

NREPLY REFER TO: Joint Interoperability Test Command (JTE)

23 April 2021

MEMORANDUM FOR DISTRIBUTION

- SUBJECT: Joint Interoperability Certification of the LiteScape Technologies OnCast Directory with Software Release 4.5
- 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

1. Certification Authority. 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 LiteScape Technologies OnCast Directory with Software Release 4.5, hereinafter referred to as the System Under Test (SUT), meets the critical requirements of the Unified Capabilities Requirements (UCR), Reference (b), as an Enterprise Directory Services (EDS) Gateway and is certified for joint use with no conditions (see Table 1). The SUT was tested and certified for use specifically with the Cisco Unified Communications Manager (UCM) 12.5.1 Enterprise Session Controller (ESC) with the following Cisco end instruments: 7800 Series, 8800 Series, and Cisco Jabber for Windows.

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

Table 1. Conditions

Description Operational Impact		Remarks				
Not applicable; the LiteScape Technologies On requirements in accordance with the Unified Ca	Not applicable; the LiteScape Technologies OnCast Directory with Software Release 4.5 meets all of the joint critical 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 Desktop Review (DTR) updates.

Interface (See note.)	Applicability	Status	Remarks		
		Network Interface	'S		
Ethernet 10 Mbps	С	Met	The SUT met the critical CRs and FRs for this interface.		
Ethernet 100 Mbps	С	Met	The SUT met the critical CRs and FRs for this interface.		
Ethernet 1000 Mbps	С	Met	The SUT met the critical CRs and FRs for this interface.		
NOTE(S): The UCR does not specify a minimum required interface for an Enterprise Directory Services (EDS) Gateway; therefore, the SUT can support one or more of the listed conditional interfaces.					
LEGEND:					
C Conditional		Mbp	Megabits per second		
CR Capability Requireme	ent	SUT	System Under Test		
EDS Enterprise Directory	Services	UCR	Unified Capabilities Requirements		
FR Functional Requirem	ent				

Table 2. SUT Interface Status

Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	UCR Requirement (See note 1.)		UCR 2013 Change 2 Reference	Status			
1	EDS Gateway General Requirements (R)			2.12.2.2.6.2	Met (See note 2.)		
2	EDS Gateway Scalability, Performance, and Interoperability	Require	ements (R)	2.12.2.2.6.3	Met		
3	IPv6 (R)			5	Met (See note 3.)		
NOTE(S): 1. The ann 2. The Cis 7841, 7861 3. The IPv LEGEND	 NOTE(S): 1. The annotation of 'required' refers to a high-level requirement category. Reference (c) provides the applicability of each sub-requirement. 2. The Cisco UCM ESC15 tested with the SUT included Cisco Jabber for Windows and the following 7800 and 8800 series end instruments: 7841, 7861, 8841, 8845, and 8865. 3. The IPv6 requirements were met per the Vendor's LoC. 						
CR Capability Requirement LoC Letters of C			Letters of Co	mpliance			
EDS E	EDS Enterprise Services Directory R Required			_			
ESC E	SC Enterprise Session Controller SUT System Und		er Test				
FR F	R Functional Requirement UCM Unified Co.		munications Manag	ger			
ID Io	D Identification UCR Unified Ca		Unified Cap	abilities Requirement	nts		
IPv6 Ir	IPv6 Internet Protocol version 6						

Table 4. DoDIN APL Product Summary

Product Identification						
Product Name	LiteScape Technologies OnCast Directory					
Software Release	4.5					
UCR Product Type(s)	EDS Gateway					
Product Description	The EDS Gateway simplifies and automates collaboration processes. The SUT is an EDS Gateway that provides LDAP-based directory lookup services for users from either an IP voice endpoint or a computer workstation. Using HTTPS, LiteScape Technologies OnCast Directory provides directory information to IM and Jabber clients via AD, and allows lookup and search engine capability using an IP phone, softphone client, or a standard Internet browser.					
Product Components (See note.)	Sub-component Name Version Remarks					
The G	Windows Server 2019 (1890)					
LiteScape VMware ESXi 6.7.0.17499825						
EDS Cotoway	Windows 2019 Server	IIS 10.0.17763.1				
Version 4 5	(Site Flovided)	MS.NET Framework 4.7.03190]			
Version 4.5		Active Client 7.2.1.46				

(Table continues on next page.)

NOTE(S): Enclosure 3 provides the detailed component and subcomponent list.					
Active Directory	IM	Instant Messaging			
Approved Products List	IP	Internet Protocol			
Department of Defense Information Network	LDAP	Lightweight Directory Access Protocol			
Enterprise Directory Services	UCR	Unified Capabilities Requirements			
Elastic Sky X infrastructure	v	version			
Hypertext Transfer Protocol Secure	VM	Virtual Machine			
IIS Internet Information Services					
	Active Directory Approved Products List Department of Defense Information Network Enterprise Directory Services Elastic Sky X infrastructure Hypertext Transfer Protocol Secure Internet Information Services	Active Directory IM Approved Products List IP Department of Defense Information Network LDAP Enterprise Directory Services UCR Elastic Sky X infrastructure v Hypertext Transfer Protocol Secure VM Internet Information Services			

Table 4. DoDIN APL Product Summary (continued)

4. Test Details. This certification is based on interoperability 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 completed review of the Vendor's LoC on 05 March 2021 and conducted testing at the Global Network Test Facility, Fort Huachuca, Arizona from 10 March through 12 March 2021, using test procedures derived from Reference (c). A JITC-led Cybersecurity (CS) team conducted CS testing from 08 March through 12 March 2021, and published the results in a separate report, Reference (d). Enclosure 2 documents the test results and describes the tested network and system configurations. Enclosure 3 provides the detailed interface, capability, and functional requirements and test results.

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.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 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/.

JITC Memo, JTE, Joint Interoperability Certification of the LiteScape Technologies OnCast Directory Software Release 4.5

6. Point of Contact (POC). JITC POC: Christopher Leon; commercial telephone (520) 538-4612; DSN telephone (312) 879-4612; FAX DSN (312) 879-4347; e-mail address: christopher.m.leon.civ@mail.mil; mailing address: Joint Interoperability Test Command, ATTN: JTE2 (Christopher Leon), P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The APCO tracking number for the SUT is 2023701.

FOR THE COMMANDER:

3 Enclosures a/s

for JEFFREY P. O'DONNELL LTC, USA Acting Division Chief Networks/Communications & DoDIN Capabilities Division

Distribution (electronic mail):

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ADDITIONAL REFERENCES

(c) Joint Interoperability Test Command (JITC), "Services (EDS) Gateway Test Procedures Version 1.0 for Unified Capabilities Requirements (UCR) 2013 Change 2, Draft," 11 August 2020

(d) JITC, "Cybersecurity Assessment Report For LiteScape Technologies OnCast Directory, Software Release 4.5, Tracking Number 2023701," March 2021

CERTIFICATION SUMMARY

1. SYSTEM AND REQUIREMENTS IDENTIFICATION. The LiteScape Technologies OnCast Directory with Software Release 4.5 is hereinafter referred to as the System Under Test (SUT). Table 2-1 depicts the SUT identifying information and requirements source.

System Identification				
Sponsor	Defense Information Systems Agency (DISA)			
Sponsor Point of Contact	James Marshall, DISA, SE532 Chief, Voice over Internet Protocol Service Operations, P.O. Box 549, Fort Meade, Maryland 20755-0549; Phone (301) 225-3506; E-mail: james.e.marshall54.civ@mail.mil			
Vendor Point of Contact	Aleksey Feldman, LiteScape Technologies, Inc., 12707 High Bluff Drive, Suite 200, San Diego, California 92130; Phone (650) 292-0331; E-mail: aleksey.feldman@litescape.com			
System Name	LiteScape Technologies OnCast Directory			
Increment and/or Version	4.5			
Product Category	Enterprise Directory Services Gateway			
System Background				
Previous certifications	Joint Interoperability Certification of the LiteScape Technologies OnCast Directory 4.4 MR27, 4 September 2014, Tracking Number 1412803			
Tracking				
APCO ID	2023701			
System Tracking Program ID	4963			
Requirements Source				
Unified Capabilities Requirements	Unified Capabilities Requirements 2013, Change 2, Sections 2.12.2.2.6.2, 2.12.2.2.6.3, and 5			
Remarks None				
Test Organization(s) Joint Interoperability Test Command, Fort Huachuca, Arizona				
LEGEND:APCOApproved Products Certification OfficeIDIdentificationDISADefense Information Systems AgencySESystems Engineer				

Table 2-1. System and Requirements Identification

2. SYSTEM DESCRIPTION. The Unified Capabilities (UC) Enterprise Directory Services (EDS) Gateway is a software application residing on a server that is not part of the Enterprise Session Controller (ESC). This Gateway provides Enterprise UC end users with access to an Electronic Directory that contains Directory Data (user records) for various Department of Defense (DoD) end users. Each Directory record contains a set of attributes that contain information about that particular end user. The EDS Gateway provides a mediation point between 1) the various EDS clients on end users' end instruments (EIs) and personal computers served by an ESC, and 2) the EDS DoD Enterprise Email (DEE) Global Address List (GAL) servers. The DEE GAL used in the Enterprise UC network is currently provided by the Microsoft Outlook (email client), Microsoft Exchange (email server), and Microsoft Active Directory (directory service) products.

The SUT is an EDS Gateway that provides Lightweight Directory Access Protocol (LDAP)based directory lookup services for users from either an Internet Protocol (IP) voice endpoint or a computer workstation. Using Hypertext Transfer Protocol Secure (HTTPS), LiteScape Technologies OnCast Directory provides directory information to Instant Messaging (IM) and Jabber clients via Active Directory (AD), and allows lookup and search engine capability using an IP phone, softphone client, or a standard Internet browser.

3. OPERATIONAL ARCHITECTURE. The DoD Information Network (DoDIN) architecture is a two-level network hierarchy consisting of Defense Information Systems Network backbone switches and Service/Agency installation switches. The DoD Chief Information Officer and Joint Staff policy and subscriber mission requirements determine the type of switch allowable at a particular location. The DoDIN architecture, therefore, consists of several categories of switches. Figure 2-1 depicts the notional operational DoDIN architecture in which the SUT may be used.

4. TEST CONFIGURATION. The Joint Interoperability Test Command (JITC) test team tested the SUT at the Global Network Test Facility (GNTF), Fort Huachuca, Arizona, in a manner and configuration similar to that of the notional operational environment as depicted in Figure 2-1. Figure 2-2 depicts the basic architecture for providing EDS in the Enterprise UC network. The test team tested the SUT's required interoperability functions and features using the SUT test architecture depicted in Figure 2-3. Cybersecurity (CS) testing used the same configuration.

5. METHODOLOGY. In addition to testing, an analysis of the Vendor's Letters of Compliance (LoC) verified that letter "R" requirements have been met. No discrepancies were noted in the operational environment. The Defense Information Systems Agency (DISA) will evaluate any new discrepancy noted in the operational environment for impact on the existing certification. DISA will adjudicate these discrepancies via a Vendor POA&M, which must address all new critical Test Discrepancy Reports (TDRs) within 120 days of identification.



Figure 2-1. Notional DoDIN Network Architecture



Figure 2-2. Basic Architecture for Providing EDS in the Enterprise UC Network



Figure 2-3. SUT Test Architecture

6. INTEROPERABILITY REQUIREMENTS, RESULTS, AND ANALYSIS. The UCR 2013, Change 2, Sections 2.12.2.2.6.2, 2.12.2.2.6.3, and 5, established the interface, Capability Requirements (CRs) and Functional Requirements (FRs), CS, and other requirements for the EDS Gateways. Table 3-1 provides the JITC SUT interface status, and Table 3-2 provides the CRs and FRs status. The subparagraphs below provide the testing details and results. Optional and/or conditional requirements are not included in the test results unless otherwise noted.

a. Interface Requirements. The UCR 2013, Change 2, Sections 2 and 5, established the interface requirements. Paragraph 6.b details the test and status information.

b. Functional Requirements

1) The UCR 2013, Change 2, Section 2.12.2.2.6.2, includes the EDS Gateway Requirements in the subparagraphs below.

a) The EDS Gateway shall support interfaces to EDS Clients on both Voice EIs and Video EIs. Each of these interfaces shall support transmission of directory queries in the Client-to-Gateway direction, and transmission of directory query responses in the Gateway-to-Client direction. The SUT met these requirements with testing.

b) The EDS Gateway shall be able to accept and process directory queries from EDS Clients containing the following IdSS directory attributes. The query shall include all or some of the following attributes:

- First Name.
- E-mail address.
- Middle Initials.
- Business phone number.
- Last Name.
- Mobile phone number.
- Company Name (DoD Component or CC/S/A Name, e.g., "DISA").
- Rank.
- Department Name (Organization Name within Component or CC/S/A, e.g., "ESD").
- Office.
- DoD SIP URI (e.g., <u>sip:FirstName.MiddleInitials.LastName.OrgName@uc.mil</u>).

The SUT met these requirements with testing.

c) The EDS Gateway shall also be able to accept and process directory queries from EDS Clients containing the following additional IdSS directory attributes. The query shall include all or some of the following attributes:

- LDAP Distinguished Name.
- Country / Region.
- Address.
- Display Name (e.g., "Captain John A Smith USAF ACC").
- City.
- Fax number.
- State.
- Job Title.
- Zip Code.
- Alias (Mail Nickname).

The SUT met these requirements with testing.

d) The EDS Gateway shall be able to authenticate itself with the UC DEE GAL Server, using LDAP Authentication Credentials that are stored in the EDS Gateway and signaled to the DEE GAL Server before an LDAP directory query is sent. At a minimum, the EDS Gateway shall support the storage and signaling of a Username and Password as LDAP Authentication Credentials. In this case, the Username and Password should unique to that EDS Gateway, and should not be shared with other EDS Gateways on other ESCs and Video Conference Bridges that are served by that DEE GAL Server. The SUT met this requirement with testing.

e) Upon receipt of an EDS directory query from an EDS Client, the EDS Gateway shall convert this EDS query to a LDAP query, and send this LDAP query on to the UC DEE GAL Server that serves the ESC, UC EDS Gateway, or Video Conference Bridge. The SUT met these requirements with testing.

<u>1.</u> The EDS Gateway shall include all of the EDS query attributes signaled by the EDS Client in the LDAP query that it sends to the UC DEE GAL Server. The SUT met this requirement with testing.

<u>2.</u> The EDS Gateway shall use its own Authentication Credentials to authenticate itself with the UC DEE GAL Server before sending the LDAP query; it should not use any EDS Client Authentication Credentials for that purpose. The SUT met this requirement with testing.

f) Upon receipt of an LDAP query response from the UC DEE GAL Server, the EDS Gateway shall convert this LDAP query response to an EDS query response that is compatible with the EDS Client (e.g., an HTTPS/XML query response, if the EDS Client supports HTTPS/XML instead of LDAP). The EDS Gateway shall then send this EDS query response on to the EDS Client on the Voice EI or Video EI that originally sent the EDS query to the Gateway. The EDS Gateway shall include all of the query response components (both user records and user record attributes) in the LDAP response that it received from the UC DEE GAL

server, in the EDS query response that it sends on to the EDS Client. The SUT met this requirement with testing.

g) The EDS Gateway shall be capable of accepting LDAP query responses from the UC DEE GAL Server that contain the following IdSS directory attributes. The EDS Gateway shall also be capable of sending EDS query responses to the EDS Client that contain the following IdSS directory attributes.

- LDAP Distinguished Name.
- Rank.
- First Name.
- Office.
- Middle Initials.
- Display Name (e.g., "Captain John A Smith USAF ACC").
- Last Name.
- Job Title.
- Company Name (DoD Component or CC/S/A Name, e.g., "DISA").
- Alias (Mail Nickname).
- Department Name (Organization Name within Component or CC/S/A, e.g., "ESD").
- Country / Region.
- E-mail address.
- Address.
- Business phone number.
- City.
- Mobile phone number.
- State.
- Fax number.
- Zip Code.
- DoD SIP URI (e.g., sip:FirstName.MiddleInitials.LastName.civ@uc.mil).

The SUT met these requirements with testing and Vendor's LoC.

2) The UCR 2013, Change 2, Section 2.12.2.2.6.3, includes the EDS Gateway Scalability, Performance, and Interoperability Requirements in the subparagraphs below.

a) The EDS Gateway shall be able to send LDAP queries to, and receive LDAP response traffic from, a four-million record remote Defense Enterprise E-Mail Global Address List (DEE GAL) database, without failing or becoming congested. The SUT met this requirement with the Vendor's LoC.

b) The EDS Gateway shall be able to handle the case where the DEE GAL database returns 10,000 directory records in response to a single directory query (e.g. First Name = Robert, Last Name = Smith), without failing or becoming congested. The EDS Gateway shall deliver at least 100 of the received directory records to the source EDS Client in this case. (If the

Source EDS Client is a UC Voice or Video Hardphone, then only 20 directory records need to be delivered in this case.) The SUT met this requirement with the Vendor's LoC.

c) The EDS Gateway shall be interoperable with the LDAP schema (LDAP directory structure, LDAP directory records, and LDAP directory record attributes) of the remote DEE GAL database. An unrecognized field in an LDAP directory response from the DEE GAL database shall not cause a failure at the EDS Gateway. The SUT met this requirements with testing and the Vendor's LoC.

d) The EDS Gateway shall be able to support EDS Client Accounts for 100,000 EDS Clients (Voice Hardphones, Voice Soft-Clients, Video "Hard" End Instruments, and Video Soft-Clients). The EDS Gateway shall also be able to support simultaneous active connections (e.g. HTTPS/XML data connections) to all 100,000 of these EDS Clients. The SUT met this requirement with the Vendor's LoC.

e) The EDS Gateway shall be able to simultaneously process directory queries from EDS Clients at a rate of 100 queries received per second. In this case, all of these received queries shall be processed (converted to LDAP queries and sent on to the DEE GAL database) and not discarded. This supports the use case where the EDS Gateway supports 100,000 EDS Clients, and 0.1% (1 in 1000) of those EDS Clients launch EDS queries to the EDS Gateway at the same time. The SUT met this requirement with the Vendor's LoC.

f) The UC EDS Gateway (an EDS Gateway, which is not part of an ESC product or a Video Conference Bridge product) shall be fully interoperable with the EDS Clients (Voice Hardphones, Voice Soft-Clients, Video "Hard" End Instruments, and Video Soft-Clients) of at least one ESC vendor. The SUT met this requirement with testing, and is fully interoperable with the Cisco Jabber for Windows and 7800 series and 8800 series Hardphones EDS Clients registered off the Cisco Unified Communications Manager ESC15 Release 12.5.1.

g) If the UC EDS Gateway is used with a Video Conference Bridge product, the UC EDS Gateway shall be fully interoperable with the EDS Clients (Video "Hard" End Instruments and Video Soft-Clients) that interoperate with that Video Conference Bridge product. The SUT does not support this conditional requirement.

h) If the EDS Client sends directory queries to / receives directory responses from the ESC, and the ESC sends directory queries to / receives directory responses from the UC EDS Gateway, the UC EDS Gateway shall support a Directory Services interface to the ESC that is fully interoperable with the ESC product. This interface can be either an ESC-proprietary interface, or an industry-standard ESC interface, depending on what the ESC product supports. This requirement does not apply when the UC EDS Gateway is used with an ESC product, and the information flow for directory queries and responses is: EDS Client => UC EDS Gateway => DEE GAL Database. The SUT does not support this conditional requirement.

3) The UCR 2013, Change 2, Section 5, includes the IPv6 requirements. The UCR 2013, Change 2, Section 5, Table 5.2-1, IPv6 Requirements for Unified Capabilities (UC)

Products, states that the UC EDS Gateway must be IPv6 capable. The SUT shall meet the IPv6 requirements in Section 5, Table 5.2-4, for a Network Appliance/Simple Server IPv6 profile. The SUT met the IPv6 requirement with the Vendor's LoC.

7. HARDWARE/SOFTWARE/FIRMWARE VERSION IDENTIFICATION. Table 3-3 provides the SUT components' hardware, software, and firmware tested. JITC tested the SUT in an operationally realistic environment to determine its interoperability capability with associated network devices and network traffic. Table 3-4 provides the hardware, software, and firmware of the components used in the test infrastructure.

8. TESTING LIMITATIONS. None.

9. CONCLUSION(S). The SUT meets the critical interoperability requirements for an EDS Gateway in accordance with the UCR and is certified for joint use with the interfaces as depicted in Table 3-1. The SUT was tested and certified for use specifically with the Cisco Unified Communications Manager 12.5.1 Enterprise Session Controller with the following Cisco end instruments: 7800 series, 8800 series, and Cisco Jabber for Windows.

DATA TABLES

Table 3-1. SUT Interface Status

Interface (See note.)	Applicability	Status		Remarks		
	Network Interfaces					
Ethernet 10 Mbps	Cthernet 10 Mbps C Met The SUT met the critical CRs and FRs for this interface.		T met the critical CRs and FRs for this interface.			
Ethernet 100 Mbps	С	Met	The SUT met the critical CRs and FRs for this interface.			
Ethernet 1000 Mbps	С	Met	The SUT met the critical CRs and FRs for this interface.			
NOTE(S): The UCR does not specify a minimum required interface for an Enterprise Directory Services (EDS) Gateway; therefore, the SUT can support one or more of the listed conditional interfaces.						
C Conditional			Mbps	Megabits per second		
CR Capability Rec	uirement		SUT	System Under Test		
EDS Enterprise Dire	ectory Services		UCR	Unified Capabilities Requirements		
FR Functional Rec	quirement					

Table 3-2. SUT Capability and Functional Requirements and Status

CR/FR ID	Capability/Function	Appl (See	icability note 1.)	UCR Change 2 Reference	Status		
1	EDS Gateway General Requirements	Re	equired	2.12.2.2.6.2	Met (See note 2.)		
2	EDS Gateway Scalability, Performance, and Interoperability Requirements (See note 2.)	Re	equired	2.12.2.2.6.3	Met		
3	IPv6	Re	equired	5	Met (See note 3.)		
NOTE(S): 1. The ann 2. The Cis 7841, 7861 3. The IPv LEGEND:	 NOTE(S): 1. The annotation of 'required' refers to a high-level requirement category. Reference (c) provides the applicability of each sub-requirement. 2. The Cisco UCM ESC15 tested with the SUT included Cisco Jabber for Windows and the following 7800 and 8800 series end instruments: 7841, 7861, 8841, 8845, and 8865. 3. The IPv6 requirements were met per the Vendor's LoC. 						
CR Capability Requirement IPv6 Internet Protocol version 6							
EDS Enterprise Directory Services		LoC	C Letters of Compliance				
ESC E	ESC Enterprise Session Controller SUT System Under Test						
FR Fi	FR Functional Requirements UCM Unified Communications Manager		er				
ID Id	lentification	UCR Unified Capabilities Requirements			ts		

Table 3-3. SUT Hardware/Software/Firmware Version Identification

Component	Sub-component Name	Version	Function
		Windows Server 2019 (1890)	
LiteScape	W. 1 G 2010	VMware ESXi 6.7.0.17499825	
OnCast Directory	Windows Server 2019 (Site Provided)	IIS 10.0.17763.1	EDS Gateway
Version 4.5	(site Hovided)	MS.NET Framework 4.7.03190	
		Active Client 7.2.1.46	
LEGEND:			
EDS Enterprise Directo	ory Services	SUT System Under Test	
ESXi Elastic Sky X infr	astructure	v version	
IIS Internet Informati	on Services	VM Virtual Machine	

System Name	Software Release	Function				
Required Ancillary Equipment (Site Provided)						
Active Directory						
	Public Key Infrastructure					
	Syslog					
	Test Network Components					
Cisco Unified Communications	12.5.1	ESC				
Cisco Unified Communications Manager (Type 1 Environment)	12.5.1	ESC				
Cisco Unified Communications Manage (Type 2 Environment)	12.5.1	ESC				
Unified IP Phone 7841	sip78xx.12-7-1-0001-393	IP Phone (Voice)				
Unified IP Phone 7861	sip78xx.12-7-1-0001-393	IP Phone (Voice)				
Unified IP Phone 8841	sip88xx.12-7-1-0001-393	IP Phone (Voice)				
Unified IP Phone 8845	sip8845_65.12-7-1-0001-393	IP Phone (Voice and Video)				
Unified IP Phone 8865	sip8845_65.12-7-1-0001-393	IP Phone (Voice and Video)				
Cisco Jabber for Windows	12.7 (Windows 10)	Jabber (Voice and Video Soft Client)				
Management Workstation (Site Provided)	Windows 10 Enterprise	Management				
LEGEND: AEI Assured Services End Instrument ESC Enterprise Session Controller IP Internet Protocol	LSC Local Session Controller sip Session Initiation Protocol Syslog System Log					

Table 3-4. SUT Test Infrastructure Hardware/Software/Firmware Version Identification