Department of Defense

Unified Capabilities Requirements 2013 (UCR 2013)

January 2013

The Office of the DoD Chief Information Officer

DEPARTMENT OF DEFENSE
UNIFIED CAPABILITIES REQUIREMENTS 2013 (UCR 2013)

This document specifies the functional requirements, performance objectives, and technical specifications for DoD networks that support UC, and shall be used to support test, certification, acquisition, connection, and operation of UC devices.

It fulfills the requirements specified in DoD Instruction (DoDI) 8100.04 for the development of a UC requirements document.

DISTRIBUTION STATEMENT A:

Approved for public release; distribution is unlimited.

Approved by: _____

Teresa M. Takai
DoD Chief Information Officer

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SECTION 1
INTRODUCTION

1.1 PURPOSE

The Department of Defense (DoD) Unified Capabilities Requirements (UCR) 2013 specifies the technical requirements for certification of approved products to be used in DoD networks to provide end-to-end Unified Capabilities (UC).

This document supersedes UCR 2008, Change 3.

The UCR specifies the functional requirements, performance objectives, and technical specifications for DoD networks that support UC, and shall be used to support test, certification, acquisition, connection, and operation of these devices. It may also be used for UC product assessments and/or operational tests for emerging UC technology. The Defense Information Systems Agency (DISA) translates DoD Component functional requirements into engineering specifications for inclusion into the UCR that identify the minimum requirements and features for UC applicable to the overall DoD community. The UCR also defines interoperability, Information Assurance, and interface requirements among products that provide UC. It provides a common language and reference for DoD Components' implementation of UC technology, supports implementation of DoD Component solutions, and directs adherence to common standards and specifications to support the Department's Joint Information Environment goal of establishing effective, secure, and common UC.

The UCR is based on commercial off-the-shelf (COTS) products' features, standards listed in the DoD Information Technology Standards Registry (DISR), and unique requirements needed to support DoD mission-critical needs.

1.2 APPLICABILITY

Per DoD Instruction (DoDI) 8100.04, the UCR applies to the following:

1. The Office of the Secretary of Defense (OSD), the Military Departments (MILDEPs), the Office of the Chairman of the Joint Chiefs of Staff (CJCS) and the Joint Staff (JS), the Combatant Commands (COCOMs), the Office of the Inspector General of the DoD, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (hereafter referred to collectively as the "DoD Components").
2. DoD Component planning, investment, development, acquisition, operations, and management of DoD networks to support UC, independent of the mix of technologies (e.g., circuit-switched and/or Internet Protocol [IP]), and whether converged or non-converged, including all equipment or software (hereafter referred to as "UC products" or "products") and services that provide or support UC, during each phase of those products' life cycles, from acquisition to operations.
3. Acquisition of services is described in DoD Directive (DoDD) 5000.01 and DoDI 5000.02.

1.3 UC DEFINITION

Unified Capabilities are the integration of voice, video, and/or data services delivered ubiquitously across a secure and highly available network infrastructure, independent of technology, to provide increased mission effectiveness to the warfighter and business communities.

1.4 SCOPE OF DOCUMENT

The UCR consists of the following 15 sections and three appendices:

- Section 1, Introduction, addresses the purpose, applicability, and overview of the UCR.
- Section 2, Session Control Products, addresses UC products that perform Session Control functions for Defense Information Systems Network (DISN) Voice over IP (VoIP) and Video over IP services.
- Section 3, Auxiliary Services, addresses the required functionality, performance, capabilities, and associated technical parameters for Auxiliary Services and Systems.
- Section 4, Information Assurance, defines the interoperability focused Information Assurance requirements for UC products.
- Section 5, IPv6, describes the IPv6 requirements for Sensitive but Unclassified (SBU) UC subsets provided by all products and technologies used to send and receive or to support voice, video, or data across DoD networks that provide UC services.
- Section 6, Network Infrastructure End-to-End (E2E) Performance, focuses on the wide area network (WAN) performance characteristics for Layer 3 routers and switches used in the E2E UC network infrastructure. It defines the Differentiated Services Code Point (DSCP) Plan, Per-Hop Behavior (PHB) policy and priority as applied to packets based on the granular service class when traversing a DISN network hop, and traffic conditioning treatment requirements that are to be given to network queues.
- Section 7, Network Edge Infrastructure, defines technical requirements for the products used in configuring the network edge infrastructure.
- Section 8, Multifunction Mobile Devices, addresses the requirements for an array of mobile devices and their associated supporting infrastructure elements. These devices provide network access through primarily wireless means, though wired connectivity may also be a feature of these products. A Multifunction Mobile Device (MMD) can assume any number of form factors including, but not limited to, a smartphone, Personal Digital Assistant (PDA), or small form factor wireless tablet.
- Section 9, Video Distribution System, defines requirements for a complement of audio and video equipment designed for interfacing, switching/bridging, and distributing digital and/or analog audio and video signals sourced from multiple devices and destined to multiple devices.

- Section 10, Network Infrastructure Products, defines requirements for products used in the DISN backbone network infrastructure.
- Section 11, Network Elements, defines requirements that must be met by DISN Fixed network element (F-NE) and Deployed network element (D-NE) devices.
- Section 12, Generic Security Devices, defines high-level requirements for encryption products.
- Section 13, Security Devices, defines requirements for security devices including firewalls, Intrusion Protection Systems (IPSs), Network Access Control, and Virtual Private Network (VPN) devices.
- Section 14, Online Storage Controller, defines requirements for Data Storage Controller (DSC) systems.
- Section 15, Enterprise and Network Management Systems, defines general requirements for enterprise and network management systems.
- Appendix A, Unique Deployed (Tactical), contains requirements unique to tactical (deployed) systems.
- Appendix B, Unique Classified Unified Capability, contains requirements unique to Classified systems.
- Appendix C, Glossary of Abbreviations and Acronyms, contains the acronyms applicable to the UCR.

1.5 UCR 2013 DOCUMENT SUITE

This specification is one of several DoD documents that specify requirements for Assured Services networks and requirements for products to achieve DoD UC Approved Products List (APL) certification. The UC requirements documents that are included in the UCR scope are shown in Figure 1.5-1 and include the following.

- UCR 2013: specifies the functional requirements, performance objectives and technical specifications.
- Assured Services – Session Initiation Protocol (AS-SIP) 2013: contains the requirements for the IP-based UC Signaling system.
- UC XMPP 2013: contains the requirements for multivendor interoperability as required to exploit the full potential of Instant Messaging (IM), Chat, and Presence across DoD.
- UC Framework 2013: specifies the descriptive text and design associated with each of the UCR 2013 sections.

The reference documents used are cited in UC Framework 2013, Appendix C, Definitions, Abbreviations and Acronyms, and References.

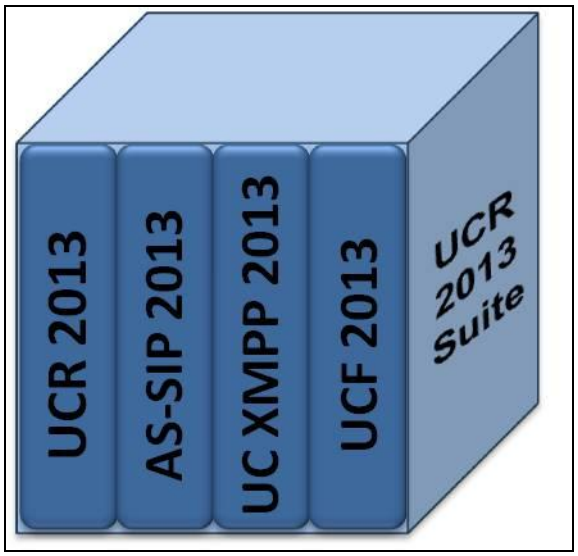

Figure 1.5-1. UCR 2013 Document Suite

1.6 APPLICABLE STANDARDS

The standards used in this section are provided in UC Framework 2013, Appendix C, Definitions, Abbreviations and Acronyms, and References.

1.7 GENERAL REQUIREMENT LANGUAGE

The words "REQUIRED," "MUST," or "SHALL" mean that the definition is an absolute requirement of the product.

The word "CONDITIONAL" means a requirement is dependent on a condition. The text of a CONDITIONAL requirement may use the "If <condition>, then <requirement>" format. An example of a CONDITIONAL requirement is "If the system provides authentication via the SIP digest method, then the SIP digest implementation shall be in accordance with RFC 3261."

The phrases "MUST NOT" or "SHALL NOT" mean that the definition is an absolute prohibition of the item.

The word "RECOMMENDED" means that the reference is given as guidance and is not required to be tested. (This word is applicable to the AS-SIP and XMPP protocol requirements only.)

The word "OPTIONAL" means that the item or feature may or may not be used by a product when installed in the field. Optional requirements are features and capabilities that are not considered critical for DoD mission support based on DoD policies. Nevertheless, it is recognized that such features do have utility for some users or for specific operations. To ensure interoperability and consistency of the Assured Services across all platforms, these features and capabilities are specified with set parameters. If these features and capabilities are provided, then the UC product shall perform and meet the requirements as identified in the UCR.

1.7.1 Product Applicability

This document identifies the minimum functional and performance requirements for products to be placed on the UC APL.

1.8 DEFINITIONS

Definitions are found in UC Framework 2013, Appendix C, Definitions, Abbreviations and Acronyms, and References.