP Trunking

Configuring the MIPU/GIPU

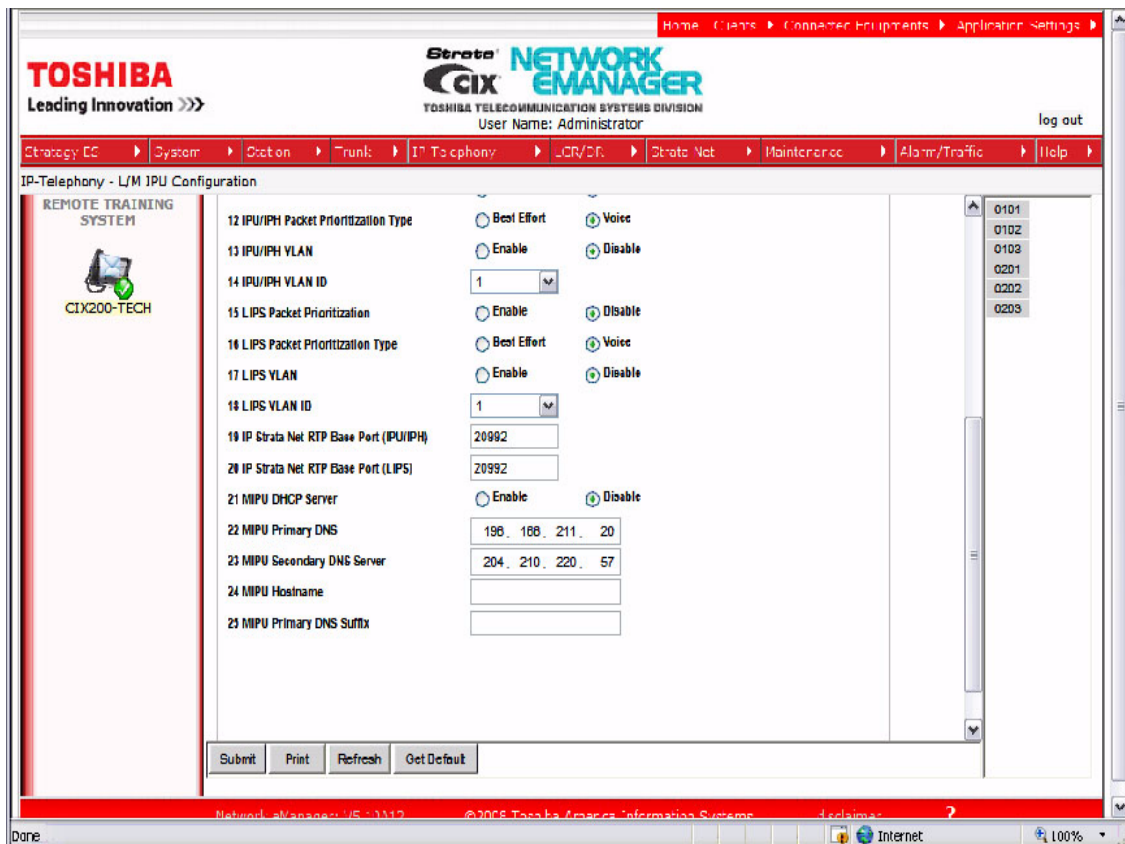
1. Go to IP Telephony > L/M/G IPU Configuration: Select card to configure. Enter the IP address(s) provided by the SIP trunk provider.
2. FB01 – IPU IP Address: Set an IP address (provided by CBeyond).
3. FB02 – IPU Subnet Address: Provided by CBeyond
4. FB03 – IPU Default Gateway Address. Provided by CBeyond.
5. There is only one interface on an MIPU/GIPU; leave the second interface programming (FB04-FB06) blank.



Configuring the MIPU/GIPU continued

For a static IP enter the DNS server address. This is critical to SIP trunking. The DNS server is used every time a call is made as well as during the registration process. After making all these programming entries, press the **RESET** button on the MIPU/GIPU. The new data will be saved by the MIPU/GIPU and the MIPU/GIPU will begin registration to the ISP.

1. FB22 – MIPU Primary DNS: Primary DNS IP address. Provided by CBeyond.
2. FB23 – MIPU Secondary DNS Server: Secondary DNS IP address. Provided by CBeyond.



Configure ABS SIP Trunks

This section details configuring the CIX with the MIPU/GIPU card to interoperate with American Broadband Services (ABS) VoIPTrunking Service. The figure below shows an example of an ABS SIP trunking network configuration.

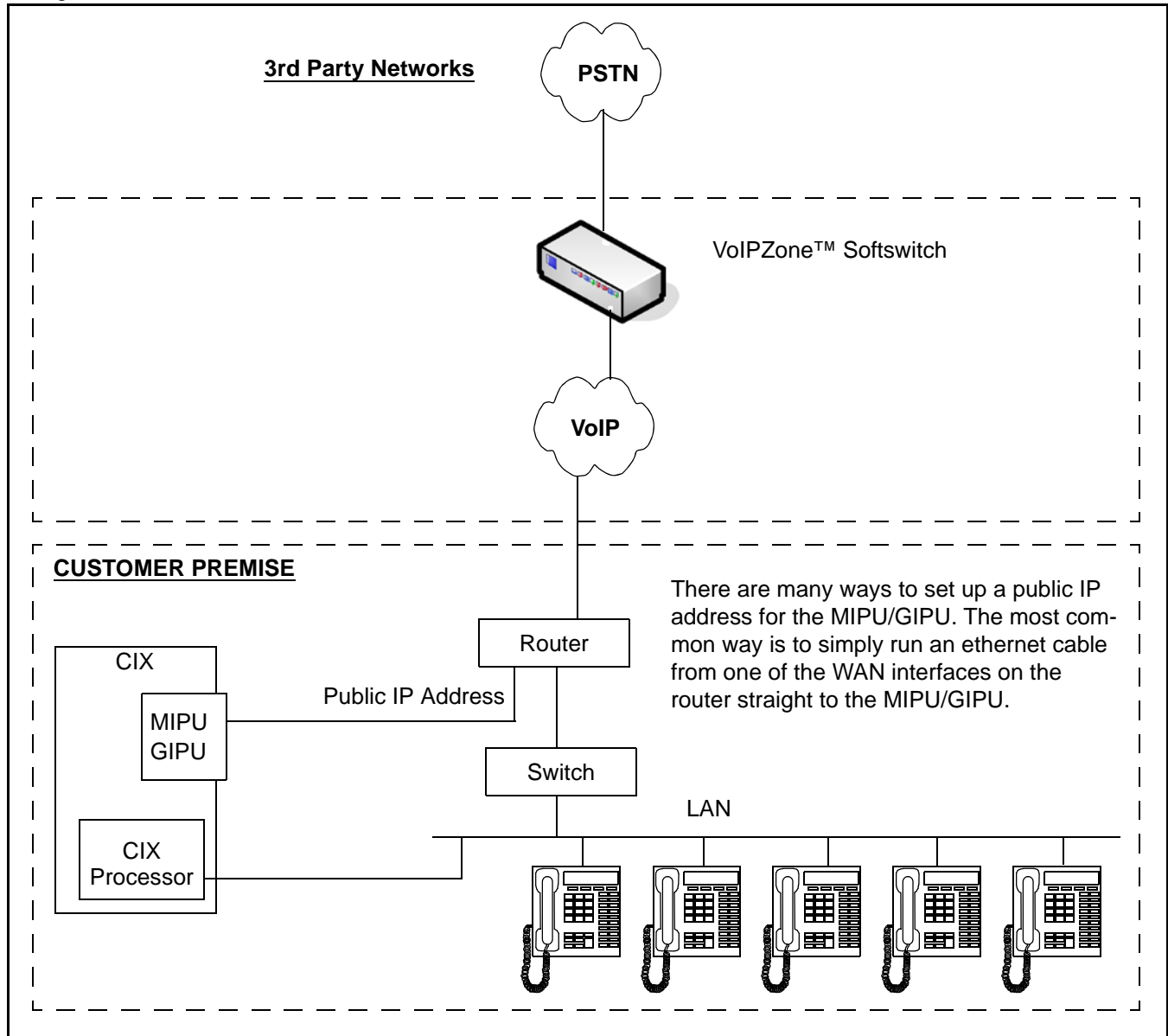


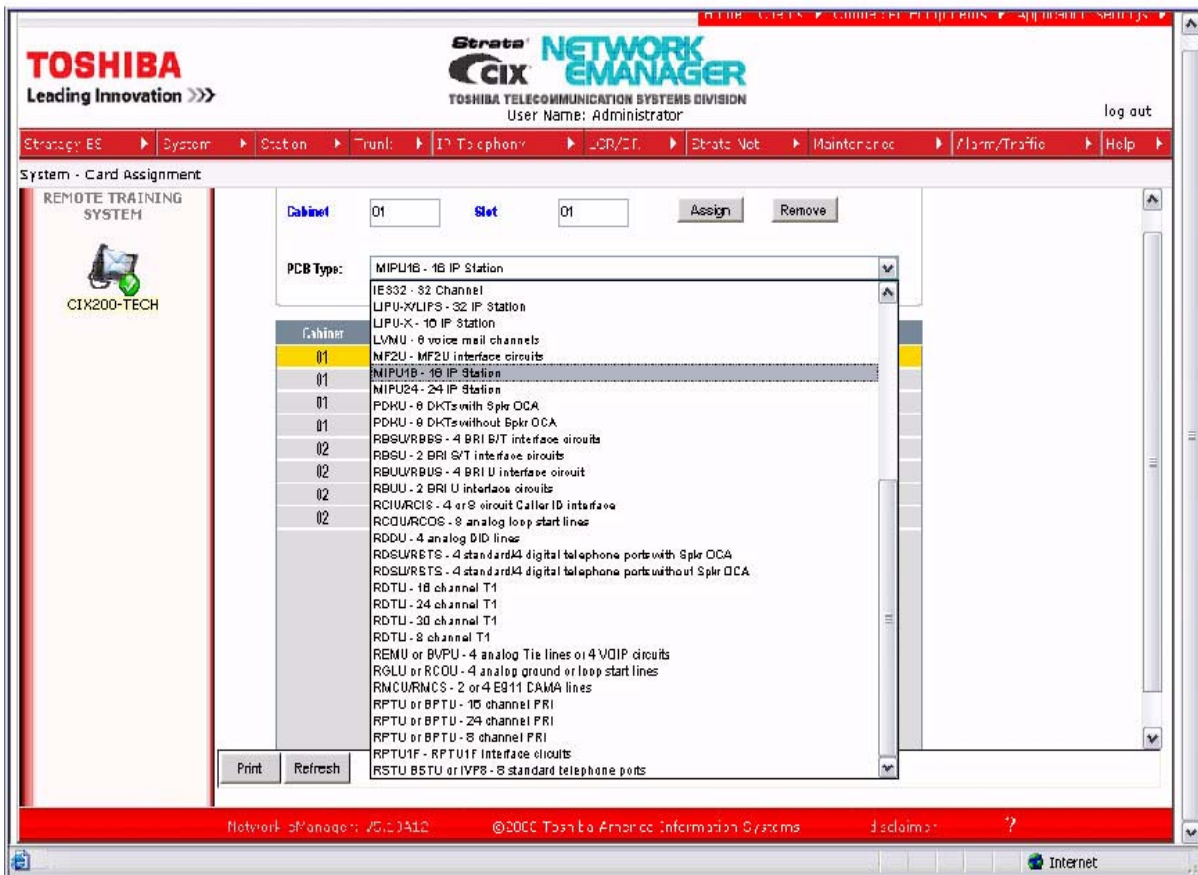
Figure C-3 CIX System SIP Trunk Configuration Using ABS

Programming for ABS SIP Trunks

Assigning the MIPU/GIPU card

Go to System > Card Assignment

1. Set the card type for the slot holding the MIPU/GIPU.
2. Choose the type of MIPU/GIPU for use in the system. The number of channels entered must match the number of channels on the card.



SIP Trunking

Programming the Incoming Line Group

Go to Trunk > ILG

1. For SIP trunk programming start with an ILG and OLG assignment.
2. For ILG programming create an ILG group (in this example, group number 8).
3. FB01 - Group Type: Select SIP.
4. FB03 - CO Service Type: DID.
5. FB11 - DID Digits: Number of incoming digits to use from the dialed number to route the call. Count the number of digits from the least significant digit.

The screenshot displays the '304 INCOMING LINE GROUP ASSIGNMENT' configuration page in the Strata CIX Network Manager. The interface is organized into several sections:

- Navigation:** A top menu bar with options like 'Home', 'Users', 'Connected Equipment', 'Application Settings', and a 'log out' link. Below it, a breadcrumb trail shows 'Strategy: EC > System > Station > Trunk > IP Telephone > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help'.
- Left Sidebar:** Contains 'REMOTE TRAINING SYSTEM' with a computer icon and 'CIX200-TECH'.
- Main Configuration Area:** Titled '304 INCOMING LINE GROUP ASSIGNMENT', it features a grid of fields:
 - Group Number:** 8
 - 01 Group Type:** SIP
 - 03 CO Service Type:** DID
 - 01 GCO Key Number:** 0
 - 07 COS Day1:** 1
 - 08 DRL Day1:** 1
 - 09 FRL Day1:** 1
 - 10 QPL Day1:** 1
 - 11 DID Digits:** 4
 - 13 Delay1 Ringing Timer:** 12
 - 15 Interdigit 1 Timer:** 15
 - 17 Auto Campon:** Enable
 - 19 Intercept:** Disable
 - 21 TGAC Override:** Disable
 - 23 LCR Group:** 1
 - 25 Register Speed Dial Codes:** Disable
 - 27 Sanitized Tone Mode:** Dial Tone
 - 02 Line Type:** CO
 - 04 Private Service Type:** Standard
 - 06 Pool Key Number:** 0
 - COS Day2:** 1
 - DRL Day2:** 1
 - FRL Day2:** 1
 - QPL Day2:** 1
 - 12 Speech/3.1KHz:** Audio
 - 14 Delay2 Ringing Timer:** 24
 - 16 Interdigit 2 Timer:** 5
 - 18 Calling Number ID:** User Provided
 - 20 Send Dial Tone:** Disable
 - 22 Network COS:** 1
 - 24 Change COS Override Code:** Disable
 - 26 Originator Invoke OCA:** Disable
 - 28 Emergency Call Group:** 1
- Right Sidebar:** A vertical list of service types: 1 ANALOG, 2 ISDN, 5 ISDN, 8 SIP, 9 SIP, 10 ISDN, 11 SIP.
- Bottom:** Action buttons (Submit, Print, Refresh, Get Default, Create, Copy, Delete) and a footer with 'Network Manager v5.1.12 ©2005 Toshiba America Information Systems'.

Note: SIP trunking requires a license for each trunk. No channel group can be successfully programmed without a license.

SIP trunking is supported by the MIPU/GIPU card only. It can share connections of its ports between stations, IP telephones and other IPU devices. The IP telephones are the only devices that are flexibly assignable. That is, SIP stations, VM ports, SIP trunks and attendant consoles are fixed resources. IP telephones do not need to be fixed assignments (unless they are assigned a fixed equipment number - not 0000).

Assigning the Trunk DID Destination

Go to Trunk > DID.

1. FB01 - DID Number: Incoming digits used to direct the dialed number to route the call (count from the least significant digit side and will be limited to the number if digits set in Prog 204, FB11).
 2. FB05-FB07 - Audio Day1 Dst Type, Audio Day1 Dst Digits; Day2, Night: Dialing digits/extensions.
- DID routing must be set up to route incoming SIP calls to their desired destinations. That programming is the same as any other trunk group type. If that routing is not set up incoming Invites will instantly fail.

The screenshot shows the 'Trunk - DID' configuration page in the Strata CIX Network eManager. The page title is 'Trunk - DID' and the user is logged in as 'administrator'. The navigation menu includes: Home, Clients, Connected Equipments, Application Settings, Strategy ES, System, Station, Trunk, IP-Telephony, LCR/DR, Strata Net, Maintenance, Alarm/Traffic, and Help. The main configuration area is titled '309 DIRECT INWARD DIALING' and contains the following fields:

ILG Group Number	8
01 DID Number	8400
02 MOH Source	1 Processor MOH Jack
03 GCO Key Group	0
04 Pooled Key Group	0
05 Audio Day1 Dst Type	Dialing Digits
Audio Day1 Dst Digits	2400
06 Audio Day2 Dst Type	Dialing Digits
Audio Day2 Dst Digits	2400
07 Audio Night Dst Type	Dialing Digits
Audio Night Dst Digits	2400
08 Data Day1 Dst Type	No Data
Data Day1 Dst Digits	
09 Data Day2 Dst Type	No Data
Data Day2 Dst Digits	
10 Data Night Dst Type	No Data
Data Night Dst Digits	
11 DID/DNIS No. VMID	
12 DID/DNIS Name	
13 VM Application Digits	
16 Tenant Number	1

At the bottom of the configuration area, there are buttons for: Submit, Print, Refresh, Get Default, Create, Copy, Delete, and DID/DNIS Table View. The footer of the page includes: Network eManager: V5.10A13, ©2008 Toshiba America Information Systems, disclaimer, and a help icon.

Programming the Outgoing Line Group

Go to Trunk > OLG.

1. Create a new OLG and designate it as SIP.
2. FB01 - Group Type: SIP
3. The rest are left at the default value.
4. An OLG access code must be created for this group.

Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home | Calls | Connection Elements | Application Settings

Strategy EG | System | Operation | Trunk | IP Telephony | LCR/DR | Strata Net | Maintenance | Alarm/Traffic | Help

Trunk - OLG

REMOTE TRAINING SYSTEM
CIX200-TECH

306 OUTGOING LINE GROUPS

Group Number: 8

01 Group Type: SIP

03 Service Type: Standard

04 GCD Key1 Number: 0

07 Pool Key2 Number: 0

08 COS Day1: 1

09 FRL Day1: 1

10 QPL Day1: 1

11 Speech/3.1KHz: Audio

13 Account Code: Enable Disable

14 Destination Restriction: Enable Disable

15 Credit Card Calling: Enable Disable

16 Send CESID: Enable Disable

17 QSIG Sending Type: Cut Through

18 Network COS: 1

19 Recall on AC15: (empty)

02 Trunk Type: CO/DID

04 GCD Key1 Number: 0

07 Pool Key2 Number: 0

COS Day2: 1

FRL Day2: 1

QPL Day2: 1

COS Night: 1

FRL Night: 1

QPL Night: 1

12 MOH Source: 1 Processor MOH Jack

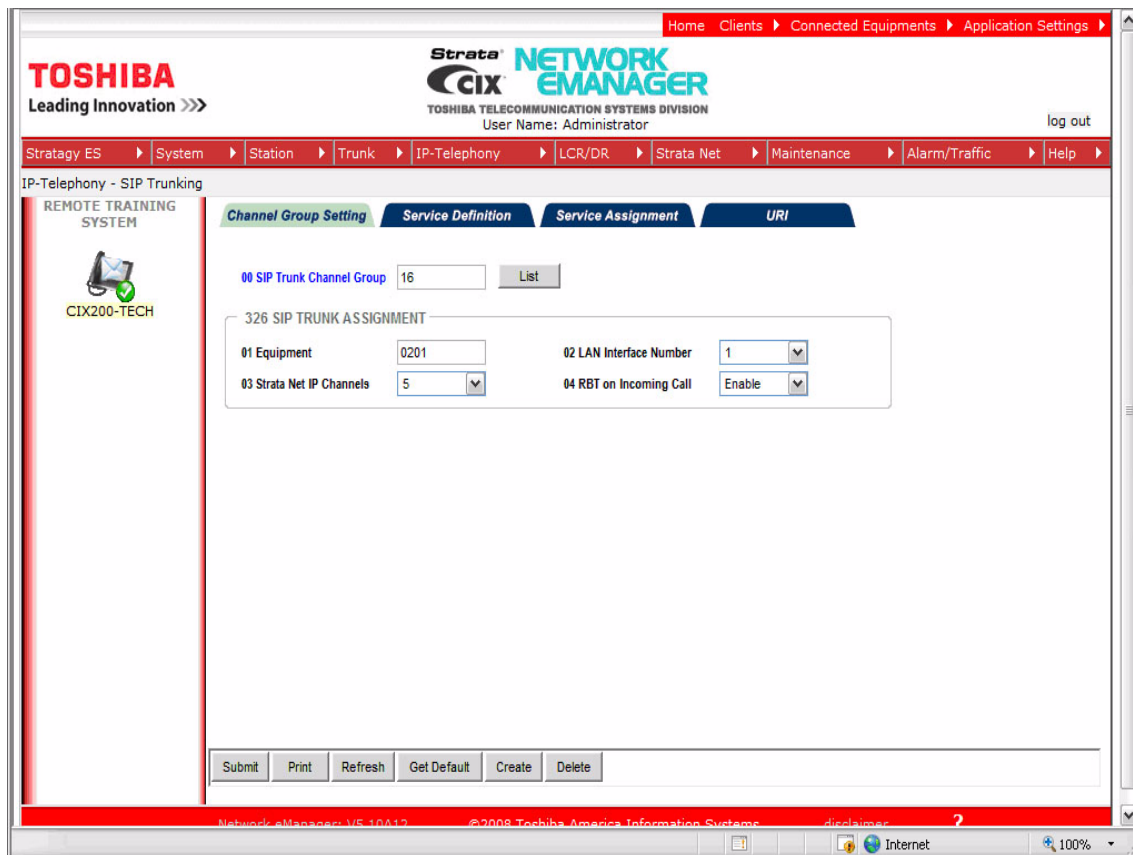
Submit Print Refresh Get Default Create Copy Delete

1 ANALOG
2 ISDN
3 ANALOG
5 ISDN
8 SIP
9 SIP
10 ISDN
11 SIP

Network Manager V5.1112 ©2005 Toshiba America Information Systems, Inc. All rights reserved.

Creating the Channel Group

1. Go to IP Telephony > SIP trunking. The first tab is Channel Group setting, Program 326.
2. FB00 - SIP Trunk Channel Group: In this example, SIP Trunk Channel Group 16 is created.
3. FB01 - Equipment: Enter the Cabinet number and slot number (four digits). In this example, 0203.
4. FB02 - LAN Interface Number = 1 (MIPU/GIPU has only one interface)
5. FB03 - Strata Net IP Channels: The TOTAL number of ports on this card dedicated to SIP Trunking. On further tabs, each OLG or ILG can be for a different service provider and still be in the same channel group. This entry is the total number of trunks from ALL the service providers.
6. FB04 - RBT (ring back tone) on Incoming Call: Enable for the CIX to provide RBT. Coordinate this response with the Internet Service Provider (ISP) trunk provider.



Service Definition

The Service Definition tab is where the ISP providing the SIP trunk service is defined. There may be several ISPs per channel group.

Required Entries:

1. Create the SIP Trunk Service Kind Table Index - start with index 1, if desired (11 in this example).
2. FB01 – Registration Mode: Client (default).
3. FB02 – ILG: Use the previously created ILG number.
4. FB03 – OLG: Use the previously created OLG number.
5. FB04 – Effective Channel Number: Number of SIP trunks provided by this ISP.
6. FB05 – Domain Name: Enter the ABS ZoIPZONE IPTrunking Domain in this field. The entry in this field is specific to this installation (i.e. abs-internet.com). Note that the VoIPZone IPTrunking Domain can be found in the VoIPZone IPTrunking Settings section of the ABS Install Profile provided by your ABS Service Coordinator.
7. FB06 – SIP Server: Enter the ABS Outbound Proxy in this field. The entry in this field is specific to the market for this installation (i.e. IP address of the SIP server). Note that the Outbound Proxy can be found in the VoIPZone IPTrunking Settings section of the ABS Install Profile provided by your ABS Service Coordinator.
8. FB11 – Recovery Timer: Set to 30 seconds.
9. These are the only mandatory program entries. The rest can be left at the default values.

The screenshot shows the 'Service Definition' tab for a SIP Trunk Service Kind Assignment in the Strata CIX Network eManager. The interface includes a navigation menu at the top with options like 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. The main content area is titled '327 SIP TRUNK SERVICE KIND ASSIGNMENT' and contains a list of configuration parameters:

Parameter	Value	Parameter	Value
00 SIP Trunk Service Kind Table Index	11	02 ILG	11
01 Registration Mode	Client	04 Effective Channel Number	1
03 OLG	11	05 Domain Name	sipconnect-fca.atl0.cbe
06 SIP Server		07 Primary Voice Packet Configuration	1
08 Secondary Voice Packet Configuration	1	09 Registration Period	3600
10 TimerB	5	11 Recovery Timer	60
12 Network Transfer	Enable	13 User Agent Header	Disable
14 Server Header	Disable	15 Protocol Option	Disable
16 Session Timer	1800	17 Primary Audio Codec	G.711u
18 Secondary Audio Codec	G.711a	19 DTMF Transmission Method	RFC2833
20 RTCP Support	Enable	21 T.38 Support	Disable
22 SIP Server Caches	10	23 Diffserv for Media	Disable
24 TOS Field Type for Media	TOS	25 TOS Precedence Type for Media	Critical/ESP
25 TOS Delay Type for Media	Normal		

At the bottom of the form, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer of the page indicates 'Network eManager: V5.20A01 ©2008 Toshiba America Information Systems'.

Service Assignment

The Service Assignment tab must be completed before entries are made on the next tab. If not completed, entries attempted in the URI tab will not be saved.

Important! After URI entries are made in the URI tab, changing this program will DELETE all the URIs programmed. Once this is set, do not change it.

1. FB01 – Channel Group (16 in this example).
2. FB02 – Service Index: Select the Service Index by clicking on one of the table's line entries. Use the drop down box to select the ISP to which the URIs belong. This is to match the Service Kind Table Index number of the desired ISP. On the next tab (URI) is where the URIs (directory numbers) are entered.

The screenshot displays the 'Service Assignment' configuration page in the Strata CIX Network Manager. The page title is 'IP-Telephony - SIP Trunking'. The main content area has four tabs: 'Channel Group Setting', 'Service Definition', 'Service Assignment', and 'URI'. The 'Service Assignment' tab is selected. It features two dropdown menus: '01 Channel Group' set to '16' and '02 Service Index' set to '11', with a 'Set' button next to it. Below these is a table with 16 rows. The first row is highlighted in yellow and contains '1' in the 'Service No.' column and '11' in the 'Service Index' column. The remaining rows (2-16) have '<Empty>' in the 'Service Index' column.

Service No.	Service Index
1	11
2	<Empty>
3	<Empty>
4	<Empty>
5	<Empty>
6	<Empty>
7	<Empty>
8	<Empty>
9	<Empty>
10	<Empty>
11	<Empty>
12	<Empty>
13	<Empty>
14	<Empty>
15	<Empty>
16	<Empty>

URI Programming

The SIP URI is the Telephone Number (TN) that ABS provides. The MIPU/GIPU registers each TN using the same authentication credentials (FB03 and FB04). When the URI TN is dialed (from outside), ABS will send a SIP INVITE just as if it were a call to a SIP station. However, an outbound call using one of the UAs does not busy out the UA against an incoming call. That is a key difference of SIP trunks.

1. FB00 – SIP URI Trunk Service Index: The service index that defines the ISP. If for instance, the service is ABS, enter the TNs provided from ABS.
2. FB01 – SIP URI Index: Click the Index line in the table to select one of the indexes (1-160).
3. FB02 – SIP URI: This is the TN of the URI.
4. FB03 – SIP URI User Name: This is the TN of the URI. This can be found in the VoIPZone IPTrunking Settings section of the ABS Install Profile provided by your ABS Service Coordinator.
5. FB04 – SIP URI Password: The same as the authentication password. This can be found in the VoIPZone IPTrunking Settings section of the ABS Install Profile provided by your ABS Service Coordinator.
6. FB05 – Channel Group: This will be filled in automatically when the **ADD** button is clicked. It cannot be entered manually.

Important! URIs will register as soon as they are ADDED or MODIFIED. Otherwise all the URIs will register when the MIPU/GIPU is reset. The UAs will re-register as required before the expiration time-out occurs.

The screenshot displays the Strata CIX Network eManager web interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. The main header shows 'TOSHIBA Leading Innovation' and 'Strata CIX NETWORK eMANAGER TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION'. The user is logged in as 'Administrator'. The breadcrumb trail is: Strategy CC > System > Station > Trunk > IP Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help.

The current page is 'IP-Telephony - SIP Trunking' with sub-tabs for 'Channel Group Setting', 'Service Definition', 'Service Assignment', and 'URI'. The 'URI' tab is active, showing '329 SIP URI ASSIGNMENT'. The configuration fields are as follows:

- 01 SIP URI Trunk Service Index: 11
- 02 SIP URI Index: 1
- 03 SIP URI: 9495833000
- 04 SIP URI User Name: 9495833000
- 05 SIP URI Password: id5v80
- 06 SIP URI Channel Group: 16
- 07 SIP URI Attribution: (empty)

Below the configuration fields is a table with the following data:

Index	URI	User Name	Password	Reg. Channel Group
1	9495833000	9495833000	id5v80	16
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

The footer of the interface includes 'Network eManager: V5.20A01', '©2003 Toshiba America Information Systems', and a help icon.

Configuring the MIPU/GIPU

1. Go to IP Telephony > L/M/G IPU Configuration. Enter the public IP address(s) provided by the SIP trunk provider.
2. FB01 – IPU IP address: Must be a public IP address. The IP address can be static assignment or assigned by a DHCP server. Provided by the ISP or ABS.
3. FB02 – IPU Subnet Address: Provided by the ISP or ABS.
4. FB03 – IPU Default Gateway Address. Provided by the ISP or ABS.
5. There is only one interface on an MIPU/GIPU; Leave the second interface, FB04 - FB06, blank.

The screenshot displays the '161 LIPU/MIPU CONFIGURATION' page in the Strata CIX Network Manager. The interface includes a navigation menu at the top with options like 'Home', 'Clears', 'Connected Equipments', and 'Application Settings'. The main content area is divided into a left sidebar with a 'REMOTE TRAINING SYSTEM' icon and a central configuration panel. The configuration panel lists various settings for the IPU/MIPU interface, including IP addresses, subnet masks, and gateway addresses. At the bottom of the configuration panel, there are buttons for 'Submit', 'Print', 'Refresh', and 'Get Default'.

Field ID	Field Name	Value
04	Cabinet & Slot Number	0201
01	IPU IP Address	68 . 232 . 52 . 50
02	IPU Subnet Address	255 . 255 . 255 . 224
03	IPU Default Gateway Address	68 . 232 . 52 . 1
07	Version of IPU/IPH	MIPU01_WDA100
08	Available IPU/IPH IP Ports	3
04	LIPS IP Address	0 . 0 . 0 . 0
05	LIPS Subnet Address	0 . 0 . 0 . 0
06	LIPS Default Gateway Address	0 . 0 . 0 . 0
08	Version of LIPS	
10	Available LIPS IP Ports	0
11	IPU/IPH Packet Prioritization	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
12	IPU/IPH Packet Prioritization Type	<input type="radio"/> Best Effort <input checked="" type="radio"/> Voice
13	IPU/IPH VLAN	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
14	IPU/IPH VLAN ID	1
15	LIPS Packet Prioritization	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
16	LIPS Packet Prioritization Type	<input type="radio"/> Best Effort <input checked="" type="radio"/> Voice

Configuring the MIPU/GIPU continued

For a static IP enter the DNS server address. This is critical to SIP trunking. The DNS server is used every time a call is made as well as during the registration process. After making all these programming entries, press the **RESET** button on the MIPU/GIPU. The new data will be saved by the MIPU/GIPU and the MIPU/GIPU will begin registration to the ISP.

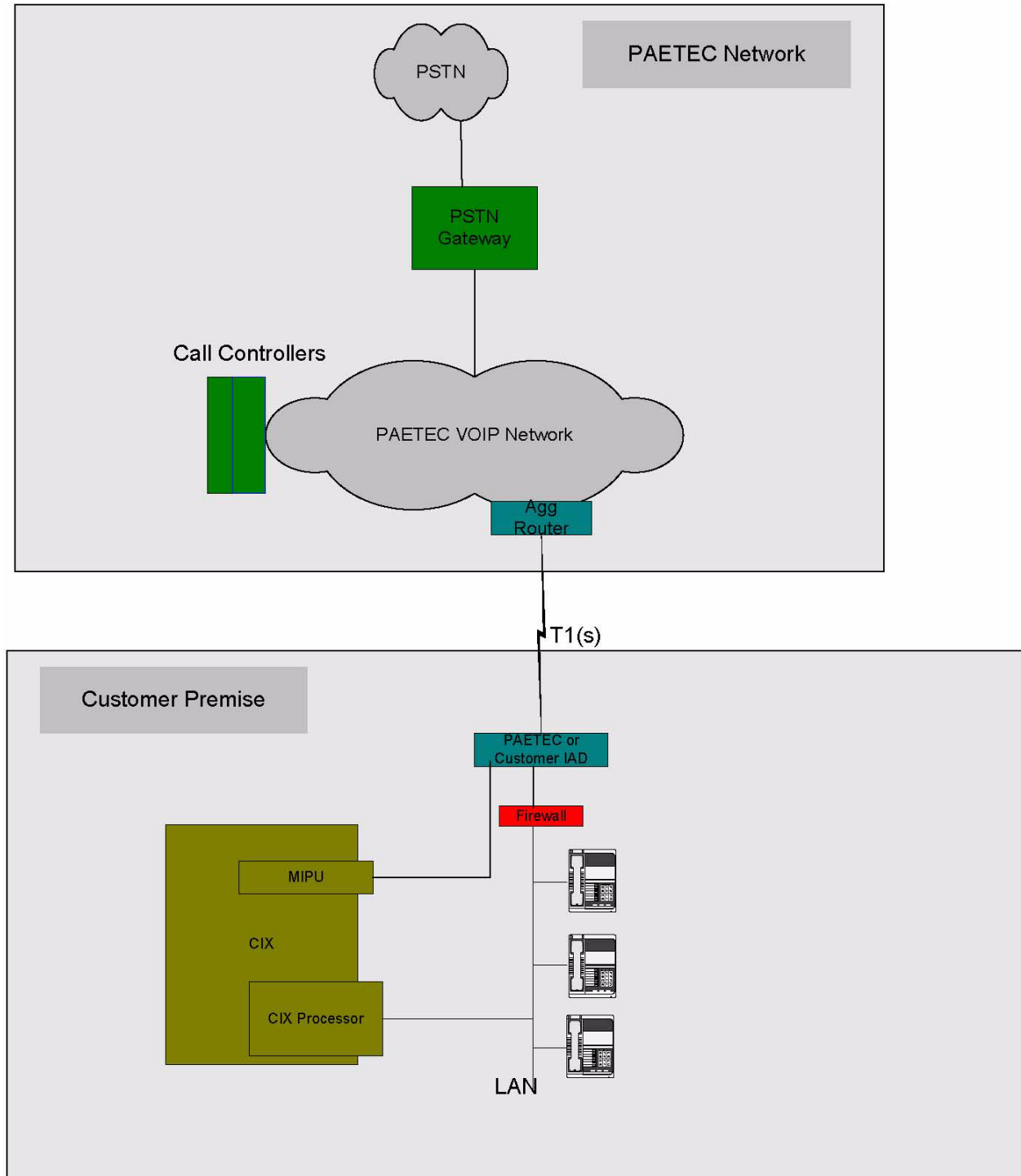
- FB22 – MIPU Primary DNS: Primary DNS IP address
- FB23 – MIPU Secondary DNS Server: Secondary DNS IP address

The screenshot displays the 'IP-Telephony - L/M MIPU Configuration' page in the Strata CIX Network Manager. The interface includes a navigation menu at the top with options like 'Home', 'Clears', 'Connected Equipments', and 'Application Settings'. The main content area is divided into a left sidebar with a 'REMOTE TRAINING SYSTEM' icon and a central configuration table. The table lists various settings for MIPU, including packet prioritization, VLANs, RTP base ports, and DNS servers. The 'MIPU Primary DNS' (FB22) and 'MIPU Secondary DNS Server' (FB23) fields are highlighted in the original image. The bottom of the page features 'Submit', 'Print', 'Refresh', and 'Get Default' buttons. The footer shows the user is logged in as 'Administrator' and the system is running on a Windows XP desktop.

Field ID	Field Name	Value
12	MIPU Packet Prioritization Type	Best Effort
13	MIPU/IPH VLAN	Enable
14	MIPU/IPH VLAN ID	1
15	LIPS Packet Prioritization	Enable
16	LIPS Packet Prioritization Type	Best Effort
17	LIPS VLAN	Enable
18	LIPS VLAN ID	1
19	IP Strata Net RTP Base Port (IPU/IPH)	20992
20	IP Strata Net RTP Base Port (LIPS)	20992
21	MIPU DHCP Server	Enable
22	MIPU Primary DNS	198 . 188 . 211 . 20
23	MIPU Secondary DNS Server	204 . 210 . 220 . 57
24	MIPU Hostname	
25	MIPU Primary DNS Suffix	

Configure PAETEC SIP Trunks

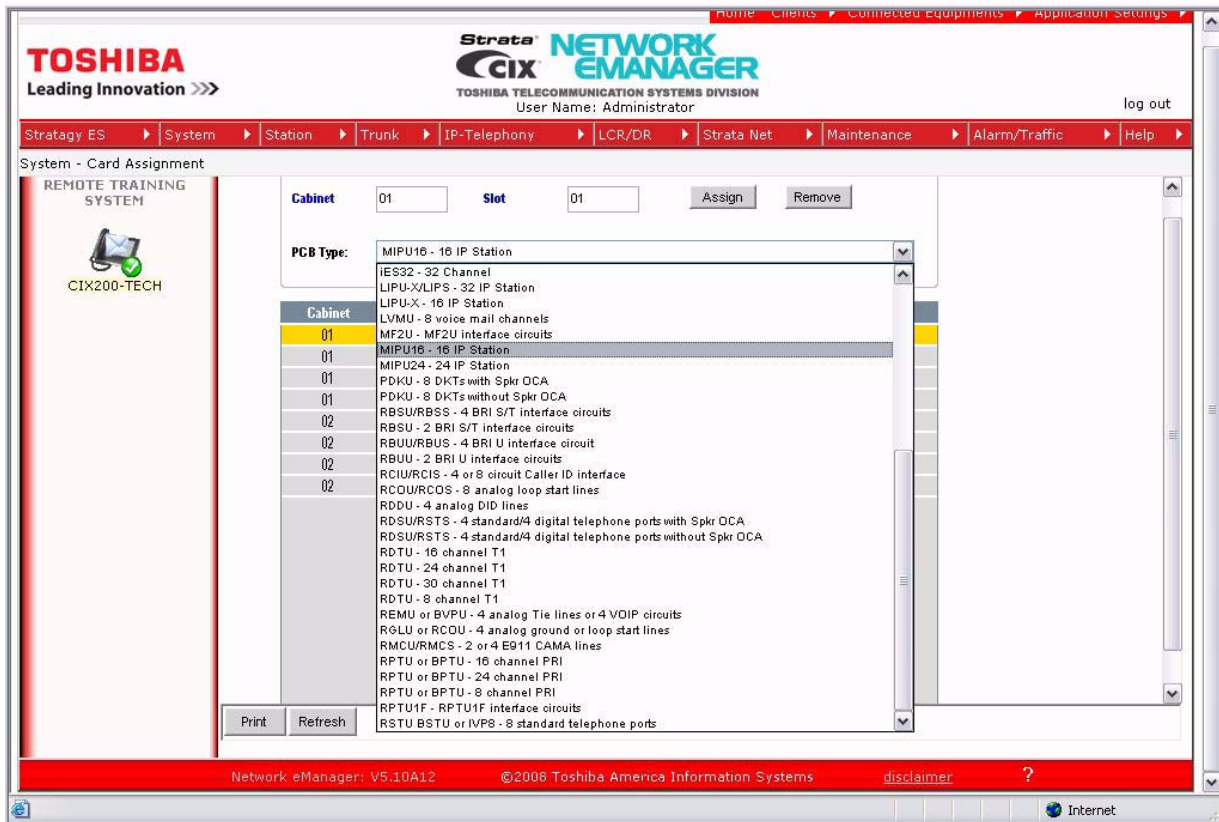
This section details configuring the Toshiba Strata CIX system with the MIPU/GIPU card to interoperate with PAETEC's SIPconnect compliant SIP trunk services. Figure C-4 shows a diagram of a CIX supporting this configuration.



SIP Trunking1

Programming the MIPU card

1. Set the card type for the slot holding the MIPU
2. Choose the type of MIPU/GIPU for use in the system. The number of channels entered must match the number of channels on the card.



Programming the Incoming Line Group

1. For SIP trunk programming start with ILG and OLG assignment.
 2. For ILG programming create an ILG group. In this example, trunk group 8.
 3. FB01-Trunk type: Select SIP
 4. FB03-CO service type: DID
 5. FB11-Number of DID Digits- number of incoming digits to use from the dialed number to route the call. (Count from the least significant digit side)
- DID routing must be set up to route incoming SIP calls to their desired destinations. That programming is the same as any other trunk group type. If the DID routing is not set up, incoming Invites will fail instantly.)

The screenshot displays the '304 INCOMING LINE GROUP ASSIGNMENT' configuration page in the Strata CIX Network Manager. The configuration is for Group Number 8. Key settings include:

- 01 Group Type: SIP
- 03 CO Service Type: DID
- 05 GCO Key Number: 0
- 07 COS Day1: 1
- 08 DRL Day1: 1
- 09 FRL Day1: 1
- 10 QPL Day1: 1
- 11 DID Digits: 4
- 13 Delay1 Ringing Timer: 12
- 15 Interdigit 1 Timer: 15
- 17 Auto Campon: Enable
- 19 Intercept: Disable
- 21 TGAC Override: Disable
- 23 LCR Group: 1
- 25 Register Speed Dial Codes: Disable
- 27 Sanitized Tone Mode: Dial Tone
- 02 Line Type: CO
- 04 Private Service Type: Standard
- 06 Pool Key Number: 0
- COS Day2: 1, DRL Day2: 1, FRL Day2: 1, QPL Day2: 1
- 12 Speech/3.1KHz: Audio
- 14 Delay2 Ringing Timer: 24
- 16 Interdigit 2 Timer: 5
- 18 Calling Number ID: User Provided
- 20 Send Dial Tone: Disable
- 22 Network COS: 1
- 24 Change COS Override Code: Disable
- 26 Originator Invoke OCA: Disable
- 28 Emergency Call Group: 1

Buttons at the bottom include Submit, Print, Refresh, Get Default, Create, Copy, and Delete. The interface also shows a 'log out' link and a navigation menu with options like Home, Clients, Connected Equipments, and Application Settings.

Note SIP trunking requires a license for each trunk. No channel group can successfully be programmed without a license.

Sip trunking is supported by the MIPU/GIPU card only. It can share connections of its ports between stations, IP telephones and other IPU devices. The IP telephones are the only devices that are flexibly assignable. That is, SIP stations, VM ports, SIP trunks and attendant consoles are fixed resources. IP telephones do not need to be fixed assignments (unless they have an assigned equipment number, not 0000).

Programming the Outgoing Line Group

1. Create a new OLG and designate it as SIP.
2. FB01-Group type: SIP
3. The rest can be default. Create an OLG access code for this group.

Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home Clients Connected Equipments Application Settings

Strategy ES System Station Trunk IP-Telephony LCR/DR Strata Net Maintenance Alarm/Traffic Help

Trunk - OLG

REMOTE TRAINING SYSTEM
CIX200-TECH

306 OUTGOING LINE GROUPS

Group Number: 8

01 Group Type: SIP

02 Trunk Type: CO/DID

03 Service Type: Standard

04 GCO Key1 Number: 0

05 ISDN: 0

06 Pool Key1 Number: 0

07 Pool Key2 Number: 0

08 COS Day1: 1

COS Day2: 1

COS Night: 1

09 FRL Day1: 1

FRL Day2: 1

FRL Night: 1

10 QPL Day1: 1

QPL Day2: 1

QPL Night: 1

11 Speech/3.1KHz: Audio

12 MOH Source: 1 Processor MOH Jack

13 Account Code: Enable Disable

14 Destination Restriction: Enable Disable

15 Credit Card Calling: Enable Disable

16 Send CESID: Enable Disable

17 QSIG Sending Type: Cut Through

18 Network COS: 1

19 Recall on AC15: (empty)

1 ANALOG
2 ISDN
3 ANALOG
5 ISDN
8 SIP
9 SIP
10 ISDN
11 SIP

Submit Print Refresh Get Default Create Copy Delete

Network Manager V5.10A12 ©2008 Toshiba America Information Systems

Creating the Channel Group

1. Go to IP Telephony > SIP trunking. The first tab is Channel Group setting Program 326.
2. Create Channel Group: Example here is 16.
3. FB01- Equipment Number: Four digits only. Example here is 0201.
4. FB02 - LAN interface number = 1 (MIPU/GIPU has only one interface)
5. FB03 – StrataNet Channels: The TOTAL number of ports on this card dedicated to SIP Trunking. On further tabs, each OLG or ILG can be for a different service provider and still be in the same channel group. This entry is the total number of trunks from ALL the service providers
6. FB04 - RBT (ring back tone) on incoming call: Enable for the CIX to provide RBT.

The screenshot displays the 'Strata CIX NETWORK EMANAGER' web interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipments', and 'Application Settings'. The main menu shows 'IP-Telephony' selected, with sub-menus for 'LCR/DR', 'Strata Net', 'Maintenance', 'Alarm/Traffic', and 'Help'. The current page is 'IP-Telephony - SIP Trunking', with tabs for 'Channel Group Setting', 'Service Definition', 'Service Assignment', and 'URI'. The 'Channel Group Setting' tab is active, showing a form for '00 SIP Trunk Channel Group' with the value '16'. Below this is the '326 SIP TRUNK ASSIGNMENT' section with fields for '01 Equipment' (0201), '02 LAN Interface Number' (1), '03 Strata Net IP Channels' (5), and '04 RBT on Incoming Call' (Enable). At the bottom, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'.

Service definition

This tab is where the ISP that is providing the SIP trunk service is defined. There may be several ISPs per channel group. Configure the Strata CIX using one of the following switch sections: Broadsoft, Genband, or Lucent. After completion of the Service Definition for the respective switch, continue to the Service Assignment section.

Broadsoft Switch

1. Create the Service Kind Table Index (start with index 1 if desired)
2. FB01 – Registration Mode: Client (default)
3. FB02 – ILG: Use the previously created ILG number
4. FB03 – OLG: Use the previously created OLG Number
5. FB04 – Effective Channel Number: Number of SIP trunks ordered from PAETEC.
6. FB05 – Domain Name: FQDN Name
7. FB06 – SIP Server: FQDN Name
8. FB07 - Primary Voice Packet Configuration: Set to 3
9. FB17 - Primary Audio Codec: Set to G.729a
10. FB18 - Secondary Audio Codec: Set to G.711u
11. These are the only mandatory program entries. The rest can be default.

The screenshot shows the 'Service Definition' tab for a '327 SIP TRUNK SERVICE KIND ASSIGNMENT'. The configuration fields are as follows:

Field ID	Field Name	Value
00	SIP Trunk Service Kind Table Index	11
01	Registration Mode	Client
02	ILG	11
03	OLG	11
04	Effective Channel Number	4
05	Domain Name	entlab01.mcleodusa.net
06	SIP Server	mcleod-sbc27.mcleodus
07	Primary Voice Packet Configuration	3
08	Secondary Voice Packet Configuration	1
09	Registration Period	3600
10	TimerB	5
11	Recovery Timer	60
12	Network Transfer	Disable
13	User Agent Header	Disable
14	Server Header	Disable
15	Protocol Option	Disable
16	Session Timer	1800
17	Primary Audio Codec	G.729a
18	Secondary Audio Codec	G.711u
19	DTMF Transmission Method	RFC2833
20	RTCP Support	Enable
21	T.38 Support	Disable
22	SIP Server Caches	10
23	Diffserv for Media	Disable
24	TOS Field Type for Media	TOS
25	TOS Precedence Type for Media	Critical/ESP
	TOS Delay Type for Media	Normal

At the bottom of the configuration area, there are buttons for Submit, Print, Refresh, Get Default, Create, and Delete. The footer of the page reads 'Network eManager: V5.20A02 ©2008 Toshiba America Information Systems'.

Continue to the Service Assignments section of this configuration guide if you used the Broadband Switch programming.

Genband Switch

1. Create the Service Kind Table Index (start with index 1 if desired)
2. FB01 – Registration Mode: None
3. FB02 – ILG: Use the previously created ILG number
4. FB03 – OLG: Use the previously created OLG Number
5. FB04 – Effective Channel Number: Number of SIP trunks ordered from PAETEC
6. FB05 – Domain Name: IP address
7. FB06 – SIP Server: IP address
8. FB07 - Primary Voice Packet Configuration: Set to 3
9. FB12 – Network Transfer: Disable
10. FB17 – Primary Audio Codec: Set to G.729a
11. FB18 – Secondary Audio Codec: Set to G.711u

The screenshot shows the 'Service Definition' tab for '327 SIP TRUNK SERVICE KIND ASSIGNMENT'. The settings are as follows:

00 SIP Trunk Service Kind Table Index	11	02 ILG	11
01 Registration Mode	None	04 Effective Channel Number	4
03 OLG	11	08 Secondary Voice Packet Configuration	1
05 Domain Name	67.154.191.11	10 TimerB	5
06 SIP Server	67.154.191.11	12 Network Transfer	Disable
07 Primary Voice Packet Configuration	3	14 Server Header	Disable
09 Registration Period	3600	16 Session Timer	1800
11 Recovery Timer	60	18 Secondary Audio Codec	G.711u
13 User Agent Header	Disable	20 RTCP Support	Enable
15 Protocol Option	Disable	22 SIP Server Caches	10
17 Primary Audio Codec	G.729a	24 TOS Field Type for Media	TOS
19 DTMF Transmission Method	RFC2833	TOS Delay Type for Media	Normal
21 T.38 Support	Disable		
23 Diffserv for Media	Disable		
25 TOS Precedence Type for Media	Critical/ESP		

12. FB-35 - IPU IP Address

13. FB37 - IPU IP Address

The screenshot shows the continuation of the configuration page. The settings are as follows:

26 DSCP for Media	0	TOS Throughput Type for Media	Normal
27 Diffserv for Signaling	Disable	TOS Reliability Type for Media	Normal
29 TOS Precedence Type for Signaling	Critical/ESP	28 TOS Field Type for Signaling	TOS
30 DSCP for Signaling	0	TOS Delay Type for Signaling	Normal
31 Call Release On QoS Failure	Disable	TOS Throughput Type for Signaling	Normal
33 SIP Trunk Service Recovery Time	60	TOS Reliability Type for Signaling	Normal
35 SIP Trunk Message Option	IPU IP Address	32 QoS Failure Notification Timer	10
37 SIP Trunk Register Message From Header Option	IPU IP Address	34 SIP Trunk Options Interval	60
39 Assert Identity	Disable	36 SIP Trunk Message To Header Option	FQDN
		38 SIP Trunk Register Message To Header Option	FQDN

These are the only mandatory program entries. The rest can be default for now.

Continue to the Service Assignments section of this configuration guide if you used the Genband Switch programming.

SIP Trunking1

Lucent Switch

1. Create the Service Kind Table Index (start with index 1 if desired, this example shows 11)
2. FB01 – Registration Mode: None
3. FB02 – ILG: Use the previously created ILG number
4. FB03 – OLG: Use the previously created OLG Number
5. FB04 – Effective Channel Number: Number of SIP trunks ordered from PAETEC.
6. FB05 – Domain Name: IP Address
7. FB06 – SIP Server: IP Address
8. FB07 - Primary Voice Packet Configuration: Set to 3
9. FB12 – Network Transfer: Disable
10. FB12 - Primary Audio Codec: Set to G.729a
11. FB18 - Secondary Audio Codec: Set to G.711u
12. These are the only mandatory program entries. The rest can be default.

The screenshot shows the '327 SIP TRUNK SERVICE KIND ASSIGNMENT' configuration page in the Strata CIX Network eManager. The page has a red header with navigation links: Home, Clients, Connected Equipment, Application Settings. Below the header is the Toshiba logo and 'Leading Innovation >>>' text. The main content area is titled 'IP-Telephony - SIP Trunking' and contains a 'Service Definition' tab. The configuration fields are as follows:

Field ID	Field Name	Value	Field ID	Field Name	Value
00	SIP Trunk Service Kind Table Index	11	02	ILG	11
01	Registration Mode	None	04	Effective Channel Number	4
03	OLG	11	08	Secondary Voice Packet Configuration	1
05	Domain Name	67.154.191.11	10	TimerB	5
06	SIP Server	67.154.191.11	12	Network Transfer	Disable
07	Primary Voice Packet Configuration	3	14	Server Header	Disable
09	Registration Period	3600	16	Session Timer	1800
11	Recovery Timer	60	18	Secondary Audio Codec	G.711u
13	User Agent Header	Disable	20	RTCP Support	Enable
15	Protocol Option	Disable	22	SIP Server Caches	10
17	Primary Audio Codec	G.729a	24	TOS Field Type for Media	TOS
19	DTMF Transmission Method	RFC2833		TOS Delay Type for Media	Normal
21	T.38 Support	Disable			
23	Diffserv for Media	Disable			
25	TOS Precedence Type for Media	Critical/ESP			

At the bottom of the configuration area, there are buttons: Submit, Print, Refresh, Get Default, Create, Delete. The footer of the page reads: Network eManager: V5.20A02 ©2008 Toshiba America Information Systems.

Continue to the Service Assignments section of this configuration guide if you used the Lucent Switch programming.

Service Assignment

This tab must be completed before entries can be made on the next tab. If not completed, entries attempted in the URI tab will not save.

Important! After URI entries are made in URI tab changing this program will DELETE all the URIs programmed. Once this is set, do not change it.

1. FB01 – Channel Group (16 in this example)
2. FB02 – Select the Service Number by clicking on one of the table's line entries. Use the drop down box to select the ISP to which the URIs belong. This is to match the Service Kind Table Index number of the desired ISP. The (URI) tab is where the URIs (directory numbers) are entered.

The screenshot shows the Toshiba Network eManager web interface. The browser title is "Toshiba::TAIS::TSD::Network eManager - Windows Internet Explorer". The page header includes the Toshiba logo and "Strata CIX NETWORK EMANAGER" branding. The user is logged in as "Administrator". The navigation menu includes: Strategy ES, System, Station, Trunk, IP-Telephony, LCR/DR, Strata Net, Maintenance, Alarm/Traffic, and Help. The current page is "IP-Telephony - SIP Trunking".

The main content area has four tabs: Channel Group Setting, Service Definition, Service Assignment (selected), and URI. Under "Service Assignment", there is a "00 Channel Group" dropdown set to "16". Below that is a "328 SIP TRUNK SERVICE ASSIGNMENT" section with a "02 Service Index" dropdown set to "11" and a "Set" button.

Service No.	Service Index
1	11
2	<Empty>
3	<Empty>
4	<Empty>
5	<Empty>
6	<Empty>
7	<Empty>
8	<Empty>
9	<Empty>
10	<Empty>
11	<Empty>
12	<Empty>
13	<Empty>
14	<Empty>
15	<Empty>
16	<Empty>

The footer of the interface shows "Network eManager: V5.10A17" and "©2008 Toshiba America Information Systems". The browser status bar shows "Done", "Local intranet", and "100%".

URI Programming

The SIP URI is the Telephone Number (TN) that PAETEC provides. The MIPU/GIPU registers each TN using the same authentication credentials (FB03 and FB04). When the URI TN is dialed (from outside), PAETEC will send a SIP INVITE just as if it were a call to a SIP station.

1. FB00 – URI Service Index: The service kind index that defines the ISP. For instance, the service kind is PAETEC. Enter the TNs provided from PAETEC.
2. FB01 – Index: Click the Index line in the table to select one of the indexes 1-160. Fill in the URI data
3. FB02 – SIP URI: This is the TN of the URI
4. FB03 – SIP URI User Name: Username is provided in IPAC material (if none provided, leave blank).
5. FB04 - SIP URI password: Username is provided in IPAC material (if none provided, leave blank).
6. FB05 - Channel Group Number: This will be filled in automatically when the **ADD** button is clicked. It cannot be filled in manually.
7. FB06 – Enter the SIP URI Attribution in the IPAC material as shown below.

Index	URI	User Name	Password	Reg. Channel Group	Attribution
1	6783979142	6783979142	782711	11	main
2	6783979143	6783979143	782711	11	sub
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Important! URIs will register as soon as they are Added or Modified. Otherwise, all the URIs will register when the MIPU/GIPU is reset. The UAs will re-register as required before time out of the expiration timer.

Configuring the MIPU

1. Go to IP Telephony > IPU config. Program the public IP address for the MIPU/GIPU card to interface to the SIP trunk provider (you may be requested by Paetec to provide this IP address, so your account can be provisioned).
2. FB01 = IP address: From IT department or ISP.
3. FB02 = Subnet Mask: From IT department or ISP.
4. FB03 = Default Gateway Address: From IT department or ISP.
5. There is only one interface on an MIPU/GIPU; skip the second interface programming - FB04-FB06..

The screenshot displays the 'Strata CIX NETWORK EMANAGER' interface for configuring a MIPU. The navigation menu includes: Home, Clients, Connected Equipments, Application Settings, Strategy ES, System, Station, Trunk, IP-Telephony, LCR/DR, Strata Net, Maintenance, Alarm/Traffic, and Help. The current page is 'IP-Telephony - L/M IPU Configuration' for a 'REMOTE TRAINING SYSTEM' (CIX200-TECH). The configuration parameters are as follows:

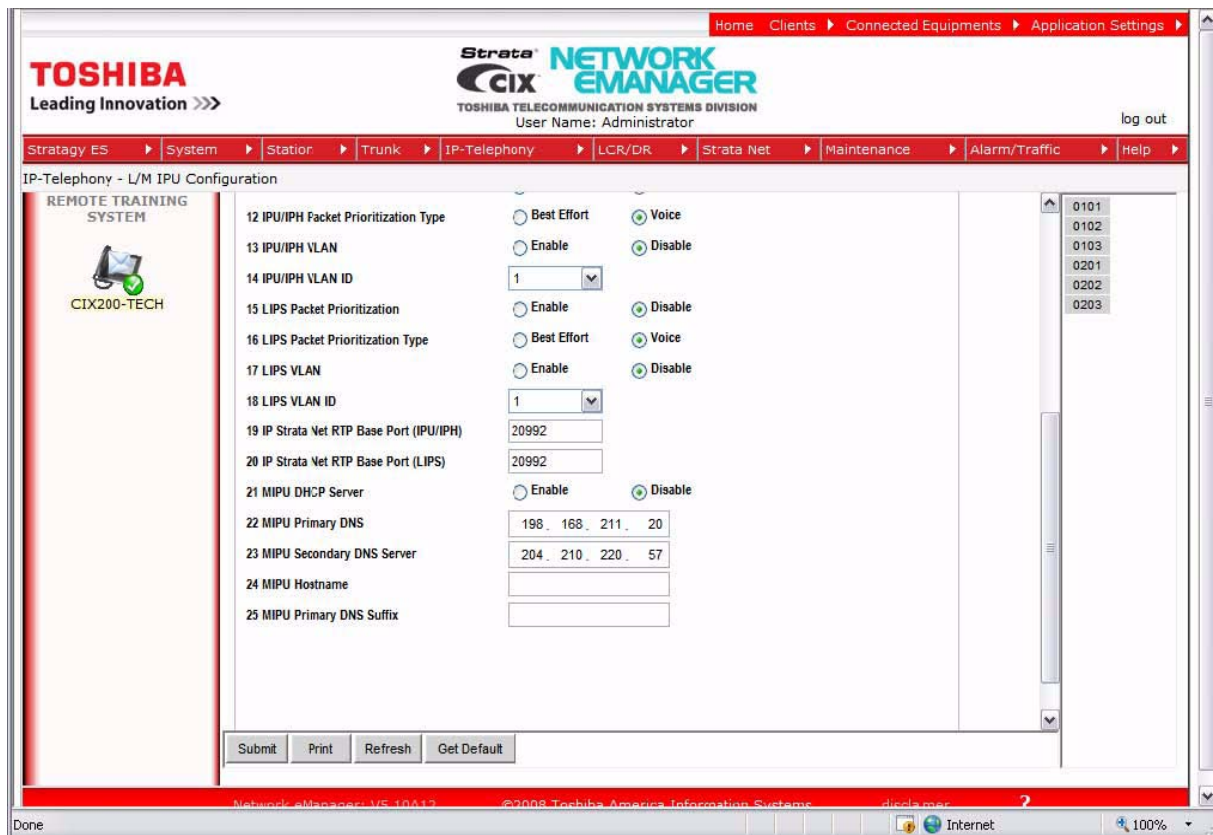
Field ID	Field Name	Value
00	Cabinet & Slot Number	0201
01	IPU IP Address	68 . 232 . 52 . 50
02	IPU Subnet Address	255 . 255 . 255 . 224
03	IPU Default Gateway Address	68 . 232 . 52 . 1
07	Version of IPU/IPH	MIPU01_14DA100
09	Available IPU/IPH IP Ports	3
04	LIPS IP Address	0 . 0 . 0 . 0
05	LIPS Subnet Address	0 . 0 . 0 . 0
06	LIPS Default Gateway Address	0 . 0 . 0 . 0
08	Version of LIPS	
10	Available LIPS IP Ports	0
11	IPU/IPH Packet Prioritization	Disable (selected)
12	IPU/IPH Packet Prioritization Type	Voice (selected)
13	IPU/IPH VLAN	Disable (selected)
14	IPU/IPH VLAN ID	1
15	LIPS Packet Prioritization	Disable (selected)
16	LIPS Packet Prioritization Type	Voice (selected)

Buttons at the bottom: Submit, Print, Refresh, Get Default. A list of slot numbers (0101, 0102, 0103, 0201, 0202, 0203) is shown on the right. The footer includes 'Network eManager V5.10A12 ©2008 Toshiba America Information Systems'.

Configuring the MIPU continued

For a static IP you need to enter the DNS server address also. This is critical to SIP trunking. The DNS server is used every time a call is made as well as during the registration process. After making all these programming entries, press the **RESET** button on the MIPU/GIPU. The new data will be absorbed by the MIPU/GIPU, which begins registration to Paetec.

1. FB22 - Primary DNS IP address provided in IPAC material.
2. FB23 - Secondary DNS IP address provided in IPAC material.



Configure IPtimize SIP Trunking

This section details configuring the Toshiba Strata CIX system with the MIPUG/GIPU card to interoperate with IPtimize VoIP Connect trunk services. Figure C-4 show a diagram of a CIX supporting this configuration.

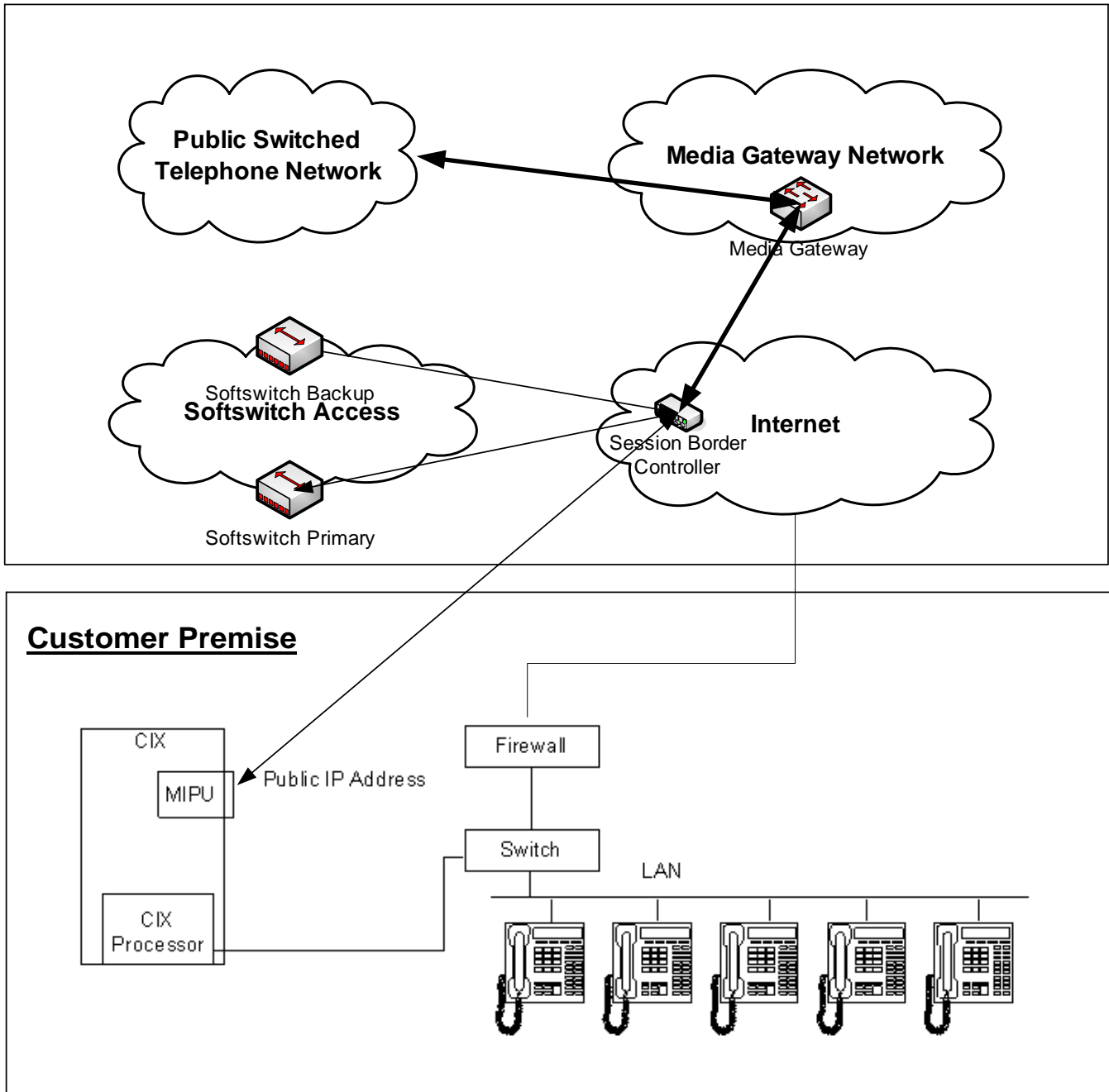


Figure C-4 CIX System SIP Trunk Configuration with IPtimize VoIP Trunking

SSIP Trunking

Programming the MIPU/GIPU Card

1. Set the card type for the slot holding the MIPU or GIPU.
2. Choose the type of MIPU/GIPU for use in the system. The number of channels entered must match the number of channels on the card.

The screenshot shows the 'System - Card Assignment' page in the Strata CIX Network eManager. The page is titled 'System - Card Assignment' and features a sidebar on the left with 'REMOTE TRAINING SYSTEM' and 'CIX200-TECH'. The main content area has a 'Cabinet' field set to '01' and a 'Slot' field set to '01'. Below these fields is a dropdown menu for 'PCB Type' with 'MIPU16 - 16 IP Station' selected. A list of card types is displayed, including 'MIPU16 - 16 IP Station', 'MIPU24 - 24 IP Station', 'PDKU - 8 DKTs with Spkr OCA', 'RBSU/RBSS - 4 BRI S/T interface circuits', 'RBSU - 2 BRI S/T interface circuits', 'RBUU/RBUS - 4 BRI U interface circuit', 'RBUU - 2 BRI U interface circuits', 'RCIU/RCIS - 4 or 8 circuit Caller ID interface', 'RCOU/RCOS - 8 analog loop start lines', 'RDDU - 4 analog DID lines', 'RDSU/RSTS - 4 standard/4 digital telephone ports with Spkr OCA', 'RDSU/RSTS - 4 standard/4 digital telephone ports without Spkr OCA', 'RDTU - 16 channel T1', 'RDTU - 24 channel T1', 'RDTU - 30 channel T1', 'RDTU - 8 channel T1', 'REMU or BVPU - 4 analog Tie lines or 4 VOIP circuits', 'RGLU or RCOU - 4 analog ground or loop start lines', 'RMCR/RMCS - 2 or 4 E911 CAMA lines', 'RPTU or BPTU - 16 channel PRI', 'RPTU or BPTU - 24 channel PRI', 'RPTU or BPTU - 8 channel PRI', 'RPTU1F - RPTU1F interface circuits', and 'RSTU BSTU or IVP8 - 8 standard telephone ports'. The interface also includes 'Assign' and 'Remove' buttons, and a 'Print Refresh' button at the bottom. The footer shows 'Network eManager: V5.10A12', '©2008 Toshiba America Information Systems', and 'Internet'.

Programming the Incoming Line Group

1. For SIP trunk programming start with an ILG and OLG assignment.
2. For ILG programming create an ILG group (8).
3. FB01-Trunk type: Select SIP.
4. FB03-CO Service type: DID.
5. FB11-Number of DID Digits- number of incoming digits to use from the dialed number to route the call. (Count from the least significant digit side.).

The screenshot displays the '304 INCOMING LINE GROUP ASSIGNMENT' configuration page in the Strata CIX Network Manager. The page is titled 'Trunk - ILG' and features a navigation menu at the top. The main configuration area includes the following fields:

- Group Number:** 8
- 01 Group Type:** SIP
- 02 Line Type:** CO
- 03 CO Service Type:** DID
- 04 Private Service Type:** Standard
- 05 GCO Key Number:** 0
- 06 Pool Key Number:** 0
- 07 COS Day1:** 1
- COS Day2:** 1
- COS Night:** 1
- 08 DRL Day1:** 1
- DRL Day2:** 1
- DRL Night:** 1
- 09 FRL Day1:** 1
- FRL Day2:** 1
- FRL Night:** 1
- 10 QPL Day1:** 1
- QPL Day2:** 1
- QPL Night:** 1
- 11 DID Digits:** 4
- 12 Speech/3.1KHz:** Audio
- 13 Delay1 Ringing Timer:** 12
- 14 Delay2 Ringing Timer:** 24
- 15 Interdigit 1 Timer:** 15
- 16 Interdigit 2 Timer:** 5
- 17 Auto Campon:** Enable
- 18 Calling Number ID:** User Provided
- 19 Intercept:** Disable
- 20 Send Dial Tone:** Disable
- 21 TGAC Override:** Disable
- 22 Network COS:** 1
- 23 LCR Group:** 1
- 24 Change COS Override Code:** Disable
- 25 Register Speed Dial Codes:** Disable
- 26 Originator Invoke OCA:** Disable
- 27 Senderized Tone Mode:** Dial Tone
- 28 Emergency Call Group:** 1

At the bottom of the configuration area, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', 'Copy', and 'Delete'. The page footer includes 'Network eManager V5.10A12', '©2008 Toshiba America Information Systems', and 'disclaimer'.

Note SIP trunking requires a license for each trunk. No channel group can successfully be programmed without a license.

SIP trunking is supported by the MIPU card only. It can share connections of its ports between stations, IP telephones and other IPU devices. The IPTs are the only devices that are flexibly assignable. That is, SIP stations, VM ports, SIP trunks and attendant consoles are fixed resources; IP telephones do not need to be fixed assignments (unless they have an assigned equipment number, not 0000).

Assigning the Trunk DID Destination

- FB01 - DID number: Incoming digits used to direct the dialed number to route the call. (Count from the least significant digit side and will be limited to the number of digits set in Prog 204 FB11.)
- FB05-07 - Audio Day1, 2, Night Dest Type/Dst Digits: For example Dialing Digits/Extention.

Note DID routing must be set up to route incoming SIP calls to their desired destinations. That programming is the same as any other trunk group type. If that routing is not set up incoming Invites will fail instantly.

The screenshot shows the Toshiba Network eManager interface for configuring a Trunk DID. The page title is "Toshiba::TAIS::TSD::Network eManager - Microsoft Internet Explorer". The navigation menu includes: Home, Clients, Connected Equipments, Application Settings, Strategy ES, System, Station, Trunk, IP-Telephony, LCR/DR, Strata Net, Maintenance, Alarm/Traffic, and Help. The user is logged in as "administrator".

The main configuration area is titled "Trunk - DID" and includes a "Default" icon. The configuration fields are as follows:

ILG Group Number	8
309 DIRECT INWARD DIALING	
01 DID Number	8400
02 MOH Source	1 Processor MOH Jack
03 GCO Key Group	0
04 Pooled Key Group	0
05 Audio Day1 Dst Type	Dialing Digits
Audio Day1 Dst Digits	2400
06 Audio Day2 Dst Type	Dialing Digits
Audio Day2 Dst Digits	2400
07 Audio Night Dst Type	Dialing Digits
Audio Night Dst Digits	2400
08 Data Day1 Dst Type	No Data
Data Day1 Dst Digits	
09 Data Day2 Dst Type	No Data
Data Day2 Dst Digits	
10 Data Night Dst Type	No Data
Data Night Dst Digits	
11 DID/DNIS No. VMID	
12 DID/DNIS Name	
13 VM Application Digits	
16 Tenant Number	1

At the bottom of the configuration area, there are buttons: Submit, Print, Refresh, Get Default, Create, Copy, Delete, and DID/DNIS Table View. The footer of the page contains: Network eManager: V5.10A13, ©2008 Toshiba America Information Systems, disclaimer, and a help icon.

Programming the Outgoing Line Group

1. Create a new OLG and designate it as SIP.
2. FB01-Group type: SIP. The rest can be default.
3. Create an OLG access code for this group.

Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home Clients Connected Equipments Application Settings

Strategy ES System Station Trunk IP-Telephony LCR/DR Strata Net Maintenance Alarm/Traffic Help

Trunk - OLG

REMOTE TRAINING SYSTEM
CIX200-TECH

306 OUTGOING LINE GROUPS

Group Number: 8

01 Group Type: SIP

02 Trunk Type: CO/DID

03 Service Type: Standard

04 GCO Key1 Number: 0

06 Pool Key1 Number: 0

07 Pool Key2 Number: 0

08 COS Day1: 1

COS Day2: 1

COS Night: 1

09 FRL Day1: 1

FRL Day2: 1

FRL Night: 1

10 QPL Day1: 1

QPL Day2: 1

QPL Night: 1

11 Speech/3.1KHz: Audio

12 MOH Source: 1 Processor MOH Jack

13 Account Code: Enable Disable

14 Destination Restriction: Enable Disable

15 Credit Card Calling: Enable Disable

16 Send CESID: Enable Disable

17 QSIG Sending Type: Cut Through

18 Network COS: 1

19 Recall on AC15: (empty)

1 ANALOG
2 ISDN
3 ANALOG
5 ISDN
8 SIP
9 SIP
10 ISDN
11 SIP

Submit Print Refresh Get Default Create Copy Delete

Network Manager V5.10A12 ©2008 Toshiba America Information Systems

Creating the Channel Group

1. Go to IP Telephony > SIP trunking. The first tab is Channel Group setting Program 326.
2. Create - Channel Group: In this example, 16.
3. FB01- Equipment Number: Four digits only. In this example, 0203.
4. FB02 - LAN interface number = 1 (MIPU has only one interface)
5. FB03 – StrataNet Channels – The TOTAL number of ports on this card dedicated to SIP Trunking. On further tabs, each OLG or ILG can be for a different service provider and still be in the same channel group. This entry is the total number of trunks from ALL the service providers
6. FB04 - RBT (ring back tone) on incoming call- Enable for the CIX to provide RBT.

The screenshot displays the 'Strata CIX NETWORK eMANAGER' interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. The breadcrumb trail shows: 'Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help'. The user is logged in as 'Administrator'.

The main content area is titled 'IP-Telephony - SIP Trunking' and 'TELECOM DEMO SYSTEM'. It features four tabs: 'Channel Group Setting' (active), 'Service Definition', 'Service Assignment', and 'URI'. The 'Channel Group Setting' tab shows '326 SIP TRUNK ASSIGNMENT' and a 'List' button.

The configuration fields are as follows:

00 SIP Trunk Channel Group	11	List	
01 Equipment	0101	02 LAN Interface Number	1
03 Strata Net IP Channels	4	04 RBT on Incoming Call	Enable

At the bottom, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer contains 'Network eManager: V5.20A02', '©2008 Toshiba America Information Systems', and a help icon.

Service definition

This tab is where the ISP providing the SIP trunk service is defined. There may be several ISPs per channel Group.

Required Entries:

1. Create the Service Kind Table Index - start with index 1 if desired (11 in this example)
2. FB01 – Registration Mode: Client (default).
3. FB02 – ILG: Use the previously created ILG number.
4. FB03 – OLG: Use the previously created OLG Number.
5. FB04 – Effective Channel Number: Number of SIP trunks the customer ordered from IPtimize.
6. FB05 – Domain Name: Enter the IPtimize VoIP Connect Domain IP address in this field. The Domain IP address can be found in the VoIP Connect IP Settings section of the IPtimize Install Profile provided by the IPtimize Service Coordinator.
7. FB06 – SIP Server: Enter the IPtimize Outbound Proxy IP addresss in this field. The Outbound Proxy IP address can be found in the VoIP Connect Settings section of the IPtimize Install Profile provided by the IPtimize Service Coordinator.
8. FB20 – RTCP support: Enabled (default).
9. FB35 – SIP Trunk Message From Header Options: Server IP Address.
10. FB36 – SIP Trunk Message To Header Options: Server IP Address.
11. FB37 – SIP Trunk Register Message From Header Options: Server IP Address.
12. FB38 – SIP Trunk Register Message TO Header Options: Server IP Address.
13. These are the only mandatory program entries. The rest can be default for now.

The screenshot displays the 'Service Definition' configuration page for a SIP trunk service. The page title is '327 SIP TRUNK SERVICE KIND ASSIGNMENT'. The configuration is organized into two columns of fields:

Field ID	Field Name	Value	Field ID	Field Name	Value
00	SIP Trunk Service Kind Table Index	11	02	ILG	11
01	Registration Mode	Client	04	Effective Channel Number	1
03	OLG	11	07	Primary Voice Packet Configuration	1
05	Domain Name	209.121.211.211	08	Secondary Voice Packet Configuration	1
06	SIP Server	209.121.211.231	09	Registration Period	3600
11	Recovery Timer	60	10	TimerB	5
13	User Agent Header	Disable	12	Network Transfer	Enable
15	Protocol Option	Disable	14	Server Header	Disable
17	Primary Audio Codec	G.711u	16	Session Timer	1800
19	DTMF Transmission Method	RFC2833	18	Secondary Audio Codec	G.711a
21	T.38 Support	Disable	20	RTCP Support	Enable
23	Diffserv for Media	Disable	22	SIP Server Caches	10
25	TOS Precedence Type for Media	Critical/ESP	24	TOS Field Type for Media	TOS
				TOS Delay Type for Media	Normal

At the bottom of the configuration area, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer of the page indicates 'Network eManager: V5.20A01 ©2008 Toshiba America Information Systems'.

Toshiba::TAIS::TSD::Network eManager - Windows Internet Explorer

Home Clients Connected Equipment Application Settings

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Strata CIX NETWORK EMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator log out

Strategy ES System Station Trunk IP-Telephony LCR/DR Strata Net Maintenance Alarm/Traffic Help

IP-Telephony - SIP Trunking

Local Host localhost

Channel Group Setting	Service Definition	Service Assignment	URI
23 Diffserv for Media	Disable	24 TOS Field Type for Media	TOS
25 TOS Precedence Type for Media	Critical/ESP	TOS Delay Type for Media	Normal
		TOS Throughput Type for Media	Normal
		TOS Reliability Type for Media	Normal
26 DSCP for Media	0	28 TOS Field Type for Signaling	TOS
27 Diffserv for Signaling	Disable	TOS Delay Type for Signaling	Normal
29 TOS Precedence Type for Signaling	Critical/ESP	TOS Throughput Type for Signaling	Normal
		TOS Reliability Type for Signaling	Normal
30 DSCP for Signaling	0	32 QoS Failure Notification Timer	10
31 Call Release On QoS Failure	Disable	34 SIP Trunk Options Interval	60
33 SIP Trunk Service Recovery Time	60	36 SIP Trunk Message To Header Options	SIP Server IP Adresse
35 SIP Trunk Message From Header Options	SIP Server IP Adresse	38 SIP Trunk Register Message To Header Options	SIP Server IP Adresse
37 SIP Trunk Register Message From Header Options	SIP Server IP Adresse		
39 Assert Identity	Disable		

Submit Print Refresh Get Default Create Delete

Network eManager: V5.10A17 ©2008 Toshiba America Information Systems ?

Service Assignment

This tab must be completed before entries can be made on the next tab. If not completed, entries attempted in the URI tab will not save.

Important! After URI entries are made in URI tab changing this program will DELETE all the URIs programmed. Once this is set, do not change it.

1. FB01 – Channel Group (16 in this example)
2. FB02 – Select the Service Number by clicking on one of the table's line entries. Use the drop down box to select the ISP to which the URIs belong. This is to match the Service Kind Table Index number of the desired ISP. The (URI) tab is where the URIs (directory numbers) will be entered.

The screenshot displays the Toshiba Network eManager interface. The main content area is titled "IP-Telephony - SIP Trunking" and has four tabs: "Channel Group Setting", "Service Definition", "Service Assignment", and "URI". The "Service Assignment" tab is selected. It shows a dropdown menu for "00 Channel Group" set to "16". Below this is a section titled "328 SIP TRUNK SERVICE ASSIGNMENT" with a dropdown for "02 Service Index" set to "11" and a "Set" button. A table lists service numbers and their corresponding service indices:

Service No.	Service Index
1	11
2	<Empty>
3	<Empty>
4	<Empty>
5	<Empty>
6	<Empty>
7	<Empty>
8	<Empty>
9	<Empty>
10	<Empty>
11	<Empty>
12	<Empty>
13	<Empty>
14	<Empty>
15	<Empty>
16	<Empty>

The footer of the interface shows "Network eManager: V5.10A17" and "©2008 Toshiba America Information Systems".

URI Programming

The SIP URI is the Telephone Number (TN) that IPtimize provides. Basically, the MIPU registers each TN using the same authentication credentials (FB03 and FB04). When the URI TN is dialed (from outside), IPtimize will send a SIP INVITE just as if it were a call to a SIP station. (An outbound call using one of the UAs does not busy out the UA against an incoming call, that is a key difference of SIP trunks)

1. FB00 – URI Service Index: The service kind index that defines the ISP. For instance, the service kind is IPtimize. Enter the TNs provided from IPtimize.
2. FB01 – Index: Click the Index line in the table to select one of the indexes 1-160. Now proceed to fill in the URI data.
3. FB02 – SIP URI: This is the TN of the URI
4. FB03 – SIP URI User Name: IPtimize refers to this as the Username and can be found in the Settings section of the Install Profile provided by the IPtimize Service Coordinator.
5. FB04-SIP URI password = authentication password: IPtimize refers to this as the Password and can be found in the SIPconnect Settings section of the Install Profile provided by the IPtimize Service Coordinator.
6. FB05-Channel Group Number- this will be filled in automatically when the **Add** button is clicked. It cannot be filled in manually.

The screenshot shows the 'URI' configuration page in the Strata CIX Network eManager. The page title is '329 SIP URI ASSIGNMENT'. The interface includes a navigation menu at the top with options like 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. The main content area has tabs for 'Channel Group Setting', 'Service Definition', 'Service Assignment', and 'URI'. The 'URI' tab is active, showing a form with the following fields:

- 00 SIP URI Trunk Service Index: 11 (dropdown menu)
- 01 SIP URI Index: (empty text field)
- 02 SIP URI: (empty text field)
- 03 SIP URI User Name: (empty text field)
- 04 SIP URI Password: (empty text field)
- 05 SIP URI Channel Group: (empty text field)
- 06 SIP URI Attribution: main (dropdown menu)

Below the form is a table with the following columns: Index, URI, User Name, Password, Reg. Channel Group, and Attribution. The table contains two rows of data:

Index	URI	User Name	Password	Reg. Channel Group	Attribution
1	6783979142	6783979142	782711	11	main
2	6783979143	6783979143	782711	11	sub
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

The footer of the page displays 'Network eManager: V5.20A02' and '©2008 Toshiba America Information Systems'.

Important! URIs register as soon as they are Added or Modified. Otherwise, all the URIs will register when the MIPU is reset. The UAs will re-register as required before the timer times out.

Configuring the MIPU

1. Go to IP Telephony > IPU config. Program the public IP address for the MIPU card to interface with the SIP trunk provider.
2. FB01 = IP address: Set a public IP address (from IT Department or ISP).
3. FB02 = Subnet Mask: As applicable (from IT Department or ISP).
4. FB03 = Default Gateway Address (from IT Department or ISP).
5. There is only one interface on an MIPU; skip the second interface programming FB04-FB06.

The screenshot displays the '161 LIPU/MIPU CONFIGURATION' page in the Strata CIX Network Manager. The interface includes a navigation menu at the top with options like 'Home', 'Clients', 'Connected Equipments', and 'Application Settings'. The main content area is divided into a left sidebar with a 'REMOTE TRAINING SYSTEM' icon and a central configuration panel. The configuration panel contains the following fields and options:

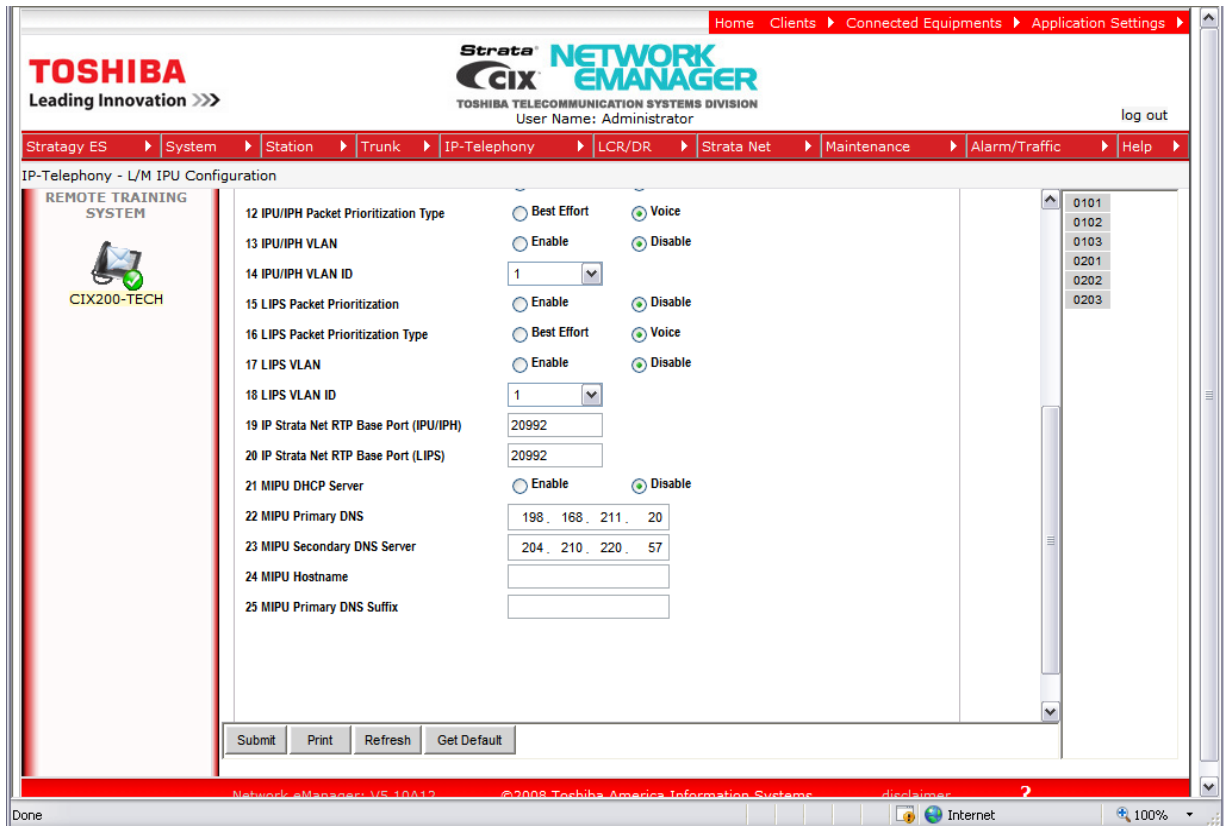
- 00 Cabinet & Slot Number:** 0201
- 01 IPU IP Address:** 68 . 232 . 52 . 50
- 02 IPU Subnet Address:** 255 . 255 . 255 . 224
- 03 IPU Default Gateway Address:** 68 . 232 . 52 . 1
- 07 Version of IPU/IPH:** MIPU01_4DA100
- 09 Available IPU/IPH IP Ports:** 3
- 04 LIPS IP Address:** 0 . 0 . 0 . 0
- 05 LIPS Subnet Address:** 0 . 0 . 0 . 0
- 06 LIPS Default Gateway Address:** 0 . 0 . 0 . 0
- 08 Version of LIPS:** (empty)
- 10 Available LIPS IP Ports:** 0
- 11 IPU/IPH Packet Prioritization:** Enable Disable
- 12 IPU/IPH Packet Prioritization Type:** Best Effort Voice
- 13 IPU/IPH VLAN:** Enable Disable
- 14 IPU/IPH VLAN ID:** 1
- 15 LIPS Packet Prioritization:** Enable Disable
- 16 LIPS Packet Prioritization Type:** Best Effort Voice

At the bottom of the configuration panel, there are buttons for 'Submit', 'Print', 'Refresh', and 'Get Default'. The footer of the page shows 'Network Manager v5.10A12 ©2008 Toshiba America Information Systems'.

Configuring the MIPU continued

For a static IP you'll need to enter the DNS server address also. This is critical to SIP trunking. The DNS server is used every time a call is made as well as during the registration process. After making all these programming entries, press the reset button on the MIPU. The new data will be absorbed by the MIPU. In the MIPU will begin registration to the SIP trunk provider.

1. FB22- Primary DNS IP address (from IT Department or ISP).
2. FB23- Secondary DNS IP address (from IT Department or ISP).



Configure AT&T SIP Trunks

The purpose of this guide is to provide the details of configuring the Strata CIX system to connect to AT&T's Flexible Reach Service. Before proceeding with the configuration, please ensure that all system requirements are met as outlined in the "System Requirements" section.

Note

- The Toshiba Strata CIX uses G.711 for fax.
- The CIX does not support SIP Asserted Identity (RFC3325) - As a result, the CIX does not support Calling Number Privacy on originated calls.
- Translate 10 digit called number to private extension - When the CIX receives the call, it treats the last 7 digits of the called number as DID number. The destination is mapped by DID number.
- CPE Failover - The CIX acquires server information by the setting and the DNS solution. It can preserve one server by the setting, and can preserve multiple servers by using the DNS solution. AT&T specification does not require the use of domain names. Currently, there is no tested configuration with the Strata CIX SIP trunk for connecting to an alternate AT&T Border Element if the primary border element is not available.
- CPE Calling Name Delivery: IP PBX pass display name - Calling name will not be generated by the Toshiba CIX.

Fax calls from the CIX IP system to the AT&T HIPCS platform will not work when the destination fax machine answers with a Super G3 fax tone. This only affects the fax calls made to the destinations in a HIPCS local serving area.

Due to inhomogeneous hardware standards among fax machines and also among customer-provided equipment such as PBX's, fax is inherently unreliable. No guarantees can be given for functionality or reliability even in the PSTN between any two locations with any two models of fax machine connected to any two PBX's.

While AT&T IP Flexible Reach services support E911/911 calling capabilities in certain circumstances, there are significant limitations on how these capabilities are delivered. Please review the AT&T IP Flexible Reach Service Guide in detail to understand these limitations and restrictions.

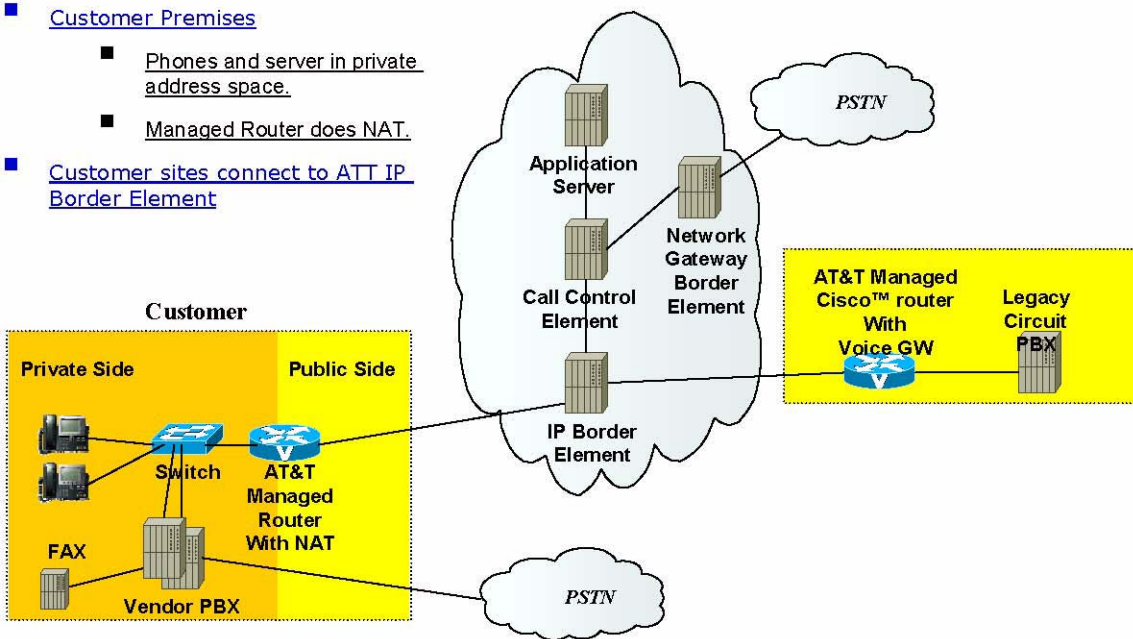
Overview

The MIPU/GIPU8 card connects to a network switch which connects to AT&T's managed router as shown in the figure. With the AT&T MIS package, the IP Address, Subnet Mask, Gateway and DNS values will be provided. With the AT&T SIP Trunk package, the IP domain name and URI will be provided. The domain name (IP Address) will be required in configuring the SIP Trunk on the CIX using Program 327 FK[05]. The URI information will be required in Program 329 FK[02].

Signaling and Media Ports: The following signaling and media ports must be open TO the AT&T IPBEs.

- Signaling SIP 5060
- Media UDP 16384 to 32767 (RTP)

- Customer Premises
 - Phones and server in private address space.
 - Managed Router does NAT.
- Customer sites connect to ATT IP Border Element



Programming for AT&T SIP Trunking

Go to System > Card Assignment.

1. Set the card type for the slot holding the MIPU/GIPU.
2. Choose the type of MIPU/GIPU for use in the system. The number of channels entered must match the number of channels on the card.

The screenshot displays the 'System - Card Assignment' window in the Strata CIX Network Emulator. The interface includes a navigation menu at the top with options like 'Strategy ES', 'System', 'Station', 'Trunk', 'IP-Telephony', 'LCR/DR', 'Strata Net', and 'Maint'. The main area shows a 'REMOTE TRAINING SYSTEM' tree on the left with 'CIX200-TECH' selected. On the right, there are 'Cabinet' and 'Slot' dropdown menus, both set to '01', and 'Assign' and 'Remove' buttons. Below these is a 'PCB Type:' section with a list of options. The 'MIPU16 - 16 IP Station' option is highlighted in the list.

Cabinet	PCB Type
01	MIPU16 - 16 IP Station
01	IES32 - 32 Channel
01	LIPU-X/LIPS - 32 IP Station
01	LIPU-X - 16 IP Station
01	LVMU - 8 voice mail channels
01	MF2U - MF2U interface circuits
01	MIPU16 - 16 IP Station
01	MIPU24 - 24 IP Station
01	PDKU - 8 DKTs with Spkr OCA
01	PDKU - 8 DKTs without Spkr OCA
02	RBSU/RBSS - 4 BRI S/T interface circuits
02	RBSU - 2 BRI S/T interface circuits
02	RBUU/RBUS - 4 BRI U interface circuit
02	RBUU - 2 BRI U interface circuits
02	RCIU/RCIS - 4 or 8 circuit Caller ID interface
02	RCOU/RCOS - 8 analog loop start lines
02	RDDU - 4 analog DID lines
02	RDSU/RSTS - 4 standard/4 digital telephone ports with Spkr OCA
02	RDSU/RSTS - 4 standard/4 digital telephone ports without Spkr OCA
02	RDTU - 16 channel T1
02	RDTU - 24 channel T1
02	RDTU - 30 channel T1
02	RDTU - 8 channel T1
02	REMU or BVPU - 4 analog Tie lines or 4 VOIP circuits

Programming the Incoming Line Group

Go to Trunk > ILG.

1. For SIP trunk programming you start with an ILG and OLG assignment.
2. For ILG programming create an ILG group (in this example, group number 8).
3. FB01 - Group Type: Select SIP
4. FB03-CO Service Type: DID
5. FB11- DID Digits: Number of incoming digits to use from the dialed number to route the call (count from the least significant digit side).

The screenshot shows the '304 INCOMING LINE GROUP ASSIGNMENT' configuration page in the Strata CIX Network Manager. The page is titled 'REMOTE TRAINING SYSTEM' and 'CIX200-TECH'. The configuration parameters are as follows:

Parameter	Value	Parameter	Value
Group Number	8	02 Line Type	CO
01 Group Type	SIP	04 Private Service Type	Standard
03 CO Service Type	DID	06 Pool Key Number	0
05 GCO Key Number	0	COS Day2	1
07 COS Day1	1	COS Night	1
08 DRL Day1	1	DRL Day2	1
09 FRL Day1	1	DRL Night	1
10 QPL Day1	1	FRL Day2	1
11 DID Digits	4	FRL Night	1
13 Delay1 Ringing Timer	12	QPL Day2	1
15 Interdigit 1 Timer	15	QPL Night	1
17 Auto Campon	Enable	12 Speech/3.1KHz	Audio
19 Intercept	Disable	14 Delay2 Ringing Timer	24
21 TGAC Override	Disable	16 Interdigit 2 Timer	5
23 LCR Group	1	18 Calling Number ID	User Provided
25 Register Speed Dial Codes	Disable	20 Send Dial Tone	Disable
27 Sanitized Tone Mode	Dial Tone	22 Network COS	1
		24 Change COS Override Code	Disable
		26 Originator Invoke OCA	Disable
		28 Emergency Call Group	1

Note Note: SIP trunking requires a license for each trunk. No channel group can be successfully programmed without a license.

Sip trunking is supported by the MIPU/GIPU card only. It can share connections of its ports between stations, IP telephones and other IPU devices. The IP telephones are the only devices that are flexibly assignable. That is, SIP stations, VM ports, SIP trunks and attendant consoles are fixed resources. IP telephones do not need to be fixed assignments (unless they have an assigned equipment number, not 0000).

Assigning the Trunk DID Destination

Go to Trunk > DID

1. FB01- DID Number: Incoming digits use to direct the dialed number to route the call. (Count from the least significant digit side and will be limited to the number of digits set in Prog 204, FB11.)
2. FB05-07 - Audio Day1 Dst Type, Audio Day1 Dst Digits: Day 2, Night: For example, Dialing Digits/ Extention

DID routing must be set up to route incoming SIP calls to their desired destinations. That programming is the same as any other trunk group type. If that routing is not set up, incoming Invites will fail instantly.

The screenshot shows the Toshiba Network eManager web interface for configuring a Trunk - DID. The browser title is "Toshiba::TAIS::TSD::Network eManager - Microsoft Internet Explorer". The navigation menu includes: Home, Clients, Connected Equipments, Application Settings, Strategy ES, System, Station, Trunk, IP-Telephony, LCR/DR, Strata Ne:, Maintenance, Alarm/Traffic, and Help. The user is logged in as "administrator".

The configuration page is titled "Trunk - DID" and shows the following settings:

- ILG Group Number: 8
- 309 DIRECT INWARD DIALING:
 - 01 DID Number: 6400 (with a "List" button)
 - 02 MOH Source: 1 Processor MOH Jack
 - 03 GCO Key Group: 0
 - 04 Pooled Key Group: 0
 - 05 Audio Day1 Dst Type: Dialing Digits
 - Audio Day1 Dst Digits: 2400
 - 06 Audio Day2 Dst Type: Dialing Digits
 - Audio Day2 Dst Digits: 2400
 - 07 Audio Night Dst Type: Dialing Digits
 - Audio Night Dst Digits: 2400
 - 08 Data Day1 Dst Type: No Data
 - Data Day1 Dst Digits: (empty)
 - 09 Data Day2 Dst Type: No Data
 - Data Day2 Dst Digits: (empty)
 - 10 Data Night Dst Type: No Data
 - Data Night Dst Digits: (empty)
 - 11 DID/DNIS No. VMID: (empty)
 - 12 DID/DNIS Name: (empty)
 - 15 VM Application Digits: (empty)
 - 16 Tenant Number: 1

At the bottom of the configuration area are buttons: Submit, Print, Refresh, Get Default, Create, Copy, Delete, and DID/DNIS Table View. The footer of the page reads: "Network eManager: V5.10A13 ©2008 Toshiba America Information Systems disclaimer ?".

Programming the Outgoing Line Group

Go to Trunks > OLG.

1. Create a new OLG and designate it as SIP.
2. FB01 - Group Type: SIP
3. The rest can be default.
4. An OLG access code for this group must be created.

TOSHIBA
Leading Innovation >>>

Strata CIX NETWORK eMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home Clients Connected Equipments Application Settings

Strategy ES System Station Trunk IP-Telephony LCR/DR Strata Net Maintenance Alarm/Traffic Help

Trunk - OLG

REMOTE TRAINING SYSTEM
CIX200-TECH

306 OUTGOING LINE GROUPS

Group Number: 8

01 Group Type: SIP

02 Trunk Type: CO/DD

03 Service Type: Standard

04 GCO Key1 Number: 0

05 Pool Key1 Number: 0

06 Pool Key2 Number: 0

07 COS Day1: 1

08 COS Day2: 1

09 COS Night: 1

10 FRL Day1: 1

11 FRL Day2: 1

12 FRL Night: 1

13 QPL Day1: 1

14 QPL Day2: 1

15 QPL Night: 1

16 Speech/3.1KHz: Audio

17 MOH Source: 1 Processor MOH Jack

18 Account Code: Enable Disable

19 Destination Restriction: Enable Disable

20 Credit Card Calling: Enable Disable

21 Send CESID: Enable Disable

22 QSIG Sending Type: Cut Through

23 Network COS: 1

24 Recall on AC15:

1 ANALOG
2 ISDN
3 ANALOG
5 ISDN
8 SIP
9 SIP
10 ISDN
11 SIP

Submit Print Refresh Get Default Create Copy Delete

Network eManager: V5.10012 ©2008 Toshiba America Information Systems disclaimer

Done Internet 100%

Creating the Channel Group

1. Go to IP Telephony > SIP Trunking. The first tab is Channel Group setting, Program 326.
2. FB00 - SIP Trunk Channel Group: In this example, SIP Trunk Channel Group 16 is created.
3. FB01- Equipment: Cabinet number and slot number. In this example, 0201 (four digits only)
4. FB02 - LAN Interface Number = 1 (MIPU only has one interface)
5. FB03 – StrataNet IP Channels – The TOTAL number of ports on this card that are going to be dedicated to SIP trunking. On further tabs, each OLG or ILG can be for a different service provider and still be in the same channel group. This entry is the total number of trunks from ALL the service providers
6. FB04 - RBT (ring back tone) on incoming call: Enable for the CIX to provide RBT (ring back tone).

The screenshot displays the 'Strata CIX NETWORK EMANAGER' web interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipments', and 'Application Settings'. The main menu shows 'Stratagy ES', 'System', 'Station', 'Trunk', 'IP-Telephony', 'LCR/DR', 'Strata Net', 'Maintenance', 'Alarm/Traffic', and 'Help'. The current page is 'IP-Telephony - SIP Trunking' with tabs for 'Channel Group Setting', 'Service Definition', 'Service Assignment', and 'URI'. The 'Channel Group Setting' tab is active, showing a form for '326 SIP TRUNK ASSIGNMENT'. The form contains the following fields:

- 00 SIP Trunk Channel Group: 16
- 01 Equipment: 0201
- 02 LAN Interface Number: 1
- 03 Strata Net IP Channels: 5
- 04 RBT on Incoming Call: Enable

At the bottom of the form are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer of the page includes 'Network eManager V5.10A12', '©2008 Toshiba America Information Systems', and 'disclaimer'.

Service Definition

This tab is where the ISP that is providing the SIP trunk service is defined. There may be several ISPs per channel Group.

1. Create the SIP Trunk Service Kind Table Index - start with index 1, if desired (11 in this example)
2. FB01 – Registration Mode: None
3. FB02 – ILG: Use the previously created ILG number
4. FB03 – OLG: Use the previously created OLG Number
5. FB04 – Effective Channel Number: Number of SIP trunks the customer ordered from AT&T.
6. FB05 – Domain Name: Enter the IP address for the domain name provided by AT&T. The customer will get the IP address from the AT&T implementation group. No domain name will be given and no DNS is required.
7. FB06 – SIP Server: For AT&T leave this field blank
8. FB17 – Primary Audio Codec: Set to G.729a
9. FB18 – Secondary Audio Codec: Set to G.711u
10. FB35 – SIP Trunk Message Option: IPU IP address
11. These are the only mandatory program entries. The rest can be default for now.

The screenshot displays the Toshiba Network eManager web interface. The browser title is "Toshiba::TAIS::TSD::Network eManager - Windows Internet Explorer". The page header includes the Toshiba logo and "Leading Innovation >>>". The main navigation bar shows "Home Clients Connected Equipment Application Settings". The user is logged in as "Administrator". The breadcrumb trail is "Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help". The current page is "IP-Telephony - SIP Trunking".

The main content area is titled "327 SIP TRUNK SERVICE KIND ASSIGNMENT". It features a "Local Host" sidebar with a "localhost" icon. The configuration is organized into tabs: "Channel Group Setting", "Service Definition", "Service Assignment", and "URI". The "Service Definition" tab is active, showing a list of parameters for a "SIP Trunk Service Kind Table Index" with value 11. A "List" button is visible next to the index value.

Parameter ID	Parameter Name	Value	Parameter ID	Parameter Name	Value
00	SIP Trunk Service Kind Table Index	11	02	ILG	1
01	Registration Mode	None	04	Effective Channel Number	1
03	OLG	1	08	Secondary Voice Packet Configuration	1
05	Domain Name	207.242.225.200	10	TimerB	5
06	SIP Server		12	Network Transfer	Enable
07	Primary Voice Packet Configuration	1	14	Server Header	Disable
09	Registration Period	3600	16	Session Timer	1800
11	Recovery Timer	60	18	Secondary Audio Codec	G.711u
13	User Agent Header	Disable	20	RTCP Support	Enable
15	Protocol Option	Disable	22	SIP Server Caches	10
17	Primary Audio Codec	G.729a	24	TOS Field Type for Media	TOS
19	DTMF Transmission Method	RFC2833	25	TOS Precedence Type for Media	Critical/ESP
21	T.38 Support	Disable			
23	Diffserv for Media	Disable			
25	TOS Precedence Type for Media	Critical/ESP			

At the bottom of the configuration area, there are buttons for "Submit", "Print", "Refresh", "Get Default", "Create", and "Delete". The footer of the page reads "Network eManager: V5.10A17 ©2008 Toshiba America Information Systems".

Service Definition Continued

The screenshot displays the 'Service Definition' configuration page in the Strata CIX Network eManager. The page is titled 'IP-Telephony - SIP Trunking' and is accessed via a web browser. The interface features a navigation bar at the top with options like 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. Below this is a breadcrumb trail: 'Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help'. The main content area is divided into three tabs: 'Channel Group Setting', 'Service Definition' (which is active), and 'URI'. The 'Service Definition' tab contains a list of 16 configuration parameters, each with a corresponding dropdown menu or text input field. The parameters are organized into two columns. The first column includes settings for Diffserv, TOS Precedence, DSCP, and SIP Trunk Service Recovery. The second column includes settings for TOS Field Type, TOS Delay, TOS Throughput, TOS Reliability, and SIP Trunk Options. At the bottom of the configuration area, there are buttons for 'Submit', 'Print', 'Refresh', 'Get Default', 'Create', and 'Delete'. The footer of the page reads 'Network eManager: V5.10A17 ©2008 Toshiba America Information Systems'.

Parameter ID	Parameter Name	Value
23	Diffserv for Media	Disable
24	TOS Field Type for Media	TOS
25	TOS Precedence Type for Media	Critical/ESP
	TOS Delay Type for Media	Normal
	TOS Throughput Type for Media	Normal
	TOS Reliability Type for Media	Normal
26	DSCP for Media	0
27	Diffserv for Signaling	Disable
28	TOS Field Type for Signaling	TOS
29	TOS Precedence Type for Signaling	Critical/ESP
	TOS Delay Type for Signaling	Normal
	TOS Throughput Type for Signaling	Normal
	TOS Reliability Type for Signaling	Normal
30	DSCP for Signaling	0
31	Call Release On QoS Failure	Disable
32	QoS Failure Notification Timer	10
33	SIP Trunk Service Recovery Time	60
34	SIP Trunk Options Interval	60
35	SIP Trunk Message From Header Options	IPU IP Address
36	SIP Trunk Message To Header Options	FQDN
37	SIP Trunk Register Message From Header Options	FQDN
38	SIP Trunk Register Message To Header Options	FQDN
39	Assert Identity	Disable

Service Assignment

This tab must be completed before entries can be made on the next tab. If not completed, entries attempted in the URI tab will not save.

Important! After URI entries are made in URI tab changing this program will DELETE all the URIs programmed. Once this is set, do not change it.

1. FB01 – Channel Group: (16 in this example)
2. FB02 – Service Index: Select the Service Number by clicking on one of the table's line entries. Use the drop down box to select the ISP to which the URIs belong. This is to match the Service Kind Table Index number of the desired ISP. The (URI) tab is where the URIs (directory numbers) will be entered.

The screenshot displays the Toshiba Network eManager web interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipment', and 'Application Settings'. The main menu contains 'Strategy ES', 'System', 'Station', 'Trunk', 'IP-Telephony', 'LCR/DR', 'Strata Net', 'Maintenance', 'Alarm/Traffic', and 'Help'. The current page is 'IP-Telephony - SIP Trunking' and the 'Service Assignment' tab is active. The interface shows '00 Channel Group' set to 16 and '02 Service Index' set to 11. A table lists service numbers and their corresponding indices.

Service No.	Service Index
1	11
2	<Empty>
3	<Empty>
4	<Empty>
5	<Empty>
6	<Empty>
7	<Empty>
8	<Empty>
9	<Empty>
10	<Empty>
11	<Empty>
12	<Empty>
13	<Empty>
14	<Empty>
15	<Empty>
16	<Empty>

URI Programming

The SIP URI is the Telephone Number (TN) that AT&T provides. When the URI TN is dialed (from outside), AT&T will send a SIP INVITE just as if it were a call to a SIP station. (But an outbound call using one of the UAs does not busy out the UA against an incoming call, that is a key difference of SIP trunks)

1. FB00 – SIP URI Service Index: The service index that defines the ISP. For instance, if the service kind is AT&T, enter the TNs provided from AT&T.
2. FB01 – SIP URI Index: Click the Index line in the table to select one of the indexes 1-160. Proceed to fill in the URI data
3. FB02 – SIP URI: Enter the TN of the URI
4. FB03 – SIP URI User Name: AT&T does not use a User Name. Leave this field blank.
5. FB04 - SIP URI Password: AT&T does not use a password. Leave this field blank.
6. FB05 - SIP URI Channel Group: This is filled in automatically when the **ADD** button is clicked.

Strata CIX NETWORK eMANAGER
TOSHIBA TELECOMMUNICATION SYSTEMS DIVISION
User Name: Administrator

Home Clients Connected Equipment Application Settings

Strategy ES System Station Trunk IP-Telephony LCR/DR Strata Net Maintenance Alarm/Traffic Help

IP-Telephony - SIP Trunking

REMOTE TRAINING SYSTEM
CIX200-TECH

Channel Group Setting Service Definition Service Assignment URI

329 SIP URI ASSIGNMENT

00 SIP URI Trunk Service Index 11 Add Modify Remove

01 SIP URI Index 1

02 SIP URI 9495833001 03 SIP URI User Name

04 SIP URI Password 05 SIP URI Channel Group 16 06 SIP URI Attribution

Index	URI	User Name	Password	Reg. Channel Group
1	9495833001			16
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

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Note The above example is showing a 10 digit URI. If number sent is 4 digits use last 4 digits of URI. If this example was a 4 digit UR,I the number in FB02 would be 3001.

Configuring the MIPU

Go to IP Telephony > L/M/G IPU Configuration. Select the card(s) to configure. Enter the IP address(s) provided by AT&T.

1. FB01 - IPU IP Address: Enter an IP address provided by AT&T.
2. FB02 - IPU Subnet Address: As applicable.
3. FB03 - IPU Default Gateway Address: Provided by AT&T.
4. There is only one interface on an MIPU/GIPU; leave the second interface programming (FB04-FB06) blank.

The screenshot displays the 'Strata CIX NETWORK eMANAGER' web interface. The top navigation bar includes 'Home', 'Clients', 'Connected Equipments', and 'Application Settings'. The user is logged in as 'Administrator'. The breadcrumb trail shows the path: 'Strategy ES > System > Station > Trunk > IP-Telephony > LCR/DR > Strata Net > Maintenance > Alarm/Traffic > Help'. The main content area is titled 'IP-Telephony - L/M IPU Configuration' and features a 'REMOTE TRAINING SYSTEM' sidebar with a 'CIX200-TECH' icon. The central configuration panel, labeled '161 LIPU/MIPU CONFIGURATION', contains the following fields and options:

- 00 Cabinet & Slot Number: 0201
- 01 IPU IP Address: 68 . 232 . 52 . 50
- 02 IPU Subnet Address: 255 . 255 . 255 . 224
- 03 IPU Default Gateway Address: 68 . 232 . 52 . 1
- 07 Version of IPU/IPH: MIPU01_06DA100
- 09 Available IPU/IPH IP Ports: 3
- 04 LIPS IP Address: 0 . 0 . 0 . 0
- 05 LIPS Subnet Address: 0 . 0 . 0 . 0
- 06 LIPS Default Gateway Address: 0 . 0 . 0 . 0
- 08 Version of LIPS: (empty)
- 10 Available LIPS IP Ports: 0
- 11 IPU/IPH Packet Prioritization: Enable Disable
- 12 IPU/IPH Packet Prioritization Type: Best Effort Voice
- 13 IPU/IPH VLAN: Enable Disable
- 14 IPU/IPH VLAN ID: 1
- 15 LIPS Packet Prioritization: Enable Disable
- 16 LIPS Packet Prioritization Type: Best Effort Voice

At the bottom of the configuration panel are buttons for 'Submit', 'Print', 'Refresh', and 'Get Default'. On the right side, a scrollable list shows equipment IDs: 0101, 0102, 0103, 0201, 0202, and 0203. The footer of the page includes 'Network eManager: V5.10A17', '©2008 Toshiba America Information Systems', and a 'disclaimer' link. The browser's status bar shows 'Done', 'Internet', and '100%' zoom.

Configuring the MIPU continued

For a static IP, enter the DNS server address - this is critical to SIP trunking. After making all these programming entries, press the **RESET** button on the MIPU/GIPU. The new data will be saved by the MIPU/GIPU, which will begin registration to the ISP.

1. FB22 - MIPU Primary DNS: IP address provided by AT&T.
2. FB23 - MIPU Secondary DNS Server: IP address provided by AT&T.

The screenshot displays the 'IP-Telephony - L/M IPU Configuration' page in the Strata CIX Network Emulator. The interface includes a navigation menu at the top with options like 'Home', 'Clients', and 'Connected Equipments'. The main content area is divided into a left sidebar with a 'REMOTE TRAINING SYSTEM' icon and a main configuration panel. The configuration panel lists 25 settings, each with a radio button or text input field. The settings are as follows:

Setting ID	Setting Name	Value / Options
12	IPU/IPH Packet Prioritization Type	<input type="radio"/> Best Effort <input checked="" type="radio"/> Voice
13	IPU/IPH VLAN	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
14	IPU/IPH VLAN ID	1
15	LIPS Packet Prioritization	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
16	LIPS Packet Prioritization Type	<input type="radio"/> Best Effort <input checked="" type="radio"/> Voice
17	LIPS VLAN	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
18	LIPS VLAN ID	1
19	IP Strata Net RTP Base Port (IPU/IPH)	20992
20	IP Strata Net RTP Base Port (LIPS)	20992
21	MIPU DHCP Server	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
22	MIPU Primary DNS	198 . 168 . 211 . 20
23	MIPU Secondary DNS Server	204 . 210 . 220 . 57
24	MIPU Hostname	
25	MIPU Primary DNS Suffix	

At the bottom of the configuration panel, there are four buttons: 'Submit', 'Print', 'Refresh', and 'Get Default'.

The default value for the RTP base port is 20992.

AT&T does not provide a domain name, so DNS server addresses are not required for AT&T.

Toubleshooting

Please contact Toshiba's Technical Support Department for any support issues concerning the CIX SIP Trunk setup. The phone number for technical support is 800-777-4873. Please note that before calling technical support, the following information must be available:

Basic information

- CIX processor hardware revision (i.e. BCTU1A)
- CIX processor software version
- MIPU firmware version
- MIPU IP Address, subnet and gateway
- eManager/Network eManager version
- IPTimize provided URI and domain name

Capture files

- Packet capture (i.e. Wireshark) between the MIPU and the network switch
- CIX database (default.dat)
- Secure Digital files (all files from SD card)
- PPTC9 – (May be required to export MIPU log data)

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