



DEFENSE INFORMATION SYSTEMS AGENCY

P. O. BOX 549
FORT MEADE, MARYLAND 20755-0549

IN REPLY
REFER TO:

Joint Interoperability Test Command (JTE)

12 Sept 12

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Tellabs 1134 and 1150 Multiservice Access Platform (MSAP) Optical Line Terminals (OLT) with Specified Tellabs 700 Series Optical Network Terminals (ONT) Gigabit Passive Optical Network (GPON) 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) Department of Defense Instruction 8100.04, "DoD Unified Capabilities (UC)," 9 December 2010
(c) through (i), 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 Tellabs GPON solution consists of a MSAP OLT and an ONT. The Tellabs 1134 and 1150 MSAP OLTs, combined with an OLT (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 vendor submitted one Desktop Review (DTR) to include the Tellabs Multipoint Distribution Services (MDS)7 shelf. JITC evaluated and certifies the SUT for optical transport for Passive Optical Network (PON) interfaces detailed in Table 1. 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) via a vendor Plan of Action and Milestones to address the concern(s) within 120 days of identification. JITC conducted testing using PON requirements within the Unified Capabilities Requirements (UCR) 2008, Change 3, Reference (c). JITC does not certify any other configurations, features, or functions, except those cited within this memorandum. This certification expires upon changes that affect interoperability, but no later than three years from the date of the original certification (13 August 2012).

3. JITC approves the extension of this certification for DTR 1, submitted to include the MDS7 shelf. A review of the current changes in the SUT in Reference (d) and comparison with the new requirements in Reference (c) were conducted on 1 August 2012 to certify the SUT for interoperability (IO) within the Defense Information System Network (DISN) without additional interoperability testing. Approval is based on IO Verification and Validation (V&V) testing conducted at JITC's testing facility in Indian Head, Maryland, from 21 February through 30 March 2012. The results of the tests for these products are published in separate Information

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Assurance (IA) reports by UC Certification Office (UCCO) Tracking Number (TN) 0928102 and can be found on the Approved Products List (APL) Integrated Tracking System (APLITS) at <https://aplits.disa.mil>. The DISA IA Certifying Authority (CA) concurrence was received on 5 June 2012.

All components are listed in Table 3. No additional IA or IO testing was necessary because the MDS7 and MDS5 are passive devices that provide communication channels for the Ethernet Switching Units and line cards to communicate across via backplane. The Tellabs MDS7 shelf is a 14-slot, 19-inches-wide replacement version of the Tellabs MDS5 shelf with a 16-slot, 23-inches-wide version that was approved and placed on the APL with FP25.7. JITC determined, through analysis, that there is minimal risk in approving this DTR. This change is unlikely to affect the IO of the certified PON. Therefore, JITC approves DTR 1. DISA IA CA accreditation for DTR 1 is not required because it is relevant only to IO certification.

4. Table 1 shows the SUT Interface Interoperability Status and Table 2 shows the Capability and Feature Requirements used to evaluate the interoperability 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.

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Table 1. SUT Interface Interoperability Status (continued)

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																																																
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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.																																																
<p>NOTES:</p> <p>1. Specified Tellabs 700 Series ONTs consisted of Tellabs 704G, 709GP, 714G, 728GP, 729, and 729GP.</p> <p>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).</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>LEGEND:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">10Base-X</td> <td style="width: 35%;">10 Mbps Ethernet generic designation</td> <td style="width: 15%;">NM</td> <td style="width: 35%;">Network Management</td> </tr> <tr> <td>100Base-X</td> <td>100 Mbps Ethernet generic designation</td> <td>NNI</td> <td>Network-to-Network Interface</td> </tr> <tr> <td>CR</td> <td>Capability Requirement</td> <td>OLT</td> <td>Optical Line Terminal</td> </tr> <tr> <td>FR</td> <td>Functional Requirement</td> <td>ONT</td> <td>Optical Network Terminal</td> </tr> <tr> <td>G</td> <td>Gigabit</td> <td>PON</td> <td>Passive Optical Network</td> </tr> <tr> <td>GbE</td> <td>Gigabits Ethernet</td> <td>POTS</td> <td>Plain Old Telephone Service</td> </tr> <tr> <td>GP</td> <td>Gigabit Power Over Ethernet</td> <td>SIP</td> <td>Session Initiation Protocol</td> </tr> <tr> <td>GPON</td> <td>Gigabit Passive Optical Network</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>IEEE</td> <td>Institute of Electrical and Electronic Engineers</td> <td>UCR</td> <td>Unified Capabilities Requirements</td> </tr> <tr> <td>Mbps</td> <td>Megabits per second</td> <td>UNI</td> <td>User Network Interface</td> </tr> <tr> <td>MSAP</td> <td>Multi-Services Access Platform</td> <td>VoIP</td> <td>Voice over Internet Protocol</td> </tr> <tr> <td>NA</td> <td>Not Applicable</td> <td></td> <td></td> </tr> </table>								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		
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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.

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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.																																				
<p>NOTES:</p> <ol style="list-style-type: none"> Annotation of “required” refers to high-level requirement category. Applicability of each sub-requirement is provided in Enclosure 3. 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. The SUT met the requirement via interoperability testing and review of vendor LoC. This requirement was met via dual stack IPv4/IPv6 testing and review of vendor LoC. 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. <p>LEGEND:</p> <table> <tr> <td>CR</td> <td>Capabilities Requirement</td> <td>LoC</td> <td>Letter of Compliance</td> </tr> <tr> <td>FR</td> <td>Functional Requirement</td> <td>NM</td> <td>Network Management</td> </tr> <tr> <td>G</td> <td>Gigabit</td> <td>OLT</td> <td>Optical Line Terminal</td> </tr> <tr> <td>GP</td> <td>Gigabit Power Over Ethernet</td> <td>ONT</td> <td>Optical Network Terminal</td> </tr> <tr> <td>GPON</td> <td>Gigabit Passive Optical Network</td> <td>PON</td> <td>Passive Optical Network</td> </tr> <tr> <td>ID</td> <td>Identification</td> <td>RF</td> <td>Radio Frequency</td> </tr> <tr> <td>IPv4</td> <td>Internet Protocol version 4</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>IPv6</td> <td>Internet Protocol version 6</td> <td>UCR</td> <td>Unified Capabilities Requirements</td> </tr> <tr> <td>LAN</td> <td>Local Area Network</td> <td>VLAN</td> <td>Virtual Local Area Network</td> </tr> </table>						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
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IPv6	Internet Protocol version 6	UCR	Unified Capabilities Requirements																																						
LAN	Local Area Network	VLAN	Virtual Local Area Network																																						

Table 3. List of New Equipment Requested in DTR 1

DTR 1 - New Components Part Number	Description	Comparable Approved Components Part Number				
Tellabs 1150 MDS7 Shelf	14-Slots, 19-inch-wide shelf	Tellabs 1150 MDS5 Shelf				
<p>LEGEND:</p> <table> <tr> <td>DTR</td> <td>Desktop Review</td> <td>MDS</td> <td>Multipoint Distribution Services</td> </tr> </table>			DTR	Desktop Review	MDS	Multipoint Distribution Services
DTR	Desktop Review	MDS	Multipoint Distribution Services			

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

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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>.

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:

Enclosure a/s


for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):

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DOT&E, Net-Centric Systems and Naval Warfare

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Defense Information Systems Agency, TEMC

Office of Assistant Secretary of Defense (NII)/DOD CIO

U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68

Defense Information Systems Agency, GS23

Defense Information Systems Agency, Communication Sustainment Division (NS11)

United States Army (AMSEL-IE-IS)

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ADDITIONAL REFERENCES

- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 3," September 2011
- (d) Tellabs Desk Top Review (DTR) 1 Reference Document, "Tellabs 11341150 MSAP Rel. FP25.7 Tracking Number (TN) 1126402 DTR-1," 18 July 2012
- (e) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Tellabs 1150 Multiservice Access Platform and Tellabs 1134 Multiservice Access Platform Gigabit Passive Optical Network (GPON), with Software Release FP25.7 (TN 1126402)," 23 March 2012