Product Bulletin

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IP Phone 1535 General Availability – North America

REVISION HISTORY

Date	Revision #	Summary of Changes
20 December 2006	Original Bulletin	This is the original publication

Introduction

The purpose of this bulletin is to introduce the general availability (GA) of the Nortel* IP Phone 1535, effective December 20, 2006. The IP Phone 1535 is a videophone that is compatible with the Multimedia Communication Server (MCS) 5100 Release 3.5. The initial GA offering of the IP Phone 1535 firmware is Release 0.01.70.

This bulletin provides useful information related to the release of the IP Phone 1535 in the North American region including solution overview, firmware management and ordering information. It also references Product Advisements as well as where to find related documentation and product information.

IP Phone 1535 Overview

Nortel's IP Phone 1535 introduces an advanced desktop IP videophone for Enterprises or organizations looking for a cost-effective personal video endpoint. Key features include an integrated color video camera coupled with a high-resolution, pixel-based, color display. The IP Phone 1535 also incorporates a web browser along with POP3-based or IMAP-based e-mail client and supports personalization such as customized ring tones and backgrounds.

In addition to the Ethernet 10/100 interface, the IP Phone 1535 contains an integrated IEEE 802.11b/g 'Wi-Fi' radio. This Wi-Fi connectivity option provides a high degree of flexibility as to the physical location of the device and can also reduce infrastructure costs by reducing the need for Ethernet cabling to the telephony endpoint device.

Initial support for the IP Phone 1535 is with MCS 5100 Release 3.5. For support plans with future releases of MCS 5100 and other Nortel Communication Servers, please contact your Nortel Account representative.

For detailed product and feature information, please refer to the information on the IP Phones and Clients product page of the Partner Information Center (PIC) or on www.nortel.com. The PIC can be accessed at: http://www.nortel.com/prd/picinfo/index.html. Once logged into the PIC, click on **Products**, then **VoIP, Voice & Multimedia Communications** and finally **IP Phones & Clients**.

Administration and Provisioning

The IP Phone 1535 must be provisioned on the MCS 5100 as a SIP video endpoint. It is essential that both the SIP username and a corresponding DN alias be configured on the MCS 5100. These settings must match the phone.

Firmware Content and Upgrade Information

The IP Phone 1535 supports remote firmware upgrades through both a manual and automated process using the FTP (File Transfer Protocol) protocol. Upgrades must be applied in sequence as each firmware load only contains the changes from the previous

load. This means that if a device is running firmware release A and newer versions B and C are available, upgrading directly from A to C would not apply the changes in release B. Safeguards have been incorporated into the phone to prevent skipping of releases.
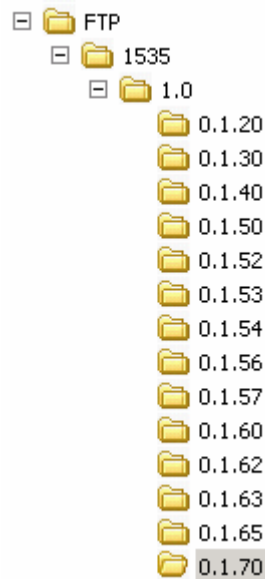
The following link should be used to access the Installation and Administration Guide as well as the latest firmware loads available for the IP Phone 1535:
http://www130.nortelnetworks.com/go/main.jsp?cscat=OVERVIEW&resetFilter=1&poid=17201

FTP Server Structure

The IP Phone 1535 obtains firmware upgrades via FTP, and the upgrade depends on server set up. The core part of server set up is how to create the directory structure.

FTP server directory structure

```
☐ 📁 FTP
    ☐ 📁 1535
        ☐ 📁 1.0
              📁 0.1.20
              📁 0.1.30
              📁 0.1.40
              📁 0.1.50
              📁 0.1.52
              📁 0.1.53
              📁 0.1.54
              📁 0.1.56
              📁 0.1.57
              📁 0.1.60
              📁 0.1.62
              📁 0.1.63
              📁 0.1.65
              📁 0.1.70
```

1. root(/): the root of the FTP server when IP Phone 1535 connects to server with id "ipphone" and password "15354all".
2. 1.0: directory name follows hardware version.
3. 0.1.65, 0.1.70: directory name follows firmware version.

Firmware upgrade firmware structure

Name ▲	Size	Type	Date Modified	Attributes
App2-0.1.70.tar	270 KB	TAR File	12/7/2006 5:43 PM	A
App-0.1.70.tar	310 KB	TAR File	12/7/2006 5:43 PM	A
Configuration-0.1.70.tar	10 KB	TAR File	12/7/2006 5:43 PM	A
filecheck	1 KB	File	12/7/2006 5:43 PM	A
FirmwareUpdateRequest.acfg	1 KB	ACFG File	12/7/2006 5:43 PM	A
KernelDrivers-0.1.70.tar	10 KB	TAR File	12/7/2006 5:43 PM	A
Vdci-0.1.70.tar	660 KB	TAR File	12/7/2006 5:43 PM	A

1. The upgrade firmware is located in the version directory. (e.g. 0.1.65, 0.1.70 from the example above)

2. The firmware upgrade set has three different file types.
   A. tar, tar2, tar3: are the upgrade files
   B. filecheck: checksum for all the upgrade files
   C. FirmwareUpdateRequest.acfg: contains the hardware and firmware version number, and a list of upgrade files. For Example, the FirmwareUpdateRequest.acfg file for the upgrade from 1.65 to 1.70 would contain:

   > firmware-update: 0.1.65 0.1.70 1.0/0.1.70 filecheck Vdci-0.1.70.tar Configuration-0.1.70.tar KernelDrivers-0.1.70.tar App-0.1.70.tar App2-0.1.70.tar

   Where:
   - 1.0/0.1.70: hardware and firmware version number
   - filecheck: checksum for all the software upgrade files
   - Configuration-0.1.70.tar App-0.1.70.tar App2-0.1.70.tar: list of firmware upgrade files

The FirmwareUpdateRequest.acfg file

The FirmwareUpdateRequest.acfg is an important file during the firmware upgrade.

A. The administrator must copy the "FirmwareUpdateRequest.acfg" file from the new firmware to the directory of the previous version.
B. The IP Phone 1535 compares its current version with version number in "FirmwareUpdateRequest.acfg". If the current version is different from the version number in FirmwareUpdateRequest.acfg", firmware upgrade will start from the new version directory specified in new "FirmwareUpdateRequest.acfg".

C. Firmware upgrades are one-directional. (i.e. IP Phone 1535 cannot downgrade).
   1) If current version is 0.1.1 and the version number in new "FirmwareUpdateRequest.acfg" located in "0.1.1" directory is 0.1.2, then IP Phone 1535 upgrades from 0.1.1 to 0.1.2 only.
   2) If there are two new firmware upgrades available, 0.1.2, and 0.1.3, firmware upgrades starting from 0.1.1 repeats twice, from 0.1.1 to 0.1.2, then from 0.1.2 to 0.1.3. Upgrades directly from 0.1.1 to 0.1.3 are not allowed.

If a directory contains "FirmwareUpdateRequest.acfg" file with the same version number as its directory name, this directory is the final version of available firmware upgrades. Whereas, if the directory contains "FirmwareUpdateRequest.acfg" file with a different version number from its current directory name, the IP Phone 1535 upgrades to next version.

Firmware upgrade staging

The FTP server must have all firmware versions posted. Regardless of the version number of the phone, all the phones will upgrade to the final version, repeating upgrade operation in sequence.
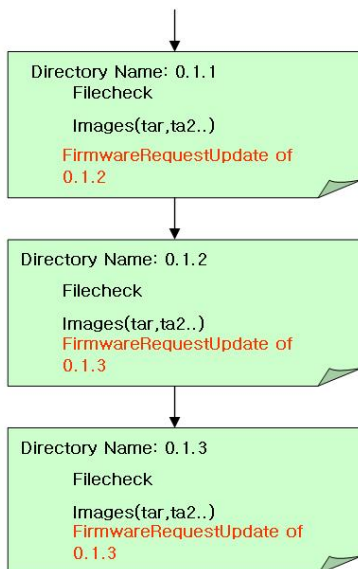
The name format of the upgrade firmware is "IP_Phone_1535_fw_[new version]_FTP_image_from_[old version].zip". For example:
IP_Phone_1535_fw_00_1_70_FTP_image_from_00_1_65.zip

Firmware Upgrade Process

The FTP download and upgrading of the phone's Flash memory may take a while. Do not unplug or reboot the phone during the process.

- The file transfer from the FTP server takes about 5 seconds, followed by another 2 minutes to burn the file into the Flash memory (dependent on the firmware size).
- During the upgrade process, the phone will display a progress bar and the install message.
- When completed, the phone will display "[FW] finished" and will automatically reboot with the new firmware version.

Two methods are provided for upgrading the firmware:

Method 1: Automatic Firmware Upgrade

On bootup (power-up) the phone will always check if an upgrade is available. The "FirmwareUpdateRequest.acfg" file is downloaded and the Name of download file and Version information processed. The Version field is compared to the phone's current FW version string. If the firmware is up-to-date, the phone will automatically check again every 24 hours.

If the phone's current FW version string is older than Download Version field sting, FTP Download will be started. The progress bar and install message are displayed in Download Process. After Automatic FTP Download, the phone will be rebooted. And the phone checks if a FW upgrade is available. FTP Download process will be repeated until available FW does not exist. If the phone is busy, the phone will re-attempt the upgrade process every 15 minutes.
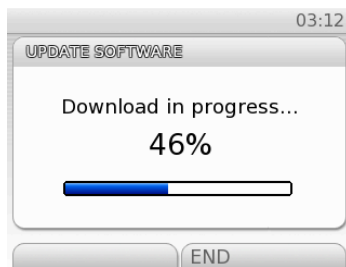
Note: If there is an upgrade available there will be a message displayed to prompt user to confirm or decline the upgrade. If there is no response the set will proceed

with the upgrade. If the end user declines the upgrade the check for updates will automatically check again after 24 hours.

Method 2: Manual Firmware Upgrade

Users may manually start the firmware upgrade process from the MENU. Once started, the upgrade process is same as the Automatic Software Upgrade. To start the manual software upgrade process:

1. From the menu, select Settings->System settings->Technical Features.
2. Go to "Check updates" or "Update software", Select "OK"
3. The phone will then download the "FirmwareUpdateRequest.acfg" file from the FTP server.
4. After retrieving the "FirmwareUpdateRequest.acfg", the Download files fields and Version fields are checked.
5. If a FW download is necessary, the phone will then download the appropriate firmware file using FTP.
6. The display will show a progress bar.
7. If the download is successful, the display shows install message. After the FW image has been written to the phone, the message "[FW] finished" is displayed and the phone resets.
8. The phone will then reset and register to the SIP proxy with the new FW version.

References and Related Documents

Additional information is available in the *Knowledge Transfer Kit* (KTK) which can be downloaded from the Partner Information Center (PIC) at the following location: http://www.nortel.com/pic. Navigate to "***Products and Solutions***", then select "***Channel Readiness***" and finally select "***IP Phone 1535***" from the drop-down list.

Additional product information is available at the following URL: http://products.nortel.com or http://www.nortel.com/ipphones

The IP Phone 1535 related documents are available on www.nortel.com/helmsman using the following product path:

Multimedia Communications Portfolio >
Multimedia Communication Server 3.5 >
IP Phone 1535 >

The IP Phone 1535 documentation includes the following materials:
- Nortel IP Phone 1535 Getting Started Card (In-box documentation)
- NN43160-101 Nortel IP Phone 1535 User Guide
- NN43160-102 Nortel IP Phone 1535 Quick Reference Guide
- NN43160-103 Nortel IP Phone 1535 Installation and Configuration

Additional technical information on the IP Phone 1535 can be found on the Nortel Technical Support Portal at the following link:
http://www.nortel.com/support or
http://www130.nortelnetworks.com/go/main.jsp?cscat=OVERVIEW&resetFilter=1&poid=17201

Other related materials for the IP Phone 1535 include:
- IP Phone 1535 Sales & Marketing Bulletin - SM-2006-0356-NA
- IP Phone 1535 Technical Specifications – TBD (planned for Jan 2007)

Ordering Guidelines and Procedures

The Nortel IP Phone 1535 product codes listed below are Generally Available and shipping effective December 20, 2006. Nortel Order Management will accept an order for any codes listed in this product bulletin.

Order Codes – Nortel IP Phone 1535

PEC	CPC	DESCRIPTION
NTEX02AAE6	N0126154	IP Phone 1535 – with North American Power Supply

The IP Phone 1535 offering (NTEX02AAE6) includes the following components in the box:
- IP Phone 1535
- Handset
- Handset Cord
- Phone desktop stand
- Ethernet cable
- Local power supply (NA cord/plug)
- Getting Started Card

MCS 5100 Port License

The IP Phone 1535 is a SIP-based client that works with Multimedia Communication Server 5100 (MCS 5100) Release 3.5 systems. As such, a SIP port license is required for the IP Phone 1535 to connect to the MCS 5100 system. When placing an order for the IP Phone 1535, please ensure appropriate number of MCS 5100 SIP port licenses have been ordered to support the application.

Training

Global Knowledge is the official training partner for Nortel for North America. The following training courses have been updated to include the IP Phone 1535:

Course Title	Format	Number
MCS 5100 Installation and Commissioning	Classroom Learning	6316C
MCS 5100 Planning and Engineering	Classroom Learning	6314C
What's New for MCS 5100 Release 4.0	Facilitated eLearning	6325F

Further details on course offerings and schedules can be obtained from the Global Knowledge website at www.globalknowledge.com/nortel/training.

Technical Advisements

Power Over Ethernet (PoE) Support

Standards-based IEEE 802.3af Power over Ethernet (PoE) is not supported on the IP Phone 1535. The provided power supply must be used to locally power the unit. If the IP Phone 1535 is connected to an infrastructure that provides IEEE 802.3af PoE, the unit will only receive the data connectivity.

Ad Hoc Conferencing

Due to video limitations in the MCS 5100, the IP Phone 1535 utilizes an internal bridge for ad-hoc conferencing instead of the MCS 5100 MAS-based Ad Hoc conferencing feature. The phone is limited to a maximum of three parties on an audio ad-hoc conference.

Operation on VLANs

The IP Phone 1535 does not support IEEE 802.1q tagging for Virtual Local Area Networks (VLANs) and priority at this time (Q01456990).

If the IP Phone 1535 is to be used in an 802.1q environment, it is recommended that it be connected to a port on an Ethernet switch which can be configured to apply 802.1q on the ingress and remove 802.1q on the egress.

G.723 Interoperability

- If the IP Phone 1535 is used in an IP Telephony environment where 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 (Q01428538).
- Users may notice a delayed call setup time (650ms) with calls using the G.723 codec (Q01467916).

Security Vulnerabilities

The IP Phone 1535 has been tested with a suite of tools to simulate security threats from the network. While no serious issues occur, a number of exposures exist as listed below. These will be addressed in a future release.

- Running the Nessus tool (www.nessus.com) 22092 and 21642 plug-ins can cause the IP Phone 1535 to drop a call and unregister from the call server (Q01436387).

- It is possible for RTP voice messages to be intercepted using an ARP poisoning tool (Q01436388).

- Sending a SIP notify message to the set can enable/disable the Voice Message icon (Q01436392).

- Running the Sivus tool (http://www.vopsecurity.org/html/sivus.html) can cause the IP Phone 1535 to drop a call and unregister from the call server (Q01437475).

- Running the Cain and Abel ARP poisoning tool, it is possible to access the default ftp account without a password.

- Running the SipSak tool (http://sipsak.org) can cause the IP Phone 1535 to drop a call and unregister from the call server (Q01438999).

Alarm Settings

If an alarm has been programmed, it will be cleared if the phone is rebooted (Q01451176).

Nortel CallPilot* Manual Access

If a IP Phone 1535 user manually dials a CallPilot DN and then presses #, the IP Phone 1535 will send the mailbox ID and password digits as configured in the mailbox setup. With other Nortel IP phones, when the user presses '#', the other sets only send the '#'. This means that IP Phone 1535 users may experience issues accessing CallPilot if they have changed their password and have not updated the IP Phone 1535 Voicemail configuration (Q01461513).

SD/MMC Card Operation

Users are advised to not remove the SD/MMC card until the process has been completed when copying data to or from the card (Q01454069).

SIM Card Operation

If a user inserts a SIM card into the IP Phone 1535, there will be a period of time where the user cannot make phone calls while the SIM card is being read. Also, incoming calls will not ring or be reported as missed calls until the scanning process has completed (Q01421231).

SIP Display Name

The IP Phone 1535 will only show the associated address/phone number on incoming or outgoing calls along with the name which has been entered in the local phone book. The SIP 'DISPLAY NAME' from the MCS 5100 is not shown or logged in the missed calls view (Q01461508, Q01446508).

Last Number Redial

In order to redial the last number dialed, users must select the redial softkey. This operation is different from other Nortel phones where the user presses the send key again (Q01461487).

LAN Speed Negotiation

Both the phone and port must be either both setup as Auto or manual with same speed. Configurations where one side is set to automatic and the other manual is not supported. As the IP Phone 1535 only supports auto-negotiation; the switch port MUST also be set for auto-negotiation (Q01472475).

Single User Login

The IP Phone 1535 only supports a single user logged in per phone. Other Nortel IP phones allow for more than one user to be logged in at a time.

End-to-End DTMF Signaling

Users may experience issues with carrier networks requiring the entry of an authorization code before the call is completed. A work-around is to use authentication codes on the CS1000. Once RFC-2833 is supported (planned for MCS 5100 Release 4.0 and CS 1000 5.0), this will no longer be an issue. The IP Phone 1535 already supports the SIP RFC-2833 standard.

Transfer/Conference on video calls

The Transfer and Conference functions are not supported when on an active video call. These functions are supported for normal audio-only calls (Q01435648).

IP address conflict detection

When assigning an IP address manually, the IP Phone 1535 does not perform ARP checking to determine if the IP address is already used on the same network prior to activation. This means that the IP address will be activated and may conflict with (and impact the operation of) another device. The IP Phone 1535 will however detect the conflict after three minutes and inform user with a notification message (Q01488436).

Single Ethernet Interface

The IP Phone 1535 incorporates a single Ethernet LAN interface. If the IP Phone 1535 is to be co-located with a PC, either an Ethernet hub must be used or a separate Ethernet connection provided (Q01466352).

TIA-810-A Compliance

While the IP Phone 1535 provides high quality audio, it does not meet the requirements for TIA-810-A audio standard (Q10466365).

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