



Joint Program Executive Office Joint Tactical Radio System

SCA Next Specification Draft Overview



02 December 2010
JTRS SCA Working Group

JPEO JTRS

Distribution A- Approved for public release; distribution is unlimited (29 November 2010)



Agenda

- **SCA Next Specification Draft Overview**
- **SCA Next Specification Draft Highlights**
 - Lightweight Components
 - Deployment Optimizations
 - Profiles and SCA Conformance
 - CORBA Neutral SCA
 - Way Forward
 - Q&A



SCA Next Specification is a draft document open for comment





SCA Next Draft Document Set

- **SCA Main Document**
 - Appendix A - Glossary
 - Appendix B – AEP (contains AEP and LW AEP)
 - Appendix C – IDL (Document version of the IDL)
 - Attachment 1 (corresponding raw IDL files)
 - Appendix D – Domain Profile Descriptors (shell document encompassing the platform specific descriptors)
 - Appendix D – Appendix D Domain Profile (will be renamed as D.1, contains the DTD requirements and layout)
 - Attachment 1 – (corresponding raw DTD files)
 - Appendix E – PSM Transports and Technologies (shell document encompassing the platform specific representations)
 - Appendix E.1 – PSM CORBA (includes the CORBA profiles)
 - Appendix E.2 – PSM C++ (native C++ SCA representation, work in progress)
 - Appendix E.3 – PSM CORBA IDL (IDL representation of the SCA model)
 - Appendix F – Profiles (contains the SCA profiles and units of functionality)
 - Attachment 1&2 (spreadsheet that contains the requirements matrix)
- **SCA UML Model Representation (work in progress)**
- **SCA Users Guide (Informational)**



SCA Next Scope Overview

- **Focus is on Open Software Communications Architecture (SCA) Standards**
 - Baseline was SCA V2.2.2 and extensions
- **Radio API's are specified external to the SCA**

SCA Next is Evolutionary not Revolutionary



SCA Next Process

- **Backwards Compatibility**

- Preserve existing investments
- When change will “break” existing implementation
 - Rationale must be compelling
 - Cost
 - Schedule
 - Performance





SCA Next Overview

- **Objective**

- Reduce development resources
 - Budget
 - Schedule
- Reduce test and certification time
 - Reduce number of requirements
 - Increase use of automated testing
- Improve performance
 - Reduce boot up latency
 - Reduce memory footprint
- Technology refresh
- Incorporate lessons learned

Internationally Developed Open Specification



SCA Next Process

- **Establish clear objectives**
- **Establish a “dedicated” Team of volunteers**
 - Collect/evaluate/prioritize candidate enhancements
 - “Dedicated” volunteers lead task execution
 - Task lead coordinates resources to develop a recommended resolution
 - Team votes on proposed resolution
- **Publish the SCA Next Draft Specification**

Backwards Compatibility of Applications is an overarching tenet



SCA Profiles

- **Full SCA Profile: A plug-and-play profile that supports full registry interfaces for registering and unregistering components to domain and device mgr components.**
 - Radio platforms where the hardware modules are plug-and-play for dynamic configuration.
- **Medium SCA Profile: Not a full plug-and-play profile, only supports the registry interfaces for registering components to domain and device manager components, and device manager components are not releasable.**
 - Suited for radio platforms where the hardware modules are a static configuration.
- **Lightweight Profile: Does not support registry interfaces for domain and device manager components, and device manager component.**
 - Suited for single channel radios

Backwards Compatibility of Applications is an overarching tenet



SCA Profile and Overlay Relationship

- **The Full SCA Profile is a superset of the Medium SCA Profile, which is a superset of the Lightweight SCA Profile. Each profile may be overlaid with additional functionality.**
- **OE overlays of functionality define a set or group of related functionality and requirements, which are:**
 - Application Installable – supports the dynamic installation and un-installation of applications to the SCA OE.
 - CORBA Capable – supports the CORBA profiles.
 - Event Channel – supports the concepts of event channels and event service in the SCA OE.
 - Log Capable – supports the log service within the SCA OE.
 - Channel Extensions – supports the concepts of platform channels and deployment of applications onto platform channels.
- **The SCA OE requirements associated with overlays of functionality are in Appendix F.**



SCA Next Way Forward

- **Encourage SCA Product Developers to prototype changes**
 - Provide Feedback

SCA Next Draft Specification



Internationally Developed Open Specification