



DEFENSE INFORMATION SYSTEMS AGENCY

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

13 June 2018

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Certification of the TEO Technologies 78XX, 4104, and 4101 with Software Release xx.04.24

References: (a) Department of Defense Instruction 8100.04, "DoD Unified Capabilities (UC)," 9 December 2010
(b) Office of the Department of Defense Chief Information Officer, "Department of Defense Unified Capabilities Requirements 2013 (UCR 2013) Change 1," June 2015
(c) through (e), see Enclosure

1. **Certification Authority.** Reference (a) establishes the Joint Interoperability Test Command (JITC) as the Joint Interoperability Certification Authority (CA) for the Department of Defense Information Network (DoDIN) products, Reference (b).

2. **Conditions of Certification.** The TEO Technologies 78XX, 4104, and 4101 with Software Release xx.04.24, hereinafter referred to as the System Under Test (SUT), is certified for joint use as a voice only, non-secure Assured Services Session Initiation Protocol (AS-SIP) End Instrument (EI) (AEI). The SUT meets the critical requirements of the Unified Capabilities Requirements, Reference (b), and is certified for joint use as a voice only, non-secure AEI with the conditions described in Table 1.

The SUT was tested and is certified for use specifically with:

- REDCOM High Density Exchange (HDX) and REDCOM SLICE 2100 Releases 4.0AR5P0 Local Session Controllers (LSCs)
- REDCOM Sigma® Core Release 2.0.3 LSC
- NEC UNIVERGE 3C Release 8.6.1.14_P3 LSC
- Avaya Aura® Application Server (AS)5300 Release 3.0 Service Pack (SP)14.1 Enterprise Session Controllers (ESCs)
- Genband Inc. EXPERiUS 11.2 ESC
- Unify OpenScape Voice (OSV) version (V) 9R1.22.04 LSCs

In addition, the SUT is also certified with subsequent, certified versions of the LSCs and ESCs listed above and on the DoDIN Approved Products List (APL). This certification expires upon changes that affect interoperability, but no later than the expiration date specified in the DoDIN APL memorandum.

This extension of the certification is for Desktop Review (DTR) 9. DTR 9 was requested to update the software release from xx.04.23 to xx.04.24. This new release was developed to fix an anomaly documented in an interoperability Test Discrepancy Report (TDR) TEO-0336-010 (Duration calls between the SUT and Cisco's Expressway Jabber lose one-way audio after 15 minutes) and address a commercial bug fix where call hold fails to function immediately following a dialed 911 call. See Paragraph 4 for test details.

Table 1. Conditions

Condition	Operational Impact	Remarks																												
UCR Waivers																														
None.																														
Conditions of Fielding																														
None.																														
Open Test Discrepancies																														
Per the vendor's LoC, the SUT did not support DHCPv6. This discrepancy was resolved and successfully tested with DTR 2, which included Release xx.04.20.	None	CLOSED																												
During testing for DTR 1, the SUT did not support Layer 2 internal CoS (p-bit) for signaling prioritization. This discrepancy was resolved and successfully tested with DTR 2, which included Release xx.04.20.	None	CLOSED																												
During testing for DTR 4, the SUT did not class mark an unattended transfer at the highest precedence of the two call legs. This discrepancy was resolved and successfully tested with DTR 8, which included Release xx.04.23.	None	CLOSED																												
During testing for DTR 5, the SUT did not send a ROUTINE RPH when first leg was dialed without a "9x" in an explicit attended call transfer. This discrepancy was resolved and successfully tested with DTR 8, which included Release xx.04.23.	None	CLOSED																												
During testing for DTR 8, duration calls with loss of one-way audio occurred between the Expressway Jabber client and the SUT on the following Session Controllers: Redcom Slice LSC, Redcom HDX LSC, Redcom Sigma Core LSC, NEC LSC, Unify LSC, Genband ESC, Avaya AS5300 ESC. This discrepancy was resolved and successfully tested via DTR 9, which included Release xx.04.24.	None	CLOSED																												
During testing for DTR 9, Implicit or Explicit Attended Call Transfers with the SUT result in one-way audio after the transfer (the Transfer TG can't Hear the Transfer EE). This scenario occurs when the Transfer OR is on another session controller (SC) and the Transfer EE and Transfer TG are on the same SC.	Minor with POA&M	See note.																												
<p>NOTE(S): DISA accepted the vendor POA&M and adjudicated this discrepancy as minor.</p> <p>LEGEND:</p> <table border="0"> <tr> <td>CoS</td> <td>Class of Service</td> <td>LSC</td> <td>Local Session Controller</td> </tr> <tr> <td>DHCPv6</td> <td>Dynamic Host Control Protocol version 6</td> <td>OR</td> <td>Origination</td> </tr> <tr> <td>DISA</td> <td>Defense Information Systems Agency</td> <td>POA&M</td> <td>Plan of Action and Milestones</td> </tr> <tr> <td>DTR</td> <td>Desktop Review</td> <td>RPH</td> <td>Resource Priority Header</td> </tr> <tr> <td>ESC</td> <td>Enterprise Session Controller</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>HDX</td> <td>High Density Exchange</td> <td>TG</td> <td>Target</td> </tr> <tr> <td>LoC</td> <td>Letters of Compliance</td> <td>UCR</td> <td>Unified Capabilities Requirements</td> </tr> </table>			CoS	Class of Service	LSC	Local Session Controller	DHCPv6	Dynamic Host Control Protocol version 6	OR	Origination	DISA	Defense Information Systems Agency	POA&M	Plan of Action and Milestones	DTR	Desktop Review	RPH	Resource Priority Header	ESC	Enterprise Session Controller	SUT	System Under Test	HDX	High Density Exchange	TG	Target	LoC	Letters of Compliance	UCR	Unified Capabilities Requirements
CoS	Class of Service	LSC	Local Session Controller																											
DHCPv6	Dynamic Host Control Protocol version 6	OR	Origination																											
DISA	Defense Information Systems Agency	POA&M	Plan of Action and Milestones																											
DTR	Desktop Review	RPH	Resource Priority Header																											
ESC	Enterprise Session Controller	SUT	System Under Test																											
HDX	High Density Exchange	TG	Target																											
LoC	Letters of Compliance	UCR	Unified Capabilities Requirements																											

3. Interoperability Status. Table 2 provides the SUT interface interoperability status, Table 3 provides the Capability Requirements and Functional Requirements status and Table 4 provides a DoDIN APL product summary, to include all subsequent SUT DTR updates.

Table 2. End Instrument Interface Status

Interface (See note.)	Applicability	Status	Remarks														
Voice EIs																	
10Base-X	Required	Met	The SUT met the CRs and FRs for the IEEE 802.3i interface.														
100Base-X	Required	Met	The SUT met the CRs and FRs for the IEEE 802.3u interface.														
1000Base-X	Conditional	Not Tested	The SUT does not support this conditional interface.														
10GBase-X	Conditional	Not Tested	The SUT does not support this conditional interface.														
Video EIs																	
10Base-X	Required	Not Tested	Not applicable. The SUT is a voice only AEI.														
100Base-X	Required	Not Tested	Not applicable. The SUT is a voice only AEI.														
1000Base-X	Conditional	Not Tested	The SUT does not support this conditional interface.														
10GBase-X	Conditional	Not Tested	The SUT does not support this conditional interface.														
<p>NOTE(S): The SUT high-level requirements are depicted in Table 3. These high-level requirements refer to a more detailed list of requirements provided in Reference (c), Enclosure 3.</p> <p>LEGEND:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">802.3i 10BaseT 10 Mbps Ethernet over Twisted Pair</td> <td style="width: 50%;">EI End Instrument</td> </tr> <tr> <td>802.3u Fast Ethernet at 100 Mbps, copper and Fiber</td> <td>FR Functional Requirement</td> </tr> <tr> <td>AEI AS-SIP End Instrument</td> <td>G Gigabits</td> </tr> <tr> <td>AS-SIP Assured Services Session Initiation Protocol</td> <td>GBase-X Gigabit Ethernet over Fiber or Copper</td> </tr> <tr> <td>BaseT Megabit (Baseband Operation, Twisted Pair) Ethernet</td> <td>IEEE Institute of Electrical and Electronics Engineers</td> </tr> <tr> <td>Base-X Megabit (Baseband Operation, Twisted Pair) Ethernet</td> <td>Mbps Megabits per second</td> </tr> <tr> <td>CR Capability Requirement</td> <td>SUT System Under Test</td> </tr> </table>				802.3i 10BaseT 10 Mbps Ethernet over Twisted Pair	EI End Instrument	802.3u Fast Ethernet at 100 Mbps, copper and Fiber	FR Functional Requirement	AEI AS-SIP End Instrument	G Gigabits	AS-SIP Assured Services Session Initiation Protocol	GBase-X Gigabit Ethernet over Fiber or Copper	BaseT Megabit (Baseband Operation, Twisted Pair) Ethernet	IEEE Institute of Electrical and Electronics Engineers	Base-X Megabit (Baseband Operation, Twisted Pair) Ethernet	Mbps Megabits per second	CR Capability Requirement	SUT System Under Test
802.3i 10BaseT 10 Mbps Ethernet over Twisted Pair	EI End Instrument																
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CR Capability Requirement	SUT System Under Test																

Table 3. EI Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (High-Level) (See note 1.)	UCR 2013 Change 1 Reference	EI Applicability	Status
1	IP Voice End Instruments	2.9.1	AEI (R) PEI (R)	Met (See note 2.)
2	Analog and ISDN BRI Telephone Support	2.9.2	EI (R)	Not Tested (See note 3.)
3	Video EI	2.9.3	AEI (R) PEI (R)	Not Tested (See note 3.)
4	Authentication to SC	2.9.4	AEI (R) PEI (R)	Met
5	EI to ASLAN Interface	2.9.5	AEI (R) PEI (R)	Met
6	Operational Framework for AEIs and Video EIs	2.9.6	AEI (R) AS-SIP Voice EI (R) AS-SIP Secure Voice EI (R) AS-SIP Video EI (R)	Met
7	Multiple Call Appearance Requirements for AS-SIP EIs	2.9.7	AS-SIP Voice EI (R) AS-SIP Secure Voice EI (R)	Met
8	PEIs, AEIs, TAs, and IADs Using the V.150.1 Protocol	2.9.8	AEI (O) Secure AEI (R) PEI (O)	Not Tested (See note 4.)
9	ROEIs	2.9.10	ROEI (R) non-ROEI (R)	Not Tested
10	IPv6	Section 5	All IP EI (R)	Met (See note 5.)
11	Cybersecurity	Section 4	All EI (R)	Met (See note 2.)
12	CoS Markings	7.2.1.3 d.	IP EI with shared access (R)	Met (See note 6.)
13	Call Transfer	2.2.4	PEI, AEI, SC, SS (R)	Met (See note 7.)
14	Call Duration	2.2	PEI, AEI, SC, SS	Partially Met (See note 8)

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

NOTE(S):			
1. The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (c), Enclosure 3.			
2. CS requirements in UCR 2013, Change 1, Section 4, are met by the vendor's LoC. In addition, JITC-led CS test teams conducted CS testing and published the results in a separate report, Reference (d).			
3. The SUT is a voice only AEI. Therefore, the video, secure voice, and ROEI requirements do not apply.			
4. Non-secure AEI phones do not use V.150.1. V.150.1 is used exclusively with TAs, IADs, and secure AEI phones. This requirement was changed to Optional for AEIs/PEIs with UCR 2013 Change 1, and the SUT does not support this Optional requirement.			
5. During the original test, the SUT did not support DHCPv6. This discrepancy was resolved and successfully tested with Release xx.04.20 under DTR 2.			
6. During testing for DTR 1, the SUT did not support Layer 2 internal CoS (p-bit) for signaling prioritization. This discrepancy was resolved and successfully tested with Release xx.04.20 under DTR 2.			
7. During testing for DTR 4, the SUT EI did not class mark an unattended transfer at the highest precedence of the two call legs and during testing for DTR 5, the SUT EI did not send a ROUTINE RPH when first leg was dialed without a "9x" in an explicit attended call transfer. These discrepancies were resolved and successfully tested with Release xx.04.23 under DTR 8.			
8. During out-of-cycle testing, the SUT met the duration call requirements in accordance with UCR Section 2.2 (Requirement ID number SCM-000015) with the following exceptions: Duration calls with loss of one-way audio occurred between the Expressway Jabber client and the SUT on the following Session Controllers: Redcom Slice LSC, Redcom HDX LSC, Redcom Sigma Core LSC, NEC LSC, Unify LSC, Genband ESC, and Avaya AS5300 ESC. This discrepancy was resolved and successfully tested with DTR 9 with Release xx.04.24.			
LEGEND:			
AEI	AS-SIP End Instrument	IPv6	Internet Protocol version 6
AS	Application Server	ISDN	Integrated Services Defense Network
AS-SIP	Assured Services Session Initiation Protocol	JITC	Joint Interoperability Test Command
ASLAN	Assured Services Local Area Network	LoC	Letters of Compliance
BRI	Basic Rate Interface	LSC	Local Session Controller
CoS	Class of Service	O	Optional
CR	Capability Requirement	PEI	Proprietary End Instrument
CS	Cybersecurity	R	Required
DHCPv6	Dynamic Host Control Protocol version 6	ROEI	ROUTINE Only End Instrument
DTR	Desktop Review	RPH	Resource Priority Header
EI	End Instrument	SC	Session Controller
ESC	Enterprise Session Controller	SS	Softswitch
FR	Functional Requirement	SUT	System Under Test
IAD	Integrated Access Device	TA	Terminal Adapter
ID	Identification	UCR	Unified Capabilities Requirements
IP	Internet Protocol		

Table 4. DoDIN APL Product Summary

Product Identification			
Product Name	TEO		
Software Release	xx.04.24 (See notes 1, 2, and 3.)		
DoDIN Product Type(s)	AEI		
Product Description	The SUT is a voice only, non-secure AEI.		
Product Components (See note 4.)	Component Name (See note 5.)	Version	Remarks
AEI	7810	05.04.24 (See note 1.)	This model is certified with or without the optional 8030x 30-button expander.
AEI	7810-TSG	05.04.24 (See note 1.)	
AEI	7810-PoE-TSGA	05.04.24 (See note 1.)	
AEI	7810-PoE-TSGB	05.04.24 (See note 1.)	
AEI	4101	07.04.24 (See note 2.)	
AEI	4104	06.04.24 (See note 3.)	

Table 4. DoDIN APL Product Summary (continued)

NOTE(S):			
1. The TEO 7810 Software Release was updated as follows:			
<ul style="list-style-type: none"> • From 05.04.13 to 05.04.18 with DTR 1. • From 05.04.18 to 05.04.20 with DTR 2. • From 05.04.20 to 05.04.21 with DTR 3. • From 05.04.21 to 05.04.22 with DTR 4. • From 05.04.22 to 05.04.23 with DTR 8. • From 05.04.23 to 05.04.24 with DTR 9. 			
2. The TEO 4101 Software Release was updated as follows:			
<ul style="list-style-type: none"> • From 07.04.13 to 07.04.18 with DTR 1. • From 07.04.18 to 07.04.20 with DTR 2. • From 07.04.20 to 07.04.21 with DTR 3. • From 07.04.21 to 07.04.22 with DTR 4. • From 07.04.22 to 07.04.23 with DTR 8. • From 07.04.23 to 07.04.24 with DTR 9. 			
3. The TEO 4104 Software Release was updated as follows:			
<ul style="list-style-type: none"> • From 06.04.13 to 06.04.18 with DTR 1. • From 06.04.18 to 06.04.20 with DTR 2. • From 06.04.20 to 06.04.21 with DTR 3. • From 06.04.21 to 06.04.22 with DTR 4. • From 06.04.22 to 06.04.23 with DTR 8. • From 06.04.23 to 06.04.24 with DTR 9. 			
4. The detailed component and subcomponent list is provided in Reference (c), Enclosure 3.			
5. Components bolded and underlined were tested by JITC. The other components in the family series were not tested; however, JITC certified the other components for joint use because they utilize the same software and similar hardware as tested components and JITC analysis determined they were functionally identical for interoperability certification purposes.			
LEGEND:			
AEI	AS-SIP End Instrument	JITC	Joint Interoperability Test Command
APL	Approved Products List	PoE	Power over Ethernet
AS-SIP	Assured Services Session Initiation Protocol	SUT	System Under Test
DoDIN	Department of Defense Information Network	TSG	Telephone Security Group
DTR	Desktop Review		

4. Test Details. This extension of the certification is based on DTR 9. The original certification, documented in Reference (c), was based on interoperability (IO) testing, review of the vendor’s Letters of Compliance (LoC), Defense Information Systems Agency (DISA) adjudication of open TDRs, and DISA CA Recommendation for inclusion on the DoDIN APL. Conducted IO testing at JITC’s Global Information Grid Network Test Facility at Fort Huachuca, Arizona, from 2 through 12 April 2013, with the REDCOM HDX LSC, and from 22 July through 13 September 2013, with the NEC UNIVERGE LSC, using test procedures derived from Reference (e). Completed review of the vendor’s LoC on 21 October 2013. DISA adjudicated outstanding TDRs on 1 November 2013. JITC-led Cybersecurity (CS) test teams conducted CS testing and published the results in a separate report, Reference (d).

DTR 9 was requested to update the software release from xx.04.23 to xx.04.24. This new release was developed to fix an anomaly documented in an interoperability TDR (TEO-0336-010) (Duration calls between the SUT and Cisco's Expressway Jabber lose one-way audio after 15 minutes) and address a commercial bug fix where call hold fails to function immediately following a dialed 911 call. JITC reviewed the DTR documentation and vendor release notes and determined that IO Verification and Validation (V&V) testing was required for this software update. No additional CS testing was required for this DTR because the DISA/Approved Products Certification Office (APCO) concurred that there was no change in the CS posture of the SUT with this software update; therefore, the original CS approval applies to this DTR.

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the TEO Technologies 78XX, 4104, and 4101 with Software Release xx.04.24

JITC conducted multi-vendor IO V&V testing between the SUT and the following Session Controllers and their respective EIs at JITC's Global Information Grid Network Test Facility from 9 April through 25 April 2018:

- REDCOM HDX and REDCOM SLICE 2100 Releases 4.0AR5P0 LSCs
- REDCOM Sigma® Core Release 2.0.3 LSC
- NEC UNIVERGE 3C Release 8.6.1.14_P3 LSC
- Avaya Aura® AS5300 Release 3.0 SP14.1 ESCs
- Genband Inc. EXPERiUS 11.2 ESC
- Unify OSV V9R1.22.04 LSCs

Testing verified the commercial bug fix with Release xx.04.24 resolved the anomaly where call hold fails to function immediately following a dialed 911 call and therefore closed the corresponding TDR (TEO-0336-010), as noted in Table 1. The IO V&V testing generated a new TDR (TEO-0336-011): Implicit or Explicit Attended Call Transfers with the SUT result in one-way audio after the transfer (the Transfer Target (TG) could not Hear the Transfer EE). This scenario occurs when the Transfer Origination (OR) is on another SC and the Transfer EE and Transfer TG are on the same SC. DISA accepted the vendor's Plan of Action and Milestones and adjudicated this discrepancy as minor, also noted in Table 1; therefore, JITC approves this DTR.

5. Additional Information. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Sensitive but Unclassified Internet Protocol Data (formerly known as NIPRNet) e-mail. Interoperability status information is available via the JITC System Tracking Program (STP). STP is accessible by .mil/.gov users at <https://stp.fhu.disa.mil/>. Test reports, lessons learned, and related testing documents and references are on the JITC Industry Toolkit (JIT) at <https://jit.fhu.disa.mil/>. Due to the sensitivity of the information, the CS Assessment Package (CAP) that contains the approved configuration and deployment guide must be requested directly from the APCO via e-mail: disa.meade.ie.list.approved-products-certification-office@mail.mil. All associated information is available on the DISA APCO website located at <http://www.disa.mil/Network-Services/UCCO>.

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the TEO Technologies 78XX, 4104, and 4101 with Software Release xx.04.24

6. Point of Contact (POC). JITC POC: Ms. Kathleen Kendall; commercial telephone (520) 538-0507; DSN telephone 879-0507; FAX DSN 879-4347; e-mail address: kathleen.a.kendall2.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE (Ms. Kathleen Kendall), P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The APCO tracking number for the SUT is 1310601.

FOR THE COMMANDER:

Enclosure a/s

for RIC HARRISON
Chief
Networks/Communications &
DoDIN Capabilities Division

Distribution (electronic mail):

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NSG Interoperability Assessment Team
DOT&E, Netcentric Systems and Naval Warfare
Medical Health Systems, JMIS IV&V
HQUSAISEC, ELIE-ISE-ME
APCO

ADDITIONAL REFERENCES

- (c) Joint Interoperability Test Command, Memo, JTE, "Joint Interoperability Certification of the TEO Technologies 78XX, 4104, and 4101 with Software Release xx.04.13," 7 November 2013
- (d) Joint Interoperability Test Command, "Information Assurance Assessment Report For TEO Internet Protocol (IP) Telephones 78xx, 4104, 4101, Release xx.04.24 Tracking Number (TN) 1310601," April 2018
- (e) Joint Interoperability Test Command, "Session Controller (SC) Test Procedures for Unified Capabilities Requirements (UCR) 2013," Draft