



DEFENSE INFORMATION SYSTEMS AGENCY

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

6 Aug 13

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Brocade FastIron (FI)-SX Series with Release 7.3.0c

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (f), see Enclosure

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

2. The Brocade FI-SX800 Release 7.3.0c is hereinafter referred to as the System Under Test (SUT). The SUT meets all of its critical interoperability requirements and is certified for joint use within the Defense Information System Network (DISN) as an Assured Services Local Area Network (ASLAN) Core, Distribution, and Layer 2/Layer 3 Access switch. The SUT is certified as interoperable for joint use with other ASLAN components listed on the UC APL with the following interfaces: 100/1000Base SX/LX, 100BaseFX, 10GbaseX, and 10/100/1000BaseT. JITC tested all these interfaces with the exception of the 10BaseT interface. JITC analysis determined the 10BaseT interface is low risk for certification based on the vendor's Letter of Compliance (LoC) to comply with the Institute of Electrical and Electronics Engineers, Inc. (IEEE) 802.3i standard and the testing data collected at all other data rates. The FI-SX1600 is a larger chassis and employs the same software and uses the same hardware cards as the SUT. JITC analysis determined this system to be functionally identical to the SUT for interoperability certification purposes and therefore, it is also certified for joint use. The SUT meets the critical interoperability requirements set forth in Reference (c), using test procedures derived from Reference (d).

The SUT is certified to support Assured Services within an ASLAN. If a component meets the minimum requirements for deployment in an ASLAN, it also meets the lesser requirements for deployment in a non-ASLAN. Non-ASLANs are "commercial grade" and provide support to Command and Control (C2) (ROUTINE only calls) (C2(R)) or non-C2 voice subscribers. When deployed in a non-ASLAN, the SUT may also be used to receive all levels of precedence, but is limited to supporting calls that are originated at ROUTINE precedence only. Non-ASLANs do not meet the availability or redundancy requirements for C2 or Special C2 users and therefore are not authorized to support precedence calls originated above ROUTINE.

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No other configurations, features, or functions, except those cited within this document, are certified by 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 Product List (APL) memorandum (24 July 2012).

3. The extension of this certification is based upon Desktop Review (DTR) 2. The original certification is based on interoperability testing conducted by JITC, review of the vendor’s LoC, DISA adjudication of open test discrepancy reports (TDRs), and DISA Certifying Authority (CA) Recommendation, and documented in Reference (e). Interoperability testing was conducted by JITC, Fort Huachuca, Arizona, from 12 March through 5 April 2012. Review of the vendor’s LoC was completed on 9 April 2012. DISA adjudication of outstanding TDRs was completed on 24 April 2012. The DISA CA provided a positive Recommendation on 13 July 2012 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (f). This DTR was requested to update the SUT from Release 7.3.0d (approved in DTR 1) to Release 7.3.0f. JITC analysis determined that this release includes minor software changes related to commercial functionality and doesn’t affect Assured Services, therefore JITC approves this DTR without further testing. Additionally, DISA NS has approved this DTR to include Release 7.3.0f without further IA testing. Therefore, the original IA approval applies to this DTR.

4. Table 1 provides the SUT interface interoperability status and Table 2 provides the Capability Requirements (CR) and Functional Requirements (FR) status. The threshold CR/FRs for ASLAN components are established by Section 5.3.a of Reference (c) and were used to evaluate the interoperability of the SUT.

Table 1. SUT Interface Interoperability Status

Interface	Applicability			UCR 2008, Change 3 Reference	Threshold CR/FR (See note 1.)	Status	Remarks
	Co	D	A				
Serial	C	C	C	5.3.1.3.9	1-4	Certified	The SUT met the CRs and FRs with the following standard: EIA-232.
10Base-X	C	C	C (See note 2.)	5.3.1.3.1	1-6	Certified (See note 3.)	The SUT met CRs and FRs with the following IEEE standard: 802.3i (10BaseT).
100Base-X	R	R	C (See note 2.)	5.3.1.3.1	1-6	Certified	The SUT met CRs and FRs with the following IEEE standard: 802.3u (100BaseT).
1000Base-X	R	R	C (See note 2.)	5.3.1.3.1	1-6	Certified	The SUT met CR and FRs with the following IEEE standards: 802.3ab (1000BaseT), 802.3z (1000Base-SX, 1000Base-LX).
10000Base-X	C	C	C	5.3.1.3.1	1-6	Certified	The SUT met CRs and FRs with the following IEEE standard: 802.3ae (10GBase-SR, 10GBase-LR).
Wireless	C	C	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 4.
<p>NOTES:</p> <p>1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 2. These high-level CR/FR requirements refer to a detailed list of requirements provided in Reference (e), Enclosure 3.</p>							

Table 1. SUT Interface Interoperability Status (continued)

NOTES (continued):			
2. Core and Distribution products must minimally support 100Base-X (802.3u) and 1000Base-X (802.3z). Access products must minimally support one of the following standards: 802.3i (10BaseT), 802.3j (10BaseF), 802.3u (100BaseT/F), 802.3z (1000BaseF), or 802.3ab (1000BaseT). Other rates and standards may be provided as conditional interfaces.			
3. The 10BaseT interface was not tested, but was certified through analysis and the vendor's LoC. JITC analysis determined the 10BaseT interface is low risk for certification based on the vendor's LoC to the IEEE 802.3i and the testing data collected at all other data rates.			
4. The SUT does not support this interface. This interface is not required for a core, distribution, or access switch.			
LEGEND:			
802.3ab	1000BaseT Gbps Ethernet over twisted pair at 1 Gbps (125 Mbps)	EIA-232	Standard for defining the mechanical and electrical characteristics for connecting Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) data communications devices
802.3ae	10 Gbps Ethernet		
802.3i	10BaseT Mbps over twisted pair		
802.3j	10 Mbps over fiber	FR	Functional Requirement
802.3u	Standard for carrier sense multiple access with collision detection at 100 Mbps	Gbps	Gigabits per second
802.3z	Gigabit Ethernet Standard	ID	Identification
A	Access	IEEE	Institute of Electrical and Electronics Engineers
C	Conditional	JITC	Joint Interoperability Test Command
Co	Core	LoC	Letter of Compliance
CR	Capability Requirement	Mbps	Megabits per second
D	Distribution	R	Required
EIA	Electronic Industries Alliance	SUT	System Under Test
		UCR	Unified Capabilities Requirements

Table 2. SUT CRs and FR Status

CR/FR ID	Capability/Function	Applicability (See note 1.)	UCR Reference	Status
1	General Performance Parameters			
	Performance Parameters	Required	5.3.1.3	Met
	Port Interface Rates	Required	5.3.1.3.1	Met
	Port Parameter Requirements	Required	5.3.1.3.2	Met (See note 2.)
	Class of Service Markings	Required	5.3.1.3.3	Met
	VLAN Capabilities	Required	5.3.1.3.4	Met
	Protocols	Required	5.3.1.3.5	Met
	QoS Features	Required	5.3.1.3.6	Met
	Network Monitoring	Required	5.3.1.3.7	Met
	Security	Required	5.3.1.3.8	Met
2	E2E Performance Requirements			
	Voice Services	Required	5.3.1.4.1	Met (See note 3.)
	Video services	Required	5.3.1.4.2	Met (See note 3.)
	Data services	Required	5.3.1.4.3	Met (See note 3.)
3	NM Requirements			
	Configuration Control	Required	5.3.1.6.1	Met
	Operational Changes	Required	5.3.1.6.2	Met
	Performance Monitoring	Required	5.3.1.6.3	Met
	Alarms	Required	5.3.1.6.4	Met
	Reporting	Required	5.3.1.6.5	Met
4	Engineering Requirements			
	Physical Media	Required	5.3.1.7.1	Met (See note 4.)
	Wireless	Conditional	5.3.1.7.2	Not Tested
	Traffic Engineering	Required	5.3.1.7.3	Met (See note 4.)
	Availability	Required	5.3.1.7.6	Met (See note 4.)
	Redundancy	Required	5.3.1.7.7	Met (See notes 2, 4.)

Table 2. SUT CRs and FR Status (continued)

CR/FR ID	Capability/Function	Applicability (See note 1.)	UCR Reference	Status
5	MPLS			
	MPLS Requirements	Conditional	5.3.1.8.4.1	Not Tested
	MPLS VPN Augmentation to VLANs	Conditional	5.3.1.8.4.2	Not Tested
6	IPv6 Requirements			
	Product Requirements	Required	5.3.5.4	Partially Met (See notes 5, 6, 7.)

NOTES:

- The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (e), Enclosure 3. The system under test does not need to provide conditional requirements. However, if a capability is provided, it must function according to the specified requirements in order to be certified for that capability.
- LACP links which spanned two interface blades experienced IPv6 traffic loss for several minutes when a replacement card was inserted in the SUT. For this reason LACP should only be configured between ports on the same blade. DISA adjudicated this as minor with the vendor POA&M stating this will be supported in version 8.0 scheduled to be released by 30 June 2013.
- This requirement was verified and met using simulated voice, video, and data traffic in an operational emulated environment to meet E2E requirements. The SUT must be deployed in accordance with deployment guide and engineering guidelines provided in UCR Change 3, paragraph 5.3.1.4.
- This requirement was met with the following stipulations: It is the site's responsibility to configure the SUT in a manner which meets the engineering requirements listed in Reference (e), Enclosure 2, Section 11.2 d and that does not create a single point of failure which could impact more than 96 C2 users.
- The SUT does not support the following IPv6 RFC: RFC 2711. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.
- The SUT does not support the following IPv6 RFC: RFC 4302. DISA adjudicated this deficiency as minor because this RFC addresses requirements for IPSec, which is not implemented in the fielded configuration.
- The SUT does not support the following IPv6 RFC: RFC 5340. DISA has accepted and approved the vendor's POA&M and adjudicated this discrepancy as having a minor operational impact.

LEGEND:

C2	Command and Control	NM	Network Management
CR	Capability Requirement	POA&M	Plan of Action and Milestones
DISA	Defense Information Systems Agency	QoS	Quality of Service
E2E	End-to-End	RFC	Request For Comment
FR	Functional Requirement	SUT	System Under Test
IPSec	Internet Protocol Security	UCR	Unified Capabilities Requirements
IPv6	Internet Protocol version 6	VLAN	Virtual Local Area Network
LACP	Link Aggregation Control Protocol	VPN	Virtual Private Network
MPLS	Multiprotocol Label Switching		

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). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at <http://jitc.fhu.disa.mil/tssi>. 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.

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6. The JITC point of contact is Mr. Edward Mellon, DSN 879-5159, commercial (520) 538-5159, FAX DSN 879-4347, or e-mail to edward.a.mellon.civ@mail.mil. JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The Tracking Number for the SUT is 1132703.

FOR THE COMMANDER:



for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Enclosure a/s

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NSG Interoperability Assessment Team

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UCCO

ADDITIONAL REFERENCES

- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 3," September 2011
- (d) Joint Interoperability Test Command, "ASLAN Component Test Plan (UCTP)," November 2010
- (e) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of the Brocade FastIron (FI)-SX Series with Release 7.3.0c," 20 July 2012
- (f) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Brocade SX Series Release (Rel.) 7.3.0c (Tracking Number 1132703)," Draft