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IN REPLY Joint Interoperability Test Command (JTE)

16 February 2021

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Joint Interoperability Certification of the Spok Personal Computer/Public Safety Answering Point (PC/PSAP)TM with Software Release 12.0

- 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 (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 Spok Personal Computer/Public Safety Answering Point (PC/PSAP)TM with Software Release 12.0, hereinafter referred to as the System Under Test (SUT), meets the critical requirements of the Unified Capabilities Requirements, Reference (b), as a Customer Premise Equipment (CPE) PSAP and is certified for joint use with no conditions (see Table 1). The SUT was tested and certified for joint use with the Avaya Aura Enterprise Session Controller (ESC) Release 8.1 with Application Enablement Services (AES) Release 7.1, Cisco ESC 15 Release 12.5, Avaya Communication Server (CS) 2100 Release Succession Enterprise (SE) 09.1, and Avaya CS1000M Release 5.0. JITC analysis determined that the SUT is also certified for joint use with any Avaya Aura ESC, Avaya AES, and Cisco ESC currently or previously listed on the DoDIN Approved Products List (APL) for the same certified interfaces depicted in Table 2. This certification expires upon changes that could affect interoperability, but no later than the specified expiration date in the DoDIN APL memorandum.

This extension of the certification is for Desktop Review (DTR) 1. DTR 1 was requested to interface the SUT with the Unique Communications CAIRS® Element Management System (EMS). This interface allows the CAIRS® EMS to send Automatic Location Identification (ALI) database updates to the SUT in a text or National Emergency Number Association NENA Version 2.0 file format.

See Table 4 for a list of certified components and Paragraph 4 for the test details.

Table 1. Conditions

Description	Operational Impact	Remarks
Not applicable; the Spok Personal Computer/Public Safety Answering Point TM , Software Release 12.0, meets all of 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	Status	Remarks																																																
Legacy Line/Trunk Interfaces																																																			
2-Wire Analog Ground Start Line	C	Met																																																	
2-Wire Analog CAMA Trunk	C	Met																																																	
Serial EIA-232	C	Met	See note 2.																																																
T1 ISDN PRI NI2	C	Met																																																	
IP Network Interfaces																																																			
IP (IEEE 802.3ab)	C	Met	See note 3.																																																
<p>NOTE(S):</p> <ol style="list-style-type: none"> The UCR does not specify a specific interface that a CPE product must support. The SUT interfaces via EIA-232 serial to the following devices: ALI modems, Avaya CS2100 M5316 and M6320 proprietary digital phones, Avaya CS1000 3904 and 3905 digital proprietary phones, and the TDD/RIM. The SUT provided an IP intra-enclave interface between the PC/PSAP database server, PC/PSAP Dispatcher workstations, and IP Tracking Server. <p>LEGEND:</p> <table> <tr> <td>802.ab</td> <td>1000BaseT Ethernet over twisted pair at 1 Gbps</td> <td>Mbps</td> <td>Megabits per second</td> </tr> <tr> <td>ALI</td> <td>Automatic Location Identification</td> <td>NI2</td> <td>National ISDN Standard 2</td> </tr> <tr> <td>BaseT</td> <td>Mbps (Baseband Operation, Twisted Pair) Ethernet</td> <td>PC</td> <td>Personal Computer</td> </tr> <tr> <td>C</td> <td>Conditional</td> <td>PRI</td> <td>Primary Rate Interface</td> </tr> <tr> <td>CAMA</td> <td>Centralized Automatic Message Accounting</td> <td>PSAP</td> <td>Public Safety Answering Point</td> </tr> <tr> <td>CPE</td> <td>Customer Premise Equipment</td> <td>RIM</td> <td>Relational Data-Base Management System Interface Module</td> </tr> <tr> <td>CS</td> <td>Communication Server</td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td>EIA</td> <td>Electronic Industries Alliance</td> <td>T1</td> <td>Digital Transmission Link Level 1 (1.544 Mbps)</td> </tr> <tr> <td>Gbps</td> <td>Gigabits per second</td> <td>TDD</td> <td>Telecommunication Device for the Deaf</td> </tr> <tr> <td>IEEE</td> <td>Institute of Electrical and Electronics Engineers</td> <td>UCR</td> <td>Unified Capabilities Requirements</td> </tr> <tr> <td>IP</td> <td>Internet Protocol</td> <td></td> <td></td> </tr> <tr> <td>ISDN</td> <td>Integrated Services Digital Network</td> <td></td> <td></td> </tr> </table>				802.ab	1000BaseT Ethernet over twisted pair at 1 Gbps	Mbps	Megabits per second	ALI	Automatic Location Identification	NI2	National ISDN Standard 2	BaseT	Mbps (Baseband Operation, Twisted Pair) Ethernet	PC	Personal Computer	C	Conditional	PRI	Primary Rate Interface	CAMA	Centralized Automatic Message Accounting	PSAP	Public Safety Answering Point	CPE	Customer Premise Equipment	RIM	Relational Data-Base Management System Interface Module	CS	Communication Server	SUT	System Under Test	EIA	Electronic Industries Alliance	T1	Digital Transmission Link Level 1 (1.544 Mbps)	Gbps	Gigabits per second	TDD	Telecommunication Device for the Deaf	IEEE	Institute of Electrical and Electronics Engineers	UCR	Unified Capabilities Requirements	IP	Internet Protocol			ISDN	Integrated Services Digital Network		
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Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (See note 1.)	UCR 2013 Reference	Status
1	Customer Premise Equipment Requirements (R)	3.7.2	Met
2	Differentiated Services Code Point Tagging Requirements (R)	7.2.3 Table 7.2-3	Met (See note 2.)
3	Internet Protocol version 6 Requirements (R)	5.2	Met
<p>NOTE(S):</p> <ol style="list-style-type: none"> The annotation of 'required' refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (c). Differentiated Services Code Point testing was not conducted; however, it was determined to be compliant based upon the vendor's LoC and previous test data collected on the same hardware platform with similar performing software. 			

(See table legend on next page.)

JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Spok Personal Computer/Public Safety Answering Point (PC/PSAP)TM with Software Release 12.0

Table 3. SUT Capability Requirements and Functional Requirements Status (continued)

LEGEND:			
CR	Capability Requirement	R	Required
FR	Functional Requirement	SUT	System Under Test
ID	Identification	UCR	Unified Capabilities Requirements
LoC	Letters of Compliance		

Table 4. DoDIN APL Product Summary

Product Identification			
Product Name	Spok Personal Computer/Public Safety Answering Point (PC/PSAP) TM		
Software Release	12.0		
UCR Product Type	Customer Premise Equipment (CPE) PSAP		
Product Description	The CPE is a passive call logging and recording solution. The CPE devices may include answering machines, voice mail systems, automated call distributors, proprietary telephone sets, standards-based telephone sets, facsimile machines, voice-band modems, ISDN Termination 1 devices and Terminal Adapters, and certain devices deemed mandatory for local or host nation telecommunications network compliance (i.e., 911 emergency service). The E911 PC/PSAP with optional IP Tracking Server receives the Automatic Number Identification (ANI) and processes the Automatic Location Identification (ALI) for 911 calls. The 911 call information is written to the database and stores records of conversations to disk files in “.wav” format, which can be played back later with any standard audio player and provides call information. The IP Tracking Server allows for real time location of relocated IP phones based on the phone Media Access Control address.		
Product Components (See note 1.)	Component Name	Version	Remarks
AudioCodes Mediant 1000	Media Gateway	6.60A.336.004	
XID Unit	NA	NA	
TDD/RIM Device	Hearing Impaired Device	NA	
PC/PSAP-Database Server	Dell PowerEdge Server	Windows 2019 Server with MS SQL 2017	
PC/PSAP Dispatcher Workstation (x2)	Dell PC	Windows 10 with MS SQL 2017	
IP Tracking Server	Dell PowerEdge Server	Windows Server 2019/IIS 10.0	Optional
Components/Subcomponents added with DTR 1 (See note 2.)			
Component	Sub-component	Release	Function
CAIRS® Application Server (See note 2.)	Dell PowerEdge R640	Microsoft Windows Server 2019 v10.0.17763.1	The CAIRS® Application server is a standalone server hosting Hyper-V, Microsoft’s virtualization application
CAIRS® Database Server (See note 3.)	Virtual Database Server	Microsoft Windows Server 2019 v10.0.17763.1	MS SQL Database hosting the CAIRS® databases
		MSSQL v15.0.4083.2	
CAIRS® Web Server	Virtual Web Server	Microsoft Windows Server 2019 v10.0.17763.1	Internet Information Services (IIS) hosting the CAIRS® user interface
		IIS v10.0.17762.1	
		CAIRS Release 5.1	
OpenGear ACM700x (See note 4.)	Terminal Server	4.10.0	Out of Band (OOB) Management, Serial to IP Interface for legacy devices
NOTE(S):			
1. The initial detailed component and subcomponent list is provided in Reference (c).			
2. With DTR 1, the CAIRS® EMS was added as an interface for the SUT based on testing conducted by JITC 18-22 January 2021.			

(See table legend on next page.)

Table 4. DoDIN APL Product Summary (continued)

LEGEND:			
ALI	Automatic Location Identification	MS	Microsoft
ANI	Automatic Number Identification	NA	Not Applicable
APL	Approved Products List	PC	Personal Computer
CPE	Customer Premise Equipment	PSAP	Public Safety Answering Point
DoDIN	Department of Defense Information Network	RIM	Relational Data-Base Management System Interface Module
EMS	Element Management System	SQL	Structured Query Language
IIS	Internet Information Services	TDD	Telecommunication Device for the Deaf
IP	Internet Protocol	UCR	Unified Capabilities Requirements
ISDN	Integrated Services Digital Network		

4. Test Details. This extension of the certification is based on DTR 1. 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 Global Network Test Facility at Fort Huachuca, Arizona, from 12 November through 15 November 2019, using test procedures derived from Reference (d), and completed review of the Vendor’s LoC on 12 November 2019. A JITC-led Cybersecurity (CS) test team conducted CS testing from 21 October through 13 November 2019, and published the results in a separate report, Reference (e).

DTR 1 was requested to interface the SUT with the Unique Communications CAIRS® Element Management System (EMS). This interface allows the CAIRS® EMS to send Automatic Location Identification (ALI) database updates to the SUT in a text or National Emergency Number Association NENA Version 2.0 file format.

JITC analysis of the DTR documentation determined IO testing with CS vulnerability scans was required for this request. Furthermore, there were no past due CS or IO Vendor Plan of Action and Milestones (POA&Ms).

JITC conducted IO testing from 18 January to 22 January 2021, using test procedures derived from Reference (d). During IO testing, the SUT was interfaced with the Unique Communications CAIRS® system version 5.1 to receive ALI database updates. During the test, changes to the database were invoked by relocating an Internet Protocol (IP) end instrument (EI) on an Access switch monitored by the Unique Communications CAIRS® System. This triggered a Media Access Control address change to the IP EI Access port associated with the IP EI’s directory number, resulting in a dynamic location update in the ALI database pushed to the SUT. Testing successfully demonstrated the SUTs ability to update the ALI database information sent by the Unique Communications CAIRS® system when IP end users were relocated on their respective LAN access switches. There were no new TDRs and no TDRs were closed as a result of this DTR test.

Based on analysis, successful IO test results, and no past due Vendor POA&Ms, JITC approves this DTR.

Additionally, the results of the CS vulnerability scans conducted during the test event are documented in a separate report, Reference (e).

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5. Additional Information. JITC distributes interoperability information via the JITC Electronic Report Distribution system, which uses Sensitive but Unclassified IP 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.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), 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). JITC POC: Ms. Lorraine Gardner; commercial telephone (520) 538-5221, DSN telephone 879-5221, FAX DSN 879-4347; e-mail address: lorraine.gardner.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE2 (Ms. Lorraine Gardner), P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The APCO tracking number for the SUT is 1915801.

FOR THE COMMANDER:

Enclosure a/s

JEFFREY P. O'DONNELL
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JITC Memo, JTE, Extension of the Joint Interoperability Certification of the Spok Personal Computer/Public Safety Answering Point (PC/PSAP)TM with Software Release 12.0

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ADDITIONAL REFERENCES

- (c) Joint Interoperability Test Command (JITC) Memo, JTE, "Joint Interoperability Certification of the Spok Inc. Personal Computer/Public Safety Answering Point (PC/PSAP)™, Software Release 12.0," 14 January 2020
- (d) JITC, "Customer Premise Equipment (CPE) Public Safety Answering Point (PSAP) Test Procedures Version 1.0 for Unified Capabilities Requirements (UCR) 2013 Change 2," March 2018
- (d) JITC, "Cybersecurity Assessment Report for Spok Personal Computer/Public Safety Answering Point (PC/PSAP)™ Software Release 12.0 (Tracking Number 1915801)," January 2021