



# **BCM50 System Overview**

## **On-Call Communications**

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## BCM50 System Overview

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Business Communications Manager 50 (BCM50) is a complete, converged voice, data and feature-rich business telephony applications solution for small business and small enterprise branch offices. BCM50 gives you the features and applications of traditional small office PBX and key systems, plus the new converged value of IP.

This system overview gives you a summary of the features and functionality of the BCM50. This overview is for installers, network administrators, and anyone interested in a summary of BCM50.

### BCM50 Hardware



BCM50 is available in three configurations:

- BCM50: The compact main unit, suitable for networks where integrated data routing capability is not required, or networks that already have an IP network
- BCM50e: includes an integrated Ethernet router
- BCM50a: includes an ADSL router

For more information about the integrated routers, see [“BCM50e and BCM50a: BCMs with Integrated Routers”](#) on page 6.

For more information about BCM50 hardware, see the *BCM50 Installation and Maintenance Guide*.

### Additional BCM50 Hardware

- BCM50 Expansion: a compact unit that accommodates the Media Bay Modules used by other BCM platforms. The BCM50 main unit can support a maximum of two expansion units.
- Small System Wallmount Bracket: an inexpensive bracket designed for mounting the BCM50 or expansion unit to a wall. An optional wiring card is also available for use with the wallmount bracket, which provides RJ-45 connectors for all main unit trunk and station interfaces.
- Small System Rackmount Shelf: an inexpensive shelf designed for mounting a maximum of 4 BCM50s into a standard 19 inch rack. An optional patch field is also available that provides RJ-45 connectors for all main unit trunk and station interfaces.

BCM50 supports the complete range of IP telephony capability offered by existing BCM products. These features are enabled through the use of keycodes and require no additional hardware:

- VoIP Gateway (H.323): up to 12 VoIP trunks
- VoIP Telephony Clients: up to 32 VoIP Telephony clients, supporting the complete range of Nortel IP phones

### BCM50 Physical Dimensions

BCM50 has a compact plastic enclosure that is designed so that you do not need to add additional hardware to enable features and applications. The compact size and flexible installation options support fast installs, and accommodate the diverse environmental and physical conditions of small businesses.

Physical dimensions of the BCM50 main unit and expansion unit:

	<b>BCM50 main unit</b>	<b>BCM50 expansion unit</b>
<b>Height</b>	2" (5.1 cm)	2" (5.1 cm)
<b>Width</b>	8.5" (21.6 cm)	8.5" (21.6 cm)
<b>Depth</b>	12.5" (31.8 cm)	12.5" (31.8 cm)

The BCM50 main unit and expansion unit design features:

- external power supply
- stackable units
- rubber feet and can be installed on desktop or shelf
- optional wallmount bracket
- optional rackmount shelf

### BCM50 Physical Interfaces

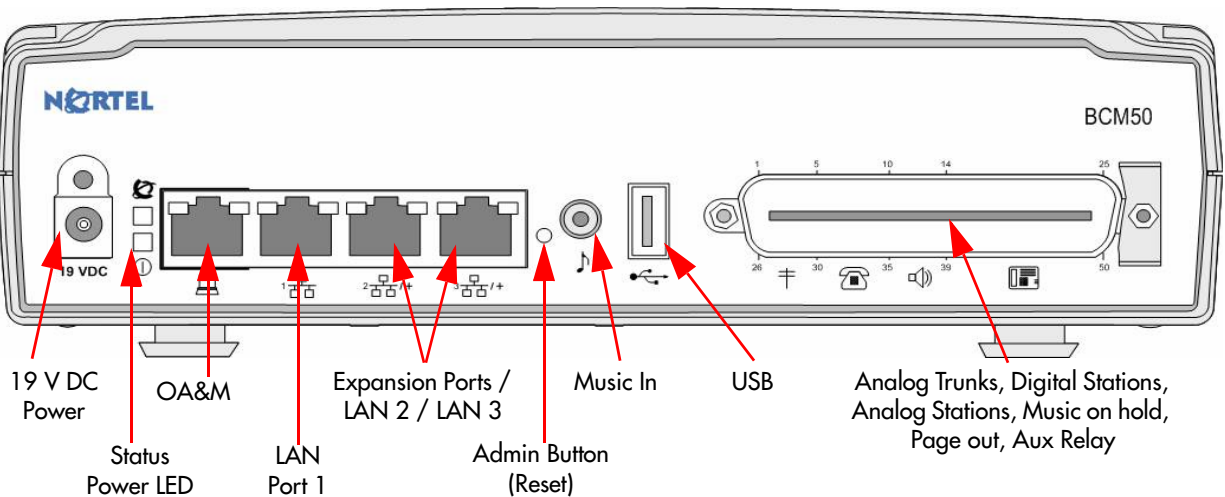
The BCM50 interfaces are designed so that you do not have to add additional hardware. Your BCM50 comes with these interfaces:

- Twelve digital station ports that support the complete line of Business Series Telephones. These ports are accessible through the front pane RJ-21 connector and are enabled through keycodes.
- Four Analog Loop Supervised Trunks in versions using North American networking standards. These ports are accessible through the front panel RJ-21 connector and are enabled through keycodes.
- Four Analog Station interfaces with message waiting and CLID support in versions using North American networking standards. These ports are accessible through the front panel RJ-21 connector are enabled through keycodes.
- Page and auxiliary relay output on the front panel RJ-21 connector.

- Three port 10/100 Ethernet switch with auto sensing and auto polarity. Two of these ports also support connecting optional expansion units.
- One 10/100 Ethernet port reserved for direct access management of the system
- Music on hold input supported either through front panel jack or RJ-21 connector
- USB port to enhance BCM50 management

You can extend the capacity of your system by using the optional [“BCM50 Expansion Unit”](#) on page 9.

## BCM50 Front Panel and Interfaces



## Telephony Features

BCM50 comes with a full set of telephony features that can respond to the varied requirements of your business. BCM50 supports:

- the base telephony features currently provided in BCM 3.6
- Business Series Telephones (except for Doorphone)
- analog station terminals, including phones and fax machines

## IP Telephony Features

The cornerstone of convergence is IP telephony. BCM50 offers the complete range of IP telephony features currently provided in the Business Communications Manager product line:

- G.711 and G.729 codecs
- echo cancellation
- H.323 IP trunking and MCDN over H.323
- T.38 Fax

- Support for desktop clients: Nortel IP telephone portfolio including i2001, i2002, and i2004 desktop sets, and i2050 Software Phones for extending voice services to mobile and home-based employees over the Internet

## **BCM50e and BCM50a: BCMs with Integrated Routers**

BCM50 is available with an optional integrated ADSL or Ethernet router. These units suit the needs of small businesses and small enterprise branch offices requiring external data networking such as Internet access or VPN based networking to other offices.

Two variations of the BCM50 have an integrated router, depending on the WAN interface you require: BCM50e (Ethernet WAN) and BCM50a (ADSL WAN). Both routers have these data features:

- secure Internet access
- multi-site VoIP trunking using secure VPN tunnels
- wide-area VoIP applications with remote user support
- remote management and support

## **Common Features and Capabilities**

BCM50a and BCM50e share the same rich set of functionality focused on secure Internet access and VoIP.

BCM50e and BCM50a have three additional ports of Ethernet LAN switch for a total of six LAN ports for local premises use. All Ethernet ports are 10/100 Mbps auto sensing, and support auto polarity so no crossover cable is required to connect data hardware to the unit. An additional port is provided for WAN access, either Ethernet or ADSL, depending on the model.

The following features make BCM50a and BCM50e attractive for small sites who want to become Internet-capable and multi-site enterprises with many small sites. Until now, however, they could not be part of the corporate WAN because of the high cost of traditional WAN connectivity and managed service:

**VPN**

- up to five IPSec Branch Office Tunnels (peer-to-peer)
- support for Dynamically addressed peers – ABOT
- support for Client Tunnel origination (not termination) to simplify the connection to a larger VPN Router network
- IKEv1 Main Mode
- IKEv1 Quick Mode
- Diffie-Hellman Group 1,2
- IPSec Tunnel Mode
- ESP
- NAT Traversal

**NAT**

- many to one, static, many to many
- port forwarding
- IPSec Pass through
- NAT support for tunnel mode IPSec tunnels

**IP Services**

- DHCP client
- DHCP server with support for Nortel Internet Telephones
- DNS Proxy
- DNS w / VPN client
- PPOE
- Configurable MAC address
- 5 Mbps clear text routing w/ 1500 byte packets
- 1.5 Mbps 3DES throughput w/ 1500 byte packets

**Security Services**

- cryptographic services
- DES and 3DES
- data authentication SHA-1
- data authentication MD-5
- authentication services
- pre-shared secrets
- security services
- stateful firewall
- intrusion detection

**Router**

- Clear text routing
- Static – through tunnel
- RIP v1 – through tunnel and clear text
- RIP v2 – through tunnel and clear text

**BCM50e**

The BCM50e provides call processing and data routing features, and is suitable for networks where data routing capability using an integrated Ethernet router is required. The WAN interface port provides 10/100 Ethernet with auto sensing and autopolarity. If you have existing or alternative WAN access technology, you can still benefit from the VoIP features of the BCM50.

## BCM50a

The BCM50a provides call processing, data routing features, and an integrated ADSL modem. The BCM50a is a standalone “office in a box” of applications. With the BCM50a, you have complete voice and Internet service with resulting efficiency and convenience. These features provide a complete, integrated Communications Server/ADSL access package for ease of interconnecting with service provider ADSL networks:

- ITU G.992.1 (G.DMT)
- G.992.1 Annex A
- ITU G.992.2 (G.Lite)
- ANSI T1.413 Issue 2
- DSL Forum document TR-042 ATM Transport over ADSL
- G.hs 994.1
- G.ploam G.997.1
- Auto negotiation rate adaptation
- RFC 2364 PPP over AAL5
- RFC 2684 Multiprotocol Encapsulation over ATM, both Bridged and Routed encapsulation
- Support for British Telecom SIN 329; BT Broadband IP Products requirements for End User NTE equipment, where the router and ADSL modem functions are integrated into one device
- RFC 1483 “Multi-protocol over AAL5”
- RFC 2365 “PPP over AAL5”
- RFC 2516 PPOE
- Traffic shaping UBR, CBR
- ATM forum UNI 3.1 / 4.0 PVC (minimum 5 PVCs)



## BCM50 Expansion Unit

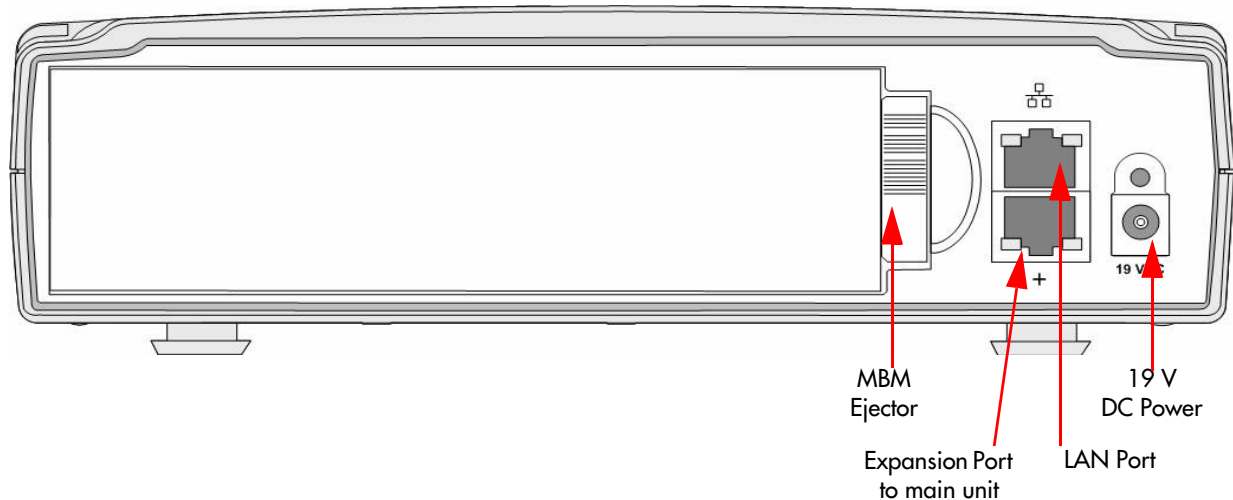
You can expand BCM50 trunk and station capacity by connecting up to two external BCM50 expansion units. Expansion ports on the BCM50 are enabled through keycodes.

The expansion unit fits easily with the BCM50, and is easy to integrate and install using the wallmount and rackmount accessories. The expansion unit is connected to the BCM50 using an RJ-45 CAT5 cable and uses its own external power supply, both of which are provided with the expansion unit.

Each expansion unit is capable of supporting one Media Bay Module, the same products that are used in the rest of the BCM product portfolio. BCM50 supports these Media Bay Modules:

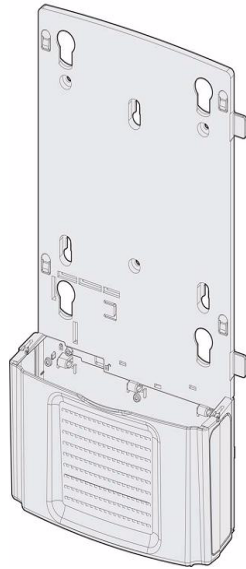
- 4x16 Combo (4 analog trunks, 16 digital stations) - North America Only
- ASM8+ (8 port analog station interface) - North America Only
- CTM4 (4 port CLID trunk module) - North America Only
- CTM8 (8 port CLID trunk module) - North America Only
- DTM (digital trunk module)
- BRI (ISDN Basic Rate trunk module)
- DSM16+ (16 port digital station module)
- DSM32+ (32 port digital station module)
- GATM4 (4 port global analog trunk module)
- GATM8 (8 port global analog trunk module)

### BCM50 Expansion Unit



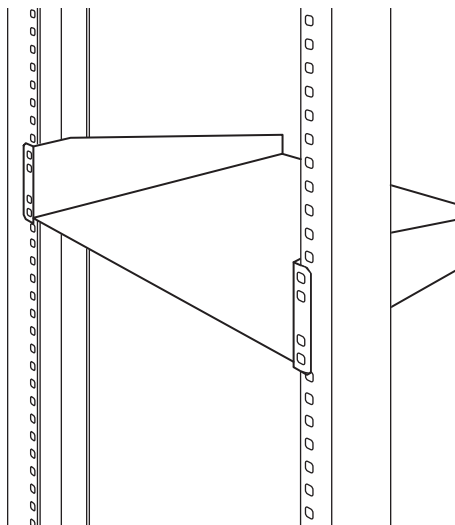
## Mounting Kits

Businesses can have a range of physical environments in which the system must be installed. BCM50 has optional accessories you can use to tailor the installation to the needs of the location.



### Small System Wallmount Bracket

You can use this optional bracket to mount the BCM50 and expansion unit to a vertical surface. You attach the bracket to the surface, and hang the BCM50 from the bracket. The details on the bracket ensure that the BCM50 securely locks into place. The lower part of the bracket includes a covered cable tray, allowing for organized and visually neat management of cables. An optional add-in card is available that mounts into the cable tray, providing RJ-45 connections for the main unit trunk and station interfaces.



### Small System Rackmount Shelf

You can install this optional shelf in a standard 19 inch rack, and mount the BCM50 and expansion unit on it. The details on the shelf firmly lock the BCM50 in place. The bracket also provides space to store power supplies for the BCM50. An optional patch panel is available to provide RJ-45 connections for the main unit trunk and station interfaces.

## BCM50 Management

You can quickly and easily install, configure, and administer BCM50. These topics summarize the BCM50 management areas:

- [“Ease of installation” on page 11](#)
- [“Remote Management Accessibility” on page 12](#)
- [“On-Box and Device Manageability Features” on page 12](#)
- [“Set-Based Administration” on page 13](#), for “no-PC” programming of most of the system
- [“Element Manager” on page 14](#), interface that supports all aspects of BCM50 element management
- [“Network Configuration Manager \(NCM\)” on page 16](#), for multi-element support

### Ease of installation

BCM50 installation is simplified with innovative hardware and management tools.

The simple “rack and stack” nature of BCM50 physical installation, with the multipurpose RJ-45-based connector strategy, gives you ease of installation. The dedicated RJ-45 port for management access gives you easy access to the unit for on-site PC-based element management tasks.

For BCM50 installations that require data networking, IP sets or VoIP trunking, BCM50 can function as a DHCP client to a network DHCP server for automated IP address assignment. BCM50 can also be a DHCP server to provide both IP phone sets and a directly connected Element Manager PC with their IP configuration.

If you use Norstar set-based programming, you can install and program BCM50 telephony and applications through set-based administration. Installers who familiarizing themselves with set-based programming use the keypad of any telephone connected to the system to program the system without requiring access to a PC.

All configuration programming can be done using the [“Element Manager” on page 14](#).

### Startup Profile

To accelerate the initial installation programming of system-level parameters, you can use the Startup Profile to quickly bring the BCM50 to a basic operational state, ready to program, without having to use Element Manager or set-based administration.

The Startup Profile is an easy-to-use template you can data-fill using Microsoft Excel. The Startup Profile gives you a quick interface for defining parameters such as:

- system profile including country, telephony template and key voicemail attributes
- system IP parameters
- system-level telephony attributes to automatically create the system DNS
- keycode information through automated application of keycodes
- users and groups

You fill out the template, save it to a USB memory stick and insert the memory stick into the USB port of the BCM50 during the initial boot-up of the system. This information is read into the BCM50 and applied through a single restart sequence.

The Startup Profile is similar to the Quickstart Profile of the BCM200 and BCM400, but can be data-filled and applied without requiring an IP connection to the unit, or a PC or telephone set. It executes more quickly, and includes a broader scope of system-level parameters.

## Remote Management Accessibility

BCM50 has an integrated analog modem that can accept an incoming modem call on any BCM50 system line. You can configure the BCM50 system to let the modem auto-answer a specific line with configuration options. Remote users can also first initiate a voice call to a person or an auto-attendant, who transfers the call to the modem.

The analog modem also supports callback for management access to the BCM50, which can be used to support auto-dialout on SNMP traps, and automated sending of Call Detail Records (CDR) to a remote CDR collection point.

Although we do not recommend that you use the analog modem for transferring large files, the modem gives you a flexible method of remote access to perform all programming tasks remotely.

The BCM50e and BCM50a give you remote management capability with a high-speed connection. Tasks such as transferring backup files to a remote destination, and transferring software update files, CDR records and log files, can be more efficiently supported than over the analog modem.

## On-Box and Device Manageability Features

BCM50 has an SNMPv3 interface that includes support for SNMP v1/v2 for management by legacy SNMP managers. SNMPv3 delivers improved security features for SNMP device access.

The BCM50 main unit supports the following versions of SNMP:

- SNMP v1 - the first implementation of SNMP; this version supports protocols such as IP
- SNMP v2C - provides improved efficiency and error handling
- SNMP v3 - provides improvements in security and privacy

Using the BCM50 Element Manager, you can select which versions of SNMP you want the BCM50 agent to support.

Management Information Bases provide access to the managed objects of a system and specify the format of traps. BCM50 supports these standard MIBs for remote management:

- MIBII RFC 1213 - second version of the Management Information Base for use with network management protocols in a TCP/IP-based internet. It includes System Group, Interfaces Group, and is a baseline RFC implemented by data networking systems.
- Entity MIB RFC 2737 - describes managed objects used for managing multiple logical and physical entities managed by a single SNMP agent.

- System Host MIB RFC 2790 MIB for managing host systems. Defines a set of objects common across many computer system architectures that are useful for the management of host computers, such as memory, CPU, and so on.
- SmallSiteEvent MIB for traps.
- RFC 2261 - SNMP Framework MIB.

BCM50 has adopted the Common Information Model (CIM) standard according to the industry standards organization Distributed Management Task Force (DMTF), which provides a modeled method of managing system programming parameters. BCM50 uses the transport mechanism CIM operations over HTTP using XML, also referred to as CIM-XML. The BCM50 CIM-XML interface provides a consistent way to manage data on the device, whether by the BCM50 Element Manager, NCM, or third-party network or service management applications.

## Log Management

BCM50 log management includes, in addition to the component logs that are provided by BCM200 and BCM400 systems, security logs, configuration change logs, alarm logs and system logs.

## Set-Based Administration

BCM50 gives you the ability to use a telephone interface to program much of the BCM50 system. Set-Based Administration benefits:

- BCM50 installations that do not have TCP/IP connectivity
- BCM50 installations where the installer does not have access to a computer on-site
- installers who prefer the speed of programming using set-based administration
- installers who are familiar with the Norstar interface

With set-based administration, you can manage:

- core telephony
- voicemail services
- IP network settings
- keycode entry
- admin password change
- modem on/off

Multiple languages are supported, consistent with Norstar set-based administration.

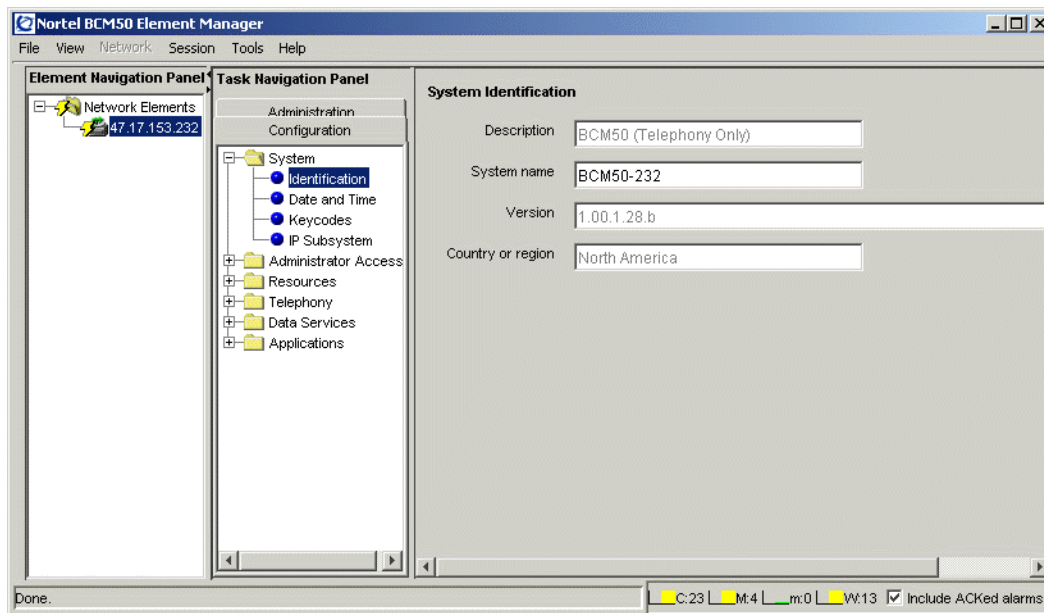
## Element Manager

Element Manager gives you access to BCM50 information in a new off-box management architecture. Element Manager has a task-based interface for greater ease of use.

If you have used Business Communications Manager Unified Manager, you will find that performing common BCM50 programming tasks is simpler, faster, and more information-rich on Element Manager, which requires less clicking through the interface to get to tasks. You can get to any programming screen in three mouse-clicks or less.

Programming data is organized in the Element Manager to quickly show all of the associations between data in the form of tables. This eliminates having to look in multiple places to get a system view of the programming.

## Element Manager



Element Manager runs on a PC, and the information required to draw the screens is contained locally within the client application. The only data transferred between Element Manager and the BCM50 are queries and actual data. Element Manager has familiar Microsoft Office-like capabilities, such as the ability to sort information.

All of the traditional BCM administration tools have been integrated into Element Manager, including managing backups and software updates.

Element Manager has an element navigation panel for organizing a network of elements. You can manage multiple elements at the same time. After you connect to an element, you can perform configuration and administration tasks.

## The Element Manager Administration interface

Element Manager's Administration management environment includes:

- BCM50 diagnostic and maintenance tools, including BCM Monitor.
- Fault management for viewing BCM50 alarms. You can set which alarms are displayed in the Element Manager alarm browser and which alarms trigger an SNMP trap.
- Log management for off-box transfer of logs, including component logs and administrator logs such as alarm log, security log, configuration change log, and system log.
- Software management tools for software updates (for example, for corrective software) and software upgrades.
- Backup and restore. You can schedule configuration backups or application backups. An application backup includes data generated through the day-to-day use of the on-box applications as well as the configuration data. A scheduled backup provides the ability to routinely perform a backup, which can be kept on the BCM50 hard drive or transferred to an off-box destination such as network folder, FTP server or locally attached USB storage device.

For backup and restore, software management, and log management, a flexible set of source and destinations is supported along with protocols to access them. For example, you can save backups from the BCM50 to either the USB port, the Element Manager client PC (on-demand only), a shared drive available on the network, or a remote FTP server.

## Software Updates

To ensure that BCM50 will be low-cost to maintain, even in an environment of security and corrective content updates, this is how BCM50 handles software updates:

- Software updates can be downloaded to the BCM50, either on-demand or according to a schedule, from a USB port, a shared network drive, a remote FTP server, or a client PC.
- Update software is automatically checked against the BCM50 software history and validated before it is transferred.
- You can schedule the application of the software update separately. For example, you can schedule a download for Tuesday night, but the application can be scheduled for Friday at 2 a.m.
- Multiple software update packages can be programmed to be applied at the same time.
- One software update package may include updates for multiple software components. While many software updates will not require a system reboot, some software components require a reboot for the update to take effect. There will be no more than one system reboot if one or more of the software components being updated by the software update package require a reboot.
- Software upgrades are handled in the same way and use the same tool as software updates.
- You can set up the entire software update process for hands-off operation if the software content can either be downloaded remotely, or sent out and installed from the USB port.

## Keycodes

The BCM keycode structure has been redesigned with these capabilities:

- One keycode validates all feature entitlements, which simplifies installation.
- You can apply keycodes in a number of ways:
  - through Element Manager
  - through set-based administration
  - through NCM
  - through a USB memory stick

## Network Configuration Manager (NCM)

Many Business Communications Manager customers already use the optional client-server based management application NCM to manage their multi-site BCM200/400 network. Designed to provide a system-wide perspective for up to 2000 BCM devices, Network Configuration Manager is a centralized database that stores information about every Business Communications Manager device on your network.

NCM for BCM50 includes centralized backup and restore management, common file distribution (for example, system greeting files), parameter configuration, and automated software update distribution. You can manage large BCM50 networks and mixed BCM50/200/400 networks using the NCM.



## BCM50 Applications

BCM50 has a wide range of high-value applications. You enable these applications through keycodes, and do not require any additional hardware.

BCM50 gives you ten ports for connecting to CallPilot and Call Center. Each port supports one connection to that application. For example, four callers could be leaving voice messages, and two callers could be in the auto attendant while four callers are listening to voice messages. The number of ports can support a fully configured a BCM50 system with a full complement of voice mailboxes.

BCM50 comes with CallPilot. Keycoded CallPilot options are also available, as are other BCM50 applications, such as LAN CTE, Personal Call Manager and Call Detail Recording.

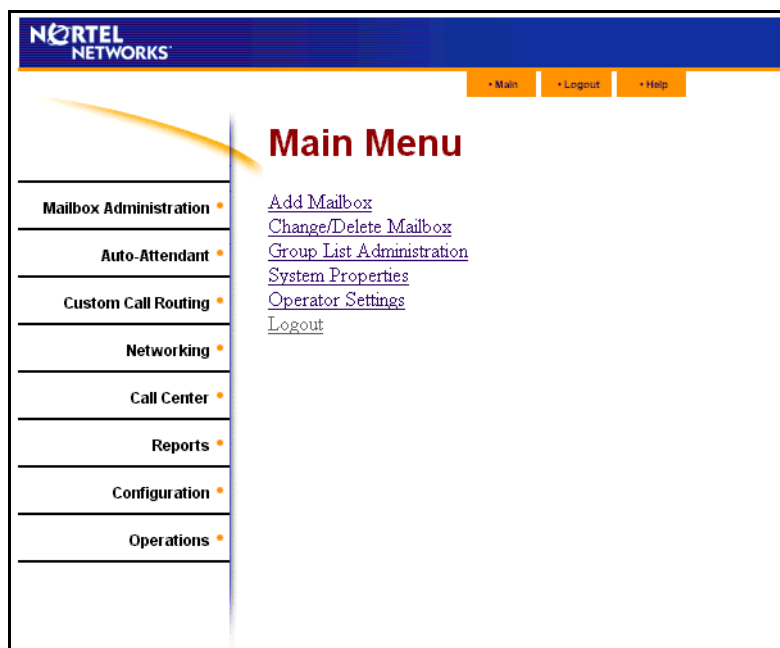
### CallPilot

BCM50 is a versatile business communications tool that you can use to:

- answer incoming calls
- offer callers a selection of options to route their calls or access information
- provide advanced voicemail, Auto Attendant and call handling capabilities

CallPilot Manager is a web-based application that is accessible through the BCM50 Element Manager. You use CallPilot Manager to set up and administer BCM50.

### CallPilot Manager



## **Features included with CallPilot**

### *Voicemail*

Records messages and stores them in a mailbox for easy retrieval. Business telephones on your system can have their own mailbox and greeting. Information can be distributed quickly to departments and workgroups.

### *Auto Attendant*

The CallPilot answering service that answers your business calls promptly, 24 hours a day, with a Company Greeting, plays a list of options to callers, and performs call routing functions in response to caller selections.

### *Custom Call Routing (CCR)*

Enhances the Auto Attendant menu with customized menus and information messages. With CCR you can determine the menu options and record the voice prompts that guide callers along call paths.

### *Fax Answering*

Fax Answering lets outside callers send faxes to the main site telephone number. Fax Answering is available even if you do not have the Fax option installed on your system. With Fax Answering, a fax call that arrives through the Auto Attendant or CCR transfers to a specified extension.

## CallPilot options

CallPilot has options that enhance your office communications. You need a keycode to enable a CallPilot option. Contact your vendor if you want to purchase a software authorization code.

### Message Networking

Message Networking links your BCM50 system with other voicemail systems and allows the exchange of voice messages between users at different sites. CallPilot supports Voice Profile for Internet Mail (VPIM) and Audio Messaging Interchange Specification (AMIS) networking.

For more information, see the *CallPilot Message Networking Set Up and Operation Guide*.

### Call Center

Call Center is an application that handles incoming calls as efficiently and economically as possible. Call Center answers calls, then routes the calls to agents in a skillset that most closely matches the needs of the caller. Calls can be routed based on the origin of the call, the destination of the call, or the information entered by the caller. Callers can be given high or low priorities. Callers can overflow to different groups or skillsets of agents, transfer out of the system, leave a message, and hear announcements or informative messages.

For more information, see the *Nortel Networks Call Center Set Up and Operation Guide*.

### Fax

Fax is a CallPilot option that enhances your office communications by providing incoming and outgoing fax capability. With Fax, callers can send and retrieve fax messages as easily as they send and retrieve voice messages. The Fax option includes Fax Mail, Fax On Demand and Fax Overflow. Fax Answering is available even if you do not have the Fax option installed on your system.

For more information about Fax, refer to the *CallPilot Fax Set Up and Operation Guide*.

### Unified Messaging

With Unified Messaging, subscribers can use their e-mail application to access voice, fax and text messages from their personal computer. Unified Messaging can be used with several popular e-mail applications:

- Microsoft Outlook 2000, Outlook 2002 (XP), Outlook 2003 including Internet Mail Mode
- Lotus Notes - 5.x and 6.x
- GroupWise - 6.x
- Microsoft Outlook Express - 5.x and 6.x
- Netscape Messenger (Netscape Communicator) - 6.2x
- Netscape Mail - 7.0x
- Qualcomm Eudora Pro - 6.1.2

For more information, see the *Unified Messaging Configuration Guide*.

## LAN CTE

BCM Computer Telephony Integration (CTI) products provide an interface between your personal computer and your BCM50 system. With these products, you can use telephony applications through the Windows operating system to control your telephone.

One of the software components of BCM CTI is LAN CTE (Local Area Network Computer Telephony Engine). LAN CTE provides an interface between your personal computer, your telephone, and the BCM50 system. With LAN CTE installed on your computer, you can run LAN CTE or TAPI applications to communicate with and control your telephone.

For more information, see the *LAN CTE Configuration Guide*.

## Call Detail Recording

Call Detail Recording (CDR) is an application that collects call activity. Each time a telephone call is made to or from your company, CDR can record the information about the call. You can use the information CDR collects to create reports about call activity. CDR also provides an interface to third-party applications to allow for call accounting and billing.

For more information, see the *Call Detail Recording System Administration Guide*.

## Personal Call Manager

Personal Call Manager is a TAPI-based application that provides an easy-to-use interface between your computer and your telephone. You use the telephone to speak with a caller. You can customize your Address Book and your calls. Basic functions that Personal Call Manager performs include making and answering calls, putting calls on hold, transferring calls, and making conference calls.

For more information, see the *Personal Call Manager User Guide*.

## For more information

For more BCM50 documentation, see the Master Index of BCM Library for a listing of all the BCM50 documentation, which lists the audience, purpose of the guide, and topics covered, plus a comprehensive index of the entire documentation suite.

The titles of the BCM50 documents are:

### Installation documents

- BCM50 Installation and Maintenance Guide
- BCM50 First Time Installation and Configuration Guide
- BCM50a Integrated Router Configuration Guide
- BCM50e Integrated Router Configuration Guide
- BCM50 Analog Device Installation and Configuration Guide
- BCM50 Device Configuration Guide
- BCM50 IP Telephone Installation and Configuration Guide
- BCM50 ISDN Device Installation Guide
- BCM50 Keycode Installation Guide

### Product Basics and Reference

- BCM50 System Overview
- BCM50 Networking Configuration Guide
- BCM50 Administration Guide

### Applications

- BCM50 Call Detail Recording System Administration Guide
- BCM50 LAN CTE Configuration Guide

### Telephone Guides and Cards

- BCM50 Telset Administration Guide
- Telephone Feature User Guide
- Personal Call Manager User Guide
- Central Answering Position (CAP) User Guide
- Hospitality Features Card
- Nortel Networks IP Phone 2001 User Guide
- Nortel Networks IP Phone 2002 User Guide
- Nortel Networks IP Phone 2004 User Guide

i2050 Software Phone Installation Guide  
T24 KIM Installation Card  
BCM50 System-wide Call Appearance (SWCA) Feature Card  
T7100 User Card  
T7208 User Card  
T7316 User Card  
T7316e User Card  
T7406 Cordless Telephone User Card  
CallPilot Quick Reference Card - Norstar Voice Mail Interface  
CallPilot Quick Reference Card - CallPilot Interface  
CallPilot Quick Reference Card - Remote Users Norstar Voice Mail Interface  
CallPilot Quick Reference Card - Remote Users CallPilot Interface  
T7406 Cordless Telephone Installation Guide

## **CallPilot**

CallPilot Manager Set Up and Operation Guide  
CallPilot Telephone Administration Guide  
CallPilot Reference Guide  
BCM50 Unified Messaging Configuration Guide  
CallPilot Desktop Messaging User Guides for Novell and GroupWise  
CallPilot Desktop Messaging User Guide for Internet Clients  
CallPilot Desktop Messaging User Guide for Lotus Notes  
CallPilot Desktop Messaging User Guide for Microsoft Outlook  
CallPilot Fax Set Up and Operation Guide  
CallPilot Fax User Guide  
CallPilot Message Networking Set Up and Operation Guide  
CallPilot Message Networking User Guide  
CallPilot Programming Record

## **Call Center**

Call Center Set Up and Operation Guide  
Call Center Telephone Administration Guide  
Call Center Supervisor Guide  
Call Center Agent Guide