Nortel Networks Business Communications Manager

Creating a big advantage for the small business

Features Document

NORTEL NETWORKS™

How the world shares ideas.

Nortel Networks* Business Communications Manager is an IP enabled business communications system. It brings together voice, data and powerful business solutions onto a single unified solutions platform, delivering big business features, cost effectively, to the small/medium business customer.

Business Communications Manager provides a wide range of telephony features, which can be accessed using a portfolio of highly featured ultra reliable business telephones. This new convergence communications solution supports all ISDN interfaces to the public telephone network and also voice over IP to the wide area network, through its' integrated IP trunk. Voicemail is also provided as standard, along with automated attendant and custom call routing.

The integrated data router features support for advanced routing protocols and security features typical of those found in Nortel Networks Baystack* portfolio of data networking products for small businesses.

Completing the package, Business Communications Manager supports its own portfolio of fully integrated advanced business applications, which include unified messaging, PC based personal call management and a choice of two call centre packages.

If you are a small business that needs big business features, in a cost effective package, then look no further, Business Communications Manager has arrived!

voice ...

Nortel Networks Business Communications Manager System features and integral applications

Business Communications Manager is delivered with all features and business applications pre-loaded. Non standard options and upgrades can be easily activated, by simply entering software key-codes, via the system management interface. It is also possible to activate a number of these applications on "try and buy" basis in order for these business performance enhancing applications to be evaluated, free of charge, for 30 days, before having to make a commitment to purchase them. A summary of standard features, applications and optional software based upgrades supported on Business Communications Manager is provided in the table below.

Capacity	Users	Up to 80 digital telephones subject to PSTN trunk & system configuration in association with an Expansion Chassis
PSTN Interfaces	ISDN Only	Basic Rate (BRI) & Primary Rate (PRI) Media Bay Modules
Networking	Voice Over IP Gateway	Optional upgrade - Peer to Peer or to M1 ITG
	MCDN	Optional upgrade - Limited features
	QSIG	Optional upgrade - Limited features
	DPNSS	Optional upgrade - Limited features
Applications	All Pre Loaded	Activated by key code
	Voicemail	Standard feature for all users
	Auto Attendant	Standard feature
	Custom Call Routing	Standard feature
	Integral System Management	Standard - web browser based
	PC based Attendant Console	Optional upgrade
	Call Centre	Integral - Two upgrade options available
	Unified Messaging	Optional upgrade from voicemail
	Fax Suite	Optional upgrade
	VPIM/AMIS Message Networking	Optional upgrade
	TAPI Service Provider	Optional upgrade
	Personal Call Manager	Supplied FOC with TAPI service provider
Telephones	Generic Analogue	Using Analogue Terminal Adapter (ATA)
	Business Communications Manager 2.0 Digital Sets	5 options to choose from in 3 colours
Data Interfaces	Integral Soft Router	Standard feature
Localisation	Languages	English, Dutch, Swedish, Danish, Canadian French & Latin American Spanish
	Telephony	UK, Sweden, Denmark & Netherlands

...& data

Standard system functionality

The features and functionality provided by the standard Business Communications Manager system and its' associated peripheral devices, along with their benefit to a user, is explained in the following tables. For details of the functionality of optional applications, please refer to the specific application datasheets.

Nortel Networks Business Communications Manager Telephony

Business features and benefits

Feature	Benefit
Alternate Route Selection	Most effective route can be used for outgoing calls through the day using programmable time of day schedules.
Call Barring	Restricts outgoing calls.
Call Barring Override	Allows bars to be lifted for specific destinations and users via password.
Call Duration Timer	The duration of any call can be clocked via the phone's display.
Direct Inward System Access (DISA)	DISA provides password protected remote access to key system features such as system extensions, private network, public network via line pools and system page.
Extension-to-Extension Calling Over Private Networks Hotline	Calls can be made direct between extensions at different sites. This requires networking via DPNSS, QSIG or MCDN to be implemented. One or more phones can be programmed to automatically dial a pre-set number as soon as the handset is picked up.
Hunt Groups	Allows calls to be presented to a number of extensions. Broadcast – all phones ring in a group simultaneously; Sequential - call is presented to the first extension and hunts until it reaches a free extension; Cyclical - call is presented to the next extension after the one which has completed the last call.
Line Pools	Exchange lines or private circuits can be pooled and users given access to specific pools only.
Multiple Line Access	Each phone can have several outgoing lines associated with it.
Night Service Line	Capability to switch the system to night service automatically at pre-programmed times.
Operator Controlled Mode	This allows Business Communications Manager to work behind a phone system that requires other signals besides dialled digits.
Privacy	When a user is on the phone, no other user can accidentally break-in. However, they can receive or make priority calls if allowed.
Private Lines	An outgoing line can be allocated exclusively to one phone. The only other phone able to use this line is the prime extension.
Public Telephone Network (PSTN)	Business Communications Manager systems on private networks, calls can be directed to be forwarded Breakout onto the PSTN remotely, if the incoming call is unanswered.
Release Override Password	Allows a user to override.
Simultaneous DDI	Allows more than one call to appear on the same Direct Inward Access Line (DDI) on the same extension.
Uniform Numbering	One consistent set of numbers can be created for all network extensions.
7-Digit Numbering on Private Networks	Allows extensions to be numbered with up to seven digits.

powerful...

Call handling features and benefits

Feature	Benefit
Call Queuing	Incoming trunk calls can be answered by the central answering point in the order in which they were received.
Delay Ring Transfer	Transfers an unanswered call to another extension.
Music/Tone on hold	The three options for calls on hold are; music, tone or silence.
Prime Extension	Used to receive all unanswered calls - could be operator/receptionist or voicemail box.
Second Call Busy	Users can choose how they want to deal with a second internal or external network call; either by switching off the ring tone and give the caller a busy tone or by retaining the ring tone and answering the second call. Incoming external calls can divert to a pre-programmed extension if a busy extension is encountered.
Transfer (with Callback)	With announcement (allows people to be introduced before leaving them connected), Immediate (allows a transfer to be made without speaking to the third party), Using-Hold (designed for people working close to each other, a call can be picked up by a co-worker by pressing a key).

End user features and benefits

Feature	Benefit
Autodial Keys (Internal/External)	One button provides access to features or frequently dialled numbers.
Automatic Line Select	Automatically selects a free line for outgoing calls.
Automatic Phone Relocation	Any phone moved from jack to jack will retain it's pre-programmed information.
Discriminating Ring Cadences	Internal and external calls sound different.
External Call Diversion	Calls to an extension on a system with digital lines only can be diverted to an external number.
Last Number Redial	Allows the last outgoing number dialled to be automatically redialled.
Manual Line Selection	Allows a user to choose which line they want to make their calls on.
Ring Again	Automatically offers to ring back an extension or line pool when encountering busy or no reply.

Group user features and benefits

Feature	Benefit
Answer Groups	A single key can be used to answer up to four extensions.
Call Forward	Ability to forward calls to an alternative extension; either all calls, on busy or no reply.
Call Forward Override	Allows the person taking forwarded calls to bypass call forward and contact the forwarding extension.
Call Forward Retry	In a circular call forward loop where all extensions are busy, the new call will be reactivated every 12 seconds for 2 minutes, waiting to be received.
Call Identification/Call Status Display	Internal calls activate the display on an extension to show who's calling or the status of a call (for example, a forwarded call).
Call Park	Hold's a call on the system until it is picked up from a different extension.
Call Pick-Up Group/Trunk Answer	A member of a group can answer another group member's call from their own phone. Exchange calls can be picked up from any phone when a service mode is activated (trunk answer).
Camp on Busy	External calls can be put through to an engaged extension. The extension user hears a warning tone and the call is connected when the extension becomes free.
Conference Calling	Between three internal parties, two internal parties and one external party or one internal party and two external parties.
Dial 0 Extension	Provides single button (it is possible to configure this as 0) access to a specific phone. (Usually the operator/receptionist).

Group Listening	The handset and speaker can be connected at the same time. This means that others can hear a conversation without having to use the handsfree option, so there's no background noise.
Messaging on Display	Send (a user can send a message to the display of a busy or unattended phone), Waiting (the unattended or busy set displays the message), Reply (at the touch of a button, the phone can automatically place a call to the party that sent a message).
Paging Internal/External	An Internal paging system operates through phone speakers. This can page up to six zones. A public address system can also be connected.
Priority Calls	Allows a phone to interrupt another busy phone. This feature can only be assigned by your system administrator/manager. The interrupted party hears an intrusion tone and can block the interruption within eight seconds.
Proxy Programming	User data from one extension can be programmed easily to another extension.
Tone on Conference	A warning tone indicates when another party joins a conference.
Voice Call/Deny	Allows a user to make an announcement to another extension without waiting for a ring tone or the phone to be answered. This feature can be prevented when interruptions are inappropriate.

Nortel Networks Business Communications Manager
Voicemail, Auto Attendant and Custom Call Routing

Administration features and benefits

Feature	Benefit
Backup and Restore	Data backup and restore applies to all system configuration attributes, but not voicemail messages. This enables rapid system re-configuration if necessary.
Create Mailbox Utility	Create mailbox utility, when activated, will seek out all the extensions which do not have mailboxes and will create mailboxes for these extensions using default characteristics. Some other mailbox characteristics must be manually designated by the system administrator, but having the mailboxes automatically configured will save time.
Custom Directory	The custom directory provides the capability to have name matches looked up in the directory by first name, last name or both names.
Expedited Record Time-out	When callers reach a mailbox and silence is detected by the system, the system allows one retry after silence is recorded.
Mailbox Manager	Mailbox manager allows a user to manage all aspects of their mailbox from their desktop. This includes; initialising the mailbox, recording and selecting greetings, changing passwords and spoken name recording, changing target attendant and setting up off-premise message notification.
Operator Manager	This enables a number of options to be set for handling incoming calls: - 1. *Attendant Available* - This designates that your company receptionist or operator will respond to a call 2. *Business Open* - This allows your company to play greetings automatically, according to pre-programmed start times 3. *Answer Lines* - This allows voicemail to answer all incoming calls and present each caller with the company greeting and automated attendant menu

Automated Attendant features and benefits

Feature	Benefit
Call Transfer - Blind	This enables a call to be transferred directly to an extension with ringing starting immediately.
Call Transfer - Screened	Callers are first prompted to record their name, which is then played at the dialled extension; the call can then be accepted or rejected without the caller's knowledge.
Caller Display (Call Screening support on Call Forward)	When call forwarding is enabled, all incoming calls are immediately forwarded to voicemail. This enables the mailbox owner to see caller information displayed at their telephone set, the display will show the name (or number) of the caller. This is accompanied by an alert tone when the call is being forwarded to voicemail, enabling the user to intercept the call if they so wish.
Dial Extension Number from CCR	This enables any extension number to be dialled from any menu point on a Custom Call Routing tree.
Flexible Business Hours for Company Greetings	This enables different pre-recorded morning, afternoon and evening greetings to be played, in line with company business hours.
Personal Greetings based on CLID	A mailbox subscriber can choose personal greetings to be played for up to 3 specific telephone numbers.

Personal mailbox options and benefits

Feature	Benefit
Assigned Target Attendants	This enables each mailbox owner to choose an extension of their choice, as their preferred attendant.
Auto Answer with Personal Greeting	After a pre-set number of rings, voicemail answers calls with the personally recorded greeting of the mailbox owner.
Broadcast Messages	This enables a message to be recorded by a system administrator and sent to every mailbox; it is played automatically, then erased as soon as the subscriber ends the session.
Off-Premise Message Notification	Up to five internal or external numbers can be programmed that will notify a mailbox subscriber when a message is received in their mailbox. Each number is called in sequence if the number before does not answer. Numbers can be designated as a phone, pager or intercom. Depending on the Class of Service programming, each number can be called up to 9 times at intervals of 5, 10, 15 or 30 minutes per attempt. If a pager is notified, the user must phone in to receive the message. If a phone is notified, the user can access their mailbox once they enter their password. Messages are immediately sent to users wherever they are located, therefore improving both external and internal communications.
Envelope Information	By pressing "7" during or after a message, the receipt time and date of the message is given. For internal calls, the sender's name is also given.
Forward Copy with or without Comment	Mailbox messages can be forwarded to other mailboxes without re-recording the message.
Guest Mailbox	This mailbox is useful for people who do not have their own extension number, yet need voicemail access.
General Delivery Mailbox	This is a "last stop" mailbox for unsuccessful call transfers returned to the operator who is, at that time, also unavailable.
Informational Mailbox	A business can play frequently requested information only as a form of announcement, with no message taking capabilities.
Message Delivery Options	This feature allows the priority/confidentiality level of a voicemail message to be established by the sender, as either normal, certified, private or urgent. Using some of these options will generate a confirmation receipt when the message is read.
Message Waiting Notification	When new messages are received, "message for you" appears on the user's telephone display. (Lights the MWI LED on the M7000 set). When the mailbox is opened, the number of new and saved messages is heard.

Personal mailbox options and benefits (cont.)

Name Confirmation when Sending	The name and number of the person or mailbox being contacted appears in the LCD display of the telephone (Not M7000).
Name Directory or Extension Accessibility	Any system mailbox extension can be found by spelling the user's last name on the dial pad.
Never Full Mailboxes	External callers will not be prevented from leaving a voice message in a personal mailbox, even if the mailbox is full unless the complete system is full.
Playback Controls	Mailbox owners can move within or between messages, without listening to each message in its entirety.
Remote Call Forwarding to Voicemail	Enables a mailbox owner to turn call forwarding to voicemail on or off, from a remote location.
Saved Message Queue and Retention Periods	Messages can be saved for a pre-set time period as determined by 'Class of Service', saved messages are stored in a queue and played after any new messages.
Urgent Message Notification	The prompt "This message is urgent" will precede playback and display an urgent message. Urgent messages will be moved to the front of the new message queue, ahead of non-urgent messages. When urgent messages are saved, the urgent indication is ignored and the message is queued in chronological order.

Reporting features and benefits

Feature	Benefit
Call Handling and Channel Usage Report	This report provides traffic statistics on the types of calls handled and the traffic against each port used by the system.
CCR (Custom Call Routing) usage Report	This provides details of the greeting table from which the CCR tree is currently referenced and a seven-day rolling count of the number of calls received by the tree and the number of times each path is visited.
Numeric Mailbox Information Report	This report provides details about the usage of individual mailboxes.

Security features and benefits

Feature	Benefit
Change of Operator Password	To improve security, a password can be changed from the default operator password to any four-to-eight digit sequence.
Double Entry of New Passwords	Mailbox owners must enter a new password twice when changing their password. This ensures that typing errors whilst changing passwords do not lock users out of their mailbox.
Forced Password Change	This is an important security measure. Mailbox owners will periodically be required to change their passwords. The intervals can be set for either 0, 30, 60 or 90 days. (0 is interpreted as never changing the password). If the password has expired, it does not prevent access to the mailbox, but the user is prompted that the password has expired and the password must be changed.
Incorrect Password Detection and Lockout	To prevent access to the system from a determined hacker, the voicemail system tracks the number of incorrect login attempts since the last successful login. When the number of unsuccessful attempts exceeds a threshold, the mailbox will be "locked out" and cannot be opened, even with the correct password, without administrator intervention. The maximum number of login attempts is controlled by the 'Class of Service'.

Nortel Networks Business Communications Manager
Digital telephones

Digital telephone portfolio

Model	Benefit
M7324N	This phone is designed to handle heavy call volumes and feature requirements and is ideal for secretaries and receptionists. It has a two-line display and gives one touch access to 24 features, lines or extensions. With the addition of the optional Central Answering Position (CAP-N) module, the M7324N can become the focal point of an operator-based system.
M7310N	This fully featured phone is designed with extensive calling and call handling requirements. It is the phone most people choose and it works happily with add-on applications like voicemail. The M7310N has 10 memory keys for storing frequently used features such as last number redial, transfer and call forward. There are also 12 dual-memory keys, each of which can store two numbers or feature codes, thus presenting users with an additional 24 autodial buttons.
M7208N	This phone has an 8 number memory and line keys for one touch dialling, feature operation or line access. It also has a menu-driven display for ease of use.
M7100N	Delivers dependable functionality to users (or areas) with relatively simple requirements. The M7100N has one programmable memory button and feature button, along with a one-line display.
M7000	This entry level digital set is ideally suited for basic POTS and low use business scenarios. It is the only telephone that does not have an LCD display, but Business Communications Manager features can still be used and message waiting indication is provided. It has a 2.7m (long), handset cord, which makes it ideal as a wall mounted phone.
Central Answering Position (CAP-N) Module	Add the CAP-N module to a M7324N phone and it's transformed into an operators position with 48 additional programmable keys and 48 associated LCD indicators. Customers can add up to two CAP-N modules to each M7324N, giving users up to 96 extra one key options.

Digital telephone features and benefits

Feature	Benefit
Contrast Control	Controls the display contrast on the phone.
Day/Time Display	When a phone is not being used, the display shows the date and the time.
Dialpad Feedback	Each key press is accompanied by an audible tone and the keypad number is shown on the display.
Display Indicators	Shows the status of each line associated with the extension.
Distinctive Ringing	Phones can be programmed to ring in one of four different ways, making it easy to distinguish incoming calls when they are close together.
Do Not Disturb	Once set by a user, callers hear a busy tone and see a "Do Not Disturb" on their display.
Extension Lock	Allows a user to prevent others from programming their phone.
Handsfree (except M7000 and M7100N)	Answerback (the user can answer calls without picking up the handset), Automatic (handsfree is automatically set up when a number is dialled), with Mute (cuts off outgoing speech to allow a user to confer privately while the caller is still on the line).
Headset Connection Capability	Headset can be connected to phones for privacy when not using handset.
Hearing Aid Compatible	Users wearing hearing aids do not have to put up with feedback.
Held Line Reminder	Reminds the user when a caller is on hold.
Hold	Automatic (when a second line, intercom or conference buttons are pressed), I-Hold/U-Hold (the indicator on the phone that puts a call on hold flashes faster than the indicators on other phones sharing the same line).

Liquid Crystal Display (except M7000)	Displays the line and call details in real time and prompts users through call handling features.
Listen On Hold	If a caller is on hold, the user can monitor the call on handsfree and pick it up as soon as the party returns.
On-hook Dialling	The user can make a call without lifting the handset or using the handsfree key. This works for all dialled calls, system speed-dial, personal speed-dial and features.
Pre-selection/Call Screening	By pressing the line key, a user can select which ringing line to answer.
Release Key	Disconnects a call.
Speed Dial	Fast access to 70 system numbers and 24 personal numbers on each phone.
User Programmable Keys	Allows users to program their phones to suit their individual requirements.
Volume Control	Controls the volume received by the handset/headset for ringing, background music and paging.

Peripheral equipment features and benefits

Feature	Benefit
Analogue Terminal Adapter (ATA)	Enables analogue equipment, such as fax machines and modems to be connected. Can also be used to connect external extensions.
Call Logging Interface (CLI)	Optional add-on unit that links an external call logging device - from a simple serial printer, to an advanced call management system - and uses one extension port.

Nortel Networks Business Communications Manager
Data services

Data interface features and benefits

Feature	Benefit
Two 10/100 Auto Sensing Ethernet Connections (PCI card slots)	Used to connect Business Communications Manager to the LAN. 10/100 AS is the current benchmark; two interfaces enables separate voice and data VLANs or a DMZ for Internet servers.
Optional Serial (V.35, X.21, RS232, RS449, EIA 530) (PCI card slot; 1 + 1 with E1/FT1 CSU Interface)	Used to connect Business Communications Manager to a data service provisioned via a synchronous serial interface of the types listed. Many services can terminate in an external device before interfacing with Business Communications Manager. This flexible serial interface enables the product to adapt to many of these existing deployment modes.
4 port ISDN BRI S/T (Media Bay Module)	Used to connect Business Communications Manager to a 4-wire Basic Rate ISDN (BRI) service. These ISDN (BRI) connections (8 B-channels) can be shared dynamically between voice and data calls.
E1/FT1 CSU (PCI card slot; 1 + 1 with Serial Interface)	Used to connect Business Communications Manager to an E1 access for data traffic. Terminates an ISDN primary rate service directly and eliminates the need for an external CSU.
30 Channel ISDN PRI (Media Bay Module)	Used to connect Business Communications Manager to primary rate ISDN (PRI) connection for data (Media Bay Module) and voice traffic, carried on the same physical access link. This also eliminates the need for an external multi-port CSU/DSU.

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Network protocol features and benefits

Feature	Benefit
IP Routing	Provides route determination and forwarding of IP packets from LAN to LAN, WAN to LAN or LAN to WAN. The IP protocol is the dominant protocol for connecting PC's to servers running business applications.
IP Control Protocol	This enables the IP protocol session to established across any data link layer. This is a basic component for data networking.
IPX Routing	This provides route determination and forwarding of IPX packets from LAN to LAN, WAN to LAN or LAN to WAN. The IPX protocol was a popular choice for connecting PC's to servers running business applications. There are many small businesses still using IPX in their LAN.
RIP 2 Routing Protocol for IP	This is an advanced protocol used for the dynamic exchange of IP routing information between two or more routers in a network. It uses a distance vector algorithm to determine routes and routing. This reduces the cost of ownership by enabling routers to update each other regarding available and non-available routes. It is simple to implement in small networks.
OSPF Routing Protocol for IP	This is an advanced protocol used for the dynamic exchange of IP routing information between two or more routers in a network. It uses a link state algorithm to determine routes and routing. This reduces the cost of ownership by enabling routers to update each other regarding available and non-available routes. It is also scaleable to support large complex routed networks.
RIP/SAP Routing for IPX	This is an advanced protocol used for the dynamic exchange of IP routing information between two or more routers in a network. It uses a distance vector algorithm to determine routes and routing. This reduces the cost of ownership by enabling routers to update each other regarding available and non-available routes. It is simple to implement in small networks.

Access services features and benefits

Feature	Benefit
Point to Point Protocol (PPP)	This is the workhorse connection for TCP/IP and IP networks. It is used to facilitate IP connections over dial up or leased line connections. This protocol service is used to support a direct data channel connection between Business Communications Manager and an ISP, between two Business Communications Manager's or between an Business Communications Manager and another data device, for example a BayStack ARN.
Multi-Link PPP/Bandwidth on Demand	This service complements PPP service by enabling the router to service a PPP connection spread over more than one physical interface. Additional bandwidth can be requested and added on demand. This enables a site to network with high bandwidth when it is required, (usually over ISDN B Channels), with the ability to drop channels when bandwidth demand is low.
IP Dial on Demand	This service complements PPP service by enabling the router to establish a PPP connection on a demand basis. This is a very cost effective solution for transactional or other low volume data applications.
Dial Backup ISDN	This enables management and user data to be connected via ISDN (BRI or PRI) in the event of a primary WAN link failure. This helps to minimise the impact of network outages and provides an alternative access method, for ensuring that the Business Communications Manager is not the cause of the outage. If the system needs to be re-configured, the backup link can be remotely accessed to accomplish this task.

Frame Relay/1490	This is a service which enables the encapsulation of IP and IPX packets into a Frame Relay connection. This service also provides the termination of the Frame Relay service and all of the necessary Link Communication required to be a node in a F/R network. The Frame Relay service is widely available, cost-effective, mature and reliable. It is the networking choice for most businesses today.
STAC Compression	An industry standard format for compressing data (up to 4:1) in the router before it hits the WAN link. Decompression is carried out at the opposite end after the packets have traversed the WAN. Can effectively double or even triple the apparent WAN bandwidth for certain types of traffic. This can reduce network costs.

Security services features and benefits

| Feature	Benefit
PAP, CHAP	Password and Challenge-Handshake Access Password services for ensuring remote access requests are from trusted sources. These enable Business Communications Manager to be connected via a remote dial-up for diagnostics or maintenance.
RADIUS	Remote Access Dial In User Service is another form of security using a centralised access control list. This enables Business Communications Manager to be connected via a remote dial-up for diagnostics or maintenance. The central access control list is easier to maintain.
Network Address Translation (NAT)	This service replaces a private, interior LAN IP address with a public, exterior IP address on packets that are destined for Internet. The existing LAN IP address scheme does not have to be changed when an Internet service is installed. Fewer public IP addresses are required from the ISP (they each carry a small fee).
Packet Filters	These are used to block packets entering or leaving the site. Filters are implemented for example, to prevent hackers from issuing system management commands.
Stateful Packet Filters	These filters are more complex and enable the administrator to fine tune what can and cannot pass through the router. The administrator can set privileges and denials based on a wide range of criteria, including: IP address and port, traffic type, previous conditions, etc.

Management & IP services features and benefits

Feature	Benefit
SNMP	Provides device alerts to a central network management system. This enables Business Communications Manager to fit into an existing network management infrastructure.
Web Browser	A simple and intuitive management interface for all aspects of the Business Communications Manager system. This is accessible from any PC with a Web browser. Minimises training needs and investment in special management programs. Improves Mean Time to Repair (MTTR) in the event of a soft failure.
Optivity	Provides device alerts, discovery, registration to a central Optivity Network Management server. This enables Business Communications Manager to be managed by market leading Optivity NMS. This is the same NMS used to manage BayStack routers, hubs and switches.
Diff Serv Quality of Service (QoS)	This service provides QoS for IP packets as they pass through the router. It is a fundamental component to ensuring the toll quality performance of the Business Communications Manager VoIP Gateway. It enables Business Communications Manager to be implemented with the necessary QoS to support real-time VoIP and other priority traffic classes.
DHCP Server	The Dynamic Host Configuration Protocol server is used to assign an IP address to any host requesting an IP address. This simplifies administration and deployment of the network.

DNS Server	The Domain Name Service is used to resolve a domain name, such as ca.nortel.pbpdd591, to an IP address, 47.65.84.100. Users prefer to use domain names instead of long IP addresses. The DNS server helps to implement this process.
DNS Proxy	This enables Business Communications Manager to pass LAN side DNS queries to a WAN side DNS server, therefore providing a higher degree of security.
DNS Cache	This enables Business Communications Manager to store or cache the results of DNS proxy queries locally. This minimises lookup delay and bandwidth utilisation.
Web Proxy	This enables Business Communications Manager to pass LAN side http queries to a WAN side http server, again provides a higher degree of security.

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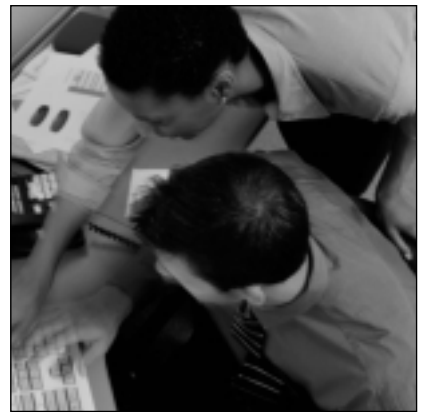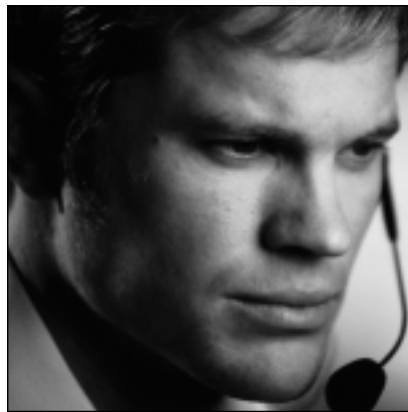
Nortel Networks Business Communications Manager Core system hardware characteristics

- Intel Pentium - 700 MHz CPU
- 128 MB of RAM
- 8.4 GB hard drive
- 4 PCI slots for:
  - 2 x 10/100 base T LAN cards
  - MSC card
  - 1 SDL WAN
- 3 media bays for ISDN trunks and/or digital telephone modules
- Warm reset switch
- 300 watt power supply
- 1 serial port
- 1 parallel port
- 1 video port (not normally used)
- 10 visible LEDs on front panel for :
  - Main power supply indicator
  - Hard drive activity
  - Status indicator
  - PCI Slot 1
  - PCI Slot 2
  - PCI Slot 3
  - PCI Slot 4 Port #1
  - PCI Slot 4 Port #2
  - Redundant power supply status indicator
  - Future use

Size
- Depth: 464mm (18.28 inches)
- Width: 445 mm (17.51 inches)
- Height: 179mm (7.05 inches)

Weight
- Basic system with no PCI cards or Media Bay Modules: Approx. 10.5 Kg (23 lbs.)
- Full system with 4 PCI cards and 3 Media Bay Modules: Approx. 14.1 Kg (31 lbs depending on the model)

Mounting
Either 19" rack mounting using supplied brackets or free standing (rubber feet supplied) on a table top or suitable shelf.

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