IN REPLY
REFER TO: Joint Interoperability Test Command (JTE)   5 February 2024

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Certification of the Thinklogical TLX Video
Matrix Switching Solution with Software Release 5

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 (UCR 2013) Change 2,"
September 2017
(c) through (d), see Enclosure

1.   **Certification Authority.** Reference (a) establishes the Joint Interoperability Test Command
(JITC) as the Joint Interoperability Certification Authority for the Department of Defense
Information Network (DoDIN) products, Reference (b).

2.   **Conditions of Certification.** The Thinklogical TLX Video Matrix Switching Solution with
Software Release 5, hereinafter referred to as the System Under Test (SUT), meets the critical
requirements of the Unified Capabilities Requirements, Reference (b), as a Closed Video
Distribution System (VDS) and is certified for joint use with no conditions, see Table 1. This
certification expires upon changes that 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) 2. DTR 2 was requested to:

- Migrate the Operating System (OS) on the System Management Portfolio (SMP)
Appliance and Matrix Switch Controller Card from Debian (Linux) to Ubuntu because
the Debian (Linux) OS is approaching End of Life (EOL).
- Update Federal Federal Information Processing Standard (FIPS) Cryptographic Module
Validation Program (CMVP) certificates.
- Extend the DoDIN APL expiration date for an additional three (3) years.

See Paragraph 4 for additional details.

Table 1. Conditions

Condition	Operational Impact	Remarks
None; the Thinklogical TLX Video Matrix Switching Solution with Software Release 5 meets all the applicable critical joint interoperability requirements in accordance with the Unified Capabilities Requirements (UCR), 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 a DoDIN APL Product Summary, to include subsequent DTR updates.

Table 2. Interface Status

Interface	Applicability: (R), (O), (C)	Status	Remarks
Closed VDS (See note 1.)			
RS-232	R	Met	(See note 2.)
RS-422	R	Met	(See note 2.)
RS-485	O	Not Met	(See notes 2 and 3.)
USB	R	Met	
Ethernet – IEEE 802.3i (10BaseT UTP)	O	Met	(See note 4.)
Ethernet - IEEE 802.3u (100BaseT UTP)	O	Met	
Ethernet - IEEE 802.3u (100BaseFX)	O	Met	
Ethernet - IEEE 802.3ab (1000BaseT UTP)	O	Met	
Ethernet - IEEE 802.3z (1000BaseX Fiber)	O	Not Met	(See note 3).
Network Management Interfaces for VDS Products (See notes 1 and 5.)			
IEEE 802.3i (10BaseT UTP)	C	Met	
IEEE 802.3u (100BaseT UTP)	C	Met	
IEEE 802.3ab (1000BaseT UTP)	C	Met	
IEEE 802.3ab (1000BaseT UTP)	C	Met	
IEEE 802.3z (1000BaseX Fiber)	C	Not Met	(See note 3).
VDS Subcomponents (See notes 1 and 6.)			
VDS Signal Extenders (See note 7.)			
Coaxial	R	Met	
Twisted Pair	R	Met	
Fiber Optical	R	Met	
VDS Peripheral Connectors (See note 8.)			
BNC	R	Met	
DVI	R	Met	
VGA	R	Met	
HDMI	R	Met	
RCA	R	Met	
Fiber	R	Met	
Modular Connectors	R	Met	
VDS Subcomponents (See notes 1 and 6.) (continued)			
VDS Peripheral Connector Conversion Devices (See note 8.)			
BNC	R	Met	
DVI	R	Met	
VGA	R	Met	
HDMI	R	Met	
RCA	R	Met	

(Table continues next page.)

Table 2. Interface Status (continued)

Interface	Applicability: (R), (O), (C)	Status	Remarks
Closed VDS (See note 1.)			
Fiber	R	Met	
Modular Connectors	R	Met	

NOTE(S):
1. The SUT is a Closed VDS only and therefore did not require interoperability testing; all applicable "Met" results were based on analysis of the Vendor's LoC.
2. The UCR requires that a Closed VDS support RS-232, RS-422, or RS-485.
3. The SUT does not support this optional (or conditional) interface; therefore, it was not included in this certification.
4. The UCR specifies that that a Closed VDS may support an Ethernet interface but does not specify media or data rate. The SUT may support one or more of the specified interfaces.
5. The UCR specifies that all network appliances must be manages via an Ethernet interface but does not specify media or data rate. The SUT must support at least one of the specified interfaces.
6. A Closed VDS may support VDS Signal Extenders, Peripheral Connectors, or Peripheral Connector Conversion devices. If supported, these subcomponents must meet the applicable UCR requirements specified in Section 9.
7. If the SUT supports VDS Signal Extenders, the SUT must provide one of the specified interfaces.
8. If the SUT supports peripheral connectors it must support at least one of the specified interfaces.

LEGEND:
802.3ab	1000 Base T Gbps Ethernet over Twisted pair	ID	Identification
802.3i	10BaseT Mbps over Twisted pair	IEEE	Institute of Electrical and Electronics Engineers
802.3u	Fast Ethernet at 100 Mbps, copper and fiber	IP	Internet Protocol
802.3z	Gigabit Ethernet over Fiber	LoC	Letter of Compliance
BaseFX	1000 Mbps Ethernet over fiber	O	Optional
BaseT	10 Mbps (Baseband Operation, Twisted Pair) Ethernet	R	Required
BaseX	1000 Mbps Ethernet over Fiber or Copper	SUT	System Under Test
BNC	Bayonet Neill-Concelman	UCR	Unified Capabilities Requirements
C	Conditional	UTP	Unshielded Twisted Pair
DVI	Digital Visual Interface	USB	Universal Serial Board
FX	Fast Ethernet over Optical Fiber	VDS	Video Distribution System
HDMI	High-Definition Multimedia Interface	VGA	Video Graphics Array

Table 3. Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (See note 1.)	UCR 2013 Change 2 Reference	Status
1	General VDS	9.1	Met (See notes 1, 2 and 3.)
2	Closed VDS	9.2	Met (See note 2.)
3	VDS over IP (VDS-IP)	9.3	Not Met (See note 4)
4	VDS Recording	9.4	Not Met (See note 4.)

NOTE(S):
1. The annotation of "required" refers to a high-level requirement category. Table 3-1 in Enclosure 3 of Reference (c) addresses the applicability of each sub-requirement.
2. The SUT is a Closed VDS only and therefore did not require interoperability testing; the SUT CR/FR status is based on analysis of the vendor's LoC.
3. A NIWC led Cybersecurity test team conducted Security testing and published the results in a separate report, Reference (d).
4. The SUT is a Closed VDS only; therefore, these requirements are not applicable to the SUT.

LEGEND:
CR	Capability Requirement	NIWC	Naval Information Warfare Center
FR	Functional Requirement	SUT	System Under Test
ID	Identification	UCR	Unified Capabilities Requirements
IP	Internet Protocol	VDS	Video Distribution System

Table 4. DoDIN APL Product Summary

Product Identification			
Product Name	TLX Video Matrix Switching Solution		
Software Release	Software Release 5		
UCR Product Type(s)	Closed VDS		
Product Description	The SUT (System Under Test) is a closed video matrix extension and distribution system. As a closed system, the SUT includes video distribution as well as other computer interfaces such as keyboard and mouse. The certified interfaces are all internal to the system and the SUT will not connect to the Defense Information Systems Network (DISN).		
Product Components (See note 1.)	**Component Name** (See notes 2 and 3.)	**Version** (See note 1.)	**Remarks**
TLX Video Matrix Switching Solution	**VDS Matrix Switch**		
	TLX-MSC-000080		
	TLX-MSC-000080 Rev A		
	TLX-MSC-000012 / TLX-MSC-000012 Rev A		
	TLX-MSC-000024 / TLX-MSC-000024 Rev A		
	TLX-MSC-000048 / TLX-MSC-000048 Rev B		
	TLX-MSC-000160 / TLX-MSC-000160 Rev B	**5.07**	
	TLX-MSC-000320 / TLX-MSC-000320 Rev A		
	TLX-MSC-000640 / TLX-MSC-000640 Rev B		
	TLX-MSC-000S48		
	TLX-MSC-000T48 / TLX-MSC-000T48 Rev B		
	TLX-MSC-001280		
	TLX-MSC-020048		
	Peripherals to the Matrix		
	SMP-AX00080	1.03	
	CHS-HP0004	N/A	
	CHS-HP0004, ICT-XMF-C01A22	1.0	
	CHS-000004	23.26	
	CHS-000004, TLX-TMM-U00E40	23.29	
	CHS-000004, TLX-TMM-U00001	23.20	
	CHS-000004, SMP-CX00001	6.0	
	CHS-000004, TLX-RMM-U00E40	23.18	
	CHS-000004, TLX-RMM-K0SE20	23.31	
	CHS-000004, TLX-RMM-U00001	23.19	
	CHS-000004, VQM-0HVK03-LCTX	69.19	
	CHS-000004, VQM-U00002-LCTX	00.02	
	CHS-000004, VQM-HA0006-LCTX	68.08	
	VEL-AV0M12-LCTX	20.04	
	SDC-000001-LC	NA	
	HDC-000001-LC	52.11	
	CHS-000004, VQM-AHV003-LCRX	18	
	CHS-000004, VQM-U00002-LCRX	00.02	
	CHS-000004, VQM-HA0006-LCRX	68.10	
	SDI-C100X1-LCRX	NA	

NOTE(S):
1. The detailed component and subcomponent list is provided in Table 3-3 in Enclosure 3 of Reference (c).
2. Components bolded and underlined were tested by NIWC. 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 and certified components and JITC analysis determined they were functionally identical for interoperability certification purposes.
3. The SUT is a Closed VDS and therefore did not require interoperability testing; the SUT met all applicable interoperability requirements based on analysis of the Vendor's LoC.

(Table continues next page.)

Table 4. DoDIN APL Product Summary (continued)

NOTE(S): (continued)
4. With DTR 1, the following Matrix switches were added to this certification without testing based on analysis and similarity to the previously tested TLX-MSC-000080 Matrix switch: TLX-MSC-000080 Rev A, TLX-MSC-000012, TLX-MSC-M00012 Rev A, TLX-MSC-000024, TLX-MSC-M00024 Rev A, TLX-MSC-000048, TLX-MSC-000048 REV B, TLX-MSC-000160, TLX-MSC-000160 Rev B, TLX-MSC-000320, TLX-MSC-000320 REV A, TLX-MSC-000640, TLX-MSC-000640 REV B, TLX-MSC-000S48, TLX-MSC-000T48, TLX-MSC-000T48 REV B, TLX-MSC-001280, and TLX-MSC-020048.

LEGEND:

APL	Approved Products List	NIWC	Naval Information Warfare Center
DoDIN	Department of Defense Information Network	Rev	Revision
DTR	Desktop Review	SMP	System Management Portfolio
JITC	Joint Interoperability Test Command	SUT	System Under Test
LoC	Letter of Compliance	UCR	Unified Capabilities Requirements
MSC	Matrix Switch Chassis	VDS	Video Distribution System
NA	Not Applicable		

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4. Test Details. This extension of the certification is based on DTR 2. The original certification, documented in Reference (c), was based on review of the Vendor's Letters of Compliance (LoC), DISA adjudication of open test discrepancy reports (TDRs), and DISA Certifying Authority Recommendation for inclusion on the DoDIN APL. A Naval Information Warfare Center (NIWC) test team completed review of the Vendor's LoC on 26 July 2018, and there were no interoperability test discrepancies. A NIWC-led CS test team conducted CS testing from 2 April through 5 April 2019, with follow-on CS Verification and Validation (V&V) testing from 7 May through 17 May 2019 and 31 March through 1 April 2021. NIWC conducted CS testing for this DTR 11 December 2023 through 22 December 2023. CS testing results are published in a separate report, Reference (d). Enclosure 2 of Reference (c) documents the test results and describes the network and system configurations. Enclosure 3 of Reference (c) provides the detailed interface, capability, and functional requirements and LoC analysis results.

DTR 2 was requested to:

- Migrate the Operating System (OS) on the SMP Appliance and Matrix Switch Controller Card from Debian (Linux) to Ubuntu because the Debian (Linux) OS is approaching End of Life (EOL).
- Update FIPS CMVP certificates.
- Extend the DoDIN APL expiration date for an additional three (3) years.

JITC analysis, with input from NIWC, determined CS testing was required to demonstrate the migration to the Ubuntu OS did not change the current CS posture of the SUT, but no IO testing was required because the update to the Ubuntu OS, updated FIPS certifications, and DoDIN APL extension did not change the certified IO features and functions of the SUT.

NIWC conducted CS testing from 18 December through 22 December 2023 and published the test results and updated FIPS certifications in a separate report, Reference (d).

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

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Thinklogica TLX Video Matrix Switching Solution with Software Release 5

5. Additional Information. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Sensitive but Unclassified Internet Protocol Data (formerly known as 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.jitc.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 containing 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/.

6. Point of Contact (POC). NIWC testing POC: Amber Allen; 757-443-0313; amber.allen@navy.mil. JITC certification POC: Lisa Esquivel; commercial telephone 520-538-5531; e-mail address: lisa.r.esquivel.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE (Lisa Esquivel), P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The APCO tracking number for the SUT is 1823401.

FOR THE COMMANDER:

Enclosure a/s   LAWRENCE T. DORN
                                                 Chief
                                                 Specialized Test Division

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Thinklogica TLX Video Matrix Switching Solution with Software Release 5

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Medical Health Systems, JMIS PEO T&IVV
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ADDITIONAL REFERENCES

(c)   Joint Interoperability Test Command (JITC) Memo, JTE, "Joint Interoperability Certification of the Thinklogical TLX Video Matrix Switching Solution with Software Release 5," 21 April 2021

(d)   Naval Information Warfare Center (NIWC), "Cybersecurity Assessment Report for Thinklogical, LLC TLX Video Matrix Switching Solution, Software Release 5, Tracking Number 1823401", February 2024

Enclosure