DEFENSE INFORMATION SYSTEMS AGENCY
P. O. BOX 549
FORT MEADE, MARYLAND 20755-0549

IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **1 Mar 13**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Cisco Unified Communications Manager (CUCM) Version 8.6.1

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. 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 CUCM Version 8.6.1 is hereinafter referred to as the System Under Test (SUT). The SUT is certified for joint use in the Defense Information System Network (DISN) as a Local Session Controller (LSC). The fielding of the SUT is limited to Internet Protocol (IP) version 4 (IPv4) across the DISN. Although the SUT supports Internet Protocol version 6 (IPv6), it was not tested inter-enclave because of test limitations within the network infrastructure. Therefore, inter-enclave IPv6 is not covered under this certification, but intra-enclave use of IPv6 is authorized for use. Any new discrepancy noted in the operational environment will be evaluated for impact on the existing certification. These discrepancies will be adjudicated to the satisfaction of DISA via a vendor Plan of Action and Milestones (POA&M), which will address all new critical Test Discrepancy Reports (TDRs) within 120 days of identification. Testing was conducted using LSC product requirements derived from the Unified Capabilities Requirements (UCR), Reference (c), and LSC test procedures, Reference (d). No other configurations, features, or functions, except those cited within this memorandum, are certified by JITC. This certification expires upon changes that affect interoperability, but no later than the date of the original Unified Capabilities (UC) Approved Products List (APL) memorandum expiration (28 June 2015).

3. The extension of this certification is based upon Desktop Review (DTR) 1. The original certification, documented in Reference (e), is based on interoperability testing conducted by JITC, review of the vendor's Letters of Compliance (LoC), DISA adjudication of open TDRs, and DISA Information Assurance (IA) Certification Authority (CA) approval of the IA configuration. Interoperability testing was conducted by JITC, Fort Huachuca, Arizona, from

11 July through 5 August 2011. Verification and Validation (V&V) testing was conducted by JITC, Fort Huachuca, Arizona, from 5 through 23 December 2011. Review of the vendor's LoC was completed on 19 June 2012. Adjudication of open TDRs was completed by DISA on 31 July 2012. The DISA CA provided a positive recommendation on 14 June 2012 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (f). This DTR was requested to certify the SUT with the Cisco proprietary video end instruments (EIs) and video gateway listed in Table 1. JITC determined that this DTR would require V&V testing. JITC conducted V&V testing from 7 through 18 January 2013. DISA completed adjudication of the new TDRs on 22 January 2013. Review of the vendor's updated LoC was completed on 11 February 2013. JITC testing verified that the SUT with the Cisco proprietary video EIs met all UCR requirements with the following minor exceptions.

a. The Cisco proprietary video EI does not properly tag IPv6 traffic for call signaling. All IPv6 media packets are tagged properly. Call Signaling packets are tagged at 0 (best effort), with the exception of Registration Admission Status (RAS) signaling packets. In addition the SUT is not able to set the Differentiated Services Code Point (DSCP) tag any value 0-63 for these packets as required by the reference.

b. The Cisco proprietary video EI is not able to disable all IPv6 services in the IPv6 stack, only IPv6 media and signaling. In accordance with Reference (c), all nodes and interfaces that are IPv6-capable must be carefully configured and verified that the IPv6 stack is disabled until it is deliberately enabled as part of a deliberate transition strategy.

c. When the Cisco proprietary video EI interwork through the Video Communication Server (VCS), voice and video media packets are retagged at the same DSCP value. This applies to both IPv4 and IPv6 media traffic.

DISA accepted the vendor's PoA&M and adjudicated these three TDRs as minor.

d. The SUT VCS partially complies with support of IPv6 scoped address architecture. The VCS does not support link-local address. The Office of the Department of Defense (DoD) Chief Information Officer (CIO) provided a waiver of these two IPv6 requirements that have minimal or no impact on interoperability.

The proprietary video EIs in Table 1 are certified only with the SUT. The proprietary video EIs may be configured either IPv4 or IPv6 for intra-enclave use or IPv4 for inter-enclave use. Therefore, JITC approves this DTR. The IA posture has not changed. Therefore, the original IA approval applies to this DTR.

Table 1. Cisco Proprietary Video End Instruments and Gateway Certified with the SUT with DTR 1

Hardware	Software
Cisco Telepresence C90, C60, C40, Quickset C20 **EX90**, EX60 MX200, MX300 Series Codecs	TC5.0.2
VCS	X7.1

Table 1. Cisco Proprietary Video End Instruments Certified with the SUT with DTR 1 (continued)

NOTE: Components bolded and underlined were tested by JITC. The other components in the family series were not tested; however, they utilize the same software and similar hardware and JITC analysis determined them to be functionally identical for interoperability certification purposes and they are also certified for joint use.

LEGEND:
DTR Desktop Review
ISDN Integrated Services Digital Network
VCS Video Communication Server

4. The interface, Capability Requirements (CR) and Functional Requirements (FR), and component status of the SUT is listed in Tables 2 and 3. The threshold CR/FRs for LSCs are established by Sections 5.3.2, 5.3.4, 5.3.5, and 5.4 of Reference (c) and were used to evaluate the interoperability of the SUT.

Table 2. SUT Interface Interoperability Status

Interface	Critical	UCR Reference	Threshold CR/FR Requirements[1]	Status	Remarks
Line Interfaces					
10Base-X	Yes	5.3.2.6.3	2, 4, 10, 13, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3i and 802.3j. Applies to PEIs and softphones.
100Base-X	Yes	5.3.2.6.3	2, 4, 10, 13, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3u. Applies to PEIs and softphones.
1000Base-X	No	5.3.2.6.3	2, 4, 10,13, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3ab. Applies to PEIs and softphones.
2-wire analog	Yes	5.3.2.6.1.6	2, 4, 10, and 13	Certified	Met threshold CRs/FRs for 2-wire instruments. Applies to 2-wire secure and non-secure analog instruments.
BRI	No	5.3.2.6.1.8	2, 4, 10, and 13	Not Tested	This interface is offered by the SUT; however, it was not tested because it does not support Assured Services.
External Interfaces					
10Base-X	No[2]	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3i and 802.3j. Applies to AS-SIP trunk.
100Base-X	No[2]	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3u. Applies to AS-SIP trunk.
1000Base-X	No[2]	5.3.2.4.2	1, 2, 3, 6, 7, 8, 10, 11, 13, 15, and 16	Certified	Met threshold CRs/FRs for IEEE 802.3z and 802.3ab. Applies to AS-SIP trunk.
ISDN T1 PRI ANSI T1.619a	Yes	5.3.2.4.3	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs. Provides legacy DSN and TELEPORT connectivity.
ISDN T1 PRI NI-2	Yes	5.3.2.4.3	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs. Provides PSTN connectivity.
T1 CCS7 ANSI T1.619a	No	5.3.2.12.9	2 , 3, 7, 8, 10, and 13	Not Tested	This interface is not offered by the SUT.
T1 CAS	No	5.3.2.12.11	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs for DTMF.
E1 CAS (DP, DTMF, MFR1)	No	5.3.2.12.11	2, 3, 7, 8, 10, 13	Not Tested	This interface is offered by the SUT; however, it was not tested and is not covered under this certification.

Table 2. SUT Interface Interoperability Status (continued)

Interface	Critical	UCR Reference	Threshold CR/FR Requirements[1]	Status	Remarks
External Interfaces (continued)					
E1 PRI ITU-T Q.955.3	No[3]	5.3.2.12.10	2, 3, 7, 8, 10, and 13	Certified	This interface was tested and certified with Desktop Review 3.
E1 PRI ITU-T Q.931	No[3]	5.3.2.12.10	2, 3, 7, 8, 10, and 13	Certified	Met threshold CRs/FRs for European PSTN connectivity.
NM					
10Base-X	No[2]	5.3.2.4.4 5.3.2.7.2.8	16 and 17	Certified	Met threshold CRs/FRs. Verified via LoC.
100Base-X	No[2]	5.3.2.4.4 5.3.2.7.2.8	16 and 17	Certified	Met threshold CRs/FRs. Verified via LoC.

NOTES:
1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 3. These high-level CR/FR requirements refer to a detailed list of requirements provided in Reference (e), Enclosure 3.
2. The SUT must provide a minimum of one of the listed interfaces.
3. This interface is conditionally required for deployment in Europe.

LEGEND:

10Base-X	10 Mbps Ethernet
100Base-X	100 Mbps Ethernet
1000Base-X	1000 Mbps Ethernet
802.3ab	1000 Mbps Ethernet over Twisted Pair
802.3i	10 Mbps twisted pair media for 10Base-X networks
802.3j	10 Mbps fiber media for 10Base-X networks
802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbps with auto negotiation
802.3z	Standard for Gigabit Ethernet
ANSI	American National Standards Institute
AS-SIP	Assured Services Session Initiation Protocol
BRI	Basic Rate Interface
CAS	Channel Associated Signaling
CCS7	Common Channel Signaling
CR	Capability Requirement
DP	Dial Pulse
DSN	Defense Switched Network
DTMF	Dual Tone Multi-Frequency
E1	European Basic Multiplex Rate (2.048 Mbps)
FR	Functional Requirement
ID	Identification
IEEE	Institute of Electrical and Electronics Engineers
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
LoC	Letter of Compliance
Mbps	Megabits per second
MFR1	Multi-Frequency Recommendation 1
MG	Media Gateway
MLPP	Multi-Level Precedence and Preemption
NI-2	National ISDN Standard 2
NM	Network Management
PEI	Proprietary End Instrument
PRI	Primary Rate Interface
PSTN	Public Switched Telephone Network
Q.931	Signaling Standard for ISDN
Q.955.3	ISDN Signaling Standard for E1 MLPP
SS7	Signaling System 7
SUT	System Under Test
T1	Digital Transmission Link Level 1 (1.544 Mbps)
T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
UCR	Unified Capabilities Requirements

Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status
1	**Assured Services Product Features and Capabilities**			
	DSCP Packet Marking	Required	5.3.2.2.1.4	Met
	Voice Features and Capabilities	Required	5.3.2.2.2.1	Partially Met[2, 3]
	Public Safety Features	Required	5.3.2.2.2.2	Met
	ASAC – Open Loop	Required	5.3.2.2.2.3	Met
	Signaling Protocols	Required	5.3.2.2.3	Met
	Signaling Performance	Conditional	5.3.2.2.4	Met
2	**Registration, Authentication, and Failover**			
	Registration	Required	5.3.2.3.1	Met
	Failover	Required	5.3.2.3.2	Met[4]

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status
3	**Product Physical, Quality, and Environmental Factors**			
	Availability	Required	5.3.2.5.2.1	Met
	Maximum Downtimes	Required	5.3.2.5.2.2	Met
	Loss of Packets	Required	5.3.2.5.4	Met
4	**Voice End Instruments**			
	Tones and Announcements	Required	5.3.2.6.1.1	Met[5]
	Audio Codecs	Required	5.3.2.6.1.2	Met[5, 6]
	VoIP PEI or AEI Audio Performance	Required	5.3.2.6.1.3	Met[5]
	VoIP Sampling Standard	Required	5.3.2.6.1.4	Met[5]
	Authentication to LSC	Required	5.3.2.6.1.5	Met[5]
	Analog Telephone Support	Required	5.3.2.6.1.6	Met
	Softphones	Conditional	5.3.2.6.1.7	Partially Met[7]
	ISDN BRI	Conditional	5.3.2.6.1.8	Not Tested
5	**Video End Instruments**			
	Video End Instrument	Required	5.3.2.6.2	Partially Met[8]
	Display Messages, Tones, and Announcements	Required	5.3.2.6.2.1	Partially Met[8]
	Video Codecs (Including Associated Audio Codecs)	Required	5.3.2.6.2.2	Partially Met[8]
6	**LSC Requirements**			
	PBAS/ASAC Requirements	Required	5.3.2.7.2.1	Met
	Calling Number Delivery Requirements	Required	5.3.2.7.2.2	Met
	LSC Signaling Requirements	Required	5.3.2.7.2.3	Met
	Service Requirements under Total Loss of WAN Transport	Required	5.3.2.7.2.4	Met
	Local Location Server and Directory	Required	5.3.2.7.2.5	Met
	LSC Transport Interface Functions	Required	5.3.2.7.2.7	Met
	LSC to PEI, AEI, and Operator Console Status Verification	Required	5.3.2.7.2.10	Partially Met[5, 9]
	Line-Side Custom Features Interference	Conditional	5.3.2.7.2.11	Met
	Loop Avoidance	Required	5.3.2.7.3	Met
7	**Call Connection Agent Requirements**			
	CCA-IWF Component	Required	5.3.2.9.2.1	Partially Met[10, 11]
	CCA MGC Component	Required	5.3.2.9.2.2	Met
	SG Component	Conditional	5.3.2.9.2.3	Not Tested[10]
	CCA-IWF Support for AS-SIP	Required	5.3.2.9.5.1	Met
	CCA-IWF Support for SS7	Conditional	5.3.2.9.5.2	Not Tested[10]
	CCA-IWF Support for PRI via MG	Required	5.3.2.9.5.3	Partially Met[11]
	CCA-IWF Support for CAS Trunks via MG	Conditional	5.3.2.9.5.4	Not Tested[10]
	CCA-IWF Support for PEI and AEI Signaling Protocols	Required	5.3.2.9.5.5	Partially Met[12]
	CCA-IWF Support for VoIP and TDM Protocol Interworking	Required	5.3.2.9.5.6	Met[10]
	CCA Preservation of Call Ringing State during Failure Conditions	Required	5.3.2.9.6	Met
	CCA Interactions with Transport Interface Functions	Required	5.3.2.10.3	Met
	CCA Interactions with the EBC	Required	5.3.2.10.4	Met
	CCA Support for Admission Control	Required	5.3.2.10.5	Met
	CCA Support for UFS	Required	5.3.2.10.6	Met
	CCA Support for IA	Required	5.3.2.10.7	Met[13]
	CCA Interaction with EIs	Required	5.3.2.10.10	Partially Met[5]
	CCA Support for AS Voice and Video	Required	5.3.2.10.11	Partially Met[8]
	CCA Interactions with Service control Functions	Required	5.3.2.10.12	Met
	CCA Interworking between AS-SIP and SS7	Conditional	5.3.2.11	Not Tested[10]

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status
8	**MG Requirements**			
	Role of MG In LSC	Required	5.3.2.12.3.1	Met
	MG Support for ASAC	Required	5.3.2.12.4.1	Met
	MG and IA Functions	Required	5.3.2.12.4.2	Met[13]
	MG Interaction with Service Control Function	Required	5.3.2.12.4.3	Met
	MG Interactions with IP Transport Interface Functions	Required	5.3.2.12.4.4	Met
	MG-EBC interactions	Required	5.3.2.12.4.5	Met
	MG IP-Based PSTN Interface Requirements	Conditional	5.3.2.12.4.7	Not Tested
	MG Interaction with VoIP EIs	Required	5.3.2.12.4.8	Met[5]
	MG support for User Features and Services	Required	5.3.2.12.4.9	Met
	MG Interface to TDM	Required	5.3.2.12.5	Partially Met[10, 11, 14]
	MG Interface to TDM Allied and Coalition	Conditional	5.3.2.12.6	Not Tested
	MG Interface to TDM PSTN in US	Required	5.3.2.12.7	Partially Met[11, 14]
	MG Interfaces to TDM PSTN OCONUS	Required	5.3.2.12.8	Partially Met[14]
	MG Support for CCS7	Conditional	5.3.2.12.9	Not Tested[10]
	MG Support for ISDN PRI Trunks	Required	5.3.2.12.10	Partially Met[11]
	MG Support for CAS Trunks	Required	5.3.2.12.11	Met
	MG requirements for VoIP Internal Interfaces	Required	5.3.2.12.12	Met
	MG Echo Cancellation	Required	5.3.2.12.13	Met
	MG Clock Timing	Required	5.3.2.12.14	Met
	MGC-MG CCA Functions	Required	5.3.2.12.15	Met
	MG ITU-T V.150.1	Required	5.3.2.12.16	Not Met[15]
	MG Preservation of Call Ringing during Failure	Required	5.3.2.12.17	Met
9	**SG Requirements**			
	SG and CCS7 Network Interactions	Conditional	5.3.2.13.5.1	Not Tested
	SG Interactions with CCA	Conditional	5.3.2.13.5.2	Not Tested
	SG Interworking Functions	Conditional	5.3.2.13.5.3	Not Tested
10	**WWNDP Requirements**			
	WWNDP	Required	5.3.2.16	Met
	DSN WWNDP	Required	5.3.2.16.1	Met
11	**Commercial Cost Avoidance**			
	Commercial Cost Avoidance	Required	5.3.2.23	Not Tested[15]
12	**AS-SIP Based for External Devices (Voicemail, Unified Messaging, and Automated Receiving Devices)**			
	AS-SIP Requirements for External Interfaces	Conditional	5.3.2.24	Not Tested
13	**Precedence Call Diversion**			
	Precedence call Diversion	Required	5.3.2.25	Met
14	**Attendant Station Features**			
	Precedence and Preemption	Required	5.3.2.26.1	Not Tested[9]
	Call Display	Required	5.3.2.26.2	Not Tested[9]
	Class of Service Override	Required	5.3.2.26.3	Not Tested[9]
	Busy Override and Busy Verification	Required	5.3.2.26.4	Not Tested[9, 17]
	Night service	Required	5.3.2.26.5	Not Tested[9]
	Automatic Recall of Attendant	Required	5.3.2.26.6	Not Tested[9]
	Calls in Queue to the Attendant	Required	5.3.2.26.7	Not Tested[9, 18]

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

CR/FR ID	Capability/ Function	Applicability[1]	UCR Reference	Status
15	**AS-SIP Requirements**			
	SIP Requirements for AS-SIP Signaling Appliances and AS-SIP EIs	Required	5.3.4.7	Not Tested[5]
	SIP Session Keep-Alive Timer	Required	5.3.4.8	Met
	Session Description Protocol	Required	5.3.4.9	Met
	Precedence and Preemption	Required	5.3.4.10	Met
	Video Telephony – General Rules	Required	5.3.4.12	Partially Met[8]
	Calling Services	Required	5.3.4.13	Met
	SIP Translation Requirements for Inter-working AS-SIP Signaling Appliances	Required	5.3.4.14	Met[19]
	Relevant Timers for the Terminating Gateway and the Originating Gateway	Required	5.3.4.15	Not Tested[20]
	SIP Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.16	Met
	Keep-Alive Timer Requirements for Interworking AS-SIP Signaling Appliances	Required	5.3.4.17	Met
	Precedence and Preemption Extensions for Interworking AS-SIP Signaling Appliances	Required	5.3.4.18	Met
	Supplementary Services	Required	5.3.4.19	Met
16	**IPv6 Requirements**			
	Product Requirements	Required	5.3.5.4	Partially Met[8, 21]
17	**NM**			
	LSC Management Function	Required	5.3.2.7.2.6	Met
	VVoIP NMS Interface Requirements	Required	5.3.2.4.4	Met
	General Management requirements	Required	5.3.2.17.2	Met
	Requirement for FCAPS Management	Required	5.3.2.17.3	Met
	NM requirements of Appliance Functions	Required	5.3.2.18	Met
	Accounting Management	Required	5.3.2.19	Partially Met[22]

NOTES:

1. The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (e), Enclosure 3.
2. The SUT does not support a "ping ring" notification. DISA adjudicated this as minor and changed this to optional in UCR 2013.
3. DTR 2 was requested to include the VG350 with Internetwork Operating System (IOS) 15.2(4)M1 as a certified SUT voice gateway in addition to the VG224 with IOS 15.1(4)M2. JITC conducted verification and validation (V&V) testing from 17 through 19 December 2012. JITC testing verified that the VG350 voice gateway with IOS 15.2(4)M1 worked properly as a voice gateway; however, it introduced one new discrepancy. The VG350 gateway crashes when Precedence Call Waiting is invoked subsequently on an analog line. The only affects a precedence call above ROUTINE and is only caused when a second call above ROUTINE is placed to the same line in succession. DISA accepted the vendors PoA&M and adjudicated this as minor.
4. The SUT did not initially support the LSC failover requirements in UCR 2008, Change 2, paragraph 5.3.2.3.2, but demonstrated compliance during DTR 5 testing. DISA NS2 supported a multi-vendor failover test event at JITC from 8 through 19 October 2012 to newly drafted failover requirements in the UCR. The SUT met these new requirements, which DISA has stated will be included in the next version of the UCR (UCR 2013).
5. During the original interoperability test effort, the SUT only supported voice PEIs. The vendor did not support AEIs (voice or video). DISA accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact. During testing for DTR 1, the SUT successfully demonstrated the ability to support the video EIs shown in Table 1. The SUT proprietary video EIs are certified specifically with other certified CUCM Version 8.6.1 LSCs with proprietary video EIs intra-enclave using either IPv4 or IPv6 and inter-enclave using IPv4 only.
6. The SUT gateways equipped with the PVDM3 modules do not support the ITU-T G.723 codec. DISA adjudicated this as minor and changed this to optional in UCR 2013.
7. The SUT softphone with Microsoft Windows Vista and Windows 7 OSs does not allow DSCP tagging per precedence level in accordance with UCR 2008, Change 2, Section 5.3.3.3.2. Microsoft Windows XP is the only OS that supports the five precedence levels. DISA adjudicated this as minor since all voice is queued together in the four-queue model currently used in deployed ASLANs.

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

NOTES (continued):

8. During the original test, the SUT did not offer a video PEI. DTR 1 was requested to include the Cisco proprietary video EIs. The SUT with the Cisco proprietary video EIs met all requirements with the following minor exceptions:

a. The Cisco proprietary video EI does not properly tag IPv6 traffic for call signaling. All IPv6 media packets are tagged properly. Call Signaling packets are tagged at 0 (best effort), with the exception of Registration Admission Status (RAS) signaling packets. In addition the SUT is not able to set the DSCP tag any value 0-63 for these packets as required by the reference.

b. The Cisco proprietary video EI is not able to disable all IPv6 services in the IPv6 stack, only IPv6 media and signaling. In accordance with Reference (c), all nodes and interfaces that are IPv6-capable must be carefully configured and verified that the IPv6 stack is disabled until it is deliberately enabled as part of a deliberate transition strategy

c. When the Cisco proprietary video EI interwork through the VCS, voice and video media packets are retagged at the same DSCP value. This applies to both IPv4 and IPv6 media traffic.

DISA accepted the vendor's PoA&M and adjudicated these three discrepancies as minor.

d. The SUT VCS partially complies with support of IPv6 scoped address architecture. The VCS does not support link-local address. The Office of the DoD CIO provided a waiver of these two IPv6 requirements that have minimal or no impact on interoperability.

9. The SUT Operator Console/Attendant Station was not tested; however the vendor submitted an LoC for the requirements.

10. The SUT met T1 ISDN PRI (ANSI T1.619a and ANSI T1.607), E1 PRI (ITU-T Q.931), and T1 CAS DTMF IWF requirements, which is all of the certified TDM interfaces. The SUT met the E1 PRI (ITU-T Q.955.3) interface requirements during testing for DTR 3.

11. The SUT does not support NFAS on the T1 ISDN PRI interface. Although this is conditional for DSN connectivity, it is required for PSTN connectivity. DISA adjudicated this as minor and stated the intent to change this to conditional in the next version of the UCR (UCR 2013).

12. The SUT met PEI CCA-IWF requirements. The SUT does not support AEIs. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

13. The security requirements are tested by a DISA-led IA test team and published in a separate report, Reference (f).

14. The SUT must meet T1 PRI (T1.619a and NI2) IWF. The T1 CAS and T1 CCS7 IWF requirements are conditional. The SUT met T1 ISDN PRI (ANSI T1.619a and ANSI T1.607), E1 PRI (ITU-T Q.931), and T1 CAS DTMF IWF requirements. The SUT met the E1 PRI (ITU-T Q.955.3) interface requirements during testing for DTR 3.

15. The SUT does not properly handle ITU-T V.150 calls with the Avaya Communication Manager 6.0 and both vendors are working on the problem. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

16. The SUT does not support Commercial Cost Avoidance. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

17. The SUT does not fully comply with Busy Override and Busy Line Verification requirements. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

18. The SUT does not fully comply with attendant console queuing requirements. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

19. The SUT met this requirement with ANSI T1.619a ISDN PRI NI2 DSN and ISDN PRI NI2 PSTN TDM interfaces interworking with AS-SIP. This requirement was met with both testing and the vendor's LoC. The SUT does not support CCS7 TDM interface which is conditional for an LSC.

20. This requirement applies to gateways between AS-SIP and CCS7 links. Because CCS7 is a conditional requirement for LSCs and not supported by the SUT, this requirement was not tested.

21. The vendor submitted an IPv6 LoC with noted discrepancies. The SUT does not support RFCs 4861 and 4862. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

22. The vendor submitted an NM LoC with noted discrepancies. The SUT does not comply with the requirement for the equipment impairment factor to be in accordance with ITU-T G.107. DISA adjudicated this as minor with a vendor POA&M to provide a MOS score. DISA changed this requirement to optional in UCR 2013. The SUT does not have the ability to transfer records to a removable physical storage media. DISA adjudicated this as minor and removed this requirement from UCR 2013.

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

LEGEND:

AEI	AS-SIP End Instrument	MGC	Media Gateway Controller
ANSI	American National Standards Institute	MLPP	Multi-Level Precedence and Preemption
APL	Approved Products List	MOS	Mean Opinion Score
AS	Assured Services	NFAS	Non Facility Associated Signaling
ASAC	Assured Services Admission Control	NI2	National ISDN Standard 2
ASLAN	Assured Services Local Area Network	NM	Network Management
AS-SIP	Assured Services Session Initiation Protocol	NMS	Network Management System
BRI	Basic Rate Interface	OCONUS	Outside the Continental United States
CAS	Channel Associated Signaling	OS	Operating System
CCA	Call Connection Agent	PBAS	Precedence Based Assured Services
CIO	Chief Information Officer	PEI	Proprietary End Instrument
CR	Capability Requirement	POA&M	Plan of Action and Milestones
CCS7	Common Channel Signaling	PRI	Primary Rate Interface
DISA	Defense Information Systems Agency	PSTN	Public Switched Telephone Network
DoD	Department of Defense	PVDM3	Packet Voice Digital Signal Processor Module 3
DSCP	Differentiated Services Code Point	Q.931	Signaling Standard for ISDN
DSN	Defense Switched Network	RFCs	Request for Comments
DSS1	Digital Subscriber Signaling 1	SG	Signaling Gateway
DTMF	Dual Tone Multi-Frequency	SIP	Session Initiation Protocol
DTR	Desktop Review	SS	Softswitch
E1	European Basic Multiplex Rate (2.048 Mbps)	SS7	Signaling System 7
EBC	Edge Boundary Controller	SUT	System Under Test
EI	End Instrument	T1	Digital Transmission Link Level 1 (1.544 Mbps)
FCAPS	Fault, Configuration, Accounting, Performance and Security	T1.607	ISDN – Layer 3 Signaling Specification for Circuit Switched Bearer Service for DSS1
FR	Functional Requirement	T1.619a	SS7 and ISDN MLPP Signaling Standard for T1
IA	Information Assurance	TDM	Time Division Multiplexing
ID	Identification	UC	Unified Capabilities
ISDN	Integrated Services Digital Network	UCR	Unified Capabilities Requirements
IP	Internet Protocol	UFS	User Features and Services
IPv6	Internet Protocol version 6	US	United States
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector	V.150	Modem over Internet Protocol Networks
IWF	Interworking Function	VCS	Video Communications Server
LoC	Letter of Compliance	VoIP	Voice over Internet Protocol
LSC	Local Session Controller	VVoIP	Voice and Video over Internet Protocol
Mbps	Megabits per second	WAN	Wide Area Network
MG	Media Gateway	WWNDP	Worldwide Numbering and Dialing Plan

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). 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: disa.meade.ns.list.unified-capabilities-certification-office@mail.mil.

6. The JITC point of contact is Capt Jonathan Kim, DSN 879-5182, commercial (520) 538-5182, FAX DSN 879-4347, or e-mail to jonathan.s.kim.mil@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The UCCO tracking number for the SUT is 1108301.

FOR THE COMMANDER:

J. T. Schutte

Enclosure a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):
DoD CIO
Joint Staff J-6, JCS
USD(AT&L)
ISG Secretariat, DISA, JTA
U.S. Strategic Command, J665
US Navy, OPNAV N2/N6FP12
US Army, DA-OSA, CIO/G-6 ASA(ALT), SAIS-IOQ
US Air Force, A3CNN/A6CNN
US Marine Corps, MARCORSYSCOM, SIAT, A&CE Division
US Coast Guard, CG-64
DISA/TEMC
DIA, Office of the Acquisition Executive
NSG Interoperability Assessment Team
DOT&E, Netcentric Systems and Naval Warfare
Medical Health Systems, JMIS IV&V
HQUSAISEC, AMSEL-IE-IS
UCCO

ADDITIONAL REFERENCES

(c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 2," December 2010
(d) Joint Interoperability Test Command, "Unified Capabilities Test Plan (UCTP)," Draft
(e) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of the Cisco Unified Communications Manager (CUCM) Version 8.6.1," 6 September 2012
(f) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Cisco Unified Communications Manager (CUCM), Version 8.6.1, (TN 1108301)," Draft