# SOFTWARE COMMUNICATIONS ARCHITECTURE SPECIFICATION

# APPENDIX E-1: APPLICATION INTERFACE DEFINITION LANGAUGE PLATFORM INDEPENDENT MODEL PROFILES



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Prepared by:

**Joint Tactical Networking Center (JTNC)**
33000 Nixie Way
San Diego, CA 92147-5110

# REVISION SUMMARY

| Version | Revision | Date |
|---------|----------|------|
| 4.1<DRAFT> | Initial release of document. | 31 December 2014 |
| 4.1 | Removed definition of profiles from this document and defer definition of corresponding profiles to a Wireless Innovation Forum (WInnF) specification (via normative references).<br><br>**ICWG Approved** | 20 August 2015 |

# TABLE OF CONTENTS

# LIST OF FIGURES

# APPENDIX E-1 APPLICATION IDL PIM PROFILES

## E-1.1 SCOPE

### E-1.1.1 Overview

This appendix specifies the two profiles that the Software Communications Architecture (SCA) will utilize to enable application Platform Independent Modeling (PIM). The two profiles are the Full PIM Interface Definition Language (IDL) Profile (Full) and the Ultra-Lightweight PIM IDL Profile (ULw). The profiles identify a constrained set of Object Management Group (OMG) IDL [1] features that are available for use in the definition of application specific interfaces. The normative definitions of the profiles referenced within this appendix reside within the Wireless Innovation Forum (WInnF) IDL Profiles for Platform Independent Modeling of Software Defined Radio (SDR) Applications specification [2].

Application specific interfaces are those which are specifically defined for use by an application component where the application component provides the interface (the application can fulfill either the producer or consumer role). These profiles do not govern the interfaces between the application and the SCA Core Framework or the Joint Tactical Networking Center (JTNC) public Application Programming Interfaces (APIs) since they are not provided by the application (see Figure 1).
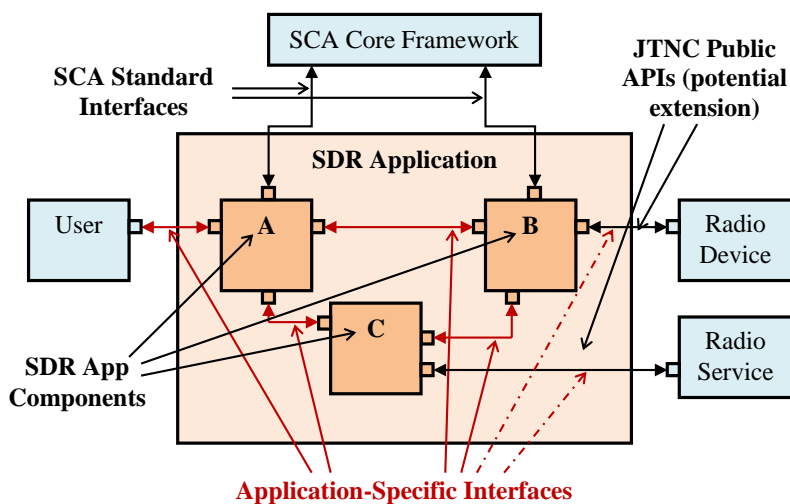


**Figure 1: Representation of Application Specific Interfaces**

In the future, the term application specific interface could be extended to those used by application components to connect with Radio Devices or Services via the JTNC Public APIs [3], however this appendix does not recommend such an extension of applicability.

## E-1.2 CONFORMANCE

Users of this appendix need to identify the applicable, Full or ULw, profile for their conformant work products.

Conformance with the WInnF Application IDL PIM Profiles can be achieved by application interface designers when the resulting interfaces do not contain IDL elements which exceed the bounds of those contained within their selected profile.

Conformance for an SCA Application is defined as follows:

- An SCA Application is conformant with one applicable IDL Profile if it exclusively uses the capabilities of the selected profile for all of its application specific interfaces.

Conformance for an SCA Engineering tool is defined as follows:

- An SCA Engineering Tool is conformant with one applicable IDL Profile if it supports production of application specific interfaces that can be used by conformant SCA Applications with the same profile.

## E-1.3 CONVENTIONS

N/A

## E-1.4 NORMATIVE REFERENCES

The following documents contain provisions or requirements which by reference constitute requirements of this appendix. Applicable versions are as stated.

[1]     OMG Document formal/2011-11-01, Common Object Request Broker Architecture (CORBA) Specification, Version 3.1.1 Part 1: CORBA Interfaces, Version 3.2, November 2011.

[2]     IDL Profiles for Platform-Independent Modeling of SDR Applications, Version V2.0.1, WINNF-14-S-0016, July 2015

## E-1.5 INFORMATIVE REFERENCES

[3]     JTNC Standards, Tactical Radio Application Program Interfaces (APIs), http://jtnc.mil/sca/Pages/api1.aspx

## E-1.6 ATTACHMENTS

N/A.