



DEFENSE INFORMATION SYSTEMS AGENCY

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IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)

13 Feb 12

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the Polycom Recording and Streaming Server (RSS) 4000 with Software Version 6.9J Build 29447

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (e), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency (DISA), Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.
2. Polycom Recording and Streaming Server (RSS) 4000 with Software Version 6.9J Build 29447 is hereinafter referred to as the System Under Test (SUT). The SUT met the interface and functional requirements for a Customer Premises Equipment Video Teleconferencing Recording and Streaming appliance as set forth in Reference (c) and is certified for joint use within the Defense Information Systems Network (DISN). The SUT was tested with the Polycom RMX, Polycom High Definition Experience 8000, 9006, 7000, 4001XL, 4000, 6000, 9004 and the Tandberg 6000 MXP Video Teleconferencing Systems with an International Telecommunications Union-Telcommunications Standardization Sector (ITU-T) H.323 internet protocol (IP) interface. JITC analysis determine that the SUT is also certified for joint use with any video teleconferencing (VTC) systems listed on the Unified Capability Approved Product List (UC APL) certified with an ITU-T H.323 IP interfaces. The SUT offers a live streaming capability of stored video sessions, however, live streaming was not tested during this test window due to Information Assurance stipulations and is therefore not covered under this certification. No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This certification expires upon changes that could affect interoperability, but no later than three years from the date of the UC APL memorandum.
3. This finding is based on interoperability testing, review of the vendor's Letter of Compliance (LoC), and DISA Certifying Authority (CA) Recommendation. Interoperability testing was conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona, from 25 through 29 July 2011. Review of the vendors LoC was completed on

28 July 2011. The DISA CA provided a positive Recommendation on 13 January 2012 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (e). Enclosure 2 documents the test results and describes the tested network and system configurations.

4. The Capability Requirements (CR) and Functional Requirements (FR) used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in Table 1.

Table 1. SUT CRs and FRs and Interoperability Status

Interface	Critical	Certified	CR and FRs	Status	UCR Reference
IP (10/100 Base T) ITU-T H.323	No ¹	Yes	ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.4.2
			Layer 3 Differentiated Services Code Point tagging as specified in UCR 2008, Change 1, Section 5.3.1. (C)	Partially Met ²	5.2.4.2
			10/100 BaseT in accordance with IEE 802.3u.	Met	5.2.4.2
Security	Yes	Yes	GR-815, STIGs and DoDI 8510.bb (DIACAP) (R)	Met ³	3, 5.4.6

NOTES:

- The UCR does not state a minimum required interface for a CPE device. A CPE device can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, EIA 232 serial, 2 wire analog, and IP. The SUT only offers an IEEE 802.3u 10/100BaseT IP ITU-T H.323 interface.
- The SUT met the requirements for layer 3 DSCP tagging with one exception. The OA&M IP traffic between the SUT and SUT management workstation has an incorrect DSCP marking of 0. The DSCP marking for OA&M IP traffic should be tagged at 16 and the SUT must be able to set any DSCP marking value 0-63. The SUT cannot tag OA&M IP traffic. This discrepancy was adjudicated by DISA as having a minor operational impact with a vendors POA&M to fix by fourth quarter 2012.
- Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (e).

LEGEND:

BRI	Basic Rate Interface	H.323	Standard for multi-media communications on packet-based networks
C	Conditional	IEEE	Institute of Electrical and Electronics Engineers
CPE	Customer Premise Equipment	IP	Internet Protocol
CR	Capability Requirement	ISDN	Integrated Services Digital Network
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
DISA	Defense Information Systems Agency	POA&M	Plan of Action and Milestone
DoDI	Department of Defense Instruction	PRI	Primary Rate Interface
DSCP	Differentiated Services Code Point	R	Required
E1	European Basic Multiplex Rate (2.048 Mbps)	STIG	Secure Technical Implementation Guide
FR	Functional Requirements	SUT	System Under Test
FTR	Federal Telecommunications Recommendation	T1	Digital Transmission Link Level 1 (1.544 Mbps)
FTR1080B-2002	Video Conferencing Services	UCR	Unified Capabilities Requirements
GR	Generic Requirements		
GR-815	Generic Requirements for Network Element/System Security		

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom

JITC Memo, JTE, Special Interoperability Test Certification of the Polycom Recording and Streaming Server (RSS) 4000 with Software Version 6.9J Build 29447

Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.

6. The JITC point of contact is Mr. Steven Lesneski, DSN 879-5400, commercial (520) 538-5400, FAX DSN 879-4347, or e-mail to steven.lesneski@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 1111702.

FOR THE COMMANDER:

2 Enclosures a/s


for BRADLEY A. CLARK
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):

Joint Staff J-6

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DOT&E, Net-Centric Systems and Naval Warfare

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U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68

Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008 Change 2," 31 December 2010
- (d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
- (e) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Polycom Recording and Streaming Server (RSS) 4000 with Software Version 6.9J Build 29447 (Tracking Number 1111702)", 29 July 2011

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. Polycom Recording and Streaming Server (RSS) with Software Version 6.9J Build 29447 hereinafter referred to as the System Under Test (SUT).

2. SPONSOR. Defense Information Systems Agency (DISA).

3. SYSTEM POC. Major Richard Abelkis, Network Services 24, 6916 Cooper Avenue, Fort Meade, Maryland 20755, Email: Richard.abelkis@disa.mil.

4. TESTER. Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona

5. SYSTEM UNDER TEST DESCRIPTION. The SUT is a web server that enables the user to easily perform recording, live streaming, streaming media processing, and multimedia archiving, as needed; however, live streaming was not tested during this test window due to Information Assurance (IA) stipulations and is, therefore, not covered under this certification. The SUT supports the recording of both single-point and multipoint video conferences. The SUT can record and archive up to 1080P and live stream to the network audience at a quality of up to 720P. The SUT provides the following features:

- Supports recording of up to 15 concurrent video conferences, as well as full video, audio, and content recording.
- Supports resolutions of up to 1920 x 1080 (1080P) and 4 megabits of bandwidth for recording.
- Supports video conference live streaming, using windows media, that can use two different bandwidths. (This feature is not certified).
- Uses a Virtual Recording Room (VRR) as a base for recording and authorizing payback permission. Users can have their own VRR for recording and playback.
- Offers various recording methods. Users can start a recording from endpoints, an Multipoint Control Unit (MCU) or the Web user interface.
- Supports the integration with Polycom High Definition (HD) Series endpoints and Polycom RMX/MGC conference platform to visually and automatically perform recording, live streaming, and playback.
- Supports the integration with Polycom Video Media Center (VMC) 1000 V2.0 for more powerful stream media management.
- Supports integration with Exchange server, and works with other Polycom video conferencing devices for recording and live streaming (this feature is not certified) conferences when scheduling conferences through Outlook.
- Supports recorded archives in multiple formats, so that users can view content through a H.232 based endpoint, the Web user interface, and MP4-supported players like an iphone and an ipod.

6. OPERATIONAL ARCHITECTURE. The Unified Capabilities Requirements (UCR) Defense Information Systems Network (DISN) architecture in Figure 2-1 depicts the relationship of the SUT to the DISN switches.

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from the Interfaces, Capability Requirements (CR), and Functional Requirements (FR). They were verified through the Telecommunication Systems Security Assessment Program (TSSAP) lab testing and review of the vendor-provided Letter of Compliance (LoC).

Table 2-1. SUT CRs, FRs and Interoperability Status

Interface	Critical	Certified	CRs and FRs	Status	UCR Reference
IP (10/100 Base T) ITU-T H.323	No ¹	Yes	ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.4.2
			Layer 3 Differentiated Services Code Point tagging as specified in UCR 2008, Change 1, Section 5.3.1. (C)	Partially Met ²	5.2.4.2
			10/100 BaseT in accordance with IEEE 802.3u.	Met	5.2.4.2
Security	Yes	Yes	GR-815, STIGs and DoDI 8510.bb (DIACAP) (R)	Met ³	3, 5.4.6
NOTES:					
<p>1. The UCR does not state a minimum required interface for a CPE device. A CPE device can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, EIA 232 serial, 2 wire analog, and IP. The SUT only offers an IEEE 802.3u 10/100Base T IP ITU-T H.323 interface.</p> <p>2. The SUT met the requirements for layer 3 DSCP tagging with one exception. The OA&M IP traffic between the SUT and SUT management workstation has an incorrect DSCP marking of 0. The DSCP marking for OA&M IP traffic should be tagged at 16 and the SUT must be able to set any DSCP marking value 0-63. The SUT cannot tag OA&M IP traffic. This discrepancy was adjudicated by DISA as having a minor operational impact with a vendors POA&M to fix by fourth quarter 2012.</p> <p>3. Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (e).</p>					
LEGEND:					
BRI	Basic Rate Interface	H.323	Standard for multi-media communications on packet-based networks		
C	Conditional	IEEE	Institute of Electrical and Electronics Engineers		
CPE	Customer Premise Equipment	IP	Internet Protocol		
CR	Capability Requirement	ISDN	Integrated Services Digital Network		
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector		
DISA	Defense Information Systems Agency	OA&M	Operations, Administration, and Maintenance		
DoDI	Department of Defense Instruction	POA&M	Plan of Action and Milestones		
DSCP	Differentiated Services Code Point	PRI	Primary Rate Interface		
E1	European Basic Multiplex Rate (2.048 Mbps)	R	Required		
EIA	Electronic Industries Alliance	STIG	Secure Technical Implementation Guide		
FR	Functional Requirements	SUT	System Under Test		
FTR	Federal Telecommunications Recommendation	T1	Digital Transmission Link Level 1 (1.544 Mbps)		
FTR1080B-2002	Video Teleconferencing Services	UCR	Unified Capabilities Requirements		
GR	Generic Requirements				
GR-815	Generic Requirements for Network Element/System Security				

8. TEST NETWORK DESCRIPTION. The SUT was tested at the TSSAP in a manner and configuration similar to that of the DISN operational environment. Testing the system's required functions and features was conducted using the test configurations depicted in Figure 2-2.

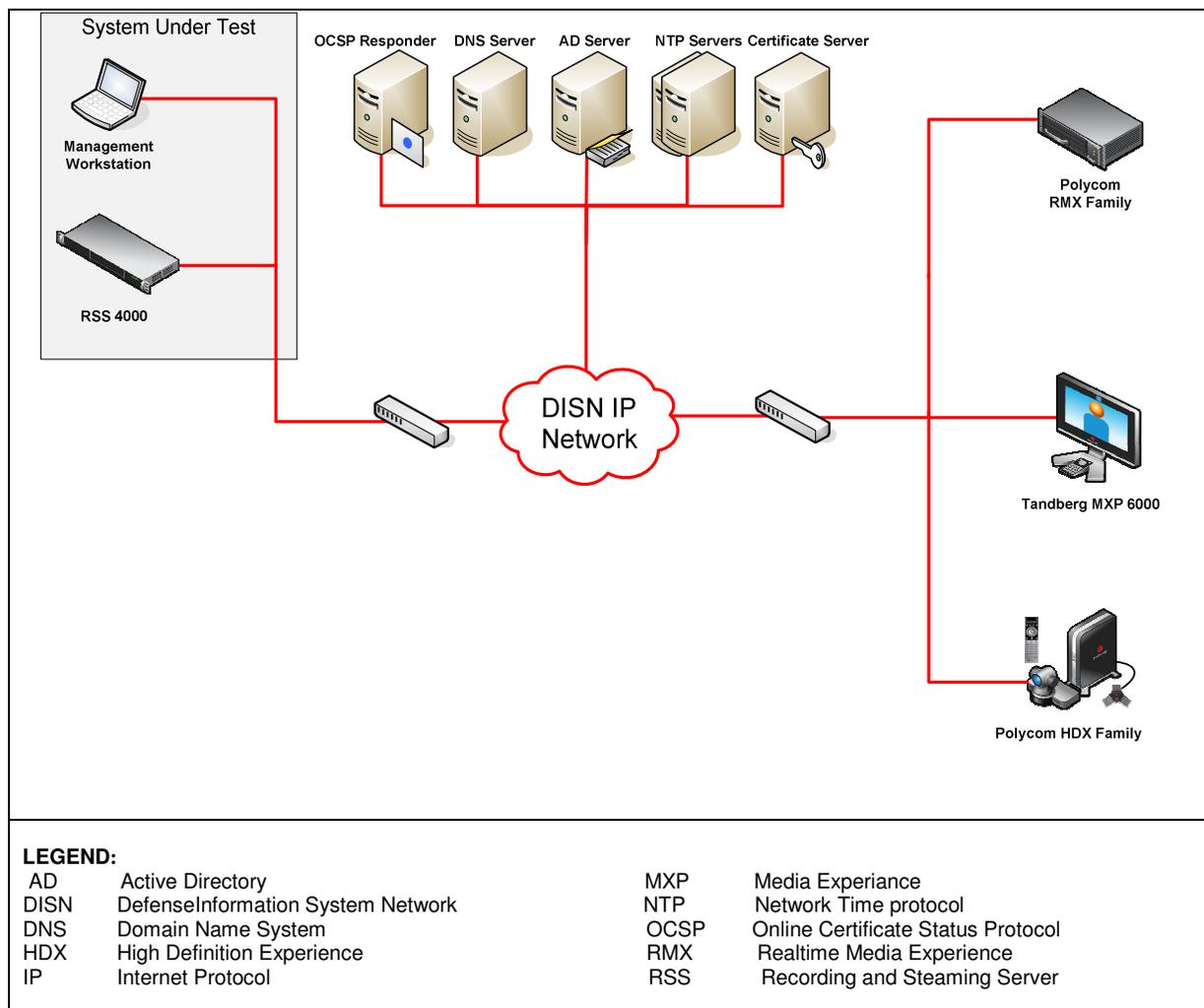


Figure 2-2. SUT Test Configurations

9. SYSTEMS CONFIGURATIONS. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of video teleconferencing (VTC) systems noted in Table 2-2. Table 2-2 lists the VTC systems which depict the tested configuration and is not intended to identify the only VTC systems that are certified with the SUT. The SUT is also certified with other VTC systems listed on the Unified Capabilities (UC) Approved Products List (APL) that offer the same certified ITU-T H.323 Internet Protocol (IP) interface.

Table 2-2. SUT Test Configuration

System Name	Software Release
Tandberg® MXP 6000	F7.3.1 NTSC
Polycom® HDX 9006, 4000, 4001XL,7000, 8000	2.7.0 J
Polycom RMX 1500, 2000, 4000	7.5.0 J with Build 10
System Under Test	Hardware
Polycom RSS 4000	Release 6.9J With Build 29447
Management Workstation	Dell Latitude Microsoft Windows XP SP3
LEGEND:	
CS Communication Server	RMX Realtime Media Experience
HDX High Definition Experience	RSS Recording Streaming Server
MXP Media Experience	SUT System Under Test
NTSC National Television System Committee	

10. TEST LIMITATIONS. None

11. TEST RESULTS

a. Discussion. The SUT is a nonintrusive device that records and streams video conferences. Recordings can be initiated by the SUT using the web User Interface (UI), start a recording by calling the SUT from an endpoint using the remote, or start a recording from a VTC System. The recordings can be played back from an endpoint, web UI, or archived for play back at a later time; recordings can be played back using the following media formats: Windows Media Video (WMV), Media Player 3 (MP3), and MP4 Video. The SUT supports video conference live streaming, using windows media, that can use two different bandwidths; however, due to IA stipulations this feature is not certified.

The SUT was preconfigured at the management workstation to record, transcode, and archive multiple point-to-point and multi-point VTC conferences established between the Polycom and Tandberg video end points. While the SUT is recording there is a visual and audio indication alerting the conference participants that they are being recorded. The recorded video sessions were played back at a later time on the management workstation or saved on a storage device and played at another personal computer workstation. Recordings were played back in different media formats such as WMV and MP3.

b. Test Results:

(1) Differentiated Services Code Point (DSCP) Tagging: Video products must meet the tagging requirements as specified in UCR 2008 Change 2, paragraph 5.3.3.3.2, DSCP. DSCP values were properly assigned for Voice, Video, and Signaling between the RSS 4000 and the HDX 4001XL for both IPv4 and IPv6. The SUT has the ability to software configure a DSCP assignment for the full range 0 to 63 for IPv4 and IPv6. This was verified through testing by capturing traffic from and to the SUT with a

packet capture utility. These captures were analyzed to verify proper tagging requirements were met. These requirements were met by the SUT with the exception that all Operations, Administration and Maintenance packets between the Management Workstation and the RSS 4000 device were marked with a DSCP value of 0 with the expected value being 16, additionally the interface cannot assign DSCP values between 0-63. This discrepancy was adjudicated by DISA as having a minor operational impact based on vendor's submitted Plan of Actions and Milestones to fix by the fourth quarter 2012.

(2) The UCR 2008, Change 1, Section 5.2.4.1 requirements state that a VTC features and functions used in conjunction with IP network services shall meet the requirements of International Telecommunication Union - Telecommunication Standardization Sector (ITU-T) H.323 in accordance with Federal Telecommunications Recommendation 1080B-2002. This requirement was met by vendor LoC.

(3) The UCR 2008, Change 1, Sections 3 and 5.4.6 state the IA requirements for the SUT. These requirements are tested by Department of Defense Component lab IA test teams and results are published under a separate report, Reference (e).

c. Test Summary. The SUT met the interface and functional requirements for a Customer Premise Equipment Video Recording and Streaming system as set forth in Reference (c). The SUT met the requirements for an IP interface with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with the ITU-T H.323 protocol. Since the IP interface with the ITU-T H.323 protocol does not provide Assured Services during a crisis or contingency, users' access to the DISN will be on a best effort basis.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet), or <http://199.208.204.125> (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitic.fhu.disa.mil/tssi>. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.