



DEFENSE INFORMATION SYSTEMS AGENCY

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IN REPLY  
REFER TO:

Joint Interoperability Test Command (JTE)

**3 May 13**

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Extension of the Special Joint Interoperability Certification of the Vocera Communication System with Software Release 4.3, Wireless End Instrument

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 (e), see Enclosure 1

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for UC interoperability test certification.
2. The Vocera Communication System with Software Release 4.3, is hereinafter referred to as the System Under Test (SUT). The SUT meets all its critical interoperability requirements and JITC certifies the SUT for joint use in the Defense Switch Network (DSN) as a Wireless End Instrument (WEI). The JITC conducted testing using WEI requirements within the Unified Capabilities Requirements (UCR) 2008, Change 1, Reference (c), and other sponsor requested requirements. JITC tested the SUT using WEI test procedures, Reference (d) and test procedures developed to address sponsor unique requirements. The SUT connects to customer provided Private Branch Exchange system via its T1 Primary Rate Interface to provide voice-calling capabilities to the Vocera Mobile Communication Devices. The SUT does not support Military Unique Features and can only serve users having no requirement to originate Command and Control communications. Connectivity to the DSN requires a waiver from the Chairman of the Joint Chiefs of Staff (CJCS) for each site. 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 (POA&M) to address the concern(s) within 120 days of identification. The vendor submitted Desktop Review (DTR) 1. DTR 1 addresses completion of POA&M Internet Protocol Version 6 (IPv6) compliance requirements. No other configurations, features, or functions, except those cited within this memorandum, are certified by the JITC. This certification expires no later than three years from the date of this memorandum.
3. The JITC approves the extension of this certification for DTR 1, submitted to fulfill the POA&M update for compliance of IPv6 requirements. The basis of approval is from interoperability (IO) Verification and Validation (V&V) testing of IPv6 controls related to IPv6

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POA&M updates. Through this analysis, the JITC determined that there is minimal risk in approving this DTR. Information Assurance (IA) testing was also conducted. The Unified Capabilities Certification Office (UCCO) published the results of the test in separate IA reports on the Approved Products List Integrated Tracking System (APLITS) located at <https://aplits.disa.mil>. The JITC conducted interoperability testing for the DTR at the Indian Head, Maryland test facility from 26 through 27 February 2013. The acquiring agency or site will be responsible for the Department of Defense Information Assurance Certification and Accreditation Process accreditation.

4. Section 5.3 of Reference (c) establishes the interface and threshold Capability Requirements (CR) and Functional Requirements (FR) used to evaluate interoperability of the SUT as a WEI. Tables 1 and 2 list the WEI, interfaces, CRs, FRs, and the component status of the SUT. Table 3 lists the new features included in the DTR request.

**Table 1. SUT Interface Interoperability Status**

Interface	Critical (See note 1)	UCR Reference (UCR 2008 CH 1)	Threshold CR/FR Requirements (See note 2)	Status	Remarks																																												
<b>Wireless Endless Instruments</b>																																																	
802.11a	No	5.3.1.7.2.3	1, 2, 3, and 4	N/A	Not supported																																												
802.11b	No	5.3.1.7.2.3	1, 2, 3, and 4	Certified																																													
802.11g	No	5.3.1.7.2.3	1, 2, 3, and 4	Certified																																													
802.16	No	5.3.1.7.2.3	1, 2, 3, and 4	N/A	Not supported																																												
<b>Other</b>																																																	
T1 ISDN PRI	No	5.3.2.31.4.8	ANSI T1.607	Certified	See note 3.																																												
<p><b>NOTES:</b></p> <p>1. The UCR does not define any minimum interfaces. The SUT must minimally provide one of the wired interfaces (to the ASLAN) and wireless interfaces (subscriber).</p> <p>2. The SUT does not need to provide wireless capabilities; however, if such capabilities are present, the SUT must meet all threshold CR/FR requirements. The detailed CR/FR requirements are listed in Enclosure 3.</p> <p>3. The Vocera Communications System provides wireless end instrument connectivity to a Base PBX via a T1 ISDN PRI interface. This interface is the commercial variant (ANSI T1.607) and does not provide MLPP C2 capabilities.</p> <p><b>LEGEND:</b></p> <table border="0"> <tr> <td>802.11</td> <td>IEEE set of wireless standards in the 2.4,3.6, and 5 GHz frequency bands</td> <td>C2</td> <td>Command and Control</td> </tr> <tr> <td>802.11a</td> <td>802.11 extension provides up to 54 Megabits Per Second in the 5 Gigahertz Band</td> <td>CH</td> <td>Change</td> </tr> <tr> <td>802.11b</td> <td>802.11 extension provides 11 Megabits transmission in the 2.4 Gigahertz Band</td> <td>CR</td> <td>Capability Requirement</td> </tr> <tr> <td>802.11g</td> <td>802.11 extension provides up to 54 Megabits in the 2.4 Gigahertz band</td> <td>FR</td> <td>Functional Requirement</td> </tr> <tr> <td>802.16</td> <td>IEEE series of wireless broadband standards</td> <td>ISDN</td> <td>Integrated Services Digital Network</td> </tr> <tr> <td>ANSI</td> <td>American National Standards Institute</td> <td>MLPP</td> <td>Multilevel Precedence and Preemption</td> </tr> <tr> <td>ASLAN</td> <td>Assured Services Local Area Network</td> <td>N/A</td> <td>Not Applicable</td> </tr> <tr> <td></td> <td></td> <td>PBX</td> <td>Private Branch Exchange</td> </tr> <tr> <td></td> <td></td> <td>PRI</td> <td>Primary Rate Interface</td> </tr> <tr> <td></td> <td></td> <td>SUT</td> <td>System Under Test</td> </tr> <tr> <td></td> <td></td> <td>UCR</td> <td>Unified Capabilities Requirements</td> </tr> </table>						802.11	IEEE set of wireless standards in the 2.4,3.6, and 5 GHz frequency bands	C2	Command and Control	802.11a	802.11 extension provides up to 54 Megabits Per Second in the 5 Gigahertz Band	CH	Change	802.11b	802.11 extension provides 11 Megabits transmission in the 2.4 Gigahertz Band	CR	Capability Requirement	802.11g	802.11 extension provides up to 54 Megabits in the 2.4 Gigahertz band	FR	Functional Requirement	802.16	IEEE series of wireless broadband standards	ISDN	Integrated Services Digital Network	ANSI	American National Standards Institute	MLPP	Multilevel Precedence and Preemption	ASLAN	Assured Services Local Area Network	N/A	Not Applicable			PBX	Private Branch Exchange			PRI	Primary Rate Interface			SUT	System Under Test			UCR	Unified Capabilities Requirements
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**Table 2. SUT CRs and FRs Status**

CR/FR ID	Capability/ Function	Applicability (See note 1)	UCR Reference (UCR 2008 CH 1)	Status	Remarks
1	<b>General Wireless Requirements</b>				
	IPv6	Required	5.3.1.7.2.1	Met	See note 2
	Wi-Fi Certified	Required	5.3.1.7.2.1	Not Met	See note 3
	F/FO	Required	5.3.1.7.2.1	Met	
	Redundancy	Required	5.3.1.7.2.1	Met	
	FIPS 140-2 Level 1	Required	5.3.1.7.2.1	Met	
	Latency	Required	5.3.1.7.2.1	Met	
	Traffic Prioritization	Required	5.3.1.7.2.1	N/A	
	Wireless STIGs	Required	5.3.1.7.2.1	Met	
2	<b>Wireless Interface Requirements</b>				
	Interface Standards	Required	5.3.1.7.2.3	Met	
	802.11a Interface Standards	Required	5.3.1.7.2.3	N/A	
	802.11b Interface Standards	Required	5.3.1.7.2.3	Met	
	802.11g Interface Standards	Required	5.3.1.7.2.3	Met	
	802.16 Interface Standards	Required	5.3.1.7.2.3	N/A	
3	<b>Wireless End Instruments</b>				
	VoIP Solution	Required	5.3.1.7.2.4	Met	
	Access Methods	Required	5.3.1.7.2.4	Met	
	Dedicated or Shared	Required	5.3.1.7.2.4	Met	
	Call Control Authentication	Required	5.3.1.7.2.4	Met	
	IP Telephone Switch	Required	5.3.1.7.2.4	Met	
	FIPS 140-2 Level 1	Required	5.3.1.7.2.4	Met	
	Call Termination	Required	5.3.1.7.2.4	Met	
4	<b>ASLAN Requirements Applicable to Wireless Products</b>				
	General Performance Parameters	Required	5.3.1.3	Met	
<b>NOTES:</b>					
1. The SUT need not provide wireless capability. However, if wireless capability is present, the wireless product shall support at least one of the following approved wireless LAN standards interfaces: 802.11a (WEI, WLAS, WAB), 802.11b (WEI,WLAS), 802.11g (WEI, WLAS, WAB), 802.16 (WEI, WLAS, WAB).					
2. Vendor's SUT was submitted under UCR 2008 Change 1, therefore IPV6 is not applicable. The IPV6 requirement for wireless was (and is under this submittal) conditional. DISA adjudicated SUT's lack of IPV6 compliance as "Minor" with Plans of Actions and Milestones for December 2012. With DTR 1, the results indicate that vendor has now met this requirement.					
3. Vendor's SUT is not Wi-Fi Alliance certified and was tested with a limited set of other Wi-Fi products. MILDEP accepts this risk in selected deployments.					
<b>LEGEND:</b>					
802.11	IEEE set of wireless standards in the 2.4,3.6, and 5 GHz frequency bands	GHz	Gigahertz		
		ID	Identification		
802.11a	802.11 extension provides up to 54 Mbps in the 5 GHz Band	IEEE	Institute of Electrical and Electronics Engineers		
		IP	Internet Protocol		
802.11b	802.11 extension provides 11 Mbps transmission in the 2.4 GHz Band	IPv6	Internet Protocol version 6		
		LAN	Local Area Network		
802.11g	802.11 extension provides up to 54 Mbps in the 2.4 GHz band	Mbps	Megabits Per Second		
		MOS	Mean Opinion Score		
802.16	IEEE series of wireless broadband standards	MILDEP	Military Departments		
ASLAN	Assured Services Local Area Network	N/A	Not Applicable		
BER	Bit Error Rate	STIG	Security Technical Implementation Guide		
CH	Change	SUT	System Under Test		
CR	Capability Requirement	TDR	Test Discrepancy Reports		
DTR	Desktop Review	UCR	Unified Capabilities Requirements		
E2E	End-to-end	VoIP	Voice over Internet Protocol		
EIs	End Instruments	WAB	Wireless Access Bridge		
F/FO	Flash/ Flash Override	WEI	Wireless End Instrument		
FIPS	Federal Information Processing Standard	Wi-Fi	Wireless Fidelity		
FR	Functional Requirement	WLAS	Wireless LAN Access System		

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**Table 3. DTR Software to be included in the Original Certification**

Updated Software	Description	Comparable with Approved
Vocera Communication System Software Release Version 4.3	The Vocera Communication Systems Software Release Version 4.3 provides IPv6 functionality.	The Vocera Communication Systems Software Release version 4.1 can be upgraded to include IPv6 functionality.
<b>LEGEND:</b>		
DTR Desktop Review		
IPV6 Internet Protocol version 6		

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 Sensitive but Unclassified 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 Approved Products List (APL) testing is 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 UCCO APLITS website located at <https://aplits.disa.mil>.

6. The JITC testing point of contact is Ms. Jacquelyn Mastin, commercial 301-743-4320. Her e-mail address is Jacquelyn.mastin.civ@mail.mil, and mailing address 3341 Strauss Avenue, Suite 236, Indian Head, Maryland 20640-5149. The tracking number for the SUT is 1016101.

FOR THE COMMANDER:



for RICHARD A. MEADOR  
Chief  
Battlespace Communications Portfolio

Enclosures a/s

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NSG Interoperability Assessment Team  
DOT&E, Netcentric Systems and Naval Warfare  
Medical Health Systems, JMIS IV&V

## **ADDITIONAL REFERENCES**

- (c) Office of the Assistant Secretary of Defense Document, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010
- (d) Joint Interoperability Test Command Document, "Unified Capabilities Test Plan (UCTP)," November 2009
- (e) Joint Interoperability Test Command, "Information Assurance (IA) Finding Summary for Vocera Communication System Release 4.1 (Tracking Number 1016101)," May 2011