# SCA Devices and Services

To achieve the hardware abstraction promoted by the SCA specifications, several Applications Programming Interfaces (APIs) have been defined by the Joint Tactical Network Center (JTNC) and by the Wireless Innovation Forum (WInnF). As part of the eCo Suite and Scari Suite, those open and publicly available APIs have been implemented as SCA Devices or Services.

## JTNC Audio Port Device

- Supports the JTRS Standard Audio Port Device API version 1.3.4 part of the JTNC Catalog of Public Release
- Approved Standards version 1.0.1
- Supports the Audio Sample Stream extension
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that uses a Linux Pulse Audio driver
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## JTNC Ethernet Device

- Supports the JTRS Standard Ethernet Device API version 1.2.2 part of the JTNC Catalog of Public Release
- Approved Standards version 1.0.1.
- Supports the Mode Configuration extension
- Supports the Multi-cast Mode extension
- Supports the Promiscuous Mode extension
- Supports the Header Configuration extension
- Supports the MAC Address extension
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that uses Sockets and ioctl
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## JTNC GPS Device

- Supports the JTRS Standard GPS Device API version 2.1.4 part of the JTNC Catalog of Public Release Approved
- Standards version 1.0.1
- Supports the Latitude/Longitude extension
- Supports the MGRS extension
- Must be specialized for specific GPS drivers
- Supports a GPS simulator mode
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## JTNC Timing Service

- Supports the JTRS Standard Timing Service API version 1.4.4 part of the JTNC Catalog of Public Release Approved Standards version 1.0.1
- Supports the External Time Reference extension
- Supports the Waveform Time extension
- Supports the System Time extension
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that uses POSIX timers
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## JTNC Vocoder Service

- Supports the JTRS Standard Vocoder Service API version 1.3.3 part of the JTNC Catalog of Public Release Approved Standards version 1.0.1
- Supports the Vocoder Audio Stream extension
- Supports the Speex extension
- Supports the AMBE codec via extension
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that supports Speex on Linux and AMBE using a DVSI USB-3000 dongle on Linux
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## JTNC MHAL Device

- Supports the JTRS Standard MHAL Device API version
- 3.0 part of the JTNC Catalog of Public Release Approved Standards version 1.0.1
- Supports the MHAL GPP API extension
- Supports the MHAL DSP API extension
- Supports the MHAL RF Chain Coordinator API extension
- RF Chain Coordinator commands can be implemented by the Device or delegated to a Transceiver Device through a special interface
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with an implementation that must be further specialized for specific transports
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component

## JTNC Serial Port Device

- Supports the JTRS Standard Serial Port Device API version 2.1.4 part of the JTNC Catalog of Public Release Approved Standards version 1.0.1
- Supports the Asynchronous extension
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that uses termios on Linux
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## WInnF International Radio Security Services (IRSS)

- Supports IRSS version 2.0.0
- Supports the Bypass service
- Supports the Infosec Transec channel
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA and be self-tested
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that must be adapted for specific crypto subsystems
- UML class and sequence diagrams are provided to describe the native implementation and its integration within the SCA component
- Unit tests and functional tests provided

## WInnF Transceiver Device

- Supports Transceiver Facility version 2.1.1
- Supports the Immediate and Absolute Mode
- SCA 2.2.2 implementation modeled and code generated with VIAVI SCA Architect tool
- SCA 4.1 implementation modeled and code generated with VIAVI eCo Architect tool
- Native implementation is designed to be decoupled from the SCA and CORBA
- Native implementation is designed to be easily adapted to specific platform implementation
- Comes with a native implementation that must be adapted for specific RF subsystems
- UML class and sequence diagrams provided to describe the native implementation and its integration within the SCA component
- Functional tests provided