



# INTEGRATED ACCESS

The ATLAS™ Series

# Not just an integrated access device. A multifunction WAN access switch.

## The ATLAS™ Series from ADTRAN®

### The ATLAS Series At-A-Glance

- Modular, flexible multiservice platforms
- T3, T1, ISDN PRI/BRI, analog, and serial interfaces
- Hot-swappable interface modules
- Circuit consolidation
- Bandwidth management
- PRI-to-T1, BRI, and analog conversions
- FXS, FXO, E&M, and DSX-1 voice
- Integral switchboard and dial plan
- Intelligent call-by-call routing and number substitution
- 3/1/0 and 1/0 DACS
- Dial backup disaster recovery
- Video switch
- WAN emulation
- SNMP and Telnet management
- AC and DC versions
- Outstanding pre- and post-sales support
- Reassuring five-year warranty



### Why ATLAS?

The ATLAS Series is a family of powerful and versatile Integrated Access Devices (IADs) that have far-reaching application in today's advanced telecommunications networks. This single, versatile platform is capable of both dedicated and switched access—performing the functions found in T1/T3/E1 multiplexers, 1/0 and 3/1/0 digital cross connect switches, channel banks, and ISDN switches.

There are several compelling reasons to implement ADTRAN's ATLAS integrated access solutions as part of your network plan.

**1. Consolidation—You are currently using separate networks** for voice, data, video, and Internet. ATLAS allows you to consolidate and converge traffic onto fewer circuits, reducing recurring monthly communications costs.

**2. Network efficiency—Your network is currently inefficient** because bandwidth is dedicated to separate voice and data systems. ATLAS includes circuit switching that enables you to combine traffic and oversubscribe circuits, extracting greater performance from the same bandwidth.

**3. Conversion—Current network equipment is configured for T1** (such as PBX/Key Systems), but you wish to take advantage of the additional call features and potentially lower tariffs provided by ISDN PRI. ATLAS converts PRI to T1, PRI to BRI, and PRI to analog; so, in many situations you can enjoy the benefits of PRI service without expensive upgrades to your existing equipment.

## Solutions to empower your wide area network.

The ATLAS Series from ADTRAN is one of the most versatile integrated access platforms available for converging voice, data, and video applications. Numerous user and network interfaces, coupled with advanced multiplexing, switching, and routing capabilities, enable cost reductions in your network that you might never have anticipated.



### ATLAS 890

*Fully redundant, high-density, multiservice IAD*

- Fully redundant logic and power supplies
- High-speed, multiprotocol backplane
- 13 expansion slots (AC version)
- 15 expansion slots (DC version)
- Up to 64 T1s or one T3



### ATLAS 830

*High-density, modular, multiservice IAD*

- High-speed, multiprotocol backplane
- Eight expansion slots
- Up to 34 T1/PRI, 32 E1s, or one T3
- Compact footprint (17.5" W x 12.5" D x 5.5" H)

*Replaces ATLAS 800 and ATLAS 800<sup>MS</sup> models*



*In any case, what is the most powerful, cost-effective integrated access system for today's varied internetworking applications?*

*The ATLAS Series from ADTRAN.*

**Is flexibility an important consideration in your network plan?**

The ATLAS Series offers many of the features previously found only in larger multiplexing, PBX, or router equipment, at a lower entry cost. Each ATLAS chassis features a high-speed, multiprotocol backplane and numerous expansion slots. The system supports various network interfaces and as many as 25 different hot-swappable application modules. With the right configuration, you can basically plug in any T1/E1, T3, ISDN PRI/BRI, or analog circuit, then pick-and-choose the voice, data, or video applications you need to deliver. If a special tariff warrants a service change, or a new branch office needs to be added, the modular, flexible ATLAS can accommodate the change.

**Is Return on Investment a growing concern for your company?**

Lowering network costs is a top priority in most companies today. Which investments are worth the expenditure? ATLAS is a solution that significantly reduces the cost of current applications, and at the same time, positions your network for future growth.

By consolidating telecom traffic onto fewer circuits, ATLAS lowers monthly payouts. By replacing multiple pieces of older, possibly outdated equipment, ATLAS streamlines network operations, reduces IT workload, and conserves space. Further, ATLAS extends the functionality of most TDM integrated access devices to include switching, which serves to optimize each circuit. In most network models, ATLAS generates a very acceptable payback period, and delivers a strong ROI.



**Interchangeable Application Modules**

The ATLAS Series is a modular platform that can be configured to meet current networking requirements, while establishing a simple and inexpensive upgrade path. A variety of interchangeable interface modules satisfy technology requirements ranging from voice to data to Internet to videoconferencing.

**Backed by a full five-year warranty and unsurpassed technical support from the leading supplier of network access solutions, the ATLAS Series is one of the most risk-free decisions you can make for integrated access.**



**ATLAS 550**

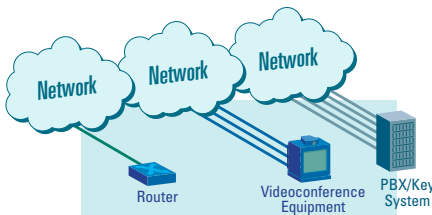
*Medium-capacity, modular, multiservice IAD*

- High-speed, six-slot, multiprotocol backplane
- Two network interface slots
- Four expansion slots
- Up to 18 T1/PRI ports
- Up to 32 analog ports
- Compact footprint (17" W x 11.75" D x 3.5" H)

# The simplicity of a single chassis. The functionality of an entire rack of equipment.

**An architecture so remarkably advanced, it makes your job easy.**

## Before ATLAS



**Lower one of your largest expenses.**

The most substantial and economically quantifiable benefit of creating a converged voice/data network is the elimination of redundant circuits. In many enterprise networks, different applications have their own circuits. For example, voice may have digital or analog trunks, data may have separate Internet access, and videoconferencing systems may use several ISDN lines. Since circuit costs typically represent one of the largest IT expenditures, it makes sense that reducing those costs would be a top priority. Reducing network costs is what ATLAS is all about.

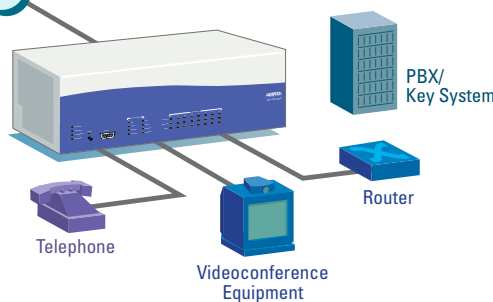
## Simplify your network using ATLAS™

Today's Wide Area Network (WAN) typically consists of multiple overlays to handle various traffic types, complicated by the presence of varying service and pricing options between-geographic regions. Network complexity is also compounded by business mergers and reorganizations. As networks grow more complex, and the applications needed to support a distributed workforce increase, a solution like ATLAS becomes a necessity.

ATLAS is a multifunction, modular platform that accommodates multiple protocols and interfaces, collapsing parallel networks into a more streamlined and less expensive topology. ATLAS consolidates voice, fax, modem, video, and legacy data traffic over a single wide area link, reducing overall telecommunication expenses.

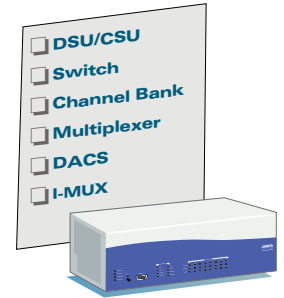


## After ATLAS



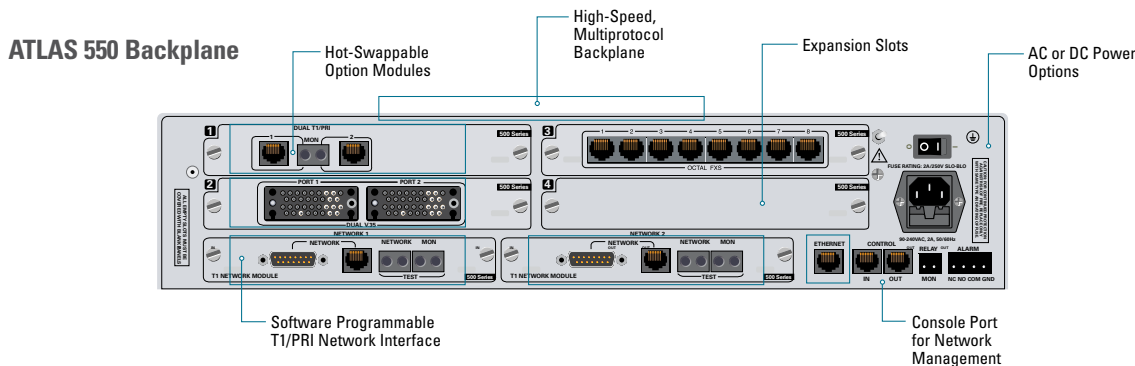
## A comprehensive multiservice access platform

An ATLAS IAD merges many internetworking functions into a small, economical, modular platform that can replace a rack of traditional single-function devices. An ATLAS IAD typically resides at the edge of the network at the customer premises, and consolidates the functions found in multiport multiplexers, channel banks, 1/0 and 3/1/0 cross connect switches, inverse multiplexers, and ISDN switches.



## Bandwidth sharing

An ATLAS IAD is positioned between the network service provider circuit(s) and the end user equipment, enabling many network devices to share WAN access and bandwidth. ATLAS supports multiple network technologies and numerous equipment interfaces. The system's flexibility makes it easier to satisfy diverse applications in hybrid networks, and to evolve network systems and applications as requirements change.



### High-speed, multifunction backplane

ATLAS is a modular and scalable platform, designed to help you implement the most cost-effective solutions to meet current needs, while accommodating future growth. To take advantage of new service opportunities, or to meet new user requirements, simply add the appropriate option modules.

### Numerous interface options

The configuration of an ATLAS system can vary widely depending on a number of factors. Which applications are being accommodated? How much capacity do you need for each? How much excess capacity should be allowed for near-term growth?

A large offering of network and device interfaces allows you to tailor an ATLAS solution to fit your current needs with the least possible expenditure, and still accommodate change. Pre-configured systems are available for popular applications.

### ATLAS 890/830/550 Interface Options

- **T1/PRI**—Configurable as DS1, DSX-1, or PRI; supports Drop/Insert, 1/0 DACS, and PRI switching
- **E1/PRA**—Supports E1 and Net-5 Euro-ISDN (PRA), Drop/Insert, and 1/0 DACS

- **ISDN BRI/U**—ANSI T1.601-compliant BRI U-interfaces to emulate or terminate ISDN from common switch types
- **ISDN BRI S/T**—Multiple BRI S/T interfaces supporting Net-3 Euro-ISDN and common switch types
- **Analog Voice**—Options for FXS, FXO, E&M with popular call features; mapped or dynamically switched DS0s
- **Nx56/64 V.35**—Multiple synchronous V.35 ports support Nx56/64 kbps operation up to 2.048 Mbps
- **USSI**—Multiple Universal Synchronous Serial Interface ports supporting EIA-530, RS-449/V.36, X.21/V.11, or EIA-232; Nx56/64 kbps operation up to 2.048 Mbps

### ATLAS 890/830 Interface Options

- **Nx56/64 BONDING**—BONDING Mode 1 processor(s) with up to 2.048 Mbps capacity each; from two to 32 user-configurable B-Channels per processor
- **T3**—Channelized T3 connectivity, 3/1/0 DACS, PRI over T3, and T1 Inverse Multiplexing (with additional module)
- **Dual Video**—Dual independent video ports simultaneously support V.35, EIA-530, or RS-449 interfaces; includes RS-366 dialing interface and supports DTE rates from 112 kbps-to 1.472 Mbps (with additional card)

*For a complete description of available option modules, visit [www.adtran.com/atlas](http://www.adtran.com/atlas)*

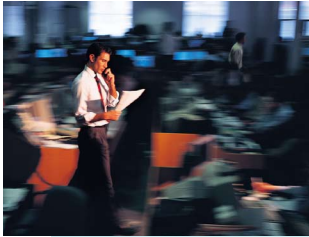
**For assistance configuring your ATLAS system, contact your technology reseller, or call an ADTRAN network engineer at 800 615-1176.**



# Numerous opportunities to decrease costs, increase performance, and optimize network resources.

## The ATLAS™ Series at work in your network.

The ATLAS IAD, performing as a circuit switch, provides dynamic call-by-call routing, oversubscription and overbooking, and conversions that will improve your voice, video, and data efficiency.



### A Solution for Many Industries

- Government
- Education
- Entertainment
- Financial Services
- Healthcare
- Manufacturing
- Retail
- Transportation
- Utilities

### Consolidation and dynamic switching

Is your network subscribing to more bandwidth than necessary? Do you need to make better use of the bandwidth that you already have? Would you like to convert from the circuit types you currently have to another type without changing out your communications equipment? If so, ADTRAN's ATLAS IAD is the ideal choice.

One of the distinguishing characteristics of the ATLAS Series of IADs is the ability to perform dynamic circuit switching and packet routing. You no longer have to dedicate channels within your circuits. Unlike traditional termination equipment, that requires static or dedicated channel assignments, ATLAS can dynamically switch traffic on a call-by-call basis.

- **Consolidation**—With dynamic switching, ATLAS enables users to consolidate many circuits and combine voice, data, video, and Internet traffic on the same circuit.
- **Oversubscription**—ATLAS enables users to oversubscribe the circuit so more users and devices can be connected. In many scenarios, not every user or device requires simultaneous access to the WAN. Less bandwidth can be deployed, which reduces costs, and ATLAS will dynamically switch calls to the available bandwidth.
- **Least cost routing**—The integral switchboard and dial plan equip ATLAS with switching features similar to a PBX (without voice-mail and advanced call features). For example,

ATLAS can dynamically switch local calls to the local service provider while long distance calls are switched to the interexchange or long distance carrier.

### DACS and grooming

ATLAS IADs also provide DACS and grooming functions, which are ideal for optimizing T1 and T3 circuits. Using the DACSing function within ATLAS, users can perform timeslot interchange. Any DS0 from any T1 or T3 can be cross-connected or reassigned to any other DS0 on any other T1 or T3.

ATLAS grooming functionality allows users to combine partially filled T1s into fully filled T1s. On many enterprise networks, users can combine voice DS0s coming into the central site from individual T1s into fewer DSX-1 interfaces for the PBX. Grooming can increase efficiency and reduce the number of DSX-1 interfaces required.

ATLAS 830/890 platforms support 3/1/0 DACSing. The ATLAS 550 supports 1/0 DACSing. ATLAS is the ideal choice for users who need DACSing and grooming in a small economical system.

### Conversion

The ATLAS Series includes conversion and switching technology that transparently links two different line technologies. Because ATLAS supports a large number of line technologies (T3, T1, ISDN PRI/BRI), several cost-saving

opportunities exist. For example, the system can convert PRI to T1 or PRI to multiple BRIs, allowing you to take advantage of the lowest possible tariff in a certain location, or to reduce the number of circuits required in a particular application, without changing your existing voice and data equipment.

- **Convert PRI to T1 to avoid costly PBX/Key System upgrades**—The ATLAS IAD, functioning as a PRI-to-T1 converter, enables you to obtain call features available only through ISDN PRI, or to take advantage of the low PRI rates available in some locations, without a PBX/Key System upgrade. The ATLAS IAD supports PRI connection to the public ISDN network and T1 connection to the PBX, and performs the switching and conversion necessary to transparently link the two technologies. ATLAS converts ISDN Calling/Called Party Number to a Feature Group D ANI/DNIS format. ATLAS can be a fraction of the cost of a PBX upgrade, and used in this application, results in a very short payback period.
- **Eliminate multiple BRI circuits to the PSTN**—ATLAS IADs also perform PRI to BRI signal conversion, accommodating up to 100 BRI interfaces in a single chassis. The ATLAS IAD interfaces to the PSTN using one or more PRIs, then transparently converts between PRI and BRI, distributing BRIs as needed to support multiple videoconference systems or routers using BRI for dial backup.

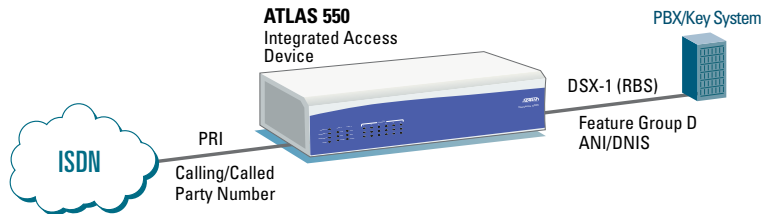
- **Consolidate analog phones onto a single PRI**—Functioning as a PRI Channel Bank, an ATLAS IAD performs the ISDN-to-analog conversions necessary to support many analog phones over a single PRI circuit. ATLAS converts ISDN Calling/Called Party information from the PRI to Caller ID on the FXS interface using FSK signalling. ATLAS also provides dynamic call-by-call routing based on the phone number dialed. Overbooking supports more phones and faxes using equal or lesser bandwidth, increasing circuit utilization and reducing costs.

#### **Improve network reliability**

In a converged network, where more electronics and users are consolidated into less equipment, protecting communications against downtime becomes even more critical than before. ATLAS offers optional redundancy and dial backup hardware to protect against unforeseen disasters.

Converged networks can benefit from the fully-redundant ATLAS 890, featuring duplicate system controllers and power supplies. Fault detection circuitry automatically detects errors and switches over to a hot standby controller. The controller modules are hot-swappable, so the ATLAS system remains operational even as the other controller is removed for repair or replacement. Dual power supplies perform load sharing.

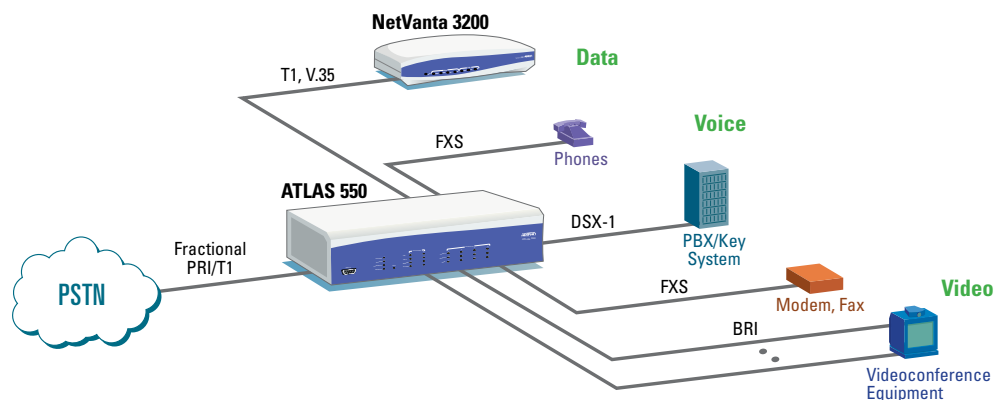
## PRI-to-T1 Signal Conversion



In addition to its dynamic switching functionality, the ATLAS™ Series includes a signal conversion technology that transparently links two different line technologies. The system converts between line types, such as PRI-to-T1, PRI-to-BRI, and PRI-to-analog. This flexibility allows you to take advantage of the lowest possible tariff in a certain location, and make use of helpful calling features, without changing your existing voice

and data equipment. In this example, PRI tariffs are less expensive each month than T1, and Calling/Called Party information is required. Instead of upgrading the existing T1-based PBX, ATLAS is used to perform PRI-to-T1 (DSX-1) conversion and deliver Feature Group D ANI/DNIS from the ISDN Calling/Called Party information. Signal conversion software is standard on all ATLAS models.

## Voice, Data, and Video Consolidation

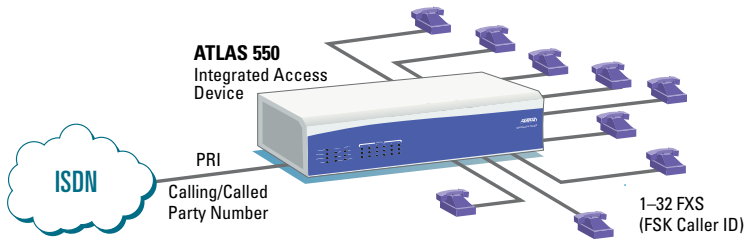


ATLAS offers a reliable and economical solution for consolidating multiple WAN access circuits to enable voice, data, and video systems to share common bandwidth and reduce costs. Fractional PRI/T1 service

includes a portion of the bandwidth for switched services (B-Channels) and the remaining bandwidth for dedicated channels. Check with your service provider to see if Fractional PRI is available.



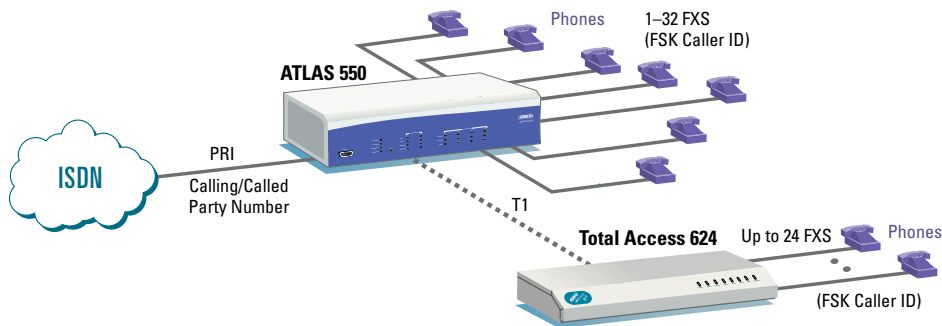
## PRI Channel Bank



The ATLAS platform provides a cost-effective method of integrating ISDN PRI service into analog devices such as phones, faxes, or Key Systems that do not have PRI capability. In this application, the ATLAS system is used as a PRI channel bank, consolidating multiple analog devices onto a single PRI trunk. The ATLAS system handles the conversion of ISDN signals to analog signals, as well as the conversion of ISDN Calling Party

information to FSK tones (in order to provide Caller ID information to analog FXS interfaces). With the ATLAS 550 IAD, overbooking of the 23 B-Channels on the PRI accommodates up to 32 analog interfaces. The system performs dynamic, call-by-call routing and switching based upon the phone number dialed.

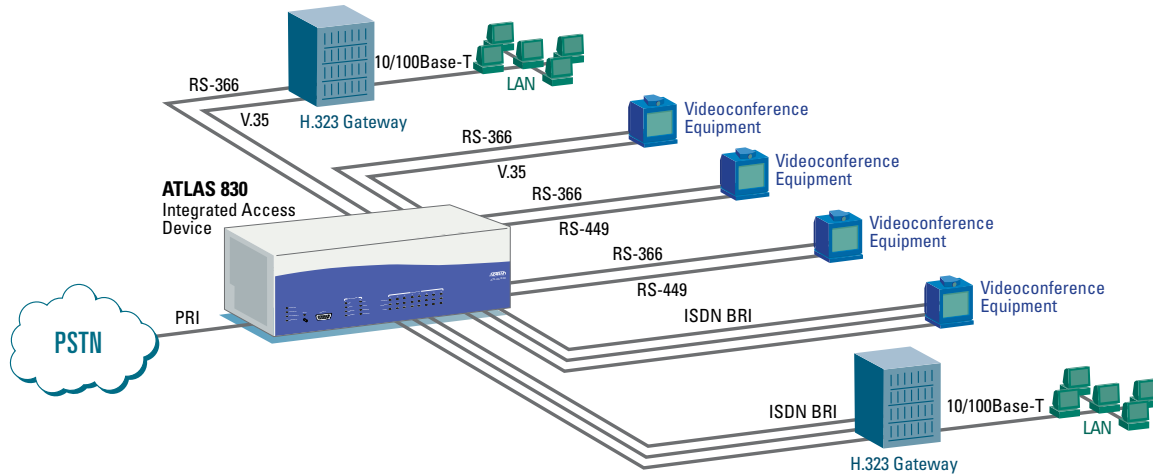
## PRI Channel Bank and Oversubscription



ATLAS can be used to oversubscribe analog interfaces to a PRI. For applications that need higher levels of connectivity, Total Access® 624s

can be paired with ATLAS to create an economical, high-density solution.

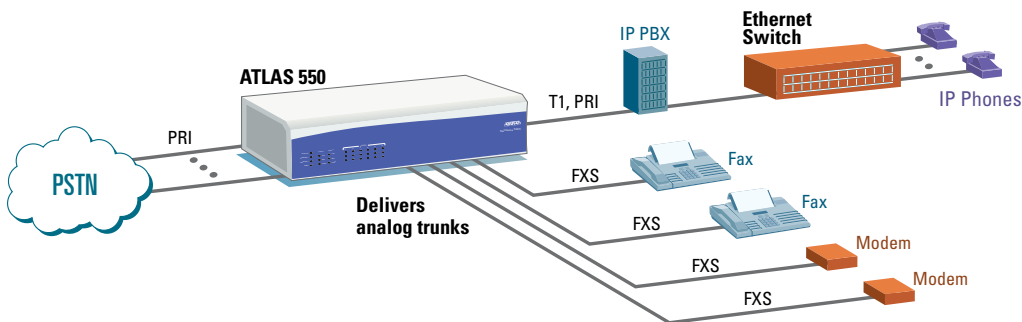
## Videoconferencing Consolidation



ADTRAN's ATLAS 830/890 Video Switch offers enterprise customers a solution for sharing bandwidth between multiple videoconferencing systems or to share bandwidth between videoconferencing and other WAN applications. Video switching and bandwidth sharing can result in significant cost savings through a reduction of dedicated WAN access circuits. The ATLAS Video Switch provides a diverse set of common, industry-standard interfaces for connecting video equipment to the

WAN, such as ISDN PRI/BRI, V.35, EIA-530, RS-449, and RS-366 dialing. The availability of these interfaces makes the ATLAS Video Switch interoperable with all leading videoconferencing equipment including H.320 and H.323 gateway devices. The system supports video transmissions from 112 kbps up to a full PRI (1.472 kbps) using the ATLAS Nx56/64 BONDING Module.

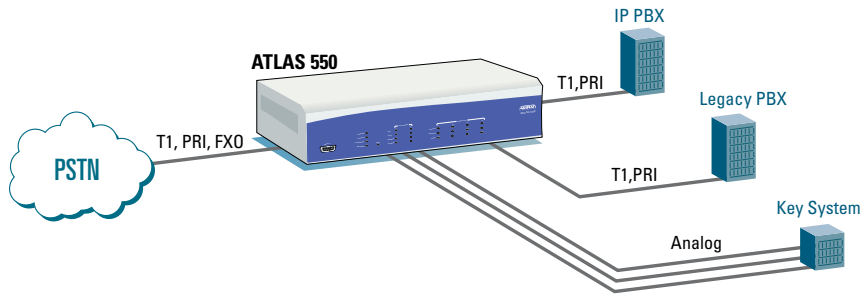
## Analog Support to Complement VoIP



Typically, analog support for fax and modem devices with an IP PBX is limited due to the packet nature of an IP network. The analog signal can experience delay, jitter, and packet loss causing low performance and

drop outs. ATLAS™ provides true analog trunk circuits and call-by-call routing for full-rate modem and reliable fax operation. This also eliminates the need for additional hardware or licenses for the IP PBX.

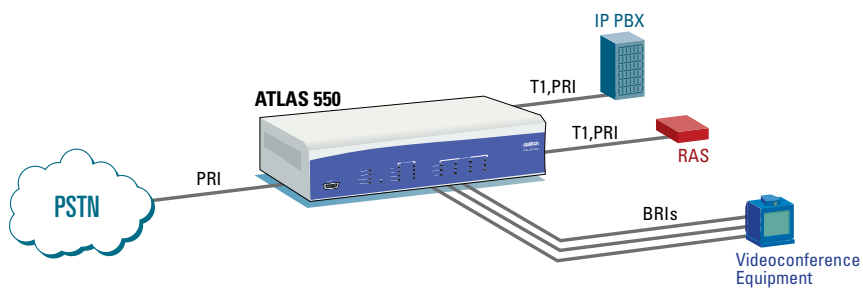
## TDM to IP Migration



ADTRAN's ATLAS is used to help migrate from legacy TDM to IP telephony by enabling multiple PBX systems to share common WAN bandwidth and reduce monthly telco costs. The integral ATLAS

switchboard and dial plan enable quick and easy call routing changes as users migrate from one PBX to the other.

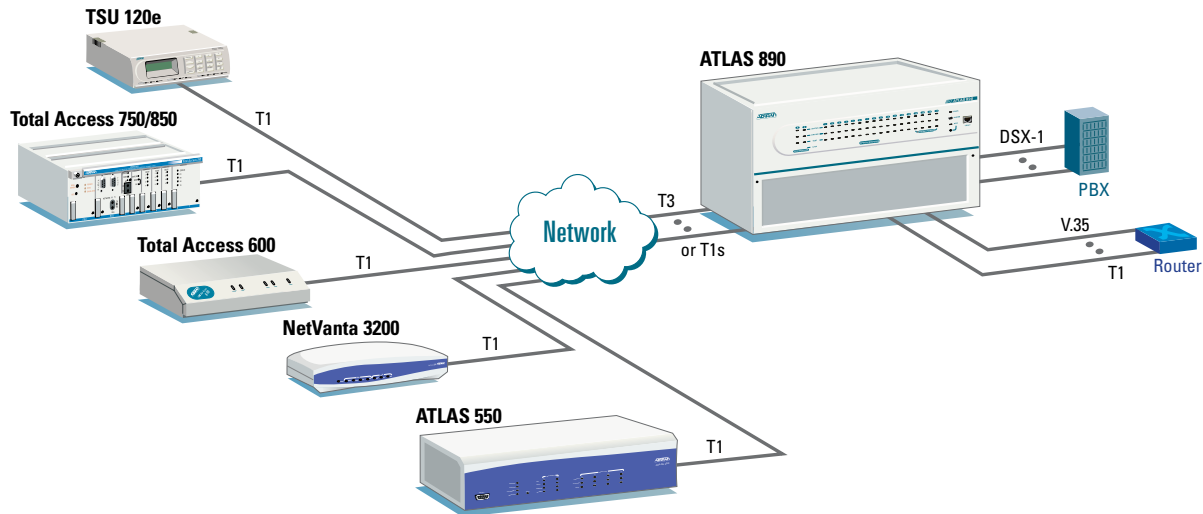
## ISDN Support Complements VoIP



While IP PBXs terminate an ISDN circuit from the network, they may not emulate or deliver ISDN services to user devices such as video-conference systems or Remote Access Servers (RAS). ADTRAN's ATLAS

offers industry-standard ISDN termination, deployment, and switching to complement the IP PBX.

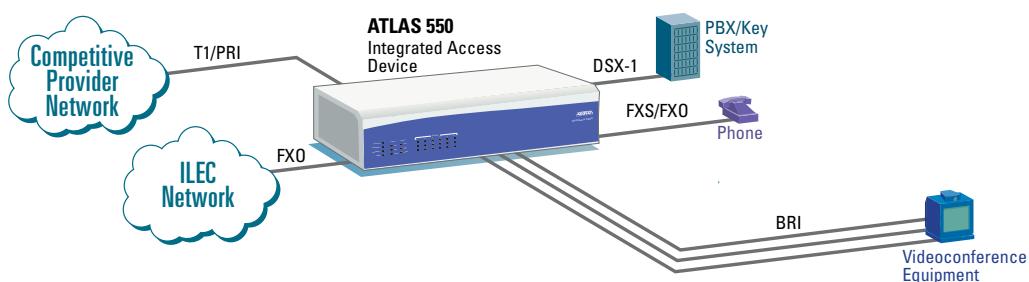
## Point-to-Point T1 Consolidation



In point-to-point applications, an ATLAS IAD at the host site can consolidate traffic and free up rackspace, simplifying overall network operation and management. Here, an ATLAS 890 provides full system redundancy (power supply and system controller) and terminates multiple independent

T1s from remote sites or T1s from a channelized T3, grooming voice to a PBX and splitting out data to V.35 interfaces for connection to an external router. The ATLAS 550 and 830 offer similar functionality for smaller applications.

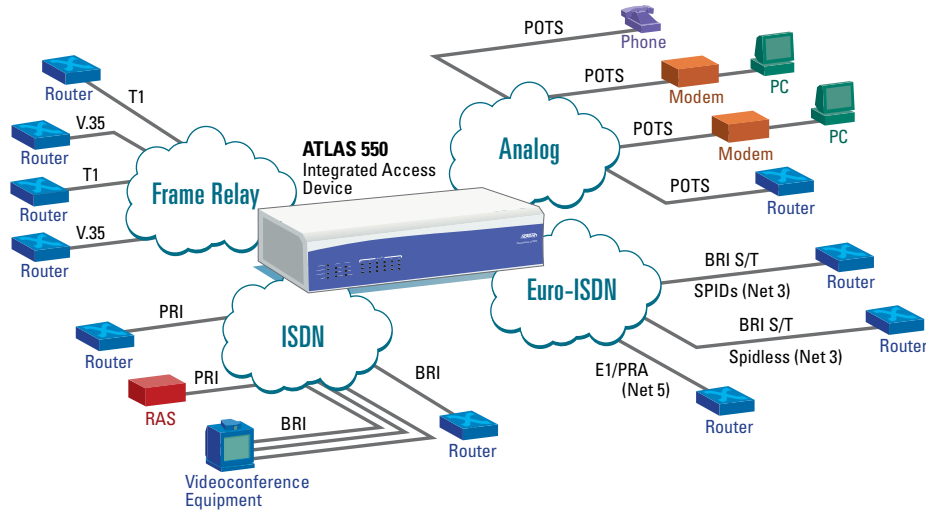
## Least-Cost Routing



Using an internal switchboard and dial plan, the ATLAS Series dynamically routes three- to 10-digit voice calls to the preferred service provider based on the phone number dialed. This least-cost routing functionality directs local calls to one service provider and long distance calls to another. Number substitution capability is also available. Circuit consolida-

tion offers additional cost savings. In this example, a PBX, analog phones, and videoconference equipment are physically connected to the ATLAS IAD. ATLAS combines the traffic and eliminates separate circuits for each application, significantly reducing telecom costs.

## Wide Area Network Emulation



The ATLAS 550 and ATLAS 800 Series make it possible to affordably simulate Frame Relay, ISDN, Euro-ISDN, and analog POTS service, without the expense of live circuits. In this application, the ATLAS 550 emulates a central office switch or WAN for staging what-if scenarios, or testing new equipment and technologies off-net, with no network costs.

Frame Relay functionality includes support for external routers or direct LAN connections. ISDN functionality emulates Lucent 5ESS, AT&T 4ESS, Nortel DMS 100, and National ISDN (NI-2). Net-3 and Net-5 Euro-ISDN functionality includes E1/PRA and BRI S/T. Analog emulation supports FXS, FXO, and E&M interfaces.

# ADTRAN: One of the world's most successful network access equipment suppliers.



**ADTRAN is a company you can depend on for high-value, customer-centric solutions.**

## **Value-oriented solutions for the cost-conscious IT manager**

ADTRAN® addresses today's value-oriented networking market with a full line of enterprise solutions for LAN-to-WAN connectivity over IP, TDM, switched, and wireless architectures. Our mission with these solutions is to lower acquisition costs, lower recurring monthly costs, or both, lowering Total Cost of Ownership (TCO) and offering you the best possible value in network access.

## **The reliability of a market leader**

Our LAN-to-WAN solutions complement our highly successful and long-standing lines of wide area connectivity and carrier-class network access products. Our newest products reflect the same exacting attention to detail that won us market leadership positions in key technologies.

## **Relentless product refinement and cost reduction**

A strategy of relentless product refinement and cost reduction remains one of the primary drivers behind our market successes. Cost reduction at ADTRAN is about smart engineering, not cutting corners. We reward engineers who reduce costs in the same way we reward engineers who innovate. We also lower costs by using ADTRAN-developed intellectual property where feasible.

## **Quality and reliability in every unit**


Your ADTRAN purchase is backed by an indisputable reputation of quality and reliability—the result of ADTRAN's long-term, corporate-wide commitment to quality assurance in all phases of business and manufacturing operations. From initial product design and development to

post-production testing of every unit shipped, ADTRAN means quality. A TL 9000 3.0, ISO 9001:2000, and ISO 14001 certified supplier supporting next-generation quality standards, the company maintains extensive in-house labs for reliability, component, and compliance testing—all in the name of customer satisfaction.

## **High-touch customer support**

Every ADTRAN solution is backed by a 100% satisfaction guarantee, including an industry-leading, five-year warranty and best-in-class service and support.

- **Unlimited toll-free telephone technical support**—A single toll-free call puts you in touch with a knowledgeable expert in our technical support organization.
- **ADTRAN Custom Extended Services (ACES)**—A customizable installation and maintenance services program guaranteeing priority access to a technical support engineer, with 30-minute call back and on-site product replacement in as few as four hours, depending on the service plan selected.
- **Comprehensive training and certification solution**—Access to a comprehensive training and certification program that includes both free and fee-based options. Sessions are available on-site, off-site, on CD, and on the Internet.



**NetVanta 1000 Series**  
Integrated Switch-Router Platforms  
Managed Fast Ethernet/PoE/Gigabit Switches



**NetVanta 2000 Series**  
VPN/Internet Security Appliances



**NetVanta 3000/4000/5000 Series**  
IP Access Routers



**NetVanta 7100**  
IP Telephony



**NetVanta 300 Series**  
ADSL/ADSL2/ADSL2+ Routers



**ATLAS Series**  
Integrated Access Devices



**TRACER Series**  
License-Free Wireless Devices

**ASP** ADTRAN Sales Professional

**ATSA** ADTRAN Technical Support Associate

**ATSP** ADTRAN Technical Support Professional



# ATLAS™ Series IAD Feature Matrix

	ATLAS 550	ATLAS 830	ATLAS 890 Redundant	ATLAS 890 Non-Redundant
Part Number	AC: 1200305L2 DC: 1200550L2	AC: 1200780L1 DC: 1200781L1	AC: 4200321L2 DC: 4200321L4	AC: 4200321L1 DC: 4200321L3
<b>Base Chassis, System Controller</b>				
Integral T1/PRI/DSX-1 Ports	1	2	0	0
Ethernet Port	10/100Base-T	10/100Base-T	10/100Base-T	10/100Base-T
Expansion Slot	5	8	13 AC/15 DC	15 AC/16 DC
AC Power	1200305L2	1200780L1	4200321L2	4200321L1
DC Power	1200550L2	1200781L1	4200321L4	4200321L3
Redundant Power Supply		▲	●	▲
Redundant Controller			●	▲
Alarm Contacts	●	●	●	●
SNMP, Telnet	●	●	●	●
<b>System Features (additional modules required)</b>				
1/0 DACS	●	●	●	●
3/1/0 DACS		●	●	●
ISDN Switch	●	●	●	●
Call Switching (Dial Plan)	●	●	●	●
IMUX – Nx56/64 BONDING		●	●	●
<b>Expansion Ports (maximum)</b>				
T3 Ports	17	✘	✘	✘
T1/PRI Ports	2	32	52 AC, 60 DC	60 AC, 64 DC
E1/PRA Ports	16	32	52 AC, 60 DC	60 AC, 64 DC
ISDN BRI Ports (U or S/T)	8	64	104 AC, 120 DC	120 AC, 128 DC
V.35 Interfaces	8	32	52 AC, 60 DC	60 AC, 64 DC
USSI Ports (EIA-530, RS-449/V.36, X.21/V.11, EIA-232)	32	32	52 AC, 60 DC	60 AC, 64 DC
Analog Ports (FXS, FXD, or E&M)		32 (FXS Only)	48 (FXS Only)	48 (FXS Only)
<b>Time Division Multiplexing, ISDN Switching</b>				
TDM Backplane Bandwidth (In-bound)	216 DS0s	720 DS0s	720 DS0s	720 DS0s
TDM Backplane Bandwidth (Out-bound)	216 DS0s	720 DS0s	720 DS0s	720 DS0s
ISDN PRI to T1 Conversions	5	10	15	15
NFAS, NFAS with Backup D-Channel		☐	☐	☐

- Standard
- ▲ Option available
- ✘ Maximum number of ports available depends on application
- ☐ One backup D-Channel

Technical questions call **800 615-1176** or visit [www.adtran.com/support](http://www.adtran.com/support)

Where to buy call **877 280-8416** or visit [www.adtran.com/where2buy](http://www.adtran.com/where2buy)

**ADTRAN, Inc.**

Attn: Enterprise Networks  
901 Explorer Boulevard  
Huntsville, AL 35806

P.O. Box 140000  
Huntsville, AL 35814-4000

256 963-8000 voice  
256 963-8699 fax

**General Information**

800 9ADTRAN  
info@adtran.com  
[www.adtran.com](http://www.adtran.com)

**Pre-Sales Technical Support**

800 615-1176  
application.engineer@adtran.com  
[www.adtran.com/support](http://www.adtran.com/support)

**Where To Buy**

877 280-8416  
channel.sales@adtran.com  
[www.adtran.com/where2buy](http://www.adtran.com/where2buy)

**Post-Sales Technical Support**

888 423-8726 (888-4ADTRAN)  
support@adtran.com  
[www.adtran.com/support](http://www.adtran.com/support)

**ACES Installation & Maintenance Services**

888 874-ACES  
aces@adtran.com  
[www.adtran.com/support](http://www.adtran.com/support)

**Training**

800 615-1176 voice  
256 963-6700 fax  
training@adtran.com  
[www.adtran.com/university](http://www.adtran.com/university)

**For ADTRAN's new  
eCatalog, visit [www.adtran.com/ecatalog](http://www.adtran.com/ecatalog)**

**For the regional office  
nearest you, visit [www.adtran.com/regional](http://www.adtran.com/regional)**



ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier. Five-year warranty applies only to products sold in North America and Europe.

Copyright © 2006 ADTRAN, Inc. All rights reserved. ATLAS, IQ, N-Form, and TSU are trademarks of ADTRAN, Inc. ADTRAN, NetVanta, and Total Access are registered trademarks of ADTRAN, Inc. All other trademarks mentioned in this publication are the property of their respective owners.

EN451C