



DEFENSE INFORMATION SYSTEMS AGENCY

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

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

26 April 2022

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

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 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 for Department of Defense Information Network (DoDIN) products, Reference (b).

2. Conditions of Certification. The Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network (ASLAN), Software Release Alcatel Operating System (AOS) 8.8.152.R01, hereinafter referred to as the System Under Test (SUT), meets the requirements of the Unified Capabilities Requirements, Reference (b). The OS9900 and OS6900 Series are certified as ASLAN Core, Distribution, Layer 2 and Layer 3 Access Switches for joint use with no conditions (see Table 1). The OS6800 Series are certified as ASLAN Layer 2 and Layer 3 Access Switches for joint use with no conditions (see Table 1). Each of the SUT components are certified as standalone devices.

This certification expires upon changes that could affect interoperability, but no later than the expiration date specified in the DoDIN Approved Products List (APL) memorandum.

This extension of the certification is for Desktop Review (DTR) 9. DTR 9 was requested to add the following Trade Agreement Act (TAA)-compliant models/components:

- TA6860E-P48-US (similar to OS6860E-P48)
- TA6865-P16X-US (similar to OS6865-P16X)
- TA6865-U12X-US (similar to OS6865-U12X)
- TA6865-U28X-US (similar to OS6865-U28X)
- TA9907-CHAS (similar to OS9907-CHAS)
- TA9907-CFM (similar to OS9907-CFM)
- TA99-CMM (similar to OS99-CMM)

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

- TA99-GNI-P48 (similar to OS99-GNI-P48)
- TA99-GNI-48 (similar to OS99-GNI-48)
- TA99-XNI-48 (similar to OS99-XNI-48)
- TA9907-RCB-A bundle (contains TA9907-CHAS, TA9907-CFM, TA99-CMM, and OS99-PS-A)

See Table 4 for an updated list of components and Paragraph 4 for additional details.

Table 1. Conditions

Description	Operational Impact	Remarks
Not applicable; the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series with Software Release Alcatel Operating System 8.8.152.R01 meets all the critical joint interoperability requirements in accordance with the Unified Capabilities Requirements, Reference (b).		

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 the DoDIN APL product summary, to include subsequent DTR updates.

Table 2. SUT Interface Status

Interface (See note 1.)	Applicability (ASLAN)			Status	Remarks
	Co	D	A		
Network Management Interfaces					
IEEE 802.3i (10BaseT UTP)	C	C	C	Met	See note 2.
IEEE 802.3u (100BaseT UTP)	C	C	C	Met	See note 2.
IEEE 802.3ab (1000BaseT UTP)	C	C	C	Met	
Access (User) Interfaces (See note 3.)					
IEEE 802.3i (10BaseT UTP)	C	C	R	Met	
IEEE 802.3u (100BaseT UTP)	R	R	R	Met	
IEEE 802.3u (100BaseFX)	C	C	R	Not Tested	See note 4.
IEEE 802.3ab (1000BaseT UTP)	C	C	R	Met	
IEEE 802.3z (1000BaseX Fiber)	R	R	R	Met	
IEEE 802.3ba (40GBaseX Fiber)	O	O	O	Met	
IEEE 802.3ba (100GBaseX Fiber)	O	O	O	Not Tested	See note 4.
Uplink (Trunk) Interfaces (See note 3.)					
IEEE 802.3u (100BaseT UTP)	R	R	R	Met	See note 2.
IEEE 802.3u (100BaseFX)	C	C	R	Not Tested	See note 4.
IEEE 802.3ab (1000BaseT UTP)	C	C	R	Met	
IEEE 802.3z (1000BaseX Fiber)	R	R	R	Met	
IEEE 802.3ae (10GBaseX)	C	C	C	Met	
IEEE 802.3ba (40GBaseX Fiber)	O	O	O	Met	
IEEE 802.3ba (100GBaseX Fiber)	O	O	O	Not Tested	See note 4.

(Table continues next page.)

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

Table 2. SUT Interface Status (continued)

NOTE(S):			
1. The SUT high-level requirements are depicted in Table 3. Refer to Enclosure 3 of Reference (c) for a detailed list of requirements.			
2. JITC tested the 1000BaseT and 10GBaseX interface but not the 10/100BaseT interfaces. Analysis determined the 10/100BaseT interfaces met these requirements based on the vendor's Letters of Compliance to comply with the IEEE 802.3 standards.			
3. Core, Distribution, and Access products must minimally support one of the interfaces listed in this table as conditional for the given role. Other rates and standards may be provided as optional interfaces.			
4. The SUT does not support this (conditional or optional) interface.			
LEGEND:			
802.3ab	1000BaseT Gbps Ethernet over Twisted Pair	Co	Core
802.3ae	10 Gbps Ethernet over Fiber	D	Distribution
802.3ba	40 and 100 Gigabit Ethernet over Twisted pair and Fiber	GBaseX	Gigabit Ethernet over Fiber or Copper
802.3i	10BaseT 10 Mbps Ethernet over Twisted Pair	Gbps	Gigabits per second
802.3u	Fast Ethernet at 100 Mbps, copper and Fiber	IEEE	Institute of Electrical and Electronics Engineers
802.3z	Gigabit Ethernet over Fiber	JITC	Joint Interoperability Test Command
A	Access	Mbps	Megabits per second
ASLAN	Assured Services Local Area Network	O	Optional
BaseFX	Megabit Ethernet over Fiber	SM	Single Mode
BaseT	Megabit (Baseband Operation, Twisted Pair) Ethernet	SUT	System Under Test
BaseX	Megabit Ethernet over Fiber or Copper	UTP	Unshielded Twisted Pair
C	Conditional		

Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (See note 1.)	UCR 2013 Reference	Status
1	General LAN Switch and Router Product Requirements (R)	7.2.1	Met (See note 2.)
2	LAN Switch and Router Redundancy Requirements (R)	7.2.2	Met
3	LAN Product Requirements Summary (R)	7.2.3	Met
4	Multiprotocol Label Switching (O)	7.2.4	Not Tested (See note 3.)
NOTE(S):			
1. The annotation of "required" refers to a high-level requirement category. Refer to Enclosure 3 of Reference (c) for the applicability of each sub-requirement.			
2. A JITC-led Cybersecurity test team conducted Security testing and published the results in a separate report, Reference (e).			
3. The SUT does not support this optional requirement.			
LEGEND:			
CR	Capability Requirement	O	Optional
FR	Functional Requirement	R	Required
ID	Identification	SUT	System Under Test
JITC	Joint Interoperability Test Command	UCR	Unified Capabilities Requirements
LAN	Local Area Network		

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

Table 4. DoDIN APL Product and Certification Summary

Product Identification				
Product Name	Alcatel Lucent Enterprise (ALE) OS9900, OS6900, OS6860, OS6860E, and OS6865 Series			
Software Release	AOS 8.8.152.R01 (See note 1.)			
UCR Product Type(s)	Assured Services Local Area Network (ASLAN) Core/Distribution/Access Switch			
Product Description	OmniSwitch family represents a set of compact, high density, stackable and modular chassis, LAN Switches offering high performance, low latency, QoS, Layer 2 and Layer 3 switching capability.			
DoDIN Certified Function	Component/ Sub-component (See notes 2, 3, and 4.)	Tested Version (See notes 1, 5, 6, and 7.)	Card Name Part Number/Name	Remarks
ASLAN Access	OS6800 Series <u>OS6860</u> <u>OS6860E</u>	AOS 8.8.152.R01	<u>OS6860E-24</u> <u>OS6860E-P48</u>	Provides access ASLAN switching - supports up to 48 Ethernet interfaces 10/100/1000BaseT, four 1G/10GigE SFP+, two 20G (virtual chassis) models w/up to 60W PoE. E model has additional application specific processor.
			TA6860E-P48-US	See note 8.
ASLAN Access	OS6800 Series <u>OS6865</u>	AOS 8.8.152.R01	<u>OS6865-P16X</u>	Provides access ASLAN switching – rugged design, Fixed-configuration hardened fan-less chassis with twelve 10/100/1000 Base-T PoE+ ports, four of which can support 75W HPoE, two 1000Base-X SFP ports and two fixed SFP+ (1G/10G) ports.
			TA6865-P16X-US TA6865-U12X-US TA6865-U28X-US OS6865-U12X OS6865-U28X	See note 8.
ASLAN Core/Distribution/Access	OS6900 Series	AOS 8.8.152.R01	<u>OS6900-X72-F</u> <u>OS6900-Q32-F</u>	Provides core/distribution/Access ASLAN switching – supports Ethernet interfaces 100BaseT, 1GigE, 10GigE, 40 GigE; up to 72 SFP+ or 48 SFP+ and 6 40GigE/FCoE ports for the OmniSwitch 6900-X72.
	OS9900 Series <u>OS9907</u>	AOS 8.8.152.R01	<u>OS9907/CFM</u> <u>OS9907/CHAS</u> <u>OS99/XNI-U48</u> <u>OS99/GNI-P48</u> <u>OS99/GNI-48</u> <u>OS99/XNI-48</u> <u>OS99-CMM</u>	Provides core/distribution/access ASLAN switching – supports Forty-Eight 1GigE ports, Forty-Eight 10GigE ports, and two 40 GigE ports per slot.
			TA99-CMM TA99-GNI-48 TA99-GNI-P48 TA99-XNI-48 TA9907-CFM TA9907-CHAS TA9907-RCB-A bundle	See note 8.

(Table continues next page.)

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

Table 4. DoDIN APL Product and Certification Summary (continued)

NOTE(S):

1. With DTR 1, the CodeGuardian OS Software Release version was updated from 8.4.1 to 8.4.1.198.R01. The previously certified OS6860E, OS6865, and OS6900 switch models remained at Software Release version CodeGuardian OS 8.4.1.170.R01. With DTR 3, the CodeGuardian OS Software Release version for the OS6860E, OS6865, and OS6900 switch models was updated from OS 8.4.1.170.R01 to AOS 8.5.R01; the OS9900 Series models remained at previously certified CodeGuardian Software Release version OS 8.4.1.198.R01. With DTR 4, the CodeGuardian AOS Software Release version for the OS6860, OS6860E, OS6865, and OS6900 switch models was updated from 8.5.R01 to 8.5.255.R02 and the Software Release version for the OS9900 models was updated from AOS 8.4.1.198.R01 to CodeGuardian AOS 8.5.255.R02. With DTR 5, the CodeGuardian AOS Software Release version was updated from 8.5.255.R02 to 8.6.289.R01. With DTR 6, the SUT Software Release name was updated from CodeGuardian AOS 8.6.289.R01 to AOS 8.6.289.R01. DTR 8 updated the SUT Software Release version from AOS 8.6.289.R01 to AOS 8.8.152.R01.

2. Table 3-3 in Enclosure 3 of Reference (c) provides the detailed component and subcomponent descriptions.

3. 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.

4. Refer to Table 3-5 in Enclosure-3 of Reference (c) for a detailed list of SUT hardware and software components certified based on actual testing and similarity to tested components

5. JITC tested and certified CodeGuardian OS Software Release version 8.4.1.170.R01 for the OS6900, OS6860, OS6860E, and OS6865 series components during initial testing. Per the vendor's LoC, ALE and LGS releases were compiled using the same source code as the tested release; therefore, JITC also certified the ALE and LGS releases for the OS6900, OS6860, OS6860E, and OS6865 series components based on similarity.

6. JITC tested and certified CodeGuardian OS 8.4.1.198.R01 Software Release during DTR 1 testing for the OS9900 Series. Per the vendor's LoC, ALE and LGS releases were compiled using the same source code as the tested version; therefore, JITC also certified the ALE and LGS Software Release versions for the OS9900 series components based on similarity.

7. DTR 4 updated the CodeGuardian Software Release version for the OS6800 and OS6900 Series components from 8.5.R01 to 8.5.255.R02. The OS9900 series CodeGuardian Software Release version was updated from 8.4.1.198.R01 to 8.5.255.R02. The ALE CodeGuardian Software Release versions 8.5.255.R12, 8.5.255.R22, 8.5.255.R32 and LGS Software Release versions 8.5.255.L12, 8.5.255.L22, 8.5.255.L12, 8.5.255.L32 were compiled using the same source code; therefore, JITC certified the ALE and LGS versions for the OS6800, OS6900 and OS9900 series components based on similarity. DTR 8 updated the SUT Software Release version from AOS 8.6.289.R01 to AOS 8.8. 152.R01.

8. DTR 9 added the following Trade Agreement Act (TAA) models and components based on JITC analysis (no testing) because other than using a TAA compliant manufacturing process, the TAA models are similar in hardware and utilize the same AOS 8.8. 152.R01 software as previously certified OS6800, OS6865, and OS9900 Series models for interoperability purposes and are also certified for joint use: TA6860E-P48-US, TA6865-P16X-US, TA6865-U12X-US, TA6865-U28X-US, TA99-CMM, TA99-GNI-48, TA99-GNI-P48, TA99-XNI-48, TA9907-CFM, TA9907-CHAS, and TA9907-RCB-A bundle (contains TA9907-CHAS, TA9907-CFM, TA99-CMM, and OS99-PS-A).

LEGEND:

ALE	Alcatel Lucent Enterprise	LGS	Lucent Government Solutions
AOS	Alcatel Operating System	LoC	Letter of Compliance
APL	Approved Products List	Mbps	Megabits per second
ASLAN	Assured Services Local Area Network	OS	OmniSwitch
BaseT	Mbps (Baseband Operation, Twisted Pair) Ethernet	PoE/+	Power over Ethernet/Plus
Base-X	Mbps Ethernet over Fiber or Copper	QoS	Quality of Service
DoDIN	Department of Defense Information Network	QSFP/+	Quad Small Form Factor Pluggable/Plus
DTR	Desktop Review	R	Release
E	Enhanced	SFP/+	Small Form Factor Pluggable/Plus
FCoE	Fiber Channel over Ethernet	SUT	System Under Test
G	Gigabit	TA	Trade Agreement
GigE	Gigabit Ethernet	TAA	Trade Agreement Act
HPoE	High Power over Ethernet	UCR	Unified Capabilities Requirements
JITC	Joint Interoperability Test Command	W	Wattage
LAN	Local Area Network	X72	48 SFP and 6 QSFP

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), and the Defense Information Systems Agency (DISA) Certifying Authority recommendation for inclusion on the DoDIN APL. JITC conducted testing at the DoDIN APL Testbed, Fort Meade, Maryland, from 24 July through 18 August 2017, using test procedures derived from Reference (d), and completed review of the

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

Vendor's LoC on 10 July 2017. A JITC-led Cybersecurity (CS) test team conducted CS testing and published the results in a separate report, Reference (e).

DTR 9 was requested to add the following TAA-compliant:

- TA6860E-P48-US (similar to OS6860E-P48)
- TA6865-P16X-US (similar to OS6865-P16X)
- TA6865-U12X-US (similar to OS6865-U12X)
- TA6865-U28X-US (similar to OS6865-U28X)
- TA9907-CHAS (similar to OS9907-CHAS)
- TA9907-CFM (similar to OS9907-CFM)
- TA99-CMM (similar to OS99-CMM)
- TA99-GNI-P48 (similar to OS99-GNI-P48)
- TA99-GNI-48 (similar to OS99-GNI-48)
- TA99-XNI-48 (similar to OS99-XNI-48)
- TA9907-RCB-A bundle (contains TA9907-CHAS, TA9907-CFM, TA99-CMM, and OS99-PS-A)

JITC analysis determined no IO or CS testing was required because, other than using a TAA-compliant manufacturing process, the TAA models are similar in hardware and utilize the same approved AOS 8.8. 152.R01 software as the previously certified OS6800, OS6865, and OS9900 Series models and therefore addition of these models did not change the certified IO features and functions or approved CS posture of the SUT. See Table 4 for an updated list of certified components.

Based on analysis and no change to the SUT certified IO features and functions, JITC approves this DTR.

Additionally, the approved CS posture of the SUT is documented in a separate report, Reference (e).

5. Additional Information. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (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 that contains the approved configuration and deployment guide must be requested directly from the Approved Products Certification Office (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 <https://aplits.disa.mil/>.

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Alcatel Lucent Enterprise OmniSwitch OS9900, OS6900, OS6860, OS6860E, and OS6865 Series Assured Services Local Area Network, Software Release Alcatel Operating System (AOS) 8.8.152.R01

6. Point of Contact (POC). JITC POC: Mr. Son Pham; commercial telephone (301) 225-7945; e-mail address: son.m.pham2.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE2 (Mr. Son Pham), 6914 Cooper Avenue, Fort Meade, MD 20755-7085. The APCO tracking number for the SUT is 1628601.

FOR THE COMMANDER:

Enclosure a/s

for LAWRENCE T. DORN
Chief
Networks/Communications &
DoDIN Capabilities Division

Distribution (electronic mail):

DoD CIO
Joint Staff J-6, JCS
USD (AT&L)
ISG Secretariat, DISA, JT
U.S. Strategic Command, J66
USSOCOM J65
USTRANSCOM J6
US Navy, OPNAV N2/N6FP12
US Army, DA-OSA, CIO/G-6, SAIS-CBC
US Air Force, SAF/A6SA
US Marine Corps, MARCORSYSCOM, SEAL, CERT Division
US Coast Guard, CG-64
DISA/ISG REP
OUSD Intel, IS&A/Enterprise Programs of Record
DLA, Test Directorate, J621C
NSA/DT
NGA, Compliance and Assessment Team
DOT&E
Medical Health Systems, JMIS PEO T&IVV
HQUSAISEC, AMSEL-IE-ME
APCO

ADDITIONAL REFERENCES

- (c) Joint Interoperability Test Command (JITC), "Memo, JTE, "Joint Interoperability Certification of the Alcatel Lucent Enterprise OS6900, OS6860, OS6860E, OS6865, Assured Services Local Area Network Software Release 8.4.1," September 2017
- (d) JITC, "Assured Services Local Area Network (ASLAN) and Non-ASLAN Test Procedures Version 1.2 for Unified Capabilities Requirements (UCR) 2013 Change 1," January 2017
- (e) JITC, "Cybersecurity Assessment Report For Alcatel Lucent Enterprise OS9900, OS6900, OS6860, OS6860E, and OS6865, Assured Services Local Area Network, Software Release Alcatel-Lucent Operating System (AOS) 8.8.152.R01, Tracking Number (TN) 1628601," March 2022