DEFENSE INFORMATION SYSTEMS AGENCY
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IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **30 Jul 13**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Test Certification of Cisco TelePresence C series, EX series, and MX series Video Codecs with Software version TC 6.1.0, the ISDN Link with version IL1.1, and Video Communication Server (VCS) from version X7.1 to X7.2.2

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) Department of Defense Instruction 8100.04, "DoD Unified Capabilities (UC)," 9 December 2010
(c) through (g), 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 Cisco TelePresence C90, C60, and C40 with Software Version TC5.0.2, and ISDN Link with version IL1.0.0, and VCS with version X7.1 is hereinafter referred to as the System Under Test (SUT). The Quickset C20, EX90, EX60, MX200, MX300 Series Codecs 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. The SUT meets all of its critical interface and functional interoperability requirements and is certified for joint use within the Defense Information Systems Network (DISN) as a Video Teleconferencing Unit (VTU). The SUT met the conditional requirements for an Internet Protocol (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 an IP interface with the ITU-T H.323 protocol. The SUT meets the critical interoperability requirements set forth in Reference (c) using test procedures derived from Reference (d). 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 original Unified Capabilities (UC) Approved Products List (APL) memorandum (8 November 2012).

3. The extension of this certification is based upon Desktop Review (DTR) 5. 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 test discrepancy reports (TDRs), and DISA Certifying Authority (CA) Recommendation. Interoperability testing was conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona, from 21 May through 8 June 2012. Review of the vendor's LoC was completed on 1 November 2012. DISA adjudication of outstanding TDRs was completed on 1 November 2012 and the IPv6 deficiencies were adjudicated as minor. The DISA CA provided a positive recommendation on 21 September 2012 based on the security testing completed by DISA-led Information Assurance (IA) test teams and published in a separate report, Reference (g). This DTR was requested to update the VCS from version X7.1 to X7.2.2. This software version includes IA fixes and performance enhancements. JITC analysis determined these IA fixes and performance enhancements will have no negative impact on the interoperability certified features and functions. Therefore, JITC approves these DTRs without further interoperability testing. Additionally, the DISA CA has approved these DTRs without further testing. Therefore, the original IA approval applies to these DTRs.

4. The UC APL product Summary is depicted in Table 1. The Functional Requirements (FR) used to evaluate the interoperability of the SUT, certified interfaces and the interoperability statuses are indicated in Table 2.

**Table 1. UC APL Product Summary**

| Hardware (See note 1.) | Software |
|---|---|
| **Cisco Telepresence C90, C60, C40**, Quickset C20,<br>EX90, EX60<br>MX200, MX300<br>SX20, VX Tactical, VX Clinical Assistant (See note 2.) | TC6.1.0 (See note 3.) |
| **ISDN Link Gateway** | IL1.0.0.287829 (See note 4.) |
| **VCS** | X7.2.2 (See note 5.) |

**NOTES:**
1. 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.
2. The SX20, VX Tactical, VX Clinical Assistant codecs were included with DTR 4.
3. The SUT was updated from Release TC5.0.2.282462 to TC6.1.0 with DTR 2.
4. The SUT ISDN Link was updated from version IL1.0.0 to IL1.1 with DTR 3.
5. The SUT VCS was updated from Release X7.1 to X7.2.2 with DTR 5.

**LEGEND:**

| | | | |
|---|---|---|---|
| APL | Approved Products List | UC | Unified Capabilities |
| DTR | Desktop Review | VCS | Video Communication Server |

## Table 2. SUT FRs and Interoperability Status

| Interface | Critical | Certified | Requirements Required or Conditional | Status | UCR Reference (See note 1.) |
|---|---|---|---|---|---|
| IP (10/100/1000 Mbps) ITU-T H.323 | No (See note 2.) | Yes (See note 3.) | The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. (R) | Met | 5.2.4.2 |
| | | | ITU-T H.323 in accordance with FTR 1080B-2002. (C) | Met | 5.2.4.2 |
| | | | Layer 3 DSCP tagging as specified in the UCR, Section 5.3.1. (C) | Partially Met (See note 4.) | 5.2.4.2 |
| | | | 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 | 5.2.4.2 |
| | | | Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.3. (C) | Met | 5.2.4.2 |
| | | | Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R) | Met | 5.2.4.2 |
| | | | VTC IP interface must be IPv6 capable and meet the Simple Server/Network Appliance IPv6 profile (R) | Met (See notes 5, 6.) | 5.3.5 |
| ISDN PRI T1/E1 (See note 7.) | No (See note 2.) | Yes (See notes 7, 8.) | The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. (R) | Met | 5.2.4.2 |
| | | | 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 | 5.2.4.2 |
| | | | Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.3. (C) | Met | 5.2.4.2 |
| | | | Integrated PRI interface shall be in conformance with IAS requirements in the UCR, Section 5.2.6. (C) | Met | 5.2.4.2 |
| | | | Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R) | Met | 5.2.4.2 |
| ISDN BRI | No (See note 2.) | Yes (See note 8.) | The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. (R) | Met | 5.2.4.2 |
| | | | 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 | 5.2.4.2 |
| | | | Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.3. (C) | Met | 5.2.4.2 |
| | | | Integrated BRI interface shall be in conformance with IAS requirements in the UCR, Section 5.2.3.2.4 (C) | Met | 5.2.4.2 |
| | | | Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R) | Met | 5.2.4.2 |
| Serial (ITU-T V.35, EIA-530, EIA-449, EIA-366) | Yes | Yes (See note 8.) | The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. (R) | Met | 5.2.4.2 |
| | | | 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 | 5.2.4.2 |
| | | | Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.3. (C) | Met | 5.2.4.2 |
| | | | A VTC system and/or end point that uses a serial interface(s) to another device, such as a cryptographic device, IAS, or TA, for eventual connection to the DSN, shall be in conformance with the requirements for that serial interface(s) as described in FTR 1080B-2002. (C) | Met | 5.2.4.2 |
| | | | Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R) | Met | 5.2.4.2 |
| Security | Yes | Yes | GR-815 and STIGs (R) | Met (See note 9.) | 4.3.1 and 5.4.6.1 |

**Table 2. SUT FRs and Interoperability Status (continued)**

**NOTES:**
1. The IPv6 and Information Assurance requirements were derived from the UCR 2008, Change 3. All other requirements were derived from the UCR 2008, Change 1.
2. The VTC system interface requirements can be met with ISDN PRI, Serial, or ISDN BRI. In addition the SUT may include an IP ITU-T H.323 conditional interface.
3. 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.
4. The SUT does not tag IPv6 traffic correctly for call signaling per the reference. 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. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
5. The SUT codecs are capable of supporting IPv4 or IPv6 independently, but in order for the SUT codecs to support IPv4 and IPv6 dual stack operations, the Cisco VCS is required.
6. The SUT is not able to disable all IPv6 services in the IPv6 stack, only media and signaling. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
7. Video freezes when the ITU-T H.320 to ITU-T H.323 video call is placed via the E1 interface on the TelePresence ISDN Link. This is a known defect that the vendor is working to resolve. DISA adjudicated this as critical for the interface; therefore, the E1 PRI interface is not certified. This is not a critical interface for the SUT.
8. The ISDN PRI, ISDN BRI, and serial interfaces require the TelePresence ISDN Link.
9. Security is tested by DISA-led Information Assurance test teams and published in a separate report, Reference (g).

**LEGEND:**

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|---|---|
| BRI | Basic Rate Interface |
| C | Conditional |
| C2 | Command and Control |
| DCE | Data Circuit-Terminating Equipment |
| DISA | Defense Information Systems Agency |
| DSCP | Differentiated Services Code Point |
| DSN | Defense Switched Network |
| DTE | Data Terminal Equipment |
| E1 | European Basic Multiplex Rate (2.048 Mbps) |
| EIA | Electronic Industries Alliance |
| EIA-366 | Standard for interface between DTE and automatic calling equipment for data communication |
| EIA-449 | Standard for 37-position and 9-position interface for DTE and DCE employing serial binary data interchange |
| EIA-530 | Standard for 25-position interface for DTE and DCE employing serial binary data interchange |
| FRs | Functional Requirements |
| FTR | Federal Telecommunications Recommendation |
| GR | Generic Requirement |
| GR-815 | Generic Requirements For Network Element/Network System (NE/NS) Security |
| H.320 | Standard for narrowband VTC |
| H.323 | Standard for multi-media communications on packet-based networks |
| IAS | Integrated Access Switch |
| IP | Internet Protocol |
| IPv4 | Internet Protocol version 4 |
| IPv6 | Internet Protocol version 6 |
| ISDN | Integrated Services Digital Network |
| ITU-T | International Telecommunication Union – Telecommunication Standardization Sector |
| kbps | kilobits per second |
| kHz | kiloHertz |
| Mbps | Megabits per seconds |
| PRI | Primary Rate Interface |
| POA&M | Plan of Action and Milestones |
| R | Required |
| STIGs | Security Technical Implementation Guides |
| SUT | System Under Test |
| T1 | Digital Transmission Link Level 1 (1.544 Mbps) |
| UCR | Unified Capabilities Requirements |
| V.35 | Standard for data transmission at 48 kbps using 60-108 kHz group band circuits |
| VCS | Video Communication Server |
| VTC | Video Teleconferencing |

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). 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). 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. All associated data is available on the DISA UCCO website located at website located at http://www.disa.mil/Services/Network-Services/UCCO.

6. The JITC point of contact is Mr. Dale Fulton, DSN 879-0507, commercial (520) 538-0507, FAX DSN 879-4347, or e-mail to dale.h.fulton.civ@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The UCCO tracking number for the SUT is 1127303.

FOR THE COMMANDER:

Enclosure a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

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UCCO

## ADDITIONAL REFERENCES


(c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010

(d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006

(e) Joint Interoperability Test Command, Memo, JTE, "Joint Interoperability Test Certification of Cisco TelePresence C series, EX series, and MX series Video Codecs with Software version TC5.0.2, the Integrated Services Digital Network (ISDN) Link with version IL1.0.0, and Video Communication Server (VCS) with version X7.1," 11 December 2012

(f) Office of the Department of Defense Chief Information Officer, "Department of Defense Unified Capabilities Requirements 2008 Change 3," 11 September 2011

(g) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Cisco TelePresence Codec C90 Release (Rel.) TC5.0.2 (Tracking Number 1127303)," 17 September 2012