Polycom

Military Unique Deployment Guide

2.7.3.3_J | September 2015 | 3725-12748-009A

Polycom® HDX® Systems Deployment Guide for Maximum Security Environments

6001 America Center Drive
San Jose, CA 95002
USA

Trademarks Polycom®, the Polycom logo and the names and marks associated with Polycom products are trademarks and/or service marks of Polycom, Inc. and are registered and/or common law marks in the United States and various other countries.

Disclaimer While Polycom uses reasonable efforts to include accurate and up-to-date information in this document, Polycom makes no warranties or representations as to its accuracy. Polycom assumes no liability or responsibility for any typographical or other errors or omissions in the content of this document.

Limitation of Liability Polycom and/or its respective suppliers make no representations about the suitability of the information contained in this document for any purpose. Information is provided "as is" without warranty of any kind and is subject to change without notice. The entire risk arising out of its use remains with the recipient. In no event shall Polycom and/or its respective suppliers be liable for any direct, consequential, incidental, special, punitive or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption, or loss of business information), even if Polycom has been advised of the possibility of such damages.

End User License Agreement By installing, copying, or otherwise using this product, you acknowledge that you have read, understand and agree to be bound by the terms and conditions of the End User License Agreement for this product. The EULA for this product is available on the Polycom Support page for the product.

Patent Information The accompanying product may be protected by one or more U.S. and foreign patents and/or pending patent applications held by Polycom, Inc.

Open Source Software Used in this Product This product may contain open source software. You may receive the open source software from Polycom up to three (3) years after the distribution date of the applicable product or software at a charge not greater than the cost to Polycom of shipping or distributing the software to you. To receive software information, as well as the open source software code used in this product, contact Polycom by email at OpenSourceVideo@polycom.com.

Customer Feedback We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to DocumentationFeedback@polycom.com.

Polycom Support Visit the Polycom Support Center for End User License Agreements, software downloads, product documents, product licenses, troubleshooting tips, service requests, and more.

Contents

Deployment Guide for Maximum Security Environments

This software, when configured per the guidance provided in this guide, is designed to meet the latest U.S. Department of Defense (DoD) security requirements for listing on the Unified Capabilities (UC) Approved Products List (APL) as maintained by the Defense Information Systems Agency (DISA) Unified Capabilities Connection Office (UCCO). For more information about the UC APL process, visit the UCCO website http://www.disa.mil/Services/Network-Services/UCCO.

This document provides guidance for configuring and using software version 2.7.3.3_J to be consistent with the conditions for deployment as listed in the UC APL listing for the Polycom HDX system product. For a listing of certified software versions in addition to version 2.7.3.3_J, refer to http://www.polycom.com/solutions/solutions-by-industry/us-federal-government/certification-accreditation.html.

In the configuration sections of this document, if a setting is mandated by a DISA Security Technical Implementation Guide (STIG) requirement, the specific STIG reference is listed along with the setting.

Document Change History

This information is required for listing on the US Department of Defense (DoD) Unified Capabilities (UC) Approve Products List (APL).

Document Version	Release Date	Description
3.0	September 2015	Update to the `glibc` library to address the GHOST vulnerability CVE-2015-0235
2.0	November 2014	Update of the OpenSSL library
1.0	February 2014	Initial approved release

To request information or submit comments about this document, please contact Polycom Global Services.

FIPS 140-2 Cryptography

The Polycom HDX system software uses OpenSSL FIPS Object Module (Software Version: 1.2.3). This module provides FIPS-140-approved cryptography for the system. The validation certificate for this module can be found at http://csrc.nist.gov/groups/STM/cmvp/documents/140-1/140val-all.htm#1051.

Upgrading and Downgrading Your Polycom HDX System

When you upgrade your Polycom HDX system to version 2.7.3.3_J, the factory partition might also be automatically upgraded if it contains certain previous versions with known issues that have been corrected. If you later perform a factory restore, the system returns to version 2.7.3.3_J instead of the software version originally installed on the system.

After installing version 2.7.3.3_J, downgrading to an earlier UC APL-certified software version is not recommended. However, if you must install a previous software version, contact Polycom Support.

Upgrading the Software in a Non-DHCP Environment

If you are installing the Polycom HDX system in a non-DHCP environment, you must manually configure the LAN properties during the setup wizard. In the LAN properties screen, choose **Enter IP Address Manually** and continue through the next screens to finish configuring the LAN properties.

If you need to configure the system to use certificates or to customize other settings, you must access the HDX system's web interface using a computer located on the same network segment as the HDX system.

For information about such usage, refer to "Configuring Security Settings in a Web Browser" on page 7 and to "Configuring the System to Use Certificates" on page 20.

Upgrading from Versions Earlier than 2.7.0_J

Polycom recommends that you upgrade from software versions earlier than 2.7.0_J to 2.7.3.3_J by performing a USB software update, which is described in the *Release Notes for Polycom HDX Systems Version 2.7.3.3_J*. If you use the Software Update feature in the HDX system web interface, the features added or changed between these two releases could lead to unpredictable behavior.

Site policy might restrict the types of USB devices that can be used for software updates. Please consult your site administrator before performing the USB software update.

Updating the Software From Version 2.7-Based Releases

To update your system software from any of the version 2.7-based releases (2.7.0_J, 2.7.1_J, 2.7.3_J, 2.7.3.1_J, 2.7.3.2_J), use the Software Update feature in the Polycom HDX system web interface.

For details on updating the system software, refer to the *Release Notes for Polycom HDX Systems Version 2.7.3.3_J.*

Configuring Security Settings in a Web Browser

You can configure some of the security settings on the local HDX system screens. For other security settings, however, you must use the HDX system web interface.

Using the Maximum Security Profile

The Maximum Security Profile enables you to control particular fields to meet the highest security requirements, for example, systems used in government or military environments. The Security Profile can be set only in the setup wizard. You can run the setup wizard:

- At initial setup
- When you select **Erase System Flash Memory** during a system update
- After a system reset when system settings are deleted

After the setup wizard is complete, the Security Profile setting appears as read-only in the Admin Settings.

To set the Security Profile to Maximum:

>> In the setup wizard, enable **Security Mode** and set **Security Profile** to **Maximum**.

When you choose this setting, the system automatically sets certain fields to predefined values. After you set the Security Profile to Maximum in the setup wizard, some fields are restricted or not configurable. The fields controlled by the profile are set to predefined values and might have additional restrictions applied as described in the following tables.

Setup Wizard

Setting	Restriction
Admin ID	Must be changed.
User ID	Must be changed.
User Room Password	Must be entered.
User Remote Password	Must be entered.
Admin Room Password	Must be changed.
Admin Remote Password	Must be changed.

Security Settings

Setting	Restriction
Security Profile	Set to **Maximum**, not configurable.
Security Mode	Enabled, not configurable.
Use Room Password for Remote Access	Disabled, not configurable.
Remote Admin Access (web)	Enabled, configurable.
Require Login for System Access	Enabled, not configurable.
Enable Remote Access: • Web • Telnet • SNMP	These are the restrictions: • Enabled, configurable. • Disabled, not configurable. • Disabled, not configurable.
AES Encryption	Set to **Required for Video Calls Only**, configurable.
Web Access Port	Set to **443**, not configurable.
Allow Video Display on Web	Disabled, not configurable.
Connect to my LAN	Set to **On**, configurable.
Allow Access to User Settings	Set to **Off**, configurable.
NTLM Version	Set to **Auto**, configurable.
Enable Sessions List	Set to **On**, not configurable.
Enable Security Banner	Set to **DoD**, Off is not allowed. The Custom setting allows you to create your own banner wording, which must contain text.

Password Settings for Room, Remote Access, User Passwords

Setting	Restriction
Minimum Length	• Remote (Admin only): Set to **15**; range is 8 to 15. • Room (User/Admin): Set to **9**; range is 6 to 20.
Can Contain ID or Its Reverse Form	Disabled, not configurable.
Require Lowercase Letters	Set to **Off**, configurable.
Require Uppercase Letters	Set to **Off**, configurable.
Require Numbers	Set to **Off**, configurable.
Require Special Characters	• Remote (Admin only): Set to **1**; range is 1 to 2. • Room (User/Admin): Set to **Off**; range is 1, 2, or All.
Reject Previous Passwords	Set to **10**; range is 8 to 16.
Minimum Password Age in Days	Set to **Off**; range is 1 to 30.
Maximum Password Age in Days	Set to **60**; range is 30 to 180.
Password Expiration Warning in Days	Set to **7**, Off is not allowed, range is 1 to 7.
Minimum Changed Characters	Set to **4**, range is 1 to 4.
Maximum Consecutive Repeated Characters	Set to **2**, range is 1 to 4.

Meeting Password Settings

Setting	Restriction
Minimum Length	Set to **Off**, range is 6 to 20.
Require Lower Case Letters	Set to **Off**, configurable.
Require Upper Case Letters	Set to **Off**, configurable.
Require Numbers	Set to **Off**, configurable.
Require Special Characters	Set to **Off**, configurable.
Reject Previous Passwords	Set to **10**; range is 8 to 16.
Minimum Password Age in Days	Set to **Off**, configurable.
Maximum Password Age in Days	Set to **60**, range is 30 to 180.
Password Expiration Warning in Days	Set to **7**, Off is not allowed, range is 1 to 7.
Minimum Changed Characters	Set to **Off**, range is 1 to 4.
Maximum Consecutive Repeated Characters	Set to **2**, range is 1 to 4.

Account Management

Setting	Restriction
Admin: • Lock Account after Failed Logins • Account Lock Duration in Minutes	 Set to **3**, Off is not allowed. Set to **1**, configurable.
User: • Lock Account after Failed Logins • Account Lock Duration in Minutes	 Set to **3**, Off is not allowed. Set to **1**, configurable.

Certificates, Revocation, and Whitelist

These settings can be configured only through the HDX system web interface.

Setting	Restriction
Maximum Peer Certificate Chain Depth	Set to **2**, configurable.
Always Validate Peer Certificates from Browsers	Enabled, not configurable.
Always Validate Peer Certificates from Servers	Enabled, not configurable.
Revocation Method	Configurable.
Allow Incomplete Revocation Checks	Disabled, configurable.
Whitelist	Enabled, configurable.

Only someone logged onto the system as an admin can configure remote access on a system that is using the Maximum Security Profile.

Setting	Restriction
Idle Session Timeout in Minutes	Set to **10**, configurable. Off is not allowed.
Maximum Number of Active Web Sessions	Set to **25**, range is 10 to 50.
Maximum Number of Sessions per User (applies to local, web interface, and serial port sessions)	Set to **3**, range is 1 to 5.
Lock Port after Failed Logins	Set to **3**, configurable. Off is not allowed.
Port Lock Duration in Minutes	Set to **1**, configurable. Off is not allowed.

You can configure the period of time, in hours, in which the failed login threshold must be exceeded to lock the user's account. This command can only be changed through the command-line interface using the serial API:

`loginwindowduration`: Set to **1**, range is 1 to 24. Off is not allowed.

External Authentication

Setting	Restriction
Enable Active Directory Authentication	Enabled, configurable.

Home Screen and Other Settings

Setting	Restriction
Idle Session Timeout in Minutes	Set to **10**, configurable. Off is not allowed.
Lock Port after Failed Logins	Set to **3**, configurable. Off is not allowed.
Port Lock Duration in Minutes	Set to **1**, configurable. Off is not allowed.

Setting	Restriction
Serial Ports: RS-232 Mode	Set to **Off**, configurable (only Control is allowed).
SIP Transport Protocol	SIP not available.
Directory Servers	Only LDAP available.
Auto Answer Point-to-Point Video	Disabled, configurable.
Auto Answer Multipoint Video	Disabled, configurable.
Availability Control	Enabled, not configurable.
Recent Calls	Disabled, not configurable.
Last Number Dialed	Disabled, not configurable.
Far Control of Near Camera	Disabled, configurable.
Call Detail Report	Enabled, not configurable.
Exchange Calendaring	Disabled, not configurable.

Locating Your System

The system should be placed in a secured location and on a firewall-protected network segment.

To mitigate certain network-based attacks, Polycom recommends that the network administrator configure port security on the switch to which Polycom devices connect. Security is enhanced by binding the device's MAC address to a specific physical port on the switch.

Configuring Your Local System

This section describes how to manually configure system settings to meet the maximum security requirements.

To configure your system for deployment in a maximum security environment:

1. Download and install the Polycom HDX system software update. For information about installing the software, refer to the release notes for your software version.
2. When prompted in the setup wizard:
   - Enable **Security Mode**.
   - Set the Security Profile to **Maximum**.
   - Set Admin ID to a value other than **admin**.
   - Set an Admin Room Password, an Admin Remote Access Password, a User Room Password, and a User Remote Access Password that meet the default password policy as described in "Password Settings for Room, Remote Access, User Passwords" on page 9.

     You can modify the password policies after you complete the setup wizard. For more information about doing this, refer to "Configuring Your Room and User Password Policy" on page 17.
   - Change the **User ID** to something other than **user**.
3. After you complete the setup wizard and the system restarts, log into the system using the new Admin ID and Room Password that you set.
4. Go to **System > Admin Settings > General Settings > Security > External Authentication** to configure the Active Directory Server (ADS) settings.
5. Go to **System > Admin Settings > General Settings > Security > Security Settings**.

Any user account information entered during the setup wizard is not valid after system restart. ADS is enabled by default in Maximum Security mode, which disables the local user account.

6 Go to **System > Admin Settings > General Settings > Security > Security Settings >** > and configure the following settings.

Setting	Description
AES Encryption	Specifies whether to encrypt calls with other sites. • Off — AES Encryption is disabled. • When Available — Allows calls with all endpoints, including sites that might not support encryption. • Default: Required for Video Calls Only — Allows video calls only with sites that support encryption. ISDN voice and analog phone calls are allowed. • Required for All Calls — Allows video calls only with sites that support encryption. ISDN voice and analog phone calls are not allowed.
Allow Access to User Settings	Specifies whether the User Setting screen is accessible to users through the System screen. • Enable this setting if meeting passwords are required to join multipoint calls. • Disable this setting if meeting passwords are not required for multipoint calls.

7 Configure the system for time and date management using the steps appropriate for your particular Polycom HDX system model and deployment type.

Deployment Type	Configuration Steps
IDSN-only Deployments Polycom HDX 9000 Polycom HDX 9006 Polycom HDX 8000 Hardware Version B Polycom HDX 7000 Hardware Version B or later Polycom HDX 6000	Go to **System > Admin Settings > General Settings > Location >** , and set Time Server to **Off** and manually configure the time and date.
IP Deployments Polycom HDX 9000 Polycom HDX 9006 Polycom HDX 8000 Hardware Version B Polycom HDX 7000 Hardware Version B or later Polycom HDX 6000 Polycom HDX 4000 Hardware Version C	Go to **System > Admin Settings > General Settings > Location >** , and do one of the following: • Set Time Server to **Off** and manually configure the time and date. • Set Time Server to **Auto**. • Set Time Server to **Manual**: - Enter the NTP server address for the Primary Time Server. - Enter the NTP server address for the Secondary Time Server.
IP Deployments Polycom HDX 8000 Hardware Version A Polycom HDX 7000 Hardware Version A Polycom HDX 4000 Hardware Version A Polycom HDX 4000 Hardware Version B	Go to **System > Admin Settings > General Settings > Location >** , and do one of the following: • Set Time Server to **Auto**. • Set Time Server to **Manual** with NTP server address specified. - Enter the NTP server address for the Primary Time Server. - Enter the NTP server address for the Secondary Time Server.

All Polycom HDX 4000 systems with Hardware Version A and B, and Polycom 7000 and 8000 systems with Hardware Version A require a connection to an NTP server to keep accurate time across power outages and system restarts.

Polycom HDX 6000 and 9000 series systems, Polycom HDX 7000 and 8000 systems with Hardware Version B or later, and Polycom HDX 4000 systems with Hardware Version C have an internal battery-backed real-time clock that allows them to keep accurate time across power outages and system restarts.

To verify your hardware version:

- For HDX 8000 and 7000 HD systems, you can verify the hardware version by going to **System > System Information**. If no hardware version is designated, your system has Hardware Version A.
- For HDX 7000 systems, the part number indicates the hardware revision. You can find the part number on the back of the unit.

  Hardware Version A part numbers: 2201-27285-XXX and 2215-27427-XXX

  Hardware Version B part numbers: 2201-28629-XXX and 2215-28632-XXX

8 On Polycom HDX 4000, 7000, and 8000 series systems, go to **System > Admin Settings > LAN Properties >**  **>**  , and disable the **Enable PC LAN Port** setting, unless its use is required. If you change this setting, the system restarts.

9 Go to **System > Admin Settings > Network > Call Preference**, and configure the following settings on the Call Preference screen.

Setting	Description
IP H.323	• Disable this setting for ISDN-only deployments. • Enable this setting if H.323 calling on IP networks is required.
SIP	SIP is disabled and not configurable in Maximum Security mode.
ISDN H.320	• Disable this setting for IP-only deployments. • Enable this setting if ISDN H.320 calling is required.

10 Go to **System > Admin Settings > General Settings > Security > Log Management**, and set this setting on the Log Management screen.

Setting	Description
Percent Filled Threshold	• Specifies the percent filled level, which triggers a system alert. Suggested value: 70. • This alert is mandated by the Application Security STIG (APP3650 in V3R3).

Configuring Your System for Remote Access

This section describes how to configure the system to meet the maximum security requirements for remote access through the RS-232 serial port or through the HDX system web interface.

When you configure the system to use the Maximum Security Profile, the system:

- Requires devices that are attempting to start a session through the serial port to provide either an Admin ID and password or a User ID and password. If you are connecting interactively using a terminal emulator program, press Enter to display a login prompt. If you are connecting by using a serial control application, send a new line character to display a login prompt.
- Requires you to set separate remote access passwords for both the User and Admin accounts. The **Use the Room Password for Remote Access** setting is automatically disabled in the Maximum Security Profile and is

not configurable. You configure the remote access password initially during the setup wizard, and you can make changes later using the Admin Settings screens.

- Makes available different API commands depending on whether you log in with the Admin account or with the User account.
- Locks the serial port after a specified number of failed login attempts. The port lockout causes the HDX system to refuse further log-in attempts for a period of time, which you can configure. Each serial port has its own separate port lockout.
- Displays a Security Banner with the serial port login. You cannot set the Security Banner to Off. To configure the Security Banner, go to **System > Admin Settings > General Settings > Security > Security Settings > > > >** and set a Security Banner to either Custom or DoD.
- Automatically terminates idle sessions (a configurable setting).

Configuring Your Room and User Password Policy

Though passwords defined as being strong are recommended for security purposes, keep in mind that strong passwords require the use of the onscreen virtual keyboard to enter letters and special characters. This requirement can make it possible for others to view a password as you enter it. You can mitigate this risk by using longer numeric-only passwords that you can enter using the remote control or keypad. You can enter any combination of characters and maintain security by using a keyboard connected to the HDX system through the USB port. This section gives the recommended settings for both configurations.

Support for the USB keyboard is specifically to enter complex login information such as for Active Directory accounts. For all other system interaction, use the remote control or keypad.

To configure your room password policy:

1 Go to **System > Admin Settings > General Settings > Security > Password Settings > Admin Room Password**, and configure the following settings.

Setting	Strong Passwords	Numeric-only Passwords
Minimum Length	Value: 15 (recommended) This setting meets these requirements: • UNIX STIG V5R1.23: GEN000580 (minimum 14) • Application Security Checklist V3R3: APP3320 (minimum 8) • DSN STIG V2R3.4: DSN13.06 (minimum 8) • GR-815-CORE-2 R3-39 [26] (minimum 6) • DODI 8500.2: IAIA-1, IAIA-2 (minimum 8) • VTC STIG V1R1.2: RTS-VTC 2024.00 (1) (minimum 6)	Value: 15
Can Contain ID or Its Reverse Form	Disable This setting meets this requirement: • GR-815-CORE-2: R3-39 [26]	Disable
Require Lowercase Letters	Value: 1 This setting meets these requirements: • UNIX STIG V5R1.23: GEN000600 • Application Security Checklist V3R3: APP3320 • DSN STIG V2R3.4: DSN13.06 • GR-815-CORE-2 R3-39 [26] • DODI 8500.2: IAIA-1, IAIA-2	Off
Require Uppercase Letters	Value: 1 This setting meets these requirements: • UNIX STIG V5R1.23: GEN000600 • Application Security Checklist V3R3: APP3320 • DSN STIG V2R3.4: DSN13.06 • GR-815-CORE-2 R3-39 [26] • DODI 8500.2: IAIA-1, IAIA-2	Off
Require Numbers	Value: 1 This setting meets these requirements: • UNIX STIG V5R1.23: GEN000620 • Application Security Checklist V3R3: APP3320 • DSN STIG V2R3.4: DSN13.06 • GR-815-CORE-2 R3-39 [26] • DODI 8500.2: IAIA-1, IAIA-2	All

Setting	Strong Passwords	Numeric-only Passwords
Require Special Characters	Value: 1 This setting meets these requirements: • UNIX STIG V5R1.23: GEN000640 • Application Security Checklist V3R3: APP3320 • DSN STIG V2R3.4: DSN13.06 • GR-815-CORE-2 R3-39 [26] • DODI 8500.2: IAIA-1, IAIA-2	Off

2 Select  and configure the following settings.

Setting	Description
Reject Previous Passwords	Value: 10 This setting meets these requirements: • Application Security Checklist V3R3: APP3320 (requires 10) • DSN STIG V2R3.4: DSN13.09 (requires 8) • GR-815-CORE-2: R3-38 [25] (requires 5) • VTC STIG V1R1.2: RTS-VTC 2040.00 (2) (requires 8)
Minimum Password Age in Days	Value: 1 or 0ff This setting meets these requirements: • Application Security Checklist V3R3: APP3320 (minimum 1 for users, 0 for administrators) • DSN STIG V2R3.4: DSN13.08 (minimum 1 without IAO intervention) • GR-815-CORE-2: R3-38 [25] (minimum 20)
Maximum Password Age in Days	Value: 60 This setting meets these requirements: • UNIX STIG V5R1.23: GEN000700 (maximum 60) • Application Security Checklist V3R3: APP3320 (maximum 90) • DSN STIG V2R3.4: DSN13.07 (maximum 90) • GR-815-CORE-2: R3-33 [21] (maximum 20-90)
Password Expiration Warning in Days	Value: 4 This setting meets this requirement: • GR-815-CORE-2; CR3-36 [23]
Minimum Changed Characters	Value: 4 This setting meets this requirement: • DODI 8500.2: IAIA-1, IAIA-2
Maximum Consecutive Repeated Characters	Value: 2 This setting meets this requirement: • UNIX STIG V5R1.23: GEN000680 (maximum 2)

3 Go to **System > Admin Settings > General Settings > Security > Password Settings > User Room Password**, and enter the corresponding settings for the User Room Password.

4 Go to **System > Admin Settings > General Settings > Security > Password Settings > Remote Access Passwords**, and enter the corresponding settings for the Remote Access Password.

Configuring the System to Use Certificates

The Polycom HDX system supports the use of PKI certificates for additional security. You can manage certificates and revocation only by using the Polycom HDX system web interface. Make sure the appropriate certificate authority (CA) and identity certificates are available on your computer so that you can upload them.

For more information, refer to the *Administrator's Guide for Polycom HDX Systems*.

Detecting Intrusions

The Polycom HDX system logs an entry to the security log when it detects a possible network intrusion. The security log prefix identifies the type of packet detected, as shown in the following table.

Prefix	Packet Type
SECURITY: NIDS/unknown_tcp	Packet that attempts to connect or probe a closed TCP port
SECURITY: NIDS/unknown_udp	Packet that probes a closed UDP port
SECURITY: NIDS/invalid_tcp	TCP packet in an invalid state
SECURITY: NIDS/invalid_icmp	ICMP or ICMPv6 packet in an invalid state
SECURITY: NIDS/unknown	Packet with an unknown protocol number in the IP header
SECURITY: NIDS/flood	Stream of ICMP or ICMPv6 ping requests or TCP connections to an opened TCP port

Following the message prefix, the security log entry includes the timestamp and the IP, TCP, UDP, ICMP, or ICMPv6 headers. For example, the following security log entry shows an "unknown_udp" intrusion:

```
2009-05-08 21:32:52 WARNING kernel: SECURITY: NIDS/unknown_udp
IN=eth0 OUT= MAC=00:e0:db:08:9a:ff:00:19:aa:da:11:c3:08:00
SRC=172.18.1.80 DST=172.18.1.170 LEN=28 TOS=0x00 PREC=0x00
TTL=63 ID=22458 PROTO=UDP SPT=1450 DPT=7788 LEN=8
```

Viewing Network Interface and System Status

Network Interface Status

The network interface status is indicated by the lights on the network interface module.

Quad BRI Network Interface Status Lights

The network interface lights are located on the network interface module.

Indicator Light	Connection Status
Green and yellow lights off	Indicates one of the following situations: • No power to the system. • The system is not connected to the network. • The system is not receiving a clock signal from the network. • The system is restarting.
Green light on	The system is receiving a clock signal from the network.
Yellow light on	The system is able to make a call.
Green and yellow lights on	Indicates one of the following situations: • The system is receiving a software update. • The system is operating normally.

PRI Network Interface Status Lights

The network interface lights are located on the network interface module.

Indicator Light	Connection Status
Green and yellow lights off	No power to the system.
Red light on or blinking	Indicates one of the following situations: • The system is not connected to the ISDN network. • There is a problem with the ISDN line.
Yellow light on or blinking	There is a problem with the ISDN line.
Green light on	The system is able to make and receive calls.

Viewing System Status

You can view the System Status screen on the local system or by using the HDX system web interface. The System Status screen displays system status information, including auto answer point-to-point, remote control battery, IP network, meeting password, log threshold, and ISDN lines.

If the system detects that any of the ISDN BRI SPIDs are incorrect or that an ISDN line is connected to the wrong ISDN port on the network interface module, the System Status screen displays a red arrow for that line. If this happens, ensure the ISDN and SPID numbers are correct.

To view the System Status on the system:

1 Go to **System > Diagnostics > System Status**.

2 For an explanation of any of the status items, select the item and press on the remote control or keypad.

To view the System Status using the Polycom HDX web interface:

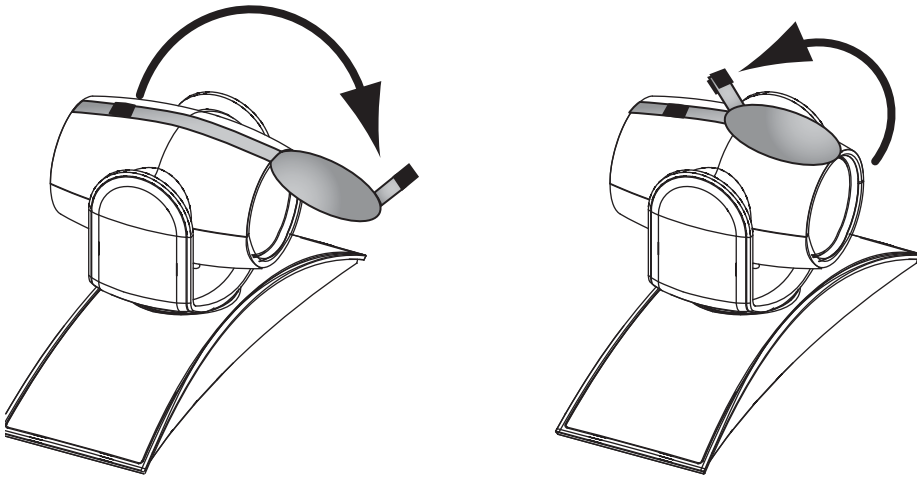
1 Open a web browser, and in the browser address line enter the system IP address, for example, `https://10.11.12.13`, to go to the Polycom HDX web interface.

2 Click **Diagnostics** from any page in the Polycom HDX web interface.

3 For an explanation of any of the status items, click the item.

Using the Camera Privacy Cover

The Polycom EagleEye camera goes to sleep when the Polycom HDX system does. For added security Polycom now offers a privacy cover (part number 2215-28454-001) that you can attach to the camera. You can open and close the cover as needed. Contact your Polycom distributor for more information.



Using the API with a Secure RS-232 Interface

You must log in with a password to start an RS-232 session when the system is configured with the Maximum Security Profile and if the system is configured for external authentication through Active Directory. For more information, refer to "Configuring Your System for Remote Access" on page 16.

Data Cleansing

Data cleansing is a result of resetting an HDX system, "cleaning" or removing sensitive data. You can return the system to its original state and remove the HDX system environment software as well as the data, or you can remove the data but leave the HDX system environment software. Removing the data and environment software is known as erasing the system flash memory, while data cleansing retains the environment software but removes the data.

With HDX system software version 2.7.0_J and later, issuing the following parameters with the `resetsystem` command using the API (application programming interface) removes user- and site-specific data from the non-volatile memory, which is also called flash memory:

- `deletesystemsettings`
- `deletelocaldirectory`
- `deletelogs`
- `deletecdr`
- `deletecertificates`

Using any one of the previous parameters is equivalent to the data cleansing portion of a process known as "erase system flash memory." That is, if you issue the command `resetsystem deletelocaldirectory` or `resetsystem deletelogs`, only the local directory or system logs will be deleted. None of the other settings are affected.

However, if you issue the command `resetsystem deletesystemsettings deletelocaldirectory deletelogs deletecdr deletecertificates`, you will get the same result as using the Erase System Flash Memory option for a software upgrade on the HDX system's web interface. The erase system flash memory process returns the HDX system to its default state, thereby removing user- and site-specific data and reloading the HDX system environment software.

CGI Commands

The following table describes the Common Gateway Interface (CGI) commands.

Command	Description
a_abkcommand.cgi	Handles all address book commands such as add, delete, and update entries
a_apicommand.cgi	Runs API commands from the web interface
a_authprovisioning.cgi	Registers the HDX system with the provisioning service
a_callhangup.cgi	Hangs up a call if the system is in a call
a_changepassword.cgi	Validates and updates passwords on the system
a_colorbar.cgi	Toggles the color bar for video diagnostics
a_convertcsvtodatfiles.cgi	Imports the system profile in .csv format into .dat files
a_createdatfilecsv.cgi	Creates a list of configuration values in .csv format that excludes machine sensitive information

Command	Description
a_detectcamera.cgi	Initiates camera detection
a_downloadlogpkg.cgi	Downloads the complete system log package
a_downloadpanasonicsettings.cgi	Downloads the Panasonic settings into a file
a_exportdirectoryasabk.cgi	Exports the contacts information into an xml file that can be imported back into the HDX system
a_getcdr.cgi	Gets the call detail report (CDR) from the system
a_getcurrentlog.cgi	Downloads the current system logs
a_getentrycount.cgi	Gets the count of contacts in the system
a_getlog.cgi	Downloads the system logs
a_getloglist.cgi	Generates a list of log files on the system in xml format
a_getprovisionstatus.cgi	Returns the latest provision status of the system
a_getvalue.cgi	Gets the configuration variables value
a_importdirectoryascsv.cgi	Imports the directory in xml format
a_installpkg.cgi	Installs the wild card language package
a_iscallconnected.cgi	Determines whether the system is in a call
a_manualdial.cgi	Dials a site manually
a_nearendloop.cgi	Toggles the near end loop
a_ping.cgi	Pings the hostname
a_provisionsystem.cgi	Provisions the system with the profile attribute of the CGI
a_removelogo.cgi	Removes the custom logo from the system
a_resetsystem.cgi	Restarts the system
a_screencapture.cgi	Captures the current screen
a_security.cgi	Validates and sets the password related security settings
a_sendmessage.cgi	Displays a message to the system user
a_setchaircontrolfunction.cgi	Performs chair control operations
a_speakertest.cgi	Runs the speaker tests
a_traceroute.cgi	Generates a trace route from the system
a_uploadlogo.cgi	Uploads/removes the system logo from the system
a_validate.cgi	Validates the parameters and their values
addcert.cgi	Adds the certificate to the system
addcrl.cgi	Adds the certificate revocation lists (CRL) to the system

Command	Description
addgmsurl.cgi	Adds the Global Management Server (GMS) URL to the system
addrbooklist.cgi	Gets the address book list
currentscreen.cgi	Creates an image of the current screen
deletegmsurl.cgi	Deletes the GMS URL from the system
downloadclientcsr.cgi	Downloads the client Certificate Signing Request (CSR) from the system
downloadservercsr.cgi	Downloads the server CSR from the system
far_image_1.jpg	If the video on the web is on, returns the current far image
generatecsr.cgi	Generates the system CSR
getcert.cgi	Loads the user-specified certificate into the system
getmaxmeetingspeed.cgi	Gets the meeting maximum speed
isserverready.cgi	Checks whether the web server is responding
near_image_1.jpg	If the video on the web is on, returns the current near image
poccalibration.cgi	—
querystatus.cgi	Returns the system status information in xml/txt format
removecert.cgi	Removes the installed certificate from the system
removecrl.cgi	Removes the installed CRL from the system
savesettings.cgi	Saves the system profile in csv format
sendmessage.cgi	Displays the message on the video screen
sessioncmd.cgi	Logs the user out of the system
softupdate.cgi	Uploads the software update package and validates the uploaded package
swu_cancel.cgi	Cancels the software update and reboots the system
swu_custom.cgi	Sets the list of settings to change for custom softupdate
swu_display.cgi	Sets display settings
swu_getcurrentpage.cgi	Reloads the current web page
swu_lan.cgi	Sets LAN settings
swu_optionkey.cgi	Sets and validates the option key
swu_ping.cgi	Returns “I am alive” message
swu_progress.cgi	Reports the progress of the software update
swu_retain.cgi	Sets the user configuration settings to retain
swu_softwarekey.cgi	Sets and validates the software key

Command	Description
swu_startupdate.cgi	Begins the softupdate process
swu_switchmode.cgi	Switches the system to softupdate mode
swu_updaterestoreimage.cgi	Reloads the current web page
swu_updatetasks.cgi	Sets the update tasks to be performed
swu_updatetype.cgi	Sets the type of update to perform, typical or custom
updatetime.cgi	Updates the system time
whitelistupdate.cgi	Updates the Whitelist with the allowed patterns of the IP addresses
writeclosedcaption.cgi	Displays closed captioning on video screen

Placing a Test Call

To troubleshoot any issues making video calls, call a Polycom video site to test your setup. A list of worldwide numbers that you can use to test your Polycom system is available from the Polycom Video Test Numbers.

Try these best practice methods:

- Make sure the number you dialed is correct, then try the call again. For example, you might need to dial 9 for an outside line or include a long distance access code or country code.
- To find out if the problem exists in your system, ask the person you were trying to reach to call you instead.
- Find out if the system you are calling is powered on and is functioning properly.
- If you can place calls but not receive them, make sure that your system is configured with the correct number.

Conditions of Fielding

a The HDX system must be incorporated in the site's PKI. If PKI is not incorporated, the following findings will be included in the site's architecture:

» DSN13.17 for HDX 7000 family, HDX 4000 family, HDX 6000 family, HDX 9000 family, and HDX 8000 family.

» NET0445 for HDX 7000 family, HDX 4000 family, HDX 6000 family, HDX 9000 family, and HDX 8000 family.

b An NTP Server is required for proper system operation as tested. This is needed to provide the correct time and date for the following systems: HDX 7000 family, HDX 4000 family, HDX 6000 family, HDX 9000 family, and the HDX 8000 family.

c The HDX system must be integrated into the site's AD environment for authentication and authorization requirements.

d The site must deploy the solution on separate Virtual Local Area Networks and be behind the site's firewall.

e The site must deploy the solution in a secure area.

f The configuration must be in compliance with the Polycom family's Rel. 2.7.3.3_J military-unique features deployment guide.

g The site must register the system in the Systems Networks Approval Process Database as directed by the DSAWG and Program Management Office at https://snap.dod.mil/index.cfm.