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

IN REPLY REFER TO: Joint Interoperability Test Command (JTE) **9 Apr 13**

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Tellabs 1134 and 1150 Multi-Service Access Platform (MSAP) Optical Line Terminal (OLT) with Specified Optical Network Terminals (ONT) Passive Optical Network (PON), with Software Release FP25.7

References: (a) Department of Defense Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) Chairman, Joint Chiefs of Staff Instruction 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (e), see Enclosure 1

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The Tellabs Gigabit Passive Optical Network (GPON) solution consists of a MSAP OLT and an ONT. The Tellabs 1134 and 1150 MSAP OLTs, combined with an ONT (Tellabs 704 Gigabit (G), 709 Gigabit and Power over Ethernet (GP), 714G, 728GP, 729, and 729GP) with Software Release FP25.7, are hereinafter referred to as the System Under Test (SUT). The JITC certifies the SUT for use in the High Availability Assured Service Local Area Network as a PON. The SUT can be deployed to extend LAN services to Camp, Post, and Stations. The SUT can connect to the Core and support Layer 2 failover, but the Core must support Multiple Spanning Tree Protocol, or support 96 users or less. The operational status of the SUT will be verified during deployment. Any new discrepancies that are discovered in the operational environment will be evaluated for impact and adjudicated to the satisfaction of the Defense Information Systems Agency (DISA) in a vendor Plan of Action and Milestones to address the concern(s) within 120 days of identification. The JITC conducted testing using PON requirements derived from the Unified Capabilities Requirements (UCR), Reference (c), and PON test procedures, Reference (d). The vendor submitted Desktop Review (DTR) 1 which was to include the Tellabs Multipoint Distribution Services (MDS) 7 Shelf. JITC approved DTR 1 and a certification letter was completed on 12 September 2012. No other configurations, features, or functions, except those cited within this memorandum, are certified by JITC. This certification expires 13 August 2015 based upon the UC APL memorandum expiration, or upon changes that affect interoperability.

3. JITC approves the extension of this certification for DTR 2, submitted to extend services to the Assured Services Local Area Network. Approval is based on IO Verification and Validation

(V&V) testing on these components. JITC determined, through the analysis, that there is minimal risk in approving this DTR. This change is unlikely to affect the interoperability functionality of the certified PON. The IA accreditation for DTR 2 was not required because they are relevant only to interoperability certification. The results of the tests for these products are published in separate IA reports by Unified Capabilities Certification Office (UCCO) Tracking Number (see paragraph 6) and can be found on the Approved Products List Integrated Tracking System (APLITS) at https://aplits.disa.mil.

4. Section 5.3 of the UCR establishes the interfaces and threshold CRs/FRs used to evaluate the interoperability of the SUT as a GPON. Tables 1 and 2 list the GPON, sponsor-requested interfaces, CRs, FRs, and component status of the SUT.

Table 1. SUT Interface Interoperability Status

Interface	Critical	Reference (UCR 2008, Change 3)	CR/FR Requirements	Tellabs 1134 MSAP OLT	Tellabs 1150 MSAP OLT	Specified Tellabs 700 Series ONTs (See note 1.)	Re-marks
NNI-NNI							
100 Mbps	No	5.3.1.10.2.1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 22, 23, 24, 25, 26, 27	NA	NA	NA	See note 2.
GbE	No	5.3.1.10.2.1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 22, 23, 24, 25, 26, 27	Certified	Certified	NA	See note 2.
10 GbE	No	5.3.1.10.2.1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 22, 23, 24, 25, 26, 27	NA	Certified	NA	See note 2.
PON							
GPON	Yes	5.3.1.10.2.2	11, 17, 18	Certified	Certified	Certified	
NM							
10Base-X	Yes	5.3.2.4.4	1, 6, 23, 24, 26, 27	Certified	Certified	NA	See note 3.
100Base-X	Yes	5.3.2.4.4	1, 6, 23, 24, 26, 27	Certified	Certified	NA	See note 3.
UNI							
10 Mbps	No	5.3.1.10.2.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27	NA	NA	Certified	See note 4.
100 Mbps	No	5.3.1.10.2.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27	NA	NA	Certified	See note 4.
GbE	No	5.3.1.10.2.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27	NA	NA	Certified	See note 4.
OTHER							
VoIP	No	NA	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27	NA	NA	Not Tested	See note 5.
POTS	No	NA	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 27	NA	NA	Not Tested	See note 6.

Table 1. SUT Interface Interoperability Status (continued)

NOTES:
1. Specified Tellabs 700 Series ONTs consisted of Tellabs 704G, 709GP, 714G, 728GP, 729, and 729GP.
2. The OLT NNI-NNI port shall support at least one of the required interface rates (other rates and IEEE standards may be provided as conditional interfaces).
3. The NM interfaces were available only on 1134 and 1150 OLTs and all the configuration, alarm, other event management for 700 series ONTs were performed via OLTs.
4. The ONT UNI port shall support at least one of the required interface rates (other rates and IEEE standards may be provided as conditional interfaces).
5. The Tellabs 700 Series ONTs provide a VoIP interface that converts POTS analog voice to SIP. This interface was not tested and is not certified for use.
6. The Tellabs 700 Series ONTs provides a 2-wire analog POTS voice interface. The ONT POTS Voice interface ports are not tested and not certified.

LEGEND:

10Base-X	10 Mbps Ethernet generic designation	NM	Network Management
100Base-X	100 Mbps Ethernet generic designation	NNI	Network-to-Network Interface
CR	Capability Requirement	OLT	Optical Line Terminal
FR	Functional Requirement	ONT	Optical Network Terminal
G	Gigabit	PON	Passive Optical Network
GbE	Gigabits Ethernet	POTS	Plain Old Telephone Service
GP	Gigabit Power Over Ethernet	SIP	Session Initiation Protocol
GPON	Gigabit Passive Optical Network	SUT	System Under Test
IEEE	Institute of Electrical and Electronic Engineers	UCR	Unified Capabilities Requirements
Mbps	Megabits per second	UNI	User Network Interface
MSAP	Multi-Services Access Platform	VoIP	Voice over Internet Protocol
NA	Not Applicable		

Table 2. SUT CRs and FRs Status

CR/FR ID	Capability/Function	Applicability (See note 1.)	Reference (UCR 2008 Change 3)	Status	Remarks
GPON Requirements					
1	Interfaces	Required	5.3.1.10.2	Met	See notes 2 and 3.
2	Class of Service Markings	Required	5.3.1.10.3	Met	See notes 2 and 3.
3	Virtual LAN Capabilities	Required	5.3.1.10.4	Met	See notes 2 and 3.
4	Protocols	Conditional	5.3.1.10.5	Met	See notes 2 and 3.
5	Quality of Service Features	Required	5.3.1.10.6	Met	See notes 2 and 3.
6	Network Monitoring	Required	5.3.1.10.7	Met	See notes 2 and 3.
7	Voice Services	Required	5.3.1.10.8	Met	See note 2.
8	Video Services	Required	5.3.1.10.9	Met	See note 2.
9	Data Services	Required	5.3.1.10.10	Met	See note 2.
10	Information Assurance Requirements	Required	5.3.1.10.11	Met	See note 2.
11	PON Network Management Requirements	Required	5.3.1.10.12	Met	See notes 2 and 3.
12	Configuration Control	Required	5.3.1.10.13	Met	See notes 2 and 3.
13	Operational Changes	Required	5.3.1.10.14	Met	See notes 2 and 3.
14	Performance Monitoring	Required	5.3.1.10.15	Met	See notes 2 and 3.
15	Alarms	Required	5.3.1.10.16	Met	See notes 2 and 3.
16	Reporting	Required	5.3.1.10.17	Met	See notes 2 and 3.

Table 2. SUT CRs and FRs Status (continued)

CR/FR ID	Capability/Function	Applicability (See note 1.)	Reference (UCR 2008 Change 3)	Status	Remarks
GPON Requirements					
17	Fiber Media	Required	5.3.1.10.18	Met	See notes 2 and 3.
18	RF-over-Glass	Conditional	5.3.1.10.19	Met	See notes 2 and 3.
19	Traffic Engineering	Required	5.3.1.10.20	Met	See notes 2 and 3.
20	VLAN Design and Configuration	Required	5.3.1.10.21	Met	See notes 2 and 3.
21	Power Backup	Required	5.3.1.10.22	Met	See notes 2 and 3.
22	Availability	Conditional	5.3.1.10.23	Met	See notes 2 and 3.
23	Redundancy	Required	5.3.1.10.24	Met	See notes 2 and 3.
24	Survivability	Required	5.3.1.10.25	Met	See notes 2 and 3.
25	Summary of LAN Requirements by Subscriber Mission	Required	5.3.1.10.26	Met	See notes 2 and 3.
26	IPv6	Required	5.3.5.4	Met	See notes 2, 3, and 4.
27	Network Management	Required	5.3.2.4.4	Met	See note 5.

NOTES:
1. Annotation of "required" refers to high-level requirement category. Applicability of each sub-requirement is provided in Enclosure 3 (see original certification letter.)
2. Any Tellabs 704G, 709GP, 714G, 728GP, 729, and 729GP ONT combined with a Tellabs 1134 or 1150 OLT creates a GPON solution that meets the CRs and FRs set forth by UCR 2008, Change 3.
3. The SUT met the requirement via interoperability testing and review of vendor LoC.
4. This requirement was met via dual stack IPv4/IPv6 testing and review of vendor LoC.
5. The NM interface was available only on 1134 and 1150 OLTs, and all the configuration, alarm, other event management for 700 series ONTs were performed via OLT.

LEGEND:

CR	Capabilities Requirement	LoC	Letter of Compliance
FR	Functional Requirement	NM	Network Management
G	Gigabit	OLT	Optical Line Terminal
GP	Gigabit Power Over Ethernet	ONT	Optical Network Terminal
GPON	Gigabit Passive Optical Network	PON	Passive Optical Network
ID	Identification	RF	Radio Frequency
IPv4	Internet Protocol version 4	SUT	System Under Test
IPv6	Internet Protocol version 6	UCR	Unified Capabilities Requirements
LAN	Local Area Network	VLAN	Virtual Local Area Network

5. In accordance with the Program Manager's request, JITC did not develop a detailed test report. JITC distributes interoperability information via the JITC Electronic Report Distribution 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, which .mil/.gov users can access 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 at http://jit.fhu.disa.mil (NIPRNet). Information related to APL testing is available on the DISA APL Testing and Certification website located at http://www.disa.mil/Services/Network-Services/UCCO. All associated test information is available on the DISA UC Certification Office APL Integrated Tracking System (APLITS) website located at https://aplits.disa.mil.

JITC Memo, JTE, Extension of the Special Interoperability Test Certification of the Tellabs 1134 and 1150 Multi-Service Access Platform (MSAP) Optical Line Terminal (OLT) with Specified Optical Network Terminals (ONT) Passive Optical Network (PON), with Software Release FP25.7

6. JITC testing point of contact is Mr. Son Pham, commercial (301) 743-4258. His e-mail address is Son.m.Pham2.civ@mail.mil: mailing address: 3341 Strauss Avenue, Suite 236, Indian Head, MD 20640-5149. The TN for the SUT is 1126402.

FOR THE COMMANDER:

1 Enclosure a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

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NSG Interoperability Assessment Team
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ADDITIONAL REFERENCES

(c) Office of the Assistant Secretary of Defense Document, "Department of Defense Unified Capabilities Requirements 2008, Change-2," December 2010
(d) Joint Interoperability Test Command, "Passive Optical Network Test Procedures," 20 February 2012
(e) Joint Interoperability Test Command Document, "Information Assurance (IA) Assessment of Tellabs Gigabit Passive Optical Network (1134 and 1150 Multi-Service Access Platform Optical Line Terminal with 701, 709 and 729 Optical Network Terminals)," 10 December 2009

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