DEFENSE INFORMATION SYSTEMS AGENCY
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IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **22 July 09**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of Veraz DTX-600 Release JITC022.1 with the ION SA5600 Release 1.2 and ION Proactive Remote Integrated Intelligent Secure Management Solution (PRIISMS) Release 2.7

References: (a) DOD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006
(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. Veraz DTX-600 Release JITC022.1 with ION SA5600 Release 1.2 and ION PRIISMS Release 2.7 is hereinafter referred to as the System Under Test (SUT). The SUT meets all of its critical interoperability requirements and is certified as interoperable for joint use within the Defense Switched Network (DSN) as a Strategic Network Element. Test discrepancies that remain open are discussed in the SUT Interoperability Status and have only minor operational impacts. The SUT is deployed with its mated pair, and both must be loaded with the same certified JITC022.1 software release in order to interoperate correctly. No other configurations, features, or functions, except those cited within this report, are certified by the JITC, or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of the original memorandum (28 October 2008).

3. The extension of this certification is based upon a desktop review. The original certification is based on testing conducted by JITC and review of vendor's Letters of Compliance (LoC). Testing of the DTX-600 with Software Release JITC022 was conducted at JITC's Global Information Grid Network Test Facility at Fort Huachuca, Arizona, from 17 October through 4 November 2005. Review of the vendor's LoC was completed on 23 November 2005. The certification was placed on hold pending Information Assurance (IA) posture. Information Assurance verification was conducted by a DISA-led team. The accredited IA solution for the DTX-600 included the addition of the ION PRIISMS secure access gateway and ION SA5600 secure appliance. Interoperability verification of the ION PRIISMS and IO SA5600 with the DTX-600 was conducted from 11 July through 15 August 2008. The final interoperability

testing was conducted on patch release JITC022.1, which was developed to fix a service-affecting anomaly, was completed on 5 September 2008 and documented in reference (c). A desktop review number one (DTR#1) was requested to update the release to JITC022.2 which includes Telnet and Hyper-Text Transfer Protocol (HTTP) support in Veraz DTX-600. It was determined without further testing that there was no risk to the DSN to include these protocols. The desktop review request was approved on 9 April 2009. DSAWG accreditation was granted on 16 June 2009.

4. The interoperability status of the SUT is indicated in Table 1. The user-validated critical interfaces and Capability Requirements (CRs) used to evaluate the interoperability status are listed in Table 2. The interoperability test status is based on the SUT's ability to meet:

a. DSN services for Network and Applications specified in reference (d).

b. Network Element CRs specified in reference (e) verified through JITC testing.

c. The overall system requirements are derived from reference (e). The user-defined (DISA) critical interfaces with associated interface CRs derived from test procedures listed in reference (f) and the overall system interoperability performance derived from test procedures listed in reference (g).

Table 1. SUT Interoperability Status

	Input/Output Interfaces			
	Interface & Signaling[1]	**Critical**	**Status**	**Remarks**
DSN	PCM-24 T1 CAS DTMF	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-24 T1 CAS MFR1	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-24 T1 CAS DP	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-24 T1 SS7	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-24 T1 ISDN PRI	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-30 E1 CAS MFR1	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].
	PCM-30 E1 SS7	Yes	Certified	Met all critical CRs with the following minor exceptions: EtEC does not work for AMI line coding. EtEC does not work for a-law/mu-law conversions. STE FNBDT rekey[2]. Reset of node with remap[3].

Table 1. SUT Interoperability Status (continued)

DSN (continued)	**Network Management Interfaces**			
	Interface & Protocol[4]	**Critical**	**Status**	**Remarks**
	CAT 5 TPC 10BaseT Ethernet, TCP/IP	Yes	Certified	Met all critical CRs.
	TPC EIA-232 Async Ethernet, TCP/IP	Yes	Certified	Met all critical CRs.
	Congestion Control Interface			
	Interface[5]	**Critical**	**Status**	**Remarks**
	2-Wire TPC	Yes	Certified	Met all critical CRs.
DISN Transport (ATM)	**Trunk Interfaces**			
	Interface & Line Coding[6]	**Critical**	**Status**	**Remarks**
	PCM-24 T1 B8ZS/ESF or AMI/SF	Yes	Certified	Met all critical CRs.
	PCM-30 E1 HDB3	Yes	Certified	Met all critical CRs.
DISN Transport (Promina/ IDNX)	**Trunk Interfaces**			
	Interface & Line Coding[6]	**Critical**	**Status**	**Remarks**
	PCM-24 T1 B8ZS/ESF or AMI/SF	Yes	Certified	Met all critical CRs.
	PCM-30 E1 HDB3	Yes	Certified	Met all critical CRs.
	Security	Yes	See note 7.	See note 7.

NOTES:
1 Requirements for connectivity to the DSN are specified as physical interface and type of signaling in accordance with the GSCR.
2 When a STE FNBDT rekey is placed over the SUT network, it will fail if both FNBDT signaling and STU modem signaling are enabled on the STE. The SUT will support STE FNBDT rekey if either FNBDT signaling or STU modem signaling is disabled. The operational impact is minor.
3 When a reconfiguration of the SUT "map" occurs (e.g., add/delete channels, change compression/uncompression capability, etc.), a reset of the node is required. The reset results in a 100 percent outage of all T1s and E1s for approximately 15-90 seconds until the reset is completed. Remapping to apply changes must be scheduled during off peak hours to mitigate the operational impact.
4 For Network Management interfaces, DISA requirements are specified to the protocol level.
5 The Congestion Control Interface is specified to the electrical interface in accordance with the GSCR.
6 For DISN Transport, requirements are specified only as physical interfaces and line coding. For DCME such as the SUT, DISN Transport devices pass the entire T1/E1 and are oblivious to the type of signaling.
7 DITSCAP information assurance testing is accomplished via DISA-led Information Assurance test teams and published in a separate report.

Table 1. SUT Interoperability Status (continued)

LEGEND:

10BaseT	10 Mbps (Baseband Operation, Twisted Pair) Ethernet
AMI	Alternate Mark Inversion
Async	Asynchronous
ATM	Asynchronous Transfer Mode
B8ZS	Bipolar Eight Zero Substitution
CAS	Channel Associated Signaling
CAT	Category
CR	Capability Requirement
DCME	Digital Circuit Multiplication Equipment
DISA	Defense Information Systems Agency
DISN	Defense Information System Network
DITSCAP	Department of Defense Information Technology Security Certification and Accreditation Process
DP	Dial Pulse
DSN	Defense Switched Network
DTMF	Dual Tone Multi-Frequency
E1	European Basic Multiplex Rate (2.048 Mbps)
EIA	Electronic Industries Alliance
ESF	Extended Superframe
EtEC	End-to-End Compression
FNBDT	Future Narrowband Digital Terminal
GSCR	Generic Switching Center Requirements
HDB3	High Density Bipolar Three
IDNX	Integrated Digital Network Exchange
ISDN	Integrated Services Digital Network
Mbps	Megabits per second
MFR1	Multi-Frequency Recommendation 1
PCM-24	Pulse Code Modulation - 24 Channels
PCM-30	Pulse Code Modulation - 30 Channels
PRI	Primary Rate Interface
SF	Superframe
SS7	Signaling System 7
STE	Secure Terminal Equipment
STU	Secure Telephone Unit
SUT	System Under Test
T1	Digital Transmission Link Level 1 (1.544 Mbps)
TCP/IP	Transmission Control Protocol/Internet Protocol
TPC	Twisted Pair Copper

Table 2. SUT Capability Requirements

<table>
<tr><td rowspan="10">DSN</td><td colspan="2">Input/Output Interfaces</td></tr>
<tr><td>Interface & Signaling</td><td>Capability Requirement
Critical/Non-Critical</td></tr>
<tr><td>PCM-24 T1
CAS DTMF</td><td rowspan="7">- Non-secure Voice (C)
• ITU-T G.711 PCM 64 kbps (C)
• ITU-T G.726 ADPCM 32/24/16 kbps (NC)
• ITU-T G.729 CS-ACELP 8 kbps[1] (C)
- End-to-End Compression[1, 2] (NC)
- Digital Speech Interpolation/Silence Suppression[1] (NC)
- Modem Async VBD (C)
- Secure Voice (C)
• STU-III (C)
• STE (C)
• Satellite delay[1, 3] (C)
- Secure Data (NC)
- Non-secure Facsimile (C)
- Secure Facsimile (C)
- MLPP (C)
• ANSI T1.619a (ISDN and SS7 only) (C)
- VTC (C)
• NX64 (ISDN and SS7 only) (C)
• NX56 (C)
- Alarms (C)
• Carrier Group Alarms (C)
• Channel Alarms (C)
- Echo Cancellation - 64 ms tail delay[1] (C)
- QoS[1, 4] (NC)</td></tr>
<tr><td>PCM-24 T1
CAS MFR1</td></tr>
<tr><td>PCM-24 T1
CAS DP</td></tr>
<tr><td>PCM-24 T1
SS7</td></tr>
<tr><td>PCM-24 T1
ISDN PRI</td></tr>
<tr><td>PCM-30 E1
CAS MFR1</td></tr>
<tr><td>PCM-30 E1
SS7</td></tr>
<tr><td colspan="2">Network Management Interfaces</td></tr>
<tr><td>Interface & Protocol</td><td>Capability Requirement
Critical/Non-Critical</td></tr>
<tr><td>CAT 5 TPC 10BaseT
Ethernet, TCP/IP</td><td rowspan="2">- Alarms (C)
- Man Machine Language (C)
- Access Control[1] (C)
- Remote Management (C)
- xMS[1, 5] (NC)</td></tr>
<tr><td>TPC EIA-232
Async</td></tr>
</table>

Table 2. SUT Capability Requirements (continued)

DSN (continued)	**Congestion Control Interface**	
	Interface	**Capability Requirement Critical/Non-Critical**
	2-Wire TPC	- Congestion Control Scan Point (C)
DISN Transport (ATM)	**Trunk Interfaces**	
	Interface & Line Code	**Capability Requirement Critical/Non-Critical**
	PCM-24 T1 B8ZS/ESF or AMI/SF	- Data Transport (C) - Alarms (C)
	PCM-30 E1 HDB3	- Data Transport (C) - Alarms (C)
DISN Transport (Promina/IDNX)	**Trunk Interfaces**	
	Interface & Line Code	**Capability Requirement Critical/Non-Critical**
	PCM-24 T1 B8ZS/ESF or AMI/SF	- Data transport (C) - Alarms (C)
	PCM-30 E1 HDB3	- Data transport (C) - Alarms (C)
		- Security in accordance with DITSCAP (R)

NOTES:

1 This is a user-defined (DISA) requirement that was identified as critical in the 2004 timeframe. This requirement was tested using procedures defined in reference (e), which is based on requirements found in the GSCR, appendix 9. Overall system requirements are derived from the GSCR.
2 End-to-End Compression is a Veraz proprietary technology.
3 One hop is deemed critical; above one hop is not critical.
4 The DTX-600 has an internal proprietary QoS prioritization scheme.
5 xMS is Veraz's network management tool.

LEGEND:

10BaseT	10 Mbps (Baseband Operation, Twisted Pair) Ethernet	ISDN	Integrated Services Digital Network
ADPCM	Adaptive Differential Pulse Code Modulation	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
AMI	Alternate Mark Inversion		
ANSI	American National Standards Institute	kbps	kilobits per second
Async	Asynchronous	Mbps	Megabits per second
ATM	Asynchronous Transfer Mode	MFR1	Multi-Frequency Recommendation 1
B8ZS	Bipolar Eight Zero Substitution	MLPP	Multi-Level Precedence and Preemption
C	Critical	ms	milliseconds
CAS	Channel Associated Signaling	NC	Non-Critical
CAT	Category	NX56	Data format restricted to multiples of 56 kbps
CS-ACELP	Conjugate Structure-Algebraic Code Excited Linear Prediction	NX64	Data format restricted to multiples of 64 kbps
		PCM	Pulse Code Modulation
DISA	Defense Information Systems Agency	PCM-24	Pulse Code Modulation - 24 Channels
DISN	Defense Information System Network	PCM-30	Pulse Code Modulation - 30 Channels
DITSCAP	Department of Defense Information Technology Security Certification and Accreditation Process	PRI	Primary Rate Interface
		QoS	Quality of Service
DP	Dial Pulse	SF	Superframe
DSN	Defense Switched Network	SS7	Signaling System 7
DTMF	Dual Tone Multi-Frequency	STE	Secure Terminal Equipment
E1	European Basic Multiplex Rate (2.048 Mbps)	STU-III	Secure Telephone Unit-3rd generation
EIA	Electronic Industries Alliance	SUT	System Under Test
ESF	Extended Superframe	T1	Digital Transmission Link Level 1 (1.544 Mbps)
G.711	PCM of Voice Frequencies	T1.619a	SS7 and ISDN Signaling Standard For T1
G.726	40, 32, 24, 16 kbps ADPCM	TCP/IP	Transmission Control Protocol/Internet Protocol
G.729	Coding of speech at 8 kbps using CS-ACELP	TPC	Twisted Pair Copper
GSCR	Generic Switching Center Requirements	VBD	Voice Band Data (Async modem)
HDB3	High Density Bipolar Three	VTC	Video Teleconferencing
IDNX	Integrated Digital Network Exchange	xMS	DTX-600 Management System

JITC, Memo, JTE, Extension of the Special Interoperability Test Certification of Veraz DTX-600 Release JITC022.1 with the ION SA5600 Release 1.2 and ION Proactive Remote Integrated Intelligent Secure Management Solution (PRIISMS) Release 2.7

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.

6. The JITC point of contact is Mr. Joseph Roby, DSN 879-0507, commercial (520) 538-0507, FAX DSN 879-4347, or e-mail to joseph.roby@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0806002.

FOR THE COMMANDER:

Enclosure a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

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U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68
Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

(c) JITC Memo, JTE, "Special Interoperability Test Certification of Veraz DTX-600 Release JITC022.1 with the ION SA5600 Release 1.2 and ION Proactive Remote Integrated Intelligent Secure Management Solution (PRIISMS) Release 2.7," 28 October 2008
(d) Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01B, "Policy for Department of Defense Voice Services," 23 September 2001
(e) Defense Information Systems Agency, "Department of Defense Voice Networks Generic Switching Center Requirements (GSCR), Incorporated Change 1" 1 March 2005
(f) Defense Information Systems Agency, "Defense Switched Network, ECI DTX-600 Certification Test Plan," 18 October 2004
(g) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP)," 23 April 2004