NORTEL

Nortel Communications Servers

Nortel IP Phone 1535 Installation and Commissioning

NN43160-300

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Revision history

October 2009

Standard 02.03. This document is up-issued to support the Nortel IP Phone 1535 on Nortel Communication Server 1000 Release 6.0.

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Standard 02.02. This document is issued to support the Nortel IP Phone 1535 Phase 2 on Nortel Communication Server 2000 Release SN10.

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Standard 02.01. This document is issued to support the Nortel IP Phone 1535 Phase 2 on Nortel Multimedia Communication Server 5100 Release 4.0.

November, 2006

Standard 01.01. This document is issued to support the Nortel IP Phone 1535 in Multimedia Communications Server 5100 Release 3.5.

Contents

New in this release

The following sections detail what is new in Nortel IP Phone 1535 Installation and Commissioning (NN43160-300) for Phase 2.

Features

See the following sections for information about feature changes:

- "Configuration of NAT-traversal" (page 32)
- "Modifying the Date and Time" (page 53)
- "Access and modify Wireless Settings" (page 29)

Other changes

IP Phone 1535 is supported on Communication Server 1000 Release 6.0. For more information, see "Configuration on a CS 1000 system" (page 37).

This document was updated for support of Nortel Communications Server 2000.

This document was renumbered from NN43160-101 to NN43160-300.

How to get help

Contents

This section contains information on the following topics:

- Getting help from the Nortel web site

- Getting help over the telephone from a Nortel Solutions Center

- Getting help from a specialist by using an Express Routing Code

- Getting help through a Nortel distributor or reseller

Getting help from the Nortel web site

The best way to get technical support for Nortel products is from the Nortel Technical Support web site:
www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can:

- download software, documentation, and product bulletins

- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

- sign up for automatic notification of new software and documentation for Nortel equipment

- open and manage technical support cases

Getting help over the telephone from a Nortel Solutions Center

If you do not find the information you require on the Nortel Technical Support web site, and you have a Nortel support contract, you can also get help over the telephone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following web site to obtain the telephone number for your region:
www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:
www.nortel.com

Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

About the Nortel IP Phone 1535

This section provides an overview description of the IP Phone 1535, including its technical specifications, factory settings, and basic menu structure.

The physical layout of the IP Phone 1535 is shown in the following image:

Figure 1
The IP Phone 1535

Care of the IP Phone 1535

Clean the IP Phone 1535 only with a moist or antistatic cloth. Do not use detergents or solvents. Avoid using dry cloths as they can generate static electricity, which can be potentially dangerous for the electrically sensitive parts of the IP Phone 1535.

To avoid audio problems caused by electromagnetic interference (EMI), install the IP Phone 1535 in a location away from electromagnetic sources, such as microwave ovens.

Safety information

The IP Phone 1535 complies with the binational UL 60950-1/CSA 60950-1 and EN 60950-1 Safety Standards.

IP Phone 1535 shipping box content

The shipping box contains the following components:

- 1 IP Phone 1535 Telephone Base

- 1 Handset

- 1 RJ-45 LAN Cable

- 1 External Universal Adapter: 100V~240V, 50Hz~60Hz

- 1 *Nortel IP Phone 1535 Getting Started Guide* (Part Number NN43160-101)

- 1 Coiled Handset Cable

Default factory settings

The IP Phone 1535 has the following default settings:

- Ring Tone volume: Level 3

- Handset/Hands Free volume: Level 3

- Date: 01/01/2007 (MM/DD/YYYY)

- Time: 00:00 (HH:MM)

- Ringing mode: Standard

- VIP Filter: Disabled

- Video Quality: Level 3

- Camera: Enabled

- Screen Size: Remote/Local Small

- Screen Color: Default

- Screen Background: Blue

- Screen Saver: Disabled

- PIN: 0000

- Network Connection Profile: LAN

- Email Account Protocol: POP

- DHCP: Enabled

- ESSID: None

- Encryption: None

- Authentication: None

Technical specifications

- Unit Base Size: 206 x 190 x 50 mm.

- Handset Size: 184 x 42 x 32 mm.

- Approximate Weight: 2.06 lbs / 0.94 kg

- Main Processor: Intel PXA270 @ 416 MHz

- RAM: 64 MB SDRAM

- Flash Memory: 128 MB NAND

- LAN Port: RJ-45

- WLAN Interface: IEEE802.11b/g

- SD/MMC slot

- SIM slot (Compliant with standard ISO 7816-3(2002-06-01) and 3G TS 31.101. SIM card operates with voltages of 1.8V (Class B) and 3V(Class C) - Class A (5V) is not supported.)

- Audio Codec Types: G.711 a-law and u-law: 20, 30, 60 msec payload, G.723.1: 30, 60 msec payload, G.729A: 20, 30, 60 msec payload, AMR-NB: 20, 40, 60 msec payload

- Video Codec Types: H.263 (RFC 2190) and H.264

- Ring Melodies: 50 polyphonic

- Images: 5 png

- Operating Temperature: +0°C to 50°C

- Operating Humidity: 5% to 95%, Noncondensing

- Noise Level: 15 dB @ 1 m

- Dialing Mode: DTMF (Dual Tone Multi Frequency)

- Power: External Universal Adapter

- AC Input: AC100~240V, 50-60Hz, 0.5A

- DC Output: DC5V, 3.0A

Multiple language support

The IP Phone 1535 supports the following languages:

- English
- French
- German
- Korean
- Latin American (LA) Spanish
- Portuguese

Description of the IP Phone 1535 menu options

The following sections describe the various administrative menu options used in the configuration and operation of the IP Phone 1535.

On the IP Phone 1535, there are two login modes, the standard User mode and the restricted access Admin mode. In order to have access to the system administrative functions, you must log in to the IP Phone 1535 using Admin Mode.

For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).

VoIP Settings menu

After you enable either the LAN or WiFi connection profile and configure the connection settings to allow successful connection of the IP Phone 1535 to the local network, you can use the VoIP Settings menu to configure the IP Phone 1535 to find and use Voice Over IP (VoIP) services installed on your network.

Accessing the VoIP Settings menu:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *VoIP Settings*, and press **OK**.

—End—

On the VoIP Settings menu, the following configuration options are available:

- **User Information**: Modify the parameters of this configuration option to specify information used to identify the installed IP Phone 1535 as a client on your VoIP network. For more information, see "Modifying User Information parameters" (page 30).

- **Proxy**: Modify the parameters of this configuration option to direct the IP Phone 1535 to your network proxy server. For more information, see "Modifying Proxy parameters" (page 31).

- **Registration**: Initiate the registration of the IP Phone 1535 with the communications server. For more information, see "Registering the IP Phone 1535" (page 34).

- **Misc. (Miscellaneous)**: Use this configuration option to configure additional operational functionality of the IP Phone 1535 on your communications server. For more information, see "Misc. (Miscellaneous) configuration option" (page 48).

System Settings menu

The System Settings menu of the IP Phone 1535 contains the administrative configuration options for system-related parameters.

Accessing the System Settings menu:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *System Settings*, and press *OK*.

—End—

On the System Settings menu, the available configuration options are as follows:

- **Admin:** The Admin menu provides login access to the Admin Mode, which is a protected system login to control access to advanced configuration options that affect the basic functionality of the IP Phone 1535. Access to all functions of the System Settings menu requires that you be logged in to the Admin Mode first. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).

- **Date and Time:** Manually modify the system date and time on the IP Phone 1535. For more information, see "Modifying the Date and Time" (page 53).

- **Network Time:** You can configure the IP Phone 1535 to obtain date and time updates from the network server. If you enable the Network Time function, the date and time on the IP Phone 1535 updates automatically on a daily basis from the specified network server.

- **LAN or WiFi :** Depending on the network connection profile currently active on the IP Phone 1535, this option on the System Settings menu offers another path to the configuration options for the currently active network connection profile. With the LAN connection profile active, you can use this menu option to configure the Network Settings associated with the LAN connection profile. If the WiFi connection profile is active, you can use this menu option to configure the Wireless Settings associated with the WiFi connection profile. For more information, see "Access and modify Wireless Settings" (page 29).

- **PIN:** Configure the User PIN, which is used to access secured IP Phone 1535 features such as Video Monitoring and Call Restriction. The default value for the User PIN is 0000.

- **Technical Features:** The Technical Features option provides system information about the IP Phone 1535, including the current hardware and software versions. You can also use this configuration option to check whether new updates are available for the currently installed IP Phone 1535 system software, and to perform the automatic download and installation of any updates that are found. For more information, see "Accessing the Technical Features configuration option" (page 54).

- **Reset:** The IP Phone 1535 incorporates two databases in which data parameters are stored. The databases serve two basic functions: one for the built-in Phonebook (which stores information related to call-making [for example, Usernames / Numbers and blocked call programming]) and one for Settings (which saves any system configuration entries made on the IP Phone 1535). These two databases are reset individually (or at the same time) using the Reset configuration option, which erases the stored data or returns the IP Phone 1535 to factory default. For more information, "Accessing and activating the Reset function" (page 53)

Using the SD/MMC card

Secure Digitial/Multimedia Cards (SD/MMC) are used for external storage of images or sounds. These may be uploaded to the IP Phone 1535 using the SD/MMC card in the card slot provided. For more information, see "About the Nortel IP Phone 1535" (page 13).

This section provides procedures for copying files to and from the IP Phone 1535 to an SD/MMC card, as well as a list of limitations and supported file types.

To copy files from the SD/MMC card to the IP Phone 1535:

Step	Action
1	Insert the card into the SD/MMC slot. For more information, see "About the Nortel IP Phone 1535" (page 13).
2	Select MENU > Images and Sounds > Copy.
3	Select one of the file galleries (Images / Sounds / Videos) that you want to copy the files to.
4	Select Copy from SD/MMC.
5	Select the files you want to copy and press SELECT.

—End—

To copy files from the phone to SD/MMC card:

Step	Action
1	Insert the card into the SD/MMC slot. For more information, see "About the Nortel IP Phone 1535" (page 13).
2	Select MENU > Images and Sounds > Copy.
3	Select one of the file galleries (Images / Sounds / Videos) that you want to copy the files to.
4	Select Copy to SD/MMC
5	Select the files you want to copy and press SELECT.

—End—

Some general notes for limitation and supported files types of the SD/MMC card are as follows:

* Support provided for use of SD/MMC cards up to 1GB in size.

* **Limitation:** The IP Phone 1535 cannot display larger than 640 x 480 pixels. An icon will appear instead to notify that "it is too big to display".

- **Supported File Types:** MIDI Standard MIDI Files 1.0, WAV, IMY iMelodyversion (v1.0, v1.1 , v1.2), AMR 3GPP TS 26.071, JPG JFIF:1.01, PNG (PNG version 1.2), GIF (GIF87a, GIF89 - Does not support animated gif), 3GP movie file (3GPP TS.26.140 version 6)

First time installation of the IP Phone 1535

Installing the IP Phone 1535 for the first time

This chapter provides a description of the tasks and procedures that must be completed for you to successfully complete a first time installation of the IP Phone 1535 within a Nortel Communications Server IP call environment. In addition, a description is given of the specific Communications Server provisioning that is required for the successful operation of the IP Phone 1535 on your network.

By using the information and procedures contained in this chapter, you will be able to connect the IP Phone 1535 to your network, making it available for use with IP telephony services installed on your network.

The following task flow diagram shows you the sequence of procedures you must perform to install the IP Phone 1535 for the first time. Each of the procedures listed in the diagram may be referenced by title in the section of this chapter.

Figure 2
Installing the IP Phone 1535 for the first time
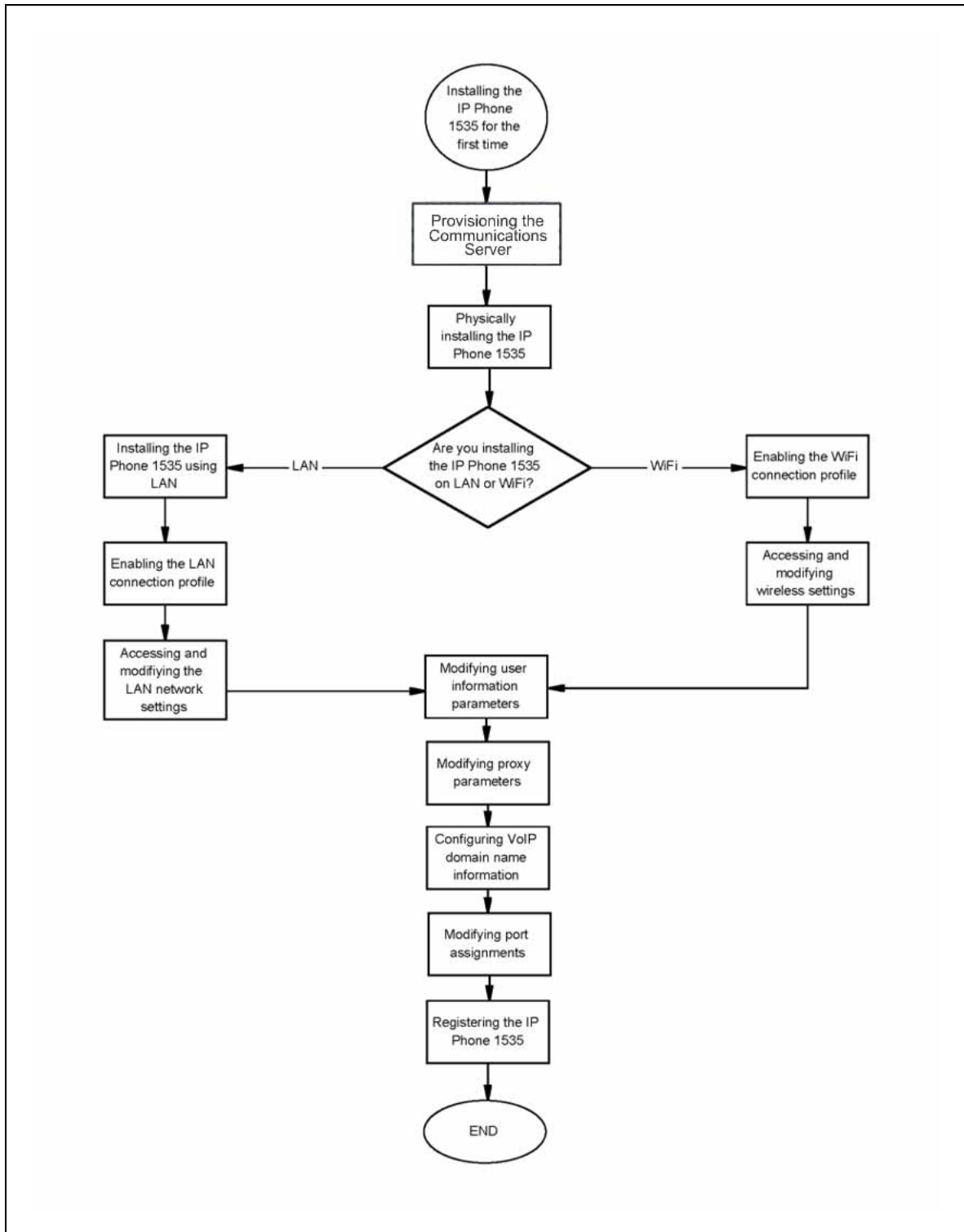
Procedures for installing the IP Phone 1535 for the first time navigation

Provision the Communications Server

To successfully install or operate the IP Phone 1535 on your network, you must ensure that you have the following configured:

- a Communications Server SIP port license is available for each IP Phone 1535 that you want to install.

- a preconfigured SIP account for each connected user.

- an SIP address and Username / Number alias for each user you want to register.

- the Communications Server service package has H.263 video enabled.

- on Communications Server systems without an RTP media portal, the IgnoreMediaPortalInstertionRules option is checked.

- if your IP telephony environment does not support for the G.723.1 codec on all endpoint devices (on the same node), configure the G.723.1 codec to the lowest priority on the IP Phone 1535 to avoid problems with codec negotiation. For more information, see "Modifying Codec Priority lists" (page 50).

Physically install the IP Phone 1535

Basic installation of the IP Phone 1535 consists of connecting to the correct ports using the appropriate cables. Make the physical connections for the handset and power, as well as attach the IP Phone 1535 to the included telephone stand, by following the procedures in the following sections.

Installation guidelines

Consider the following conditions when you choose a location in which to install the IP Phone 1535:

*   Use the IP Phone 1535 in an environment with a temperature range of +0° to 40° C and a relative humidity of 5 to 95 percent.

*   Place the IP Phone 1535 on a smooth, nonslip surface.

*   Do not install the IP Phone 1535 in a dusty environment; dust deposits can adversely affect moving parts.

*   Do not install the IP Phone 1535 in a location directly exposed to sunlight or radiant heat sources; these can cause damage to electrical components.

*   The IP Phone 1535 does not support Power Over Ethernet (PoE); therefore, do not install the phone on a PoE configuration.

Connect the handset

Step	Action
1	Insert one end of the coiled cord into the handset connector port. This port is on the handset cradle side of the IP Phone 1535.
2	Insert the other end of the coil cord into the port on the handset.

—End—

Connect the IP Phone 1535 to a power source

	WARNING Use only the power adapter supplied with the IP Phone 1535, as other adapters can cause operating anomalies, hazardous conditions, and material damage.

Step	Action
1	Insert the power adapter DC plug into the DC power jack, at the rear of the IP Phone 1535 phone base.

2   Connect the adapter AC plug into an appropriate AC voltage socket.

—End—

Attach the IP Phone 1535 to the stand

Insert the tabs of the stand into the two slots on the bottom of the IP Phone 1535. This sets the phone at an optimal angle for video camera use.

Connect to PSTN

Your IP Phone 1535 does not support connection to a Public Switched Telephone Network (PSTN).

Logging in to the IP Phone 1535 Admin Mode

The IP Phone 1535 includes an Admin Mode, which is a protected system login designed to control access to advanced configuration options that affect basic functionality of the IP Phone 1535.

Step	Action
1	From the *Main Menu*, select *Settings* > *System Settings* > *Admin*, and press *OK*.
2	Select *Log in*, and press *OK*.
3	Enter the *Admin* password (default is 1234), and press *OK*.

—End—

You access the following only if you log in to the Admin Mode first:

- *Camera*
- *VoIP Settings* menu
- *Network / Wireless Settings* menu
- *System Settings* menu

ATTENTION

When you log in to Admin Mode and make administrative changes on the IP Phone 1535, you must actively log out of the Admin Mode when finished in order to prevent unauthorized access to administrative functions by subsequent users. Note that simply resetting or rebooting the IP Phone 1535 does not automatically log you out of your active Admin Mode session.

Logging out of the IP Phone 1535 Admin mode:

Step	Action
1	From the *Main Menu*, select *Settings* > *System Settings* > *Admin*, and press *OK*.
2	Select *Logout*, and press *OK*.

—End—

Connecting the IP Phone 1535 to the LAN

To connect the IP Phone 1535 to a LAN you must make an RJ-45 connection.

Step	Action
1	Insert the RJ-45 cable into the LAN port at the back of the IP Phone 1535.
2	Connect the other end of the LAN cable into an active LAN connection port on the network.

—End—

Enabling the LAN connection profile

To establish an active network connection, you must configure the IP Phone 1535 to operate in either of two network connection profiles: LAN or WiFi.

The IP Phone 1535 is preconfigured to make a network connection using LAN over an Ethernet switch or router. Thus, the LAN connection profile is enabled on the IP Phone 1535 by default.

Step	Action
1	From the *Main Menu*, select *Settings* >*Profile* and press *OK*.
2	Select *LAN* >*Enable* (the LAN connection profile is enabled on the IP Phone 1535 by default).
3	When asked to confirm the change, select **Yes** to accept.

—End—

Accessing and modifying the LAN Network Settings

To configure the IP Phone 1535 with network settings particular to your LAN environment, you must access and configure the parameters of the Network Settings option. With the LAN Network connection profile enabled, you can access and configure the parameters of the Network Settings configuration options:

Step	Action
1	From Main Menu, select *Settings* > *Profile* > *LAN* > *Settings* > *Network Settings*, and press *OK* to accept.
2	Select the appropriate configuration options and set network parameters (specific to your network configuration) for the LAN connection profile:

Parameter	Description
Details	Displays the network configuration parameters (MAC address, DHCP, IP address, Subnet Mask, Gateway and DNS) as currently configured on the IP Phone 1535.
DHCP	Used to configure DHCP server information (for DHCP-enabled network environments) or static IP Address information (for DHCP-disabled network environments). DHCP must be disabled to access further configuration options: • **IP Address** • **Subnet Mask** • **Gateway** • **DNS1/DNS2** If you enable DHCP, these options are automatically configured (through the network DHCP server) after the IP Phone 1535 connects to the network If manually configuring the DHCP options, the IP Phone 1535 attempts to connect to the network using the parameters you set. Should a connection failure occurs when using your manual DHCP values, the IP Phone 1535 retains its current configuration values. Check your values for correctness and retry the connection.
IP Address	View or change network IP address information
Subnet Mask	View or change the Subnet mask information
Gateway	View or change default Gateway Address information
DNS1/DNS2	View or change the primary (DNS1) and secondary (DNS2) Domain Name Servers.

> **ATTENTION**
> For changes made in any of these configuration options to take effect, you must hit **Back** to return to the previous menu, and select **Apply** every time you make a change.

—End—

After you successfully connect the IP Phone 1535 to the network using the LAN connection interface, you make both video and voice calls using that interface and the WiFi profile is disabled. So, in this example, when you enable the LAN connection profile, all voice and video calls made using the IP Phone 1535 are made through the LAN connection to the network, and the WiFi connection profile is disabled (along with all menu selections associated with configuring the WiFi connection profile).

Enabling the WiFi connection profile

To establish an active network connection, you must configure the IP Phone 1535 to operate in either of two network connection profiles: LAN or WiFi.

The IP Phone 1535 can connect to your network using a wireless connection. To do this, a wireless router or access point on your network (to which the IP Phone 1535 can associate itself) must serve as a bridge connection. With an available access point or wireless router in place, enable the WiFi connection profile to install the IP Phone 1535 on your network using WiFi:

Step	Action
1	From the **Main Menu**, select *Settings* > *Profile* and press *OK*.
2	Select *WiFi* > *Enable*, and press *OK* to activate the WiFi connection profile.
3	When you are asked to confirm the change, select **Yes** to accept.

—End—

With the WiFi connection profile enabled, the IP Phone 1535 locates the available wireless router or access point automatically, and register itself with the WiFi network.

If further configuration is required for the IP Phone 1535 to establish a network connection after you enable the WiFi network connection profile, the disconnected network connection icon displays. For more information on the network connection icons and network problems, see "Troubleshooting connectivity issues" (page 61).

Access and modify Wireless Settings

If the IP Phone 1535 does not automatically register itself with a wireless router or access point within your network, the IP Phone 1535 requires manual configuration. With the WiFi network connection profile enabled, you can access and configure the Wireless Settings configuration options:

Step	Action
1	From the *Main Menu*, select *Settings* > *System Settings* > *WiFi* > *Wireless Settings*, and *OK*.
2	Select the desired configuration options to set the Wireless networking parameters. The configuration options contained in the *Wireless Settings* menu are as follows:

Parameter	Description
Details	Display network information for the wireless router or access point currently in use by the IP Phone 1535.
Wi-Fi Scanning	Search for available wireless routers in the area and report whether encryption is enabled on the available routers.
ESSID	Manually assign the SSID value to be used by the IP Phone 1535 to connect to the wireless network. If the wireless router is configured to hide (or not broadcast) SSID information, you must use the ESSID option must be used to enter the SSID information manually. Manually setting the SSID information using the ESSID configuration option also requires that you configure either the Encryption or the Authentication option as well. From the *Main Menu*, *Settings* > *System Settings* > *WiFi* > *Wireless Settings*, and then select either *Encryption* or *Authentication* (as dictated by local network settings). Enter an 8 to 63 character passphrase.
Channel ID	Assign a manual value to specify the Wi-Fi channel ID to be used in connecting the IP Phone 1535 to the wireless network.
Encryption	Configure data for the encryption key entry (see previous notes for ESSID).
Authentication	The following are the three options for configuring the IP Phone 1535 authentication method: • No Authentication • WPA-PSK • WPA2-PSK

—**End**—

After you successfully connect the IP Phone 1535 to the network using the WiFi connection interface, you make both voice and video calls using that interface and the LAN profile becomes disabled. So, in this example, when you enable the WiFi connection profile, all voice and video calls made using the IP Phone 1535 will now be made through the WiFi connection to the network, and the LAN connection profile will be disabled (along with all menu selections associated with configuring the LAN connection profile).

Modifying User Information parameters

After you have enabled either the LAN or WiFi connection profile and have configured the settings to allow successful connection of the IP Phone 1535 to your local network, you can configure the IP Phone 1535 to find and use the Voice Over IP (VoIP) services installed on your network. This is done by accessing and modifying required parameters contained in several configuration options on the VoIP Settings menu.

You can use the User Information configuration option (on the VoIP Settings menu) to setup and configure specific user data required for VoIP connectivity and use. The user data you enter will be used for client identification while accessing connected VoIP services and for client authentication (in registering the IP Phone 1535 with the VoIP network).

For successful registration of the IP Phone 1535 with the VoIP services available on your network, you must access and configure the User Information parameters as described below:

Step	Action

1   From the *Main Menu*, select *Settings* > *VoIP Settings* > *User Information* , and press **OK**.

2   Select the configuration options to modify and press *OK*. Adjust the values in each of the following parameters as required.

Parameter	Description
Telephone Number	Modify the assigned Username / Number the configured IP Phone 1535 will use while it has access to Communications Server. The Number is optional when the Username is entered. This value is required information for successful registration of the IP Phone 1535 with the IP telephony services installed on your network.
Display Name (OPTIONAL)	Edit the display name of the specific VoIP user account configured on the IP Phone 1535.

Parameter	Description
Authentication Name	Enter the User's SIP account username, as configured on the Communications Server. This value is required information for successful registration of the IP Phone 1535 with the IP telephony services installed on your network.
Authentication Password	Enter the User's SIP account password, as configured on the Communications Server. This value is required information for successful registration of the IP Phone 1535 with the IP telephony services installed on your network.

3   Enter the values as required, and press *OK* to confirm changes.

—End—

Modifying Proxy parameters

After you have enabled either the LAN or WiFi connection profile and have configured the settings to allow successful connection of the IP Phone 1535 to your local network, you can configure the IP Phone 1535 to find and use your installed proxy server in its operations with your installed Communications Server. If you are configuring the IP Phone for a Communication Server 1000 (CS 1000), you configure the phone to find the SIP Line Gateway (SLG).

For successful registration of the IP Phone 1535, you must access and modify the parameters of the Proxy configuration option as described below:

Step	Action

1   From the *Main Menu*, select *Settings* > *VoIP Settings* > *Proxy*, and press **OK**.

2   Select the Proxy Address option.

3   Enter the IP address of the SPS or SLG and press OK to confirm changes. In the current setup, the proxy IP is 47.11.132.164.

4   Select a specific port and enter the port number to connect to the network proxy server. By default, the proxy port value is 5060.

   Note: If you are configuring the IP Phone 1535 for a CS 1000, the default port value is 5070.

5   Press OK to confirm changes.

6   Select NAT timer option and then select Disable. The IP Phone 1535 requires this option to register it to the SPS, or if on a CS 1000, the SLG. This option ensures that IP Phone 1535 does not send SIP

Ping message to the SPS or SLG before sending the REGISTER message.

> *Note:* This option to disable the NAT timer on the IP Phone 1535 is not available in firmware versions below V.0.2.25. You must install the latest firmware version (V2.0.76).

NAT-Traversal: The IP Phone 1535 supports two methods of NAT Traversal - the SIP-PING method and the • STUN method. For more information on configuring NAT-Traversal, see .

—End—

Configuration of NAT-traversal

This section provides a description of NAT-traversal on the IP Phone 1535, and its subsequent configuration.

The IP Phone 1535 supports two methods of NAT-Traversal:

- **SIP-PING:** requires a Border Control Point (BCP) server for the MCS 5100 Release 4.0 and a RTP Media Portal server for MCS 5100 Release 3.5 if it is located behind a NAT/firewall.

- **STUN:** The STUN protocol lets a client discover the presence and type of NATs between the client and the public Internet - a STUN server can be located using DNS to lookup the domain information of the service provider.

Enabling STUN protocol

Step	Action
1	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Proxy* > *STUN* > *Enable*.
2	Press **OK**.

—End—

Configuring the STUN server

Step	Action
1	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Proxy* > *STUN* > *STUN Server*.

> *Note:* If the domain name is used, the STUN server domain should be configured on the DNS server.

—End—

Configuring VoIP domain name information

To connect IP Phone 1535 to your installed IP telephony services, you must access and configure the SIP domain name, which is the Service Domain Name configured on the SPS, or SLG if on a CS 1000 system.

Step	Action
1	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Misc.* > *Domain Name*, and press *OK* to accept selection.
2	Enter the SIP Service domain name as configured on the SPS or SLG, and on the Signaling Server. In the current setup, the Service domain name configured on the SPS or SLG is sps2.competitive.com.
3	Press OK to confirm changes.

—End—

Modifying port assignments

You can configure the parameters with UDP port values used to transport IP Phone 1535 operational information (Audio, Video, and Local), according to the particulars of your network environment.

Step	Action
1	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Misc.* > *Ports* and press *OK*.
2	Select the port type to configure (Audio, Video, or Local), and press OK. The following are the acceptable value ranges by port type:

- **Audio:** Specify the port to be used by the IP Phone 1535 for audio-related VoIP activity. You can configure this with a value between 1024 and 65535 (The default value is 23000).

- **Video:** Specify the port to be used by the IP Phone 1535 for video-related VoIP activity. You can configure this with a value from 1024 to 65535 (The default value is 24000).

- **Local:** The **Local** port is the port used by the IP Phone 1535 in making connections to the proxy server - the port value you assign must be within the range from 1024 to 65535 (The default value is 5060).

—End—

Registering the IP Phone 1535

To access VoIP services on the connected network, the IP Phone 1535 must first register itself as an endpoint with the connected communications server. The Register configuration option on the Misc. menu is used to initiate this registration process, after all required configuration has been completed.

To successfully complete the IP Phone 1535 registration process, ensure that you have configured the following minimum required information:

- Under the *User Information* configuration option of the *VoIP Settings* menu:
  - User Name or Telephone Number
  - Authentication Name
  - Authentication Password

- Under the *Misc.* (Miscellaneous) configuration option of the *VoIP Settings* menu:
  - Domain Name
  - Ports

- Under the *Proxy* configuration option of the *VoIP Settings* menu:
  - Proxy Address
  - Proxy Port

Having verified the configuration of the above required information, access and initiate the registration process:

Step	Action
1	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Registration* .
2	Choose *Register* to initiate the registration of the IP Phone 1535 on the SPS or SLG.

—End—

After completion of the IP Phone 1535 registration process, it is normal to see an idle screen on the display. At the center of the idle screen, the telephone number assigned to the IP Phone 1535 appears, showing that registration is complete.

If registration fails, confirm that all configured system and VoIP parameters are correct, and initiate the registration process again.

After the initial registration of the IP Phone 1535 with your connected SPS or SLG, you must repeat the registration process any time you make configuration changes to the following:

- Network Settings

- Wireless Settings

- The currently active network connection profile

After the IP Phone 1535 has registered on the network, it is possible to view information about your connection with the *Registration Statistics* option. To access this option, from the *Main Menu*, go to *Settings* > *VoIP Settings* > *Registration* and select *Registration Statistics*.

Configuration on a CS 1000 system

When configuring the IP Phone 1535 on a CS 1000 system, you must perform the following:

*   Configure the IP Phone 1535 as **SIPN UEXT** type on the CS 1000 Call Server. For more information, see *SIP Line Fundamentals* (NN43001-508).

*   Configure Proxy type to CS2K in the phone configuration:

    — Select **Main Menu**, **Settings**, **VoIP Settings**, **Proxy**, **Proxy Type**.

    — Select **CS2K**

*   Disable the Network Address Translation (NAT) Timer:

    — Select **Main Menu**, **Settings**, **VoIP Settings**, **Proxy**, **NAT Timer**, **Disable**.

*   Disable Stun:

    — Select **Main Menu**, **Settings**,**VoIP Settings**, **Proxy**, **STUN**, **Disable**.

Limitations

The following limitations exist for an IP Phone 1535 on a CS 1000 system:

*   Call Transfer with Consultation—The IP Phone 1535 does not support Call Transfer with Consultation.

*   Ad Hoc Conference (3-way call and so on)—The IP Phone 1535 does not support Ad Hoc Conference on CS 1000.

*   Video Conference—Video conferencing between Nortel SMC 3456 and IP Phone 1535 is not recommended because Call Hold/Retrieve invocation between these two clients in a video call can cause the IP Phone 1535 to lock up and requires a reboot of the IP Phone 1535.

IP Phone 1535 system software updates

Checking for available IP Phone 1535 software updates

You can use the Check Updates function to have the IP Phone 1535 check for available updates for its installed system software, which can be downloaded from your locally managed FTP server and installed automatically (for more information on provisioning your FTP server, see "Provisioning the FTP update server" (page 41).

Using the Check Updates option to determine available updates:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *System Settings* > *Technical Features*, and press *OK*.
3	Select **Check Updates** , and press *OK*.

—End—

The Check Updates option performs a remote version check for the system software installed on the IP Phone 1535. This process can take several minutes.

Upon completion of the version check, the IP Phone 1535 reports if a newer system software version is available. If the version check reports that updates are available, you can initiate the download and installation of these updates through the Update Software configuration option.

ATTENTION
You can also schedule software updates. For more information, see "Accessing the Technical Features configuration option" (page 54)

Initiating manual software updates for the IP Phone 1535

You can manually initiate the download and installation of available updates to the IP Phone 1535 system software using the Update Software configuration option.

The Update Software option uses a configured connection to a locally-managed FTP server to download and install system software updates.

New software releases for the IP Phone 1535 must be available on the designated FTP server for a successful software upgrade.

Initiating the system software upgrade process:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode** . For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *System Settings* > *Technical Features*, and press *OK*.
3	Select *Update Software* , and press *OK*.

—End—

The Update Software function initiates the download and installation of the available system software upgrade. This process can take several minutes.

ATTENTION

When updating the IP Phone 1535, it is important to note that you must update the device for every available software version between the current version and the latest version, inclusively. In updating the IP Phone 1535, you cannot install the latest version of the system software without having installed every earlier software version first. The update packages are not cumulative, and must be applied in order.

The IP Phone 1535 will regularly check for updates every 24 hours. Should the update fail, it will retry every 15 minutes (to a total of three tries). Subsequent failures to update will cause the IP Phone 1535 to perform successive update attempts as follows:

- every 1 hour (to a total of three tries)
- every 24 hours thereafter

> **ATTENTION**
>
> If an outgoing or incoming call is made or received on the IP Phone 1535 during the software update process, the update process is halted for the duration of the call.

FTP software update process

The IP Phone 1535 can perform updates to its installed system software, by connecting to a locally provisioned FTP update server and automatically detecting, downloading, and installing any available updates it finds there.

The sequence for a successful FTP-based software update to the IP Phone 1535 is as follows:

1. The IP Phone 1535 opens a connection to your configured FTP server.

2. Upon successful connection, the Username and Password (**ipphone / 15354all**) are sent automatically by the IP Phone 1535 for authentication on the FTP server.

3. The IP Phone 1535 retrieves the FirmwareUpdateRequest.acfg file for its currently installed version from the [software version] directory of your FTP server.

4. The FirmwareUpdateRequest.acfg file points the IP Phone 1535 to information about available upgrades. In order to successfully complete the upgrade process, you must update this file within the existing software directory for any new FTP image that is placed on the FTP server.

5. If the firmware on the phone is found to be current, the FTP connection is closed.

6. If the firmware is not current, the IP Phone 1535 retrieves and applies the upgrade, according to the directory specified by the FirmwareUpdateRequest.acfg file.

7. After the successful download and install of the available upgrade, the IP Phone 1535 determines itself to be current and closes the active connection to your FTP server.

Provisioning the FTP update server

For the IP Phone 1535 to successfully perform updates to its system software, certain provisioning requirements must be met on the local FTP server hosting the IP Phone 1535 software update files.

This section details the provisioning requirements of your FTP update server by providing descriptions of:

- the required configuration of the FTP server login account (used by the IP Phone 1535 for connections to the FTP update server),

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- the required provisioning of the directory structure on your FTP update server,

- the files involved in the IP Phone 1535 software update process, and

- the special handling requirements for the FirmwareUpdateRequest.acfg file.

Configuring the FTP server login account

For the IP Phone 1535 to successfully obtain software updates, you must configure a login account on your FTP server, which the IP Phone 1535 will use in making its connection during the software update process.

You must provision an FTP user account with a username and password as follows:

- Username: ipphone

- Password: 15354all

When the IP Phone 1535 attempts to make a connection to your FTP server, it will automatically do so using this username and password. These required username and password values are coded into the firmware of the IP Phone 1535, and so your FTP account information must be configured to match.

Provisioning the FTP server directory structure

In order for the IP Phone 1535 to successfully find the software update files available on your FTP update server, the directory structure on the FTP server must be provisioned as follows:

/ [hardware version] / [software version]

For more information, see Figure 3 "Sample FTP server directory structure" (page 46).

- The **ROOT (/)** Directory: The ROOT Folder of your FTP server is the folder to which the IP Phone 1535 will connect and authenticate itself (using the username *ipphone* and the password *15354all*, as provisioned in your FTP account setup).

- The **[hardware version]** Folder: This folder sits inside the Root folder - the name of the [hardware version] folder corresponds to the hardware version of your IP Phone 1535. You will need a corresponding [hardware version] folder inside the Root folder for every different hardware version for every IP Phone 1535 device installed on your network. That is, if you have an IP Phone 1535 with hardware version 1.0, you will need to have a corresponding [hardware version] folder named '1.0' within your Root folder. If you then also have an IP Phone 1535 installed on your network with hardware version 1.1, you will need to add a second [hardware

version] folder (named 1.1) within the Root folder of your FTP server for that hardware version as well.

- The **[software version]** Folder: This folder sits inside the [hardware version] folder - the folder name corresponds to the software version of the IP Phone 1535 update files it contains. You will need a corresponding [software version] folder inside the Root folder for every different software version you wish to make available on your network. That is, if you have an IP Phone 1535 software update with version 0.1.12, you will need to have a corresponding 0.1.12 [software version] folder placed within the [hardware version] folder corresponding to every hardware version of IP Phone installed on your network. If you then also have an IP Phone 1535 software update with version number 0.1.13, you will need to add a second [software version] folder (0.1.13) within the [hardware version] folder corresponding to each IP Phone hardware version.

Example: You have an IP Phone 1535 with hardware version 1.1. In setting up your FTP server for future updates to this IP Phone, you create a [hardware version] folder inside the ROOT Directory, and name it 1.1. Your IP Phone has a current software version of 0.1.12. You have two available updates you wish to host, 0.1.13 and 0.1.14. For each of these software update versions, create a [software version] folder within all [hardware version] folder and place the update files in their respective folders.

FTP software update files

There are three different kinds of files that are required for the firmware update process:

- **tar, tar2, tar3**: These are the actual software upgrade files that contain the firmware content itself.

- **filecheck**: the checksum file that confirms the integrity of the software upgrade files.

- **FirmwareUpdateRequest.acfg**: This is the file that contains hardware and software version numbers for the available firmware updates. The FirmwareUpdateRequest.acfg file is what the IP Phone 1535 uses to compare its current firmware version number against to determine if there are updates available. Should the version number comparison show that an update is available, this file directs the IP Phone to the appropriate folder to initiate the download of the updated software.

Handling the FirmwareUpdateRequest.acfg file

The FirmwareUpdateRequest.acfg file is the most important file in the entire software update process. When the IP Phone 1535 goes to the FTP server to check for available updates, the FirmwareUpdateRequest.acfg file is what it uses to learn if updates are available, and also the location of those update files should a newer version be detected.

The FirmwareUpdateRequest.acfg file requires special handling in its placement on your FTP server - for each firmware update package, there is a new version of the FirmwareUpdateRequest.acfg file, and for the IP Phone 1535 to be able to use it effectively, it needs to be placed into the folder for the previous available software version. That is, if you receive a new firmware update package, 0.1.13, for example, that package contains a FirmwareUpdateRequest.acfg file. Instead of placing the file in the 0.1.13 [software version] folder, though, you must place the FirmwareUpdateRequest.acfg file in the folder for the previous update software version, 0.1.12, so that the file points to the latest available install package.

To better understand this, consider the way the IP Phone 1535 uses the FirmwareUpdateRequest.acfg file in learning about and finding available updates:

1. Upon initiation of the Software Update process, the IP Phone 1535 makes a connection to your FTP server, authenticates, and then looks in your FTP server's root directory for the folder corresponding to its hardware version, and then looks for the folder that corresponds to its installed software version.

2. Once the IP Phone 1535 reaches the software version folder that corresponds to its installed software version, it searches for the FirmwareUpdateRequest.acfg file to compare its installed firmware version number with the firmware version number of the FirmwareUpdateRequest.acfg file.

3. If the IP Phone 1535 has a software version number that matches that of the FirmwareUpdateRequest.acfg file, then the IP Phone 1535 determines itself to be current and closes the active connection to your FTP server. If the FirmwareUpdateRequest.acfg file is one from a later version, though, the IP Phone moves up one folder level (to the [hardware version] folder level) and then searches for a folder that corresponds to the version number contained in the FirmwareUpdateRequest.acfg file. Upon finding that folder, it initiates the download and installation of the firmware update it finds in this new folder. The IP Phone then repeats the process of checking the FirmwareUpdateRequest.acfg file in the latest folder, to determine if more updates are available, until it is fully updated.

The reason for placing the FirmwareUpdateRequest.acfg file from the latest firmware update package into the [software version] folder for the previous version is because the IP Phone initially moves only to the folder for its current software version. Placing the FirmwareUpdateRequest.acfg file for the later version in the folder for the earlier version allows the IP Phone to discover that it should leave the folder for its current version and look for a folder one version up so that it can find updates there.

If the IP Phone 1535 reaches a [software version] folder and finds the FirmwareUpdateRequest.acfg file is the same version number as the folder in which it resides, the IP Phone will consider itself updated fully and never go looking for folders that contain newer versions. Thus, it is extremely important to the Update process for you to place the FirmwareUpdateRequest.acfg file for any new firmware version you receive into the folder for the previous update version - otherwise, the IP Phone 1535 will not update itself.


ATTENTION

In order to maintain an unbroken sequence between one version of an available firmware updates and the next, it is very important that when you place the newest available FirmwareUpdateRequest.acfg file into the folder for the previous update version, you DO NOT forget to move, in turn, the FirmwareUpdateRequest.acfg file for the previous version to the folder of the update previous to that folder.

For example: You receive an update package for firmware version 0.9.44. To point the IP Phone to the new update folder, you place the 0.9.44 FirmwareUpdateRequest.acfg file to the folder for 0.9.42. The FirmwareUpdateRequest.acfg file for version 0.9.42 does not get destroyed, however, but moved to the folder for version 0.9.41, and so on.

As an added note, be sure and keep a copy of the FirmwareUpdateRequest.acfg file for the latest version in the latest version folder, so that the IP Phone 1535 will determine itself to be current after reaching that folder.

For example: For the firmware version 0.9.44, you would copy the 0.9.44 FirmwareUpdateRequest.acfg file into the 0.9.42 folder (as above), and also leave a copy in the 0.9.44 folder. Then, when the IP Phone 1535 reaches the 0.9.44 folder, it uses this file to determine that this is the final version available and completes its update process.

Figure 3
Sample FTP server directory structure
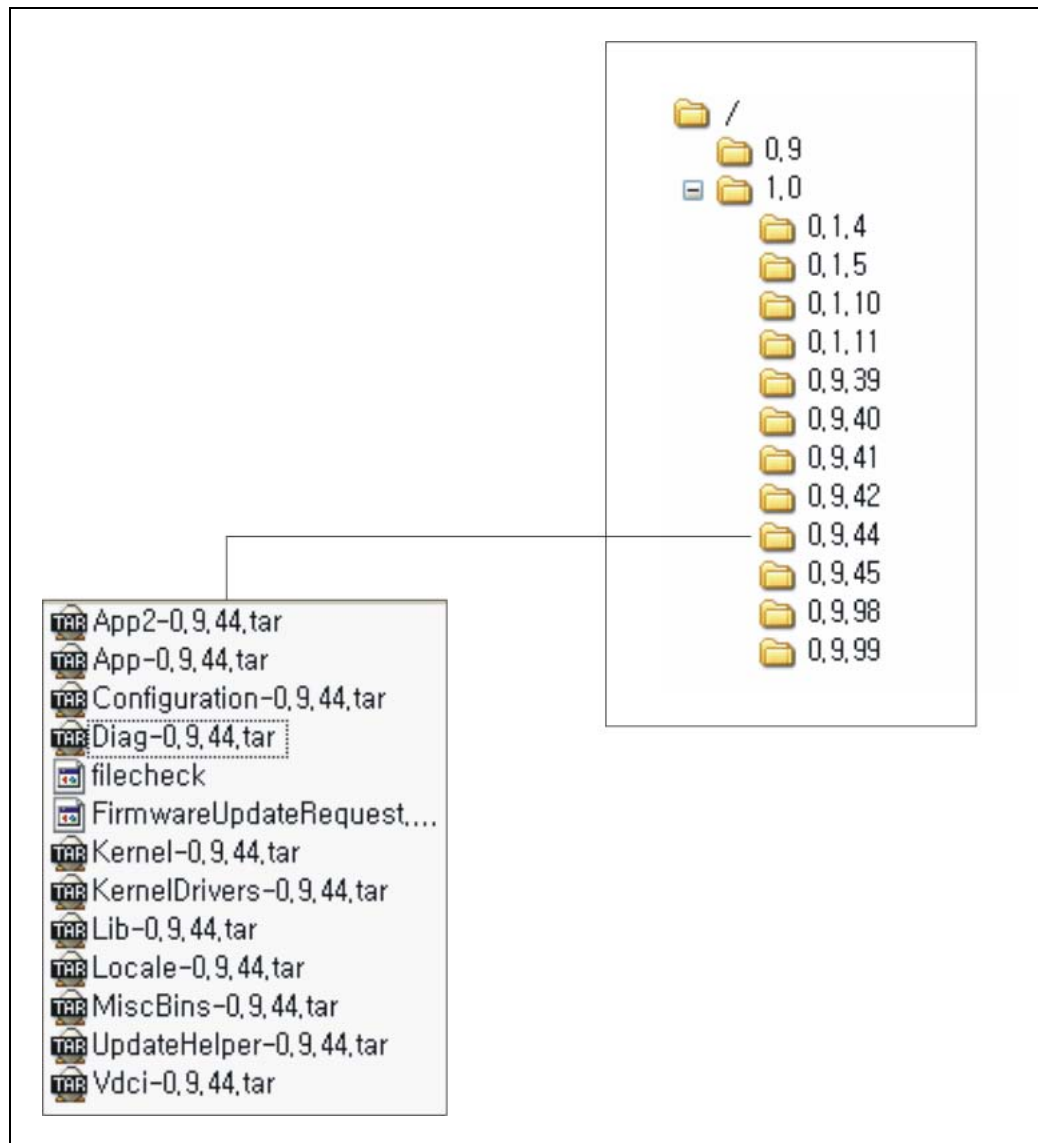
Additional configuration using the VoIP Settings menu

This chapter describes additional configuration options found on the VoIP Settings menu, which have not been described elsewhere in this document.

Registration option

This section covers functions of the Registration option of the VoIP Settings menu not covered elsewhere in this document. Specifically, **De-Register** function and the **Expires** configuration option.

To access the Registration configuration options:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Registration*, and press **OK**.

—End—

De-Registering the IP Phone 1535

Use the **De-register** function to de-register the IP Phone 1535 as an endpoint on your communications server. For this function to be available, the IP Phone 1535 must be registered as a valid endpoint with the Communications Server. For more information, see "Registering the IP Phone 1535" (page 34).

Accessing and activating the De-register function:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Registration*, and press **OK**.
3	Select *De-register* and press **OK**. The IP Phone 1535 will now deregister itself as an endpoint of the Communications Server.

—End—

Setting the registration interval using the Expires configuration option

To maintain access, the IP Phone 1535 must periodically reregister itself as an endpoint with the Communications Server. The period of time between these scheduled registrations is a value (in seconds) that you can set using the Expires configuration option.

Configuring the registration interval:

Step	Action
1	Log in to the IP Phone 1535 using the Admin Mode. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Registration* and select *Expires*, and press *OK*
3	Enter a value in seconds from **60** to **86400**, and press *OK*(the default value is 86400).

—End—

Misc. (Miscellaneous) configuration option

This section covers additional functions of the Misc. configuration option not covered elsewhere in this document. Specifically, the **Call Total Bandwidth (CTBW)**, **Codec Priority**, and **Voice Mail** functions. Each of these will be covered separately in subsequent sections.

To access the Misc. configuration options:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Registration* and select *Misc.* then press *OK* to accept selection.

—End—

The available Misc. configuration options are as follows:

- **Domain Name:** For more information, see "Configuring VoIP domain name information" (page 33).

- **CTBW:** Configure the Call Total Bandwidth value using this configuration option, to define the limit for bandwidth usage by the IP Phone 1535, in its operations on your network. For more information, see "Accessing and modifying Call Total Bandwidth (CTBW)" (page 49).

- **Ports:** For more information, see "Modifying port assignments" (page 33).

- **Codec Priority:** The IP Phone 1535 supports various audio and video codecs, and you can set the order of preference for their use (depending on the particulars of your network setup) by using the Codec Priority configuration option. For more information, see "Modifying Codec Priority lists" (page 50).

- **Voice Mail:** Set up Voice Mail on the VoIP network service. For more information, see "Configuring VoIP Voice Mail" (page 51). You can access the Voice Mail configuration option on the Misc.section of the VoIP Settings menu without logging in using the Admin Mode.

- **Decline Type**

Accessing and modifying Call Total Bandwidth (CTBW)

To define the limit for bandwidth usage by the IP Phone 1535, in its operations on the VoIP network, you would use the CTBW configuration option.

Accessing and modifying CTBW parameters:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Registration* and select *Misc.* then press *OK* to accept selection.
3	Select *CTBW* and press OK. The parameters controlling bandwidth usage are now available. Set the bandwidth parameter to a value between the range of 60 and 250 Kb/s. **By default, the IP Phone 1535 is set with a CTBW value of 250 Kb/s.**
4	Press *OK* to confirm.

—End—

Modifying Codec Priority lists

To set Audio and Video codec priorities (to suit the specifics of your Communications Server setup), use this configuration option.

Configuring the order of Codec Priority:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, go to *Settings* > *VoIP Settings > Misc.* and select *Codec Priority*. Press *OK*.
3	Select the Codec Type (**Audio** or **Video**) to configured, and press *OK*.
4	Select the priority level, and assign a codec from the list of codecs available: a. **Audio:** The IP Phone 1535 supports the following Audio Codec Types: *G.711 u-law*, *G.711 a-law*, *G.723*, *G.729*, *AMR*, or *None*. You can configure these Audio codec types in a priority list of up to five options. Prioritize codecs depending on your network configuration. b. **Video:** The IP Phone 1535 supports the following Video Codec Types: *H.263* and *H.264*. You can configure these Video codec

types in a priority list of up to five options. Prioritize codecs depending on your network configuration.

5   Press *OK* to accept the new priority level of the chosen Codec.

6   After modifying the Codec Priority list, you must manually register the IP Phone 1535 with the network, in order to utilize the new codec priorities in subsequent operation. For more information, see .

—End—

Configuring VoIP Voice Mail

Before you use the VoIP Voice Mail service on the IP Phone 1535, configure the Voice Mail configuration options with the proper *Voice Mail Number*, *Mailbox ID*, and *Mailbox Password*.

Accessing the Voice Mail configuration option:

Step	Action

1   From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Misc.* > *Voice Mail* , and press *OK*.

2   On the Voice Mail menu the following configuration options are available:

- **Voice Mail Number:** Configure the phone number used by the IP Phone 1535 to reach the VoIP Voice Mail server. **By default, this value is *55999***.

- **Mailbox ID:** Configure the **Mailbox ID** used to access the VoIP Voice Mail.

- **Mailbox Password:** Configure the password used to access the VoIP voice mailbox.

—End—

Configuring the Voice Mail Number:

Step	Action

1   From the *Main Menu*, select *Settings* > *VoIP Settings* > *Misc.* > *Voice Mail* > *Number*, and press *OK*.

2   Enter the *Number* associated with your voice mail. Press *OK*.

—End—

Configuring the Mailbox ID:

Step	Action
1	From the *Main Menu*, go to *Settings* > *VoIP Settings* > *Misc.* > *Voice Mail* > *ID*, and press *OK*.
2	Enter the *ID* used to access your voice mail, and press *OK*.

—End—

Configuring the Mailbox Password:

Step	Action
1	From the *Main Menu*, select *Settings* > *VoIP Settings* > *Misc.* > *Voice Mail* > *Password*, and press *OK*.
2	Enter the *Password* used to access your voice mail. Press *OK* to accept changes.

—End—

Additional configuration using the System Settings menu

This chapter describes additional configuration options found on the System Settings menu, which have not been described elsewhere in this document. Specifically, the functions used to modify **Date and Time**, the system update functionality contained in the Technical Features configuration option, and the **Reset** function.

Modifying the Date and Time

Use the Date and Time option on the System Settings configuration menu to set the system Date and Time on the IP Phone 1535. It is NOT required that you log in using the Admin Mode to access the Date and Time configuration option.

Modifying the Date and Time:

Step	Action
1	From **Main Menu**, select **Settings** > **System Settings** > **Date and Time**, and press **OK**.
2	Enter the date (YYYY/MM/DD), and select **OK**.
3	Enter the time (HH:MM), and select **OK**.

—End—

Accessing and activating the Reset function

The IP Phone 1535 incorporates two databases in which local data parameters are stored. The databases serve two basic functions:

- **Phonebook:** Stores information related to call activity, such as phone numbers and blocked call programming.

- **Settings:** Saves any system configuration entries made on the IP Phone 1535.

You can reset these two databases individually (or at the same time) by means of the Reset configuration option, which erases the stored data.

On the Reset menu, the following configuration options are available:

- **Phonebook:** Resets the Phonebook database.

- **Settings:** Resets the System Settings database.

- **System:** Resets BOTH the Phonebook and the Settings database at the same time.

ATTENTION
Resetting the System database returns the IP Phone 1535 to factory default settings.

Accessing and Activating the Reset function:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	From the *Main Menu*, select *Settings* > *System Settings* > *Reset*, and press *OK*.
3	Select the database to be reset (or System for both) and press *OK* to confirm.

—End—

Accessing the Technical Features configuration option

The Technical Features configuration option of the System Settings menu provides system information about the IP Phone 1535, including the current hardware and software versions. This configuration option also contains functions that allow you to check whether new updates are available for the IP Phone 1535 software and also to download and install the available updates found.

Accessing the Technical Features Configuration Option:

Step	Action
1	Log in to the IP Phone 1535 using the Admin Mode. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).

2 From the *Main Menu*, select *Settings* > *System Settings* > *Technical Features*, and press *OK*.

—End—

On the Technical Features menu, the following configuration options are available:

- **Show HW/SW Version:** Display current version information for hardware and software installed on the IP Phone 1535. This configuration option is not accessible while an active call is in operation - for the duration of an active call, this menu option is inactive.

- **Check Updates:** Check for available updates to the IP Phone 1535 currently installed system software.

- **Update Software:** If the **Check Updates** option returns a confirmation that a newer version of the IP Phone 1535's installed system software is available, you can use the **Update Software** option to download and install the update from your configured FTP update server. For more information, see "Initiating manual software updates for the IP Phone 1535 " (page 40)

- **Download Server Address:** To obtain the system software updates, you must update the IP Phone 1535 with the FTP server address location from which to initiate the download. Use this configuration option to specify the address information of your FTP update server - the 1535 will look for software updates at this FTP Download IP address.

- **Scheduled Update:** Option used to **Enable**, **Disable**, or **Set Schedule** for software updates to the IP Phone 1535.

Configuring Email

Before E-mail services become available through the IP Phone 1535, you must configure the E-mail account settings locally for access of the E-mail services installed on your network. The IP Phone 1535 E-mail service supports POP3-based and (partially) IMAP-based server types.

Microsoft Exchange Server is not a supported server type for this device.

ATTENTION
Multiple E-mail accounts can be configured on a single IP Phone 1535, but it is important to note that there is only one Inbox and Outbox, which means that the Inbox and Outbox is shared between all accounts configured on the device.

You must configure the IP Phone 1535 with the following for the successful configuration of the E-Mail services:

- POP3 Server Address

- E-mail Username and Password

- SMTP Authentication Information (if required)

The IP Phone 1535 E-Mail services are configured through the Messages menu.

Configuring IP Phone 1535 Email account information

Configuring the IP Phone 1535 for E-mail functionality:

Step	Action
1	With no other processes currently active on the IP Phone 1535, go to the *Main Menu*, select *Messages* and press *OK*.
2	Select *Account* and press *OK*.
3	Select either *Add New* (for new account setup) or *Modify* (to make changes to a existing account) and select *OK*.
4	Enter E-mail configuration data into the appropriate fields:

- **SMTP Server**

- **Receiving Protocol:** Select either **POP** or **IMAP** as the receiving protocol of the IP Phone 1535 E-mail service. **Set to the POP protocol by default.**

- **POP Server/IMAP Server:** Depending on the **Receiving Protocol** accepted, define the **POP** or **IMAP** server address information.

- **User/Account:** Specifies whether the configured E-mail service belongs to a specific User or is a general (shared) E-mail account.

- **User Information:** Configure user-specific information on the IP Phone 1535 E-mail service by means of the User Information configuration option, **User Name** and **Email Address**.

5   Select *OK* to confirm any entries made.

—End—

Emails containing phone number strings

If an email contains a phone number string, the IP Phone 1535 can either use the number string as a phonebook entry or in returning a phone call to the sender.

Example

An email is received that contains the phone number string 4024532022 in the message body. When the email is finished downloading to the IP Phone 1535, the user can either select **User number** to automatically return the call to the email sender at 4024532022 or add a new contact using that number.

The IP Phone 1535 Camera

Enabling and disabling the Camera

The Camera built into the IP Phone 1535 can be Disabled so that the video and photo functions of the IP Phone 1535 can be turned off. You can access the Enable / Disable Camera configuration option only if Admin Mode is currently active.

Enabling / Disabling the IP Phone 1535 Camera Mode:

Step	Action
1	Log in to the IP Phone 1535 using the **Admin Mode**. For more information, see "Logging in to the IP Phone 1535 Admin Mode" (page 25).
2	from the *Main Menu*, select *Settings*, *Video Settings*, and then *Camera*. Press *OK*.
3	Depending on the current state of the Camera, select **Enable** or **Disable**.

—End—

Troubleshooting

Required software for CS1000E call server in MCS5100 configuration

If your MCS 5100 resides on the same network as a CS1000E, make sure your CS1000E has the following patches installed:

- MPLR22491

- MPLR22494

Known issues

- Successful NAT/Firewall traversal requires an RTP Media Portal (same as MMPC client).

- If the IP Phone 1535 is installed within an IP Telephony environment in which the *G.723.1* codec is not supported by all endpoint devices (on the same node), the IP Phone 1535 *G.723.1* codec must be set as the lowest priority (default setting) to avoid codec negotiation related issues.

- Selecting the Korean language for your menu language option causes the IP Phone 1535 to reboot automatically to enable the changes.

Basic troubleshooting

Check physical connections on the IP Phone 1535:

- For power related failures ensure that the power supply is connected, as IP Phone 1535 does not support PoE.

- For issues of connectivity loss, check all installed cabling for the IP Phone 1535: are all cables installed firmly and in the correct ports?

- If the handset has no audio, check to see if the handset accidentally connected to PSTN RJ-11 connector?

Troubleshooting connectivity issues

The following illustrates the icons used by the IP Phone 1535 in describing the various network connection states encountered during operation and installation:

![LAN cable disconnected icon]	LAN cable disconnected
![LAN connected but user not registered icon]	LAN connected but user not registered
![LAN connected and user registered icon]	LAN connected and user registered
![WiFi not connected icon]	WiFi not connected
![WiFi connected but user not registered icon]	WiFi connected but user not registered
![WiFi connected and user registered icon]	WiFi connected and user registered

IP Phone 1535 regulatory information

This chapter contains the regulatory information.

IP Phone 1535 emissions statement

Radio frequency electromagnetic energy is emitted from Wireless Lan devices. The energy levels of these emissions are much less than the electromagnetic energy emissions from wireless devices such as mobile phones. Wireless LAN devices are safe for use by consumers because they operate within the guidelines found in radio frequency safety standards and recommendations. The use of Wireless LAN devices be restricted in some situations or environments, such as on board an airplane, an explosive environment or situations where interference risk to other devices or services is perceived or identified as harmful. In cases in which policy regarding use of Wireless devices in specific environments is not clear (airports, hospitals, industrial plants, private buildings), obtain authorization to use these devices prior to operating the equipment.

Regulatory information and disclaimers

Privacy of communications not be ensured when using this telephone. To prevent radio interference to the licensed service, this device must be operated indoors only and should be kept away from windows to provide maximum shielding.

The user should not make any changes or modifications not expressly approved by Nortel Networks. Any changes or modifications made to this device that are not expressly approved by the manufacturer void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or substitution or attachment of connecting cables and equipment other that those specified by the manufacturer. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment.

The manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failure to comply with these guidelines.

Regulatory and safety information

The manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failure to comply with these guidelines.

The following table lists EMC compliance for various jurisdictions.

Table 1
EMC compliance

Jurisdiction	Standard	Description
United States	FCC CFR 47 Part 15	Class B Emissions: FCC Rules for Radio Frequency Devices
Canada	ICES-003	Class B Emissions: Interference-Causing Equipment Standard: Digital Apparatus
Australia/New Zealand	CISPR 22	Class B Emissions: Information technology equipment - Radio disturbance
European Community	EN 55022	Class B Emissions: Information technology equipment - Radio disturbance
	EN 55024	Information technology equipment - Immunity characteristics Limits and methods of measurement
	EN 61000-3-2	Limits for harmonic current emissions (equipment input current <= 16 A per phase)
	EN 61000-3-3	Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current <= 16 A
Japan	VCCI	Regulations for voluntary control measures.

The following table lists the Safety information for various jurisdictions.

Table 2
Safety

Jurisdiction	Standard	Description
United States	UL 60950-1	Safety of Information Technology Equipment

Jurisdiction	Standard	Description
Canada	CSA 60950-1-03	Safety of Information Technology Equipment
European Community	EN 60950-1	ITE equipment - Safety - Part 1: General requirements
Australia/New Zealand	AS/NZS 60950.1:2003	Safety of Information Technology Equipment

Other Safety Approvals: IEC 60950-1: ITE equipment - Safety - Part 1: General requirements.

Warnings

Connecting to PSTN

Your IP Phone 1535 does not support connection to the Public Switched Telephone Network (PSTN).

Wireless

With the RF WiFi transmitter enabled, this device must be operated only indoors.

Connecting power

Use only with Nortel-approved Limited Power Source 5 V DC, 3A (FSP Group Inc. Model: FSP015- 1AD201A).

Connecting to LAN

Severe damage to your IP phone will occur if this telephone is plugged into an ISDN connection. Consult your system administrator to ensure that you are plugging your telephone into a 10/100BaseT Ethernet jack.

Operation

The earpiece and the mouthpiece region on the handset can attract and retain small objects.

Location

It is recommended that you do not expose this unit to direct sunlight for a prolonged period of time.

USA-FCC (Federal Communications Commission) statement

This device complies with Part 15 rules. Operation is subject to the following two conditions:

1. This device not cause harmful interference, and

2. This device must accept any interference received, including interference that cause undesired operation.

FCC Interference statement

This equipment has been tested and found to comply with the limits of a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and use in accordance with the instructions, cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:

1. Reorient or relocate the receiving antenna.

2. Increase the separation between the equipment and receiver.

3. Connect the equipment to an outlet on a circuit different from which the receiver is connected.

4. Consult the dealer or an experienced radio/TV technician.

Compliance statement for Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This device complies with Class B Limits of Industry Canada. Operation is subject to the following two conditions:

1. This device not cause harmful interference, and

2. This device must accept any interference received, including interference that cause undesired operation.

The device is certified to the requirements of RSS-210 for 2.4GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors require the user to obtain a license for the system according to the Canadian regulations. For further information contact you Local Industry Canada office.

Telecom requirements for both Canada and USA

This equipment complies with Part 68 of the FCC rules and requirements adopted by ACTA. On the bottom of the equipment is a label that contains, among other information, a product identifier in the format US: AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

This equipment uses an RJ11C modular plug to connect to the premises wiring. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant.

See installation instructions for details.

The Ringer Equivalence Number (REN) is used to determine the maximum number of devices that be connected to a telephone line.

Excessive RENs on a telephone line result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). The REN for the IP Phone 1535 for Canada is **0.1A** and for USA is **1.6B**. To be certain of the number of devices that be connected to a line as determined but the total RENs, contact the local telephone company.

If the IP Phone 1535 causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with the IP Phone 1535, for repair or warranty information, please contact Nortel Networks Inc. in the USA at 1-800-4NORTEL. If the equipment is causing harm to the network, the telephone company request that you disconnect the equipment until the problem is resolved.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment is hearing aid compatible.

This product meets applicable Industry Canada technical specifications.

> ⚠️ **WARNING**
> WARNING: To comply with FCC radio frequency (RF) exposure limits, this device should be located at a minimum of 7.9 inches (20 cm.) or more from the body of all persons.

Nortel Communications Servers

Nortel IP Phone 1535 Installation and Commissioning

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