



DEFENSE INFORMATION SYSTEMS AGENCY

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ARLINGTON, VIRGINIA 22204-4502

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

2 Jul 10

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the LifeSize® Room and LifeSize® Room 200 with Software Release 4.2.10(5) and LifeSize® Networker™ with Software Release 3.1.1(4)

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 (f), 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. The LifeSize® Room and LifeSize® Room 200 with Software Release 4.2.10(5) and LifeSize® Networker™ with Software Release 3.1.1(4), are hereinafter referred to as the system under test (SUT). The LifeSize® Room and LifeSize® Room 200 are Video Teleconferencing (VTC) codecs that only have an Internet Protocol (IP) (10/100 Megabits per second) interface. The LifeSize® Networker™ is the IP to Time Division Multiplexing (TDM) gateway used to provide access to the Defense Switched Network (DSN). The SUT met all of the critical interface and functional interoperability requirements and is certified for use within the DSN as a Video Teleconferencing (VTC) system. The SUT also met the conditional requirements for an IP interface with the International Telecommunication Union – Telecommunication Standardization Sector (ITU-T) H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, Command and Control (C2) VTC users and Special C2 VTC users are not authorized to be served by the SUT for ITU-T H.323 to ITU-T H.323 protocol VTC sessions. However, the SUT is certified for C2 and Special C2 VTC sessions via the LifeSize® Networker™ gateway with the TDM interfaces. The SUT meets the critical interoperability requirements set forth in References (c) and (d) using test procedures derived from Reference (e). No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This certification expires upon changes that affect interoperability, but no later than three years from the date of Defense Information Assurance (IA)/Security Accreditation Working Group (DSAWG) accreditation.

JITC Memo, JTE, Special Interoperability Test Certification of the LifeSize® Room and LifeSize® Room 200 with Software Release 4.2.10(5) and LifeSize® Networker™ with Software Release 3.1.1(4)

3. This finding is based on interoperability testing, adjudication of Test Discrepancy Reports (TDR), review of the vendor’s Letters of Compliance (LoC), and DSAWG accreditation. Interoperability testing was conducted by the Telecommunication Systems Security Assessment Program (TSSAP), 346th Test Squadron, 318th Information Operations Group (IOG), San Antonio, Texas, from 26 October through 23 November 2009. The DISA adjudication of TDRs was completed on 26 January 2010. Review of the LoC was completed on 24 June 2010. DSAWG granted accreditation on 7 May 2010 based on the security testing completed by Department of Defense Component lab IA test teams and published in a separate report, Reference (f). The Certification Testing Summary (Enclosure 2) documents the test results and describes the test configuration.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in Table 1.

Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Requirements Required or Conditional	Status	UCR Reference
IP (10/100 Mbps) ITU-T H.323	No ¹	Yes ²	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.12.4.5
			Layer 3 Differential Service Code Point tagging as specified in the UCR, Section 5.2.12.8.2.9. (C)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
			VTU IP interface must be IPv6 capable. (R)	Met ²	Reference (d)
ISDN BRI	No ¹	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Integrated BRI interface shall be in conformance with the requirements associated with a TA as described in the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
ISDN PRI T1 ³ ISDN PRI E1 ³	No ¹	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Integrated PRI interface shall be in conformance with IAS requirements in the UCR, Section 5.2.12.7. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
Security	Yes	Certified	GR-815, STIGs, and DoDI 8510.bb (DIACAP) (R)	See note 3.	3.2.3, 3.2.5 and 5.4.6.1

Table 1. SUT Functional Requirements and Interoperability Status (continued)

NOTES:			
1	The UCR does not state a minimum required interface for a VTC system. A VTC system can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, and IP. The SUT consists of a VTC Codec and TDM Gateway. The VTC codec supports only supports IP; therefore, the SUT includes an IP to TDM gateway to connect to the DSN. The gateway included with the SUT is the Networker™.		
2	The SUT met the conditional requirements for an IP interface with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, C2 VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the LifeSize® Networker™ gateway with the TDM interfaces.		
3	The SUT does not support NX56 bonding in accordance with the FTR 1080B-2002. This discrepancy was adjudicated by DISA on 26 January 2010 as having a minor operational impact.		
4	Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (f).		
LEGEND:			
BRI	Basic Rate Interface	ISDN	Integrated Services Digital Network
C	Conditional	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
C2	Command and Control	Mbps	Megabits per second
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process	N12	National ISDN Standard 2
DISA	Defense Information Systems Agency	NX56	56 kilobits per second bit rate in N increments
DoDI	Department of Defense Instruction	PRI	Primary Rate Interface
DSN	Defense Switched Network	Q.931	ISDN connection control protocol
E1	European Basic Multiplex Rate (2.048 Mbps)	R	Required
FTR	Federal Telecommunications Recommendation	STIGs	Security Technical Implementation Guides
GR	Generic Requirement	SUT	System Under Test
GR 815	Generic Requirements for Network Element/Network System (NE/NS) Security	TA	Terminal Adapter
H.323	Standard for multi-media communications on packet-based networks	TDM	Time Division Multiplexing
IAS	Integrated Access Switch	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IP	Internet Protocol	UCR	Unified Capabilities Requirements
IPv6	Internet Protocol version 6	VTC	Video Teleconferencing
		VTU	Video Teleconferencing Unit

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 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.

JITC Memo, JTE, Special Interoperability Test Certification of the LifeSize® Room and LifeSize® Room 200 with Software Release 4.2.10(5) and LifeSize® Networker™ with Software Release 3.1.1(4)

6. The JITC point of contact is Mr. Brad Friedman, DSN 879-5057, commercial (520) 538-5057, FAX DSN 879-4347, or e-mail to brad.friedman@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0927306.

FOR THE COMMANDER:



for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

2 Enclosures a/s

Distribution (electronic mail):

Joint Staff J-6

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DOT&E, Net-Centric Systems and Naval Warfare

U.S. Coast Guard, CG-64

Defense Intelligence Agency

National Security Agency, DT

Defense Information Systems Agency, TEMC

Office of Assistant Secretary of Defense (NII)/DOD CIO

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

Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

- (c) Defense Information Systems Agency, "Department of Defense Networks Unified Capabilities Requirements 2008," 22 January 2009
- (d) Office of the Secretary of Defense, "Interim Unified Capabilities (UC) IPv6 Rules of Engagement (ROE)," 31 July 2009
- (e) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
- (f) Air Force Test Facility, "Information Assurance (IA) Assessment of LifeSize Team Family with Networker Release 1.0 (TN 0927306)," 7 May 2010

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. LifeSize® Room and LifeSize® Room 200 with Software Release 4.2.10(5) and LifeSize® Networker™ with Software Release 3.1.1(4); hereinafter referred to as the System Under Test (SUT).

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

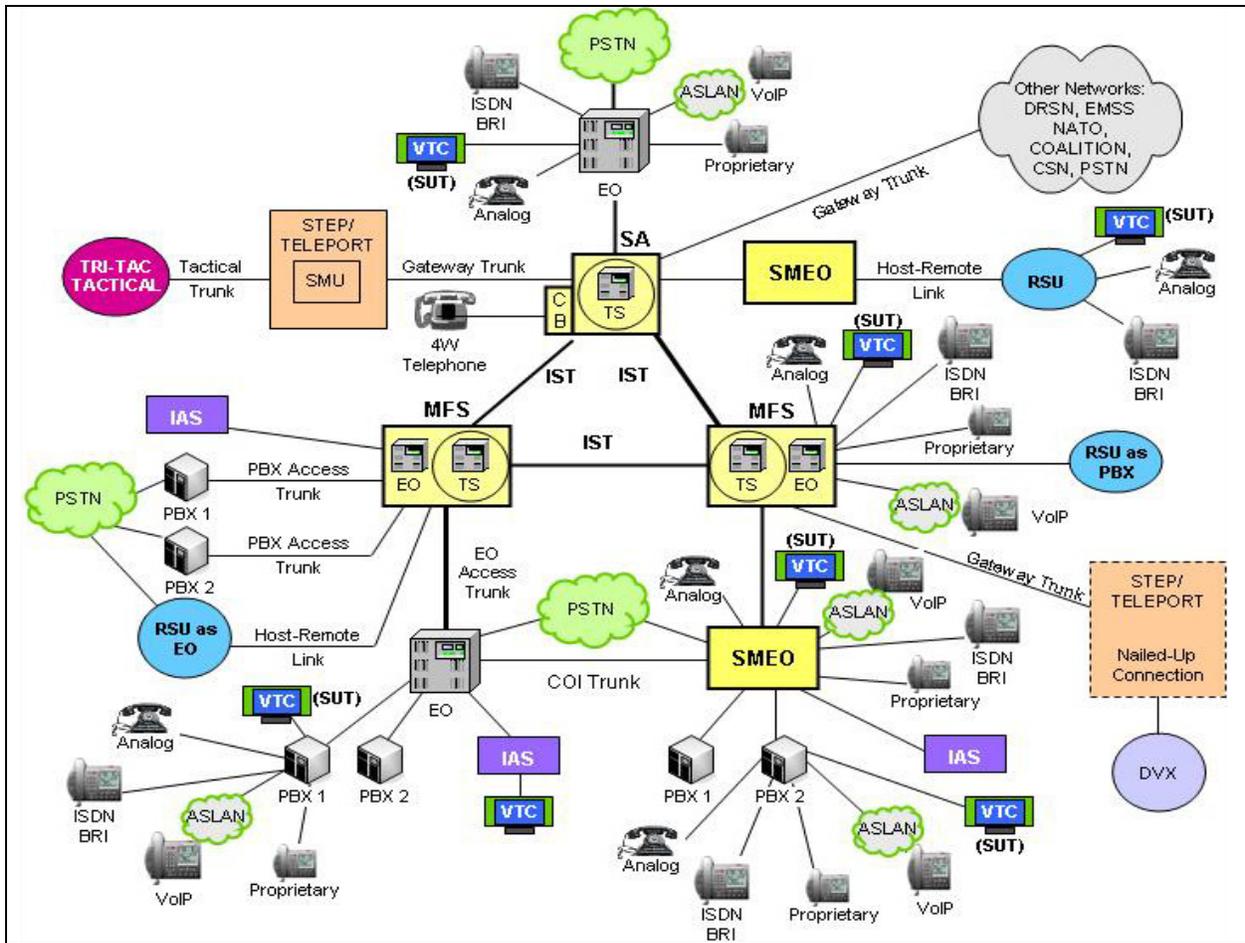
3. PROGRAM MANAGER. Julian Allison, DISA-GE223, P.O. Box 4502 Arlington, Virginia, 22204, Email: tracy.allison@disa.mil.

4. TESTER. Telecommunication Systems Security Assessment Program (TSSAP) testing facility, 346th Test Squadron, 318th Information Operations Group (IOG), United States Air Force, San Antonio, Texas.

5. SYSTEM UNDER TEST DESCRIPTION. The LifeSize® Room and LifeSize® Room 200 are Video Teleconference (VTC) codecs that only have a 10/100 Megabits per second (Mbps) Internet Protocol (IP) interface. The LifeSize® Networker™ is the IP to Time Division Multiplexing (TDM) gateway used to provide access to the Defense Switched Network (DSN). This VTC system connects to a High Definition (HD) monitor and is designed for large-sized VTC sessions. The SUT has up to seven video inputs and up to four video outputs. The SUT supports the following features which were met through testing or vendor submission of Letters of Compliance (LoC) unless otherwise noted:

- Digital Transmission Link Level 1 (T1) or European Basic Multiplex Rate (E1) Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI), ISDN Basic Rate Interface (BRI), and International Telecommunication Union – Telecommunication Standardization Sector (ITU-T) H.320
- Network Interfaces: T1 or E1 ISDN PRI, ISDN BRI, or 10/100 Megabits per second (Mbps) auto network interface card
- Standards: ITU-T H.320 up to 2 Mbps
- ITU-T H.323
- Audio standards: ITU-T G.711, ITU-T G.722, ITU-T G.722.1, ITU-T G.728, Moving Picture Experts Group (MPEG)4 Low Delay Audio Coder (AAC-LD)
- Video standards: ITU-T H.261, ITU-T H.263, ITU-T H.263++, ITU-T H.264, ITU-T H.239, ITU-T H.241
- Multi-Control Point compatibility ITU-T H.243, ITU-T H.231, ITU-T H.221, ITU-T H.224/H.281
- Inverse Multiplexing ITU-T H.244

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



LEGEND:

- | | | | |
|-------|-------------------------------------|---------|---|
| 4W | 4-Wire | NATO | North Atlantic Treaty Organization |
| ASLAN | Assured Services Local Area Network | PBX | Private Branch Exchange |
| BRI | Basic Rate Interface | PBX 1 | Private Branch Exchange 1 |
| CB | Channel Bank | PBX 2 | Private Branch Exchange 2 |
| COI | Community of Interest | PSTN | Public Switched Telephone Network |
| CSN | Canadian Switch Network | RSU | Remote Switching Unit |
| DRSN | Defense Red Switch Network | SA | Standalone |
| DSN | Defense Switched Network | SMEO | Small End Office |
| DVX | Deployable Voice Exchange | SMU | Switched Multiplex Unit |
| EMSS | Enhanced Mobile Satellite System | STEP | Standardized Tactical Entry Point |
| EO | End Office | SUT | System Under Test |
| IAS | Integrated Access Switch | Tri-Tac | Tri-Service Tactical Communications Program |
| ISDN | Integrated Services Digital Network | TS | Tandem Switch |
| IST | Interswitch Trunk | VoIP | Voice over Internet Protocol |
| MFS | Multifunction Switch | VTC | Video Teleconferencing |

Figure 2-1. Relationship of the SUT to the DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from UCR Interface and Functional Requirements and are verified through TSSAP testing and review of the vendor's LoC.

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Requirements Required or Conditional	Status	UCR Reference
IP (10/100 Mbps) ITU-T H.323	No ¹	Yes ²	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.12.4.5
			Layer 3 Differential Service Code Point tagging as specified in the UCR, Section 5.2.12.8.2.9. (C)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
			VTU IP interface must be IPv6 capable. (R)	Met ²	Reference (d)
ISDN BRI	No ¹	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Integrated BRI interface shall be in conformance with the requirements associated with a TA as described in the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
ISDN PRI T1 ³ ISDN PRI E1 ³	No ¹	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.12.4.5
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.12.4.5
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.12.4.5
			Integrated PRI interface shall be in conformance with IAS requirements in the UCR, Section 5.2.12.7. (C)	Met	5.2.12.4.5
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.12.4.5
Security	Yes	Certified	GR-815, STIGs, and DoDI 8510.bb (DIACAP) (R)	See note 3.	3.2.3, 3.2.5 and 5.4.6.1

Table 2-1. SUT Functional Requirements and Interoperability Status (continued)

NOTES:			
1	The UCR does not state a minimum required interface for a VTC system. A VTC system can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, and IP. The SUT consists of a VTC Codec and TDM Gateway. The VTC codec supports only supports IP; therefore, the SUT includes an IP to TDM gateway to connect to the DSN. The gateway included with the SUT is the Networker™.		
2	The SUT met the conditional requirements for an IP interface with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, C2 VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the LifeSize® Networker™ gateway with the TDM interfaces.		
3	The SUT does not support NX56 bonding in accordance with the FTR 1080B-2002. This discrepancy was adjudicated by DISA on 26 January 2010 as having a minor operational impact.		
4	Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (f).		
LEGEND:			
BRI	Basic Rate Interface	ISDN	Integrated Services Digital Network
C	Conditional	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
C2	Command and Control	Mbps	Megabits per second
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process	NI2	National ISDN Standard 2
DISA	Defense Information Systems Agency	NX56	56 kilobits per second bit rate in N increments
DoDI	Department of Defense Instruction	PRI	Primary Rate Interface
DSN	Defense Switched Network	Q.931	ISDN connection control protocol
E1	European Basic Multiplex Rate (2.048 Mbps)	R	Required
FTR	Federal Telecommunications Recommendation	STIGs	Security Technical Implementation Guides
GR	Generic Requirement	SUT	System Under Test
GR 815	Generic Requirements for Network Element/Network System (NE/NS) Security	TA	Terminal Adapter
H.323	Standard for multi-media communications on packet-based networks	TDM	Time Division Multiplexing
IAS	Integrated Access Switch	T1	Digital Transmission Link Level 1 (1.544 Mbps)
IP	Internet Protocol	UCR	Unified Capabilities Requirements
IPv6	Internet Protocol version 6	VTC	Video Teleconferencing
		VTU	Video Teleconferencing Unit

8. Test Network Description. The SUT was tested at the TSSAP in a manner and configuration similar to that of the DSN operational environment. Testing the system's required functions and features was conducted using the test configuration depicted in Figure 2-2.

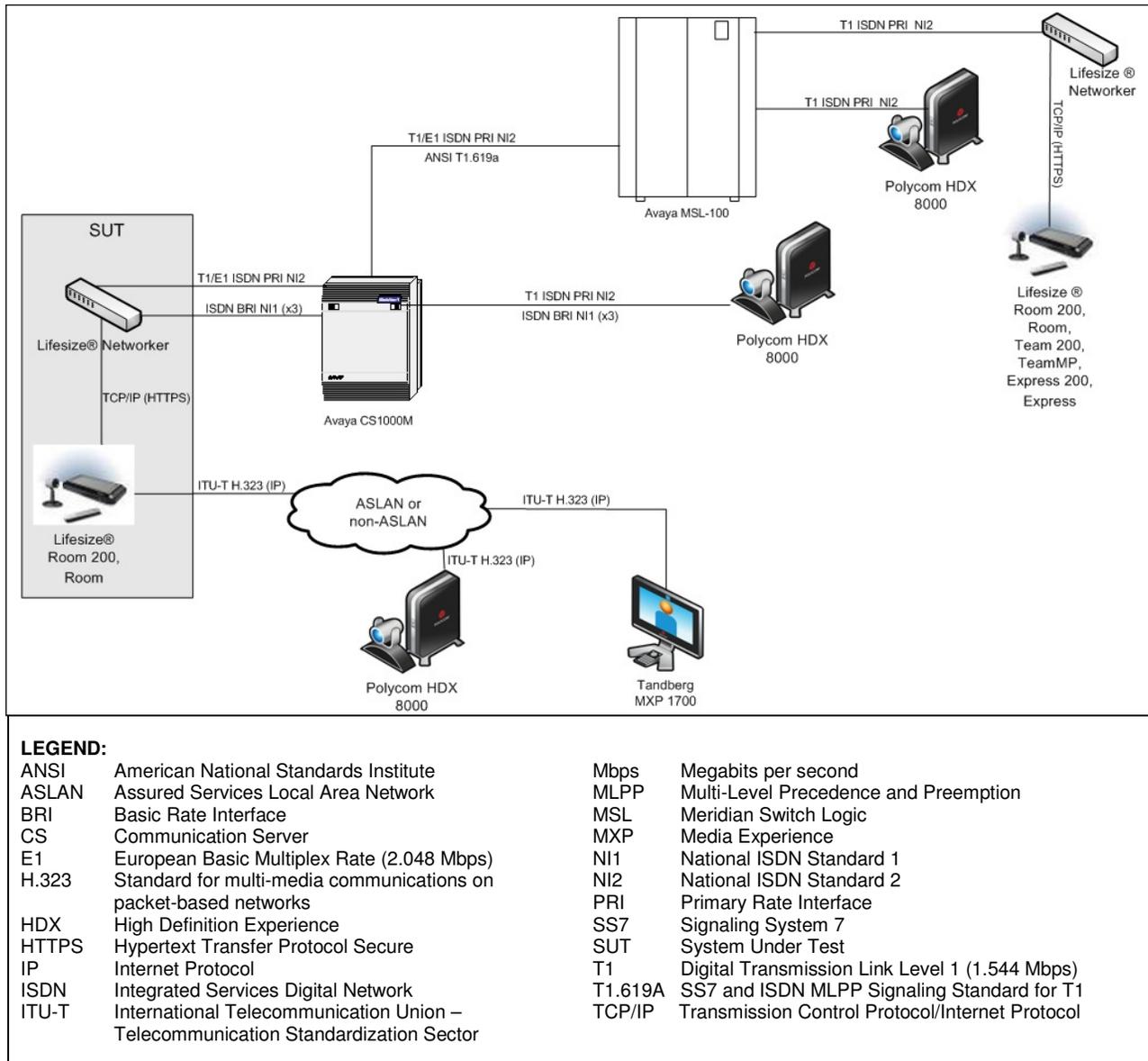


Figure 2-2. SUT Test Configuration

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 DSN switches noted in Table 2-2. Table 2-2 lists the DSN switches which depict the tested configuration and is not intended to identify the only switches that are certified with the SUT. The SUT is certified with switching systems listed on the Unified Capabilities (UC) Approved Products List (APL) that offer the same certified interfaces.

Table 2-2. SUT Test Configuration

System Name	Software Release
Avaya MSL-100	MSL-17
Avaya CS1000M	4.5
Tandberg MXP 1700	F7.0 NTSC, Security
Polycom HDX 8000	2.0.5 J-2854
LifeSize® Team MP™, Team™	Release 4.2.10(5)
LifeSize® Express™, Express 200™	Release 4.2.10(5)
LifeSize® Networker™	Release 3.1.1(4)
System Under Test	Software Release
LifeSize® Room™	Release 4.2.10(5)
LifeSize® Room 200™	Release 4.2.10(5)
LifeSize® Networker™	Release 3.1.1(4)
LEGEND:	
CS Communication Server	MXP Media Experience
HDX High Definition Experience	NTSC National Television System Committee
MSL Meridian Switch Logic	

10. TEST LIMITATIONS. None

11. TEST RESULTS

a. Discussion. The VTC system interface requirements can be met with an ISDN BRI, T1 or E1 ISDN PRI, Serial, or ITU-T H.323 interface. Although each interface is conditional, if the SUT offers an interface, it must meet the critical requirements for that interface. The SUT minimum critical interoperability interface and functional requirements were met through both interoperability certification testing conducted at the TSSAP and review of the vendor’s LoC. Bonding mode 1 was tested to requirements defined in UCR, Section 5.2.12.4.5 and Federal Telecommunications Recommendation (FTR) 1080B-2002. Bonding, often referred to as channel aggregation, takes place through inverse multiplexing. Inverse multiplexing takes a high-bandwidth signal and splits it for transport through the network over multiple lower-bandwidth channels. At the receiving end, the multiple, lower-bandwidth signals are recombined into the original high-bandwidth signal. While the SUT did not have the ability to set a specific bonding mode, test calls completed in accordance with requirements defined in UCR, Section 5.2.12.4.5 and FTR 1080B-2002. The SUT received inbound calls and placed outbound calls to various VTC codecs. The successful tests demonstrated the SUT’s ability to participate in high-speed VTC conferences.

Seven- and ten-digit calls were placed to verify that the SUT met the capability to support both the North American Numbering Plan and the DSN World Wide Numbering and Dialing Plan (WWNDP) defined in UCR, 5.2.12.4.5 (5.2.12.7.4). Multilevel precedence video calls were placed from the SUT and established within the DSN at the respective precedence level dialing the DSN WWNDP access code (e.g. 93: Priority, 92: Immediate, 91: Flash, etc.). The SUT has the ability to prefix any DSN 7 or 10 digit number with a 9X access code which meets this requirement. A passed test result was based on 100 percent of the calls receiving a score of four or better on the subjective quality scale as defined in Table 2-3.

Table 2-3. Video and Voice Subjective Quality Scale

Rating	Reference	Definition
1	Unusable	Quality is unusable. Voice and video may be heard and seen but is unrecognizable.
2	Poor	Quality is unusable. Words and phrases are not fully understandable or video cannot be properly identified.
3	Fair	Quality is seriously affected by distortion. Repeating words and phrases are required to convey speech or video is seriously impacted and barely recognizable.
4	Good	Quality is usable. Audio or video is not impaired but some distortion is noticeable
5	Excellent	Quality is unaffected. No discernable problems with either audio or video.

NOTE: Audio and video quality during a conference will receive a subjective rating on the Data Collection Form. A rating of lower than 4 on this reference scale is considered a failure.

b. Test Conduct. Multiple two-way 64 kilobits per second (kbps) – 1.920 Mbps test calls at different durations (5-minutes, 30-minutes, 1-hour, 24-hours) were placed over the test network shown in Figure 2-2 via all the combinations depicted in Table 2-1. The VTC test calls were placed at various precedence levels over the test configurations depicted in Figure 2-2. The SUT was tested in both IP version 4 (IPv4) and IP version 6 (IPv6) environments. The UCR, Section 5.2.12.4.5 requirements state:

(1) The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. The SUT does not support NX56 bonding in accordance with the FTR. This discrepancy was adjudicated by DISA on 26 January 2010 as having a minor operational impact. The SUT met the remaining requirements through testing and review of the vendor’s LoC.

(2) The VTC features and functions used in conjunction with IP network services shall meet the requirements of ITU-T H.323 in accordance with FTR 1080B-2002. Additionally, ITU-T H.323 video end instruments must meet the tagging requirements as specified in UCR 2008, Section 5.2.12.8.2.9, Voice over IP System Service Class Tagging Requirements. This requirement was met by the SUT. The SUT has the ability to apply a Service Class Tag for signaling and video media at any value 0 to 63 for both 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.

(3) A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. This was tested during each session established with the SUT by disconnecting single and multiple conferees. This was done by hanging up and simulating a failure by disconnecting the physical interface or by preempting both participating conferees and other precedent users. During these tests, the remaining conferees were not affected and remained in the conference.

(4) An audio add-on interface, implemented independently of an Integrated Access Switch (IAS), shall be in accordance with the UCR, Section 5.2.12.3. This requirement was verified through testing and the vendor’s LoC.

(5) A VTC system/endpoint that uses an integrated BRI interface to connect to the DSN shall be in conformance with the requirements associated with a Terminal Adaptor (TA) as described in the UCR, Section 5.2.12.3. This requirement was verified through testing and the vendor's LoC.

(6) A VTC system/endpoint that uses an integrated PRI interface to connect to the DSN shall be in conformance with the requirements associated with an IAS as described in the UCR, Section 5.2.12.7. The SUT met this requirement through testing and the vendor's LoC.

(7) The physical, electrical, and software characteristics of Video Teleconferencing Unit system(s)/endpoint(s) that are used in the DSN network shall not degrade or impair the serving DSN switch and its associated network operations. This was tested by conducting other tests on the serving DSN switch while point-to-point and multipoint video sessions were established. During these tests, the SUT physical, electrical, and software characteristics did not impair the serving DSN switch and its associated operations.

(8) The UCR section 5.4 states the Information Assurance requirements for the SUT. These requirements are tested by Department of Defense Component lab Information Assurance test teams and results are published under a separate report, Reference (f).

c. Test Summary. The SUT met the critical interface and functional requirements as set forth in Reference (c) for a VTC system for the interfaces depicted in Table 2-1, and is certified for joint use within the DSN. 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 with the 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 DSN will be on a best effort basis. Therefore, Command and Control (C2) VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the LifeSize® Networker™ gateway with the TDM interfaces.

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://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.