

# SCA Standards for Defense Communications

## Global Adoption, Proven Performance

### What are SCA Standards?

Standards based on or supporting the Software Communications Architecture (SCA), an architecture framework created to assist in the development of software defined radio communication systems, allowing waveform application software to be more easily ported across radio platforms.\*

### SCA Benefits

- **Proven cost and delivery time advantages** through the reuse of waveform software and firmware components within a radio family and across radio vendors
- **Enhanced communications interoperability** through use of a common waveform application base across multinational coalitions
- **Simplified insertion of new communications capabilities in deployed radios** including next generation networking, dynamic spectrum allocation and multinational security solutions
- **Reduced development risk and time-to-market** through an established SCA vendor ecosystem

\*For more information on the history of the SCA visit:  
[wirelessinnovation.org/What\\_is\\_the\\_SCA](http://wirelessinnovation.org/What_is_the_SCA)



*"SCA Standards are key success factors for reducing cost in porting common waveforms onto platforms from different suppliers and bringing benefits to radio manufacturers in advancing their product portfolio such as reduced time to market, reduced development costs, and the availability of ported waveforms, therefore providing more options to customers."*

David Renaudeau, *Thales*

## WirelessInnovation.org

# Proven Performance in Deployed Systems

- General Dynamics AN/PRC-154 Rifleman Radios – 19,000 Units Ordered, 190,000 planned
- General Dynamics AN/PRC-155 – 3700 Units ordered
- Harris AN/PRC-117G – 25,000 Units Deployed
- Harris AN/PRC-152 – 160,000 Units Deployed
- Thales AN/PRC148 JTRS Enhanced MBITR – 200,000 Units Deployed



"We have realized significant savings by leveraging SCA standards across Harris' military tactical Software Defined Radio (SDR) product lines. The underlying component technology facilitates genuine software reuse, providing development cost and time savings for porting simple legacy waveform applications to porting highly complex networking waveform applications."

Mark Turner, Harris Corporation



"The SCA specifications are an important corner stone to SDR standardization and - in combination with an open architecture and near target development platforms - a prerequisite to enable timely and cost efficient porting and integration of waveforms, especially multinational and secure waveforms for combined operations."

Rüdiger Leschhorn, Rohde & Schwarz

"Selex ES gained great benefits from the large-scale migration of Software Communications Architecture (SCA)-based techniques into the Software Defined Radio (SDR) range of products. With a mature technology foundation and now ready to enter into the market with very good sales prospects, it provides unprecedented advantages to the customer. These include using the same platform for different radio applications (waveforms and user services), featuring upgradeable and flexible solutions, supporting the rapid deployment of mission-ready systems."

Fabio Casalino, Selex ES

"ESSOR Nations and Industries have recognized the outstanding benefit of the SCA as the foundations for the SDR military business. The ESSOR Architecture extends the SCA in order to facilitate WF portability, addressing secure solutions for a large scope of military waveform applications."

Ugo Manetti, a4ESSOR SAS

# Available Waveforms

## SCA Based Waveforms - Deployed\*

- Easy II
- FlexNet Waveform
- HAVEQUICK II
- HDR-AJ
- Mobile User Objective System (MUOS)
- PR4G-Fastnet
- SATURN
- Soldier Radio Waveform (SRW)
- Soldier Broadband Waveform (SBW)
- VHF/UHF Line of Sight (VULOS)
- Wideband Networking Waveform (WNW)
- Legacy Waveforms (COBRA, SATCOM 181/182/183/184, SINCGARS, EPLRS, JTRS Bowman, Link-16 & HF)

## SCA Based Waveforms - in Development\*

- Coalition Wideband Networking Waveform (COALWNW)
- ESSOR High Data Rate Waveform (HDRWF)

\*These lists are representative, not all-inclusive



● Multi-national SCA-based program

● National SCA Programs

● SCA-based Development and Manufacturing Centers

● Other countries who have announced or are evaluating adoption of SCA Based Software Defined Radios include: Brazil, India, Singapore, Turkey, The United Arab Emirates

# Other SCA Based Radios in Deployment

- Harris Falcon III Radio Family
- Rockwell Collins/Thales FlexNet
- ViaSat/Rockwell Collins MIDS-JTRS
- Raytheon (RT-1987 / ARC231, MAINGATE, NMT, FAB-T)
- Rockwell Collins RT-840
- Rohde & Schwarz R&S®SDTR Vehicular Tactical Radio
- Selex ES Swave™ Family (HH, VM-3, MB-1, VB-1, VQ-1)
- Thales (FlexNet, Fastnet, and Nextwave Families)



# WInnForum Members in the SCA Ecosystem

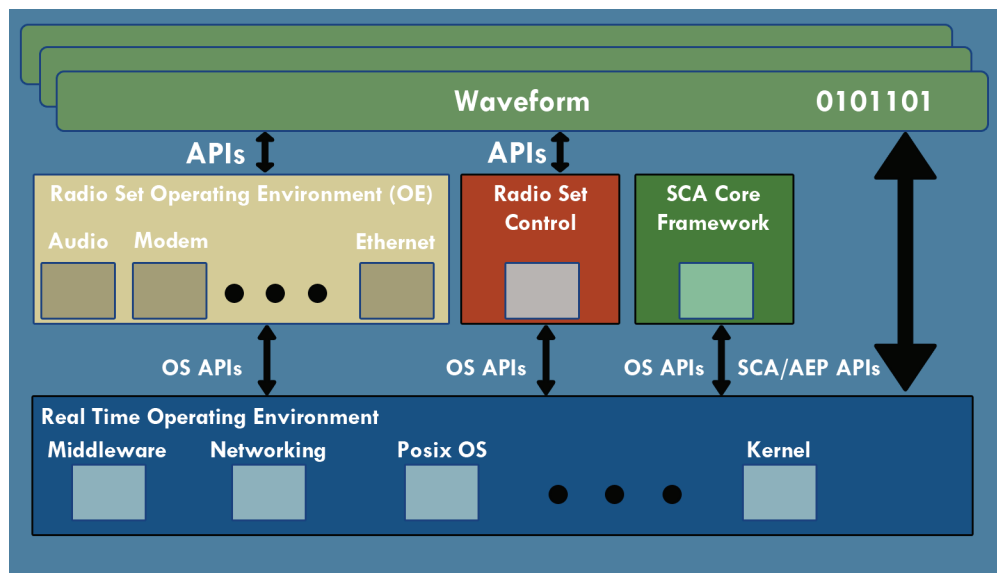
## Radio / Application Providers

Aselsan A.S.  
Bharat Electronics  
General Dynamics C4 Systems  
Harris  
Hitachi Kokusai Electric  
Indra  
ITT Exelis  
NEC  
RadmorSA  
Rafael  
Raytheon  
Rockwell Collins  
Rohde & Schwarz  
Selex ES  
Thales

## Others

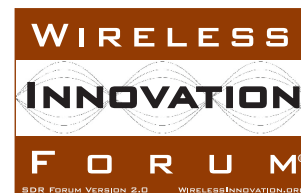
Al Yah Satellite Communications  
Coherent Logix, Inc.  
Communications Research Centre (CRC)  
DataSoft Corporation  
Datron World Communications Inc.  
Engility  
Etherstack  
ETRI  
FMV  
MITRE Corp  
Objective Interface Systems  
Optimum Semiconductor Technologies, Inc.  
Reservoir Labs  
PrismTech  
SAIC  
Southwest Research Institute  
Space Coast Communication Systems  
Spectrum Signal Processing By Vecima  
Virginia Tech

# SCA Creation and Management Hierarchy



Source: JTNC

## About the Wireless Innovation Forum Coordinating Committee on International SCA Standards



Do you want to be part of the SCA Ecosystem? Get involved in the Forum's SCA Committee today:

- Define an industry driven SCA Standards evolution roadmap for the international community
- Profile the SCA specification and related APIs to define internationally accepted variants that are hosted by the Forum
- Develop extensions to the SCA standards that address any gaps between the defined SCA evolution roadmap and Forum accepted SCA specification variants
- Provide implementation and certification guides, tools etc. easing implementation and supporting proliferation
- Facilitate industry led certification programs where appropriate



To learn more, contact: Lee Pucker, CEO,  
Lee.Pucker@WirelessInnovation.org.