



POLYCOM[®]

Release Notes
BootROM Firmware
SoundPoint[®] IP

Version 3.1.3
2 February 2006

Notices

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1. General

These release notes apply to version 3.1.3 of the SoundPoint IP BootROM. For more information, refer to the documents listed in § 4 Reference Documents.

1.1 System Requirements

- Platforms: SoundPoint IP 300, SoundPoint IP 301, SoundPoint IP 400, SoundPoint IP 500, SoundPoint IP 501, SoundPoint IP 600, SoundPoint IP 601, SoundStation IP 4000

2. Changes

2.1 Version 3.1.3

2.1.1 Added or Changed Features

- 14052: Add ability to disable Expansion Module support and reduce CDP power requirements accordingly.
- 14886: Change the power reported via CDP to the minimum required value.

2.1.2 Removed Features

None.

2.1.3 Corrections

- 13793: For HTTP digest authentication, cnonce from our phone is not random.
- 14489: Phone won't upload all log files to TFTP bootserver if log_file_directory specified on MAC.cfg doesn't exist on IP 300, IP 400 and IP 500.
- 15104: CDP incorrectly advertises new link duplex levels on IP 4000

2.2 Version 3.1.2

2.2.1 Added or Changed Features

- 13910: Prevent Furby from downgrading to bootROM versions that have bug 13361.
- 13911: Auto detect and fix bug #13361.

2.2.2 Removed Features

None.

2.2.3 Corrections

None.

2.3 Version 3.1.1

2.3.1 Added or Changed Features

- 12974: bootROM should report **BOOT_SHUTDOWN_FAILED**.
- 13309: Implement fail-safe flash writes.
- 13336: Add a C callable log interface.
- 13466: BootROM does not expose the user credentials in HTTP signaling.
- 13475: All user agent headers for SAS-VP v3 must include MAC.
- 13792: Do not set the REFER field during HTTP transfers.

2.3.2 Removed Features

- 13319: Remove SST flash support.

2.3.3 Corrections

- 12542: Phone does not get master config file in some scenarios using TFTP, HTTP, and HTTPS.
- 13318: Furby filesystem is different than it should be.
- 13361: Furby will lose information in the security sector after filesystem activity.
- 13512: URL parsing is broken for some categories of URLs.
- 13608: TFFS always writes to the filesystem during reboot.
- 13609: Remnants of TFFS remain during a bootROM upgrade.

2.4 Version 3.1.0

2.4.1 Added or Changed Features

- 8761: Added IP 601 support.
- 11388: Phone will wait 5 seconds for CDP response.
- 12685: BootROM logs indicated if it is a beta bootROM.

2.4.2 Removed Features

None.

2.4.3 Corrections

- 11857: Phone ignores short DHCP packets.

2.5 Version 3.0.1

2.5.1 Added or Changed Features

- 11633: Use flash credentials when URLs lack them.

2.5.2 Removed Features

None.

2.5.3 Corrections

- 2179: User is able to see ftp pwd upon reboot.
- 11409: Provisioning may not work reliably with the proftpd FTP server on Linux.
- 11417: Phone may not be able to boot from a remote subnet.

2.6 Version 3.0.0

2.6.1 Added or Changed Features

- 7663: Added ability to specify boot server address as URL per RFC 1738.
- 7847: Added support for HTTP boot server transport.
- 7895: Add support for provisioning signed images only.
- 8851: BootROM uses HTTP and FTP instead of HTTPS and FTPS.
- 8970: Added URL for application provisioning.
- 9299: Allow all files in MAC.cfg to be full URL's.
- 9579: Allow specific master config file to be specified in boot server URL.

2.6.2 Removed Features

None.

2.6.3 Corrections

- 9043: Phone does not reboot after a CDP VLAN change.

2.7 Version 2.6.2

2.7.1 Added or Changed Features

None.

2.7.2 Removed Features

None.

2.7.3 Corrections

- 8553: DHCP short packets are ignored in the bootROM.
- 11278: DHCP DECLINE not sent on duplicate IP address.

2.8 *Version 2.6.1*

2.8.1 Added or Changed Features

None.

2.8.2 Removed Features

None.

2.8.3 Corrections

- 9447: Phone fails to boot if the boot server is not present and the application is not self-provisioning.
- 9537: When using TFTP, phone does not display the "Could not contact boot server" screen.
- 9581: Phone does not format the file system when the application will not fit.
- 9645: LCD backlight isn't used by bootROM.

2.9 *Version 2.6.0*

2.9.1 Added or Changed Features

- 5761: Added support for 2201-066x2-001 hardware platforms.
- 7175: Made TFTP file provisioning consistent with FTP.
- 8760: Added support for 2345-11300-010 hardware platform.

2.9.2 Removed Features

None.

2.9.3 Corrections

- 8548: Phone waits 2 1/2 minutes for SNTP to fail.
- 8989: Phone uses both PORT and PASV commands.

2.10 *Version 2.5.2*

2.10.1 Added or Changed Features

- 8232: Added DHCP VLAN Discovery.

2.10.2 Removed Features

None.

2.10.3 Corrections

- 6782: Invalid <MAC>.cfg can hang the phone.
- 8535: BootROM DHCP client does not send a DHCPDECLINE.
- 8553: BootROM ignores short DHCP packets.

2.11 Version 2.5.1

2.11.1 Added or Changed Features

- 7399: Added alternate vendor flash support to bootROM.

2.11.2 Removed Features

None.

2.11.3 Corrections

None.

2.12 Version 2.5.0

2.12.1 Added or Changed Features

- 5116: Added support for 2345-11300-001 rev2 hardware platform.

2.12.2 Removed Features

None.

2.12.3 Corrections

The following issues have been resolved with this release.

- 5178: **FTP logs did not include the path name.**
- 5191: **Ftp client fails if the ftp root dir is not readable.**
- 5503: **BootROM uses the uncompressed size of files when determining free space.**
The bootROM now uses a compression ratio of 7:1 when determining free space.
- 5623: **Hitting the left arrow key before the cursor advances moves the cursor 2 characters.**
- 5668: **Spaces in passwords are ignored.**
- 5754: **Phone did not log out of FTP server after a bootROM update.**

2.13 Version 2.4.1

2.13.1 Added or Changed Features

- 5080: **Added Orion version to the boot log.**

2.13.2 Removed Features

None.

2.13.3 Corrections

The following issues have been resolved with this release.

- 4874: **SNTP does not work in the bootROM.**
- 5057: **Application does not load on Orion 1.1 IP 400 phones.**

2.14 Version 2.4.0

2.14.1 Added or Changed Features

- 2388: **Added support for compressed configuration and miscellaneous files**
- 3759: **Pass sysStartType to application**
- 4171: **Added support for 2345-11500-010 rev 1, 2345-11500-020 rev 1, 2345-11500-030 rev 1, and 2345-11500-040 rev 1 hardware platforms**
- 4301: **Added MKC to reset the flash configuration to factory defaults.**
- 4453: **Increased the filename sizes allowed in the <MAC>.cfg**
- 4455: **Log files can now be uploaded to a specified directory.**

2.14.2 Removed Features

None.

2.14.3 Corrections

The following issues have been resolved with this release.

- 2542: **Multicast networking problems can lead to interrupted file transfers**
- 3955: **FTP password is substituted with "*****" when it should not be**

2.15 Version 2.3.0

2.15.1 Added or Changed Features

- 411: **Speed up boot time**
U/I is active <10 seconds after power-up.
- 1332: **TFFS error screen in bootROM is not meaningful**
Changed error screen to read "A file system error has occurred and has been corrected."

- **2004: Password protected bootROM setup menu**
The admin password will be required to enter the setup menu unless the admin password is blank.
- **2475: Upload application log before re-flashing the bootROM**
The application log will be uploaded as MAC-appFlash.log before a bootROM flash. This prevents the loss of an app log when the file system is erased as part of the upgrade process.

2.15.2 Removed Features

None.

2.15.3 Corrections

The following issues have been resolved with this release.

- **1143: Very old application images can corrupt an IP 500 flash image**
The hardware supported descriptor is now required for all phone models. This implies that releases before Sip 1.0.2, MGCP 1.2.2, MGCP-Sylantro 1.1.4, or H323 1.1.5 will not be used.
- **3675: IP 600 display will fail to come on at power up**
- **3677: On IP 500 and IP 600 only, resume an erase-suspend operation in flash after a crash**

2.16 Version 2.2.2

2.16.1 Added or Changed Features

- **2262: Phone will ignore all errors when closing a file during application update.**

2.16.2 Removed Features

- None.

2.16.3 Corrections

- None.

2.17 Version 2.2.1

2.17.1 Added or Changed Features

- None.

2.17.2 Removed Features

- None.

2.17.3 Corrections

- 2261: **IP400 and IP500 phones will flash an incompatible image if there is only one image in the .ld file.**

2.18 Version 2.2.0

2.18.1 Added or Changed Features

- 808: **Leading zeros and spaces in IP addresses fields are stripped out.**
This means the strings “172.023.0.130” and “172 .23.0.130” both resolve to the intended 172.23.0.130.
- 826, 1157, 1773: **Hardware support descriptions have been added to all images.**
The bootROM uses this information to prevent incompatible images from being used.
- 905: **BootROM will now remove log files before formatting file system due to lack of space.**
- 1352: **BootROM can be set to only flash a particular application protocol set.**
For example, this could be used to prevent SIP phones from becoming MGCP phones.
- 1772: **BootROM supports 4MB flash chips.**
- 2019: **CDP can be disabled through the setup menu.**

2.18.2 Removed Features

- None.

2.18.3 Corrections

- 1867: **Will not revert to backup bootROM image if more than one fail flag is set in the sysStartType.**

2.19 Version 2.1.0

2.19.1 Added or Changed Features

- #504: The FTP password will now be displayed as “****” unless it is being edited.
- #902: CDP packets now have the VoIP bit set.
- #1012: Message when boot server is unavailable/misconfigured has been changed.
- #1134: Timestamps in the bootROM log file will now be in GMT as a side effect of this fix.
- #1315: A new DHCP boot server option has been added so the phone will use whichever option is present in the DHCP packet.
- #1316, #1317, #1318, #1319, #1322: Supports SoundPoint IP 600 display, GPIO, keys, and LED's.

- #1532: Removed extraneous comment from log during SNTP failure.
- #1572: Increased power requested during CDP from 4000 mW to 6000 mW.
- #1670: FTP server 4xx errors are now dealt with correctly.

2.19.2 Removed Features

- #1590: The bootROM will no longer attempt to recover setup parameters when upgrading from a 1.0.x bootROM.

2.19.3 Corrections

- #1106: Broadcasts to UDP port 0 will not effect phone operation.

2.20 Version 2.0.2

2.20.1 Added or Changed Features

- #434: BootROM will now be able to boot even if an incompatible bootROM is on the boot server.
- #703: DHCP messages now set the “secs” field correctly.
- #722: DHCP messages no longer have their “broadcast” bit set.
- #810: Can now receive and respond to ARP requests where hardware type is 6 (IEEE 802 networks). Note also the correction made with this change (below).
- #901: DHCP discover messages will have their “secs” field set to 50000 + <actual seconds since boot> on retried messages. This will help DHCP work through relay agents with a high threshold.

2.20.2 Removed Features

- None.

2.20.3 Corrections

- #348: Fixed defect where phone would accept CDP packets from hosts as well as switches.
- #349: Fixed defect where VLAN would not revert to the value in the bootROM config menu if a CDP packet without a native and without an auxiliary VLAN was received. This fix has not been verified.
- #556: Fixed a defect in the fix for issue #347 by disabling TCP timestamp option negotiation. The phone will no longer request the use of the timestamp option when initiating TCP connections. This fix also disables use of the TCP Window Scale option.
- #721: Fixed defect where the phone would tag packets incorrectly when its VLAN id was set to a value greater than 255: only the lower 8 bits were used in the tag. This affected VLANs set from the phone’s setup menu, as well as from CDP.

- #774: Fixed defect where the embedded FTP client was not logging out of the FTP server if the STOR command was failing during attempted transfer from/to client TFFS to FTP server.
- #804: Fixed defect where provisioning server would not revert to the value in the bootROM config menu if “Boot Server” was set to “Default” but the DHCP server did not send option 66.
- #810: Fixed defect where receiving some ARP packets would cause memory leak in buffer pool used for packet reception. ARP packets that were too short (i.e., invalid) and those with hardware type \neq 1 would create a leak of one buffer each.

2.21 Version 2.0.1

2.21.1 Added or Changed Features

- GPIO is set according to board type at start up.
- Link status can now be monitored.
- Removed warnings when flashing the bootROM manually.
- SNTP time is stored in flash to prevent time from going backwards when there is no SNTP server present at future boots.
- Server Type options in the setup menu are now FTP and Trivial FTP.
- #39: BootROM will automatically upgrade during the provisioning process for both FTP and TFTP. The method differs depending on whether FTP or TFTP is used, see the *Server-Based Configuration Guide* for more details.
- #434: BootROM now displays an explicit message when a valid but incompatible bootROM fails to flash. A common example is attempting to flash a 1.x bootROM over a 2.x.x bootROM.
- #292: BootROM will display a message when a duplicate IP address is detected on the network. The boot process will not continue, and the phone will reboot after a softkey is pressed.
- #509: DHCP will not ask for a specific lease time. Previously, DHCP asked for a one hour lease time.

2.21.2 Removed Features

- None.

2.21.3 Corrections

- #341: Fixed defect where the GMT offset was displayed incorrectly in the bootROM setup menu.
- #349: Fixed defect where VLAN would not revert to the value in the bootROM config menu if a CDP packet without a native and without an auxiliary VLAN was received.
- #361: Fixed defect where log files were not uploaded when TFTP was selected.

- #388: Fixed defect where a Boot Server or Gateway address of 255.255.255.255 would keep the phone from booting. This value is no longer valid for these parameters.
- #512: Fixed defect where during DHCP failure in the bootROM, the static address is used until reboot.
- #513: Fixed defect where DNS domain would not revert to flash when DHCP is used.
- #530: Fixed defect where the boot server received from DHCP could be a max of 18 characters. The value is now 255, the maximum size allowed for a DNS name.

2.22 Version 2.0.0

2.22.1 Added or Changed Features

- BootROM can be upgraded without a chance of failure.
- #39: BootROM will automatically upgrade during the provisioning process if FTP is used.
- #9: On power-up, the phone displays the Polycom logo instead of a blank screen.

2.22.2 Removed Features

- None.

2.22.3 Corrections

- #263: Fixed defect where FTP servers that gave a large (>500Kb) message of the day (MOTD) would generate errors.
- #339: Fixed defect where a file with a timestamp in January would not update automatically using FTP. The defect caused application or configuration file changes made in January to not take effect.
- #348: Fixed defect where phone would accept CDP packets from hosts as well as switches.
- #347: Fixed defect where TCP timestamp option negotiation was incorrect. (WRS SPR 31996)

2.23 Version 1.1.1

2.23.1 Added or Changed Features

- None.

2.23.2 Removed Features

- None.

2.23.3 Corrections

- #263: Fixed defect where FTP servers that gave a large (>500Kb) message of the day (MOTD) would generate errors.
- #339: Fixed defect where a file with a timestamp in January would not update automatically using FTP. The defect caused application or configuration file changes made in January to not take effect.

2.24 Version 1.1.0

2.24.1 Added or Changed Features

- Supports multiple boards via an internal part number. This allows the same code to run on all versions of the IP 400 and IP 500.
- DNS added.
- TFTP added.
- FTP unified log-in has been implemented to reduce the amount of FTP traffic required.
- CDP added. Note that the VLAN received via CDP will override the statically configured one.
- VLAN added for IP 500 only.
- Cisco powering is supported for IP 500 only.
- Flash configuration menu changed to support extra parameters as well as sub menus and gray-out of unused items.
- SNTP now supports half-hour time zones.
- UI changed to add dialog boxes and different progress messages.
- DHCP Boot Server now has a 'static' option which allows the flash Server Address to override the value received from DHCP.
- Manually uploading a log now uploads both bootROM and application logs.
- IP 500 boards will not flash an incompatible 1.0.x bootROM.
- Zero byte config or misc files are no longer accepted.
- Failing to load app now removes the app for all errors, not just checksum.

2.24.2 Removed Features

- None.

2.24.3 Corrections

- #340: FTP correction for servers that give a MOTD.

3. Notes

3.1 Distribution Files

The following files constitute the 3.1.3 distribution of the SoundPoint IP bootROM firmware. For centrally provisioned systems, copy these files to the boot server.

Files	Description
bootrom.ld	BootROM application executable, release version 3.1.3.0131 and beta version 3.1.3.0132

3.2 Outstanding Issues

- 11858: **DHCP Decline on IP 4000 not sent if duplicate IP is detected.**
Workaround: Remove the duplicate IP.

3.3 Image Signing

Cryptographic signatures have been added to all downloaded image files as a security feature. BootROM's 3.0.0 and later require that an image has a valid signature to prevent malicious code from being used. Since no prior bootROM's have this signature it is not possible to downgrade the bootROM below 3.0.0. Similarly it will not be possible to run older applications. Care should be taken when deciding to upgrade to later bootROM's.

4. Reference Documents

- *Application Note - Converting to a 2.x.x bootROM* – Revision 1.0