Strategic Plan for the Coordinating Committee for International SCA Standards 2014 to 2017

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1 Introduction: Strategic Planning Input and Process

The process followed by the Steering Group for the Coordinating Committee on International SCA Standards (CC SCA) in preparing this strategic plan was comprehensive and based on data derived from the following activities:

- Review of Organizational Metrics – This activity established a baseline from which the Committee can evolve in executing on a new strategic plan. Specific items evaluated in this review included:

    o Membership Data – An analysis of the Committee's membership from 2010 to 2014, including a first and second order evaluation of membership by size, region, primary market, and position in the value chain.

    o Meeting Data – An analysis of member and non-member attendance at Committee General Meetings and Technical Conferences, including an analysis of attendee representation by region and an analysis of meeting attendance correlated against meeting location, workshop topic, and external events.

    o Finance – An analysis of the Committee's financial performance from 2010 to 2014, including an evaluation of any significant financial events that occurred.

    o Performance – An evaluation of how the Committee and its members have performed against stated objectives, including an analysis of what contributed to the Committee's successes, and what lessons could be learned in areas of non-performance

- Survey – The CC SCA Steering Group issued a survey to collect views from both member and non-member organizations on their views concerning the future of SCA based standards. Survey questions were largely open ended, and 25 of the 81 defense based organizations surveyed responded, including 10 radio manufacturers, 4 government entities and 11 other participants in the SCA technology value chain. While responses were not received from all target organizations, the Steering Group felt that the responses received were sufficiently representative of the community so as to constitute a statistically valid sample set.

- Market Analysis – This activity evaluated the Committee in the context of the broader advanced wireless market. As a part of this evaluation, a SWOT (Strength, Weaknesses, Opportunities, Threats) analysis was performed to position the Committee with respect to other organizations, based on input from Forum members, as shown in Table 1.

Table 1: Organizations Evaluated in the Committee's SWOT Analysis

"Standards" Bodies	"Trade Associations" and other related bodies
European Telecommunications Standards Institute (ETSI) Technical Committee on Reconfigurable Radio Systems (TC-RRS)	FACE Consortium
IEEE DySPAN Standards Committee	NCOIC
Object Management Group (OMG)	
Open Group	

- Entrance and Exit Interviews – The Forum also conducted one on one interviews with each organization that joined the Forum or withdrew from the Forum from 2010 to 2014 to ascertain the reasons for this decision. Data related to organizations active in the CC SCA was analyzed by the Steering Group. Entrance interviews reinforced information gathered in the survey, while exit interviews identified that the primary reasons that organizations left the Forum.

Analysis of this data showed that a key concern of current and potential committee members is the continued weakening of the defense communications market worldwide. These concerns were especially true in the United States where budget uncertainty and sequestration are significantly impacting the ability of organizations to invest in innovation. This effect is compounded by market fragmentation and the proliferation of standards. The analysis also showed a need for the committee to move beyond the base SCA to support a broader range of communications technologies, including both network protocols and spectrum sharing. The following details a strategy designed by the CC SCA Steering Group to specifically address these issues and support the needs expressed by the members of the CC SCA over the next three years.

2   High Level Strategy

The vision of the CC SCA is to become the preferred venue for the harmonization of SDR standards worldwide for supporting essential and mission critical communications. A key element of this vision achieving the convergence of SCA based specifications worldwide into a single SCA based standard that encompasses the radio APIs and is owned and maintained by the Forum. The members of the CC SCA believe that minimizing the deviations from the Forum managed standard is the best possible outcome for both government and industry as it provides an environment where radio vendors and tool manufacturers do not have to create multiple versions of the same product to service their customers worldwide. This in turn facilitates the greatest level of interoperability between products and maximizes the size of the SCA based equipment market, allowing the development of a broader ecosystem of supporting vendors,

reducing cost through economies of scale and minimizing time to deployment for new and updated products.

Beyond the SCA, the CC SCA shall work to become the recognized venue worldwide for harmonizing and driving commonality in all SDR standards for essential and critical communications. This goal will build on the Forum's strength in international participation and depth of SDR technical knowledge with a history of defense focus and participation to address our member's requirements to expand access to waveforms, improve flexibility in addressing customer requirements, and grow participation in the SDR value chain at all levels. If successful in executing on this strategy, the Forum's portfolio of standards will have broad government and industry adoption, with waveform development activities such as COALWNW and radio acquisition programs worldwide aligned with the Forum's recommendations.

In support of this vision, this strategic plan is broken into three foundational elements:

1) Standards Harmonization: The CC SCA shall build on its existing charter to take a leading role in harmonizing and driving commonality in SDR standards.
2) Outreach: The CC SCA shall focus on outreach in two areas
   a. Maximizing involvement of government and industry stakeholders in CC SCA activities
   b. Promoting of the adoption of preferred standards identified by the CC SCA
3) Structure: The CC SCA shall rebrand itself to reflect it expanded vision, and will undertake other structural changes as required to execute on the defined strategies

The remainder of this plan will provide specific strategies that will be undertaken by the CC SCA in each of these three areas. The sequence and timing of the roll out of specific strategies is important as dependencies exist, so tactical objectives will be established each year in the committees annual operations plan to advance these strategies with the goal of achieving overall success by 2017.

3   Standards Harmonization

3.1   Establishing the CC SCA as the Preferred Venue for Government/Industry Collaboration on SCA Based Standards

The CC SCA currently enjoys a unique relationship with the US Joint Tactical Networking Center (JTNC). Through a previous relationship with the JTRS Joint Program Executive Office (JPEO), the CC SCA was designated the public liaison for the "SCA Next" standards development activity, and through that designation was granted a vote on the JTRS Interface Control Working Group (ICWG). The JTNC has reaffirmed this position for SCA 4.1, allowing the Forum to take ownership of multiple development activities and maintain its vote on the ICWG.

The CC SCA will work to leverage this model in partnering with other organizations worldwide to drive convergence on a common set of SCA based standards. In Europe, the CC SCA will work to align with activities in ETSI, EDA and various programs such as ESSOR and SvFUA. The CC SCA will also seek partners in Asia, the Middle East, and South America where emerging programs may accrue value in working with a harmonization body.

A key element of this strategy will be the establishment of a harmonization roadmap, identifying areas of discrepancy between implementations, and then developing a prioritized list of APIs and segments of the base SCA where harmonization is required. The strategy of the Forum in executing on the harmonization roadmap will be as follows:

1) The CC SCA will evaluate, endorse and take custodianship of specifications published by partner organizations as a baseline of preferred standards. Towards this end, the CC SCA will work to ensure a commitment to publish API's, etc. from the current owners and endorse the results of the harmonization.

2) When necessary, the CC SCA will develop and maintain independent standards that can be referenced by the partner organization. This may include forking existing public specifications published by partners to allow for required modifications, or developing new standards to address needed capabilities.

3) In cases where the partner must have ownership of the standard, the Forum will make recommendations to be adopted by the partner that are aligned with Forum standards.

The Forum will work to establish formal relationships with each partner organization to facilitate these processes.

3.2   Providing better support for waveform portability

The CC SCA will follow a similar approach to establish a roadmap of projects that enhance the SCA by improving waveform portability. It is generally recognized that the SCA and supporting APIs are not sufficient for supporting waveform portability. By working with industry and through the partnership strategy established in Section 3.1 of this plan, the CC SCA will identify gaps in the specification for supporting waveform portability and modifications required to establish a prioritized set of projects necessary to maximize the ability of the SCA and related APIs to act as a recognized international standard for waveform portability. At a minimum this roadmap will include exportable, unclassified networking and non-networking waveforms to act as a reference for discussions on portability, and clearly defined FPGA and DSP environments.

3.3   Expansion of SCA beyond defense markets

It is generally recognized that the baseline SCA operating environment is not specific to tactical defense communications, but rather can support a broad range of essential and mission critical communications systems. A clear example of this lies in the establishment of a set of SCA APIs for Dynamic Spectrum Access (DSA) networks. DSA has specific applicability in commercial

market segments, but it can be directly used in the tactical radio market. Such support may require domain specific API's and so the CC SCA will work with members to identify relevant domains and establish projects to define said APIs to be included in the defined portfolio of standards.

Another SCA product that can be considered "transversal" to different markets are the waveforms. One example could be to generate a "sample SCA portable waveform" for AM Voice Communications, and make it an open WINNF product for members. As part of the strategy, the WINNF will consider becoming the international SCA Portable Waveform Information Repository for its members. In order to do this there is a need to generate a first sample waveform, perhaps leveraging artifacts from section 3.2 of this strategy. Once established, any company, university or individual could contribute to this repository. Contributed waveforms would need to be compatible with the minimum set of rules for portability, as defined by the WINNF, and be "certified" by the WINNF as portable.

3.4   Support for Other SDR Standards

The CC SCA recognizes that the needs of its members extend beyond the SCA specification and so will work to drive a convergence of other SDR based activities for essential and critical communications to the Forum. The goal is to provide standards input, harmonization and services targeted at platforms and standards not already addressed by the SCA (i.e. shipboard, space platforms, public safety, higher frequency ranges). The value the CC SCA brings in these areas is the collective expertise of its members in communications solutions development and participation in standards developments. The strategy for the CC SCA in branching into other areas will be to target areas for standards development in which current supporting organizations do not exist or are not effective in driving solutions, and to provide complementary solutions where effective standards development organizations are successful.

A key element of this strategy will be establishing a roadmap of projects necessary to harmonize other non-SCA based standards for the deployment of software defined wireless communications systems. This includes identifying relevant programs, understanding the reference architectures utilized by these programs, exploring standards beyond the SCA which are relevant for the deployment of SDR within these programs, identifying the borders of harmonization to include what to harmonize and why. In executing on this strategy, the CC SCA will partner with other relevant standards bodies, such as the Open Group or OMG, to develop profiles of other standards as required to support our member's needs. To achieve this objective, the CC SCA may undertake multiple initiatives, including holding workshops and webinars for relevant stakeholders in identified programs, or issuing surveys to solicit feedback on specific areas. The objective of each roadmap project will be to preserve the existing investment made by companies and industry wherever possible.

3.5   Configuration Management

As the portfolio of standards managed by the CC SCA grows, the CC SCA will work to establish mechanisms for advanced configuration management.

3.6 Certifications

The CC SCA will evaluate establishing certification programs if required to ensure compliance with approved standards.

4 Outreach Strategy

Execution on the Standards Harmonization strategy presented in the previous section requires an outreach strategy in two areas to ensure success: increasing stakeholder participation in the committee and promoting the adoption of CC SCA harmonized standards. This section will define specific strategies for each.

4.1 Increasing Stakeholder Participation

4.1.1 Expanding advisor representation

To establish global harmonized standards, the Forum will need inputs from all regions of the world. To achieve this, the CC SCA will maintain current advisory council participation and expand that participation to provide increased geographic representation. The current CC SCA Charter states that:

"Advisors to the CC SCA represent various government stakeholders in the identification of requirements for International SCA Standards and the development of a vision to support their operations."

The advisory council has proven to be very beneficial to the Advisors, the CC SCA and participating member companies over the past two years. Building on this success, the CC SCA shall work to extend invitations to become advisors to representatives from Brazil, India, Japan, Korea, Malaysia, Singapore, the UAE and other countries as appropriate. The CC SCA will also work to secure advisors from organizations working with non-SCA but SDR related standards activities, such as FACE. The CC SCA Steering Group (SG) will also consider mechanisms to report advisory council activities to non-SG members to enhance the value of CC SCA membership and recruit additional SG participants.

4.1.2 Project Sponsorship

Execution of a harmonization strategy requires public endorsement of the roadmap projects by both government programs and industry. Such endorsement provides credibility to each effort, and ensures some level of adoption of resulting artifacts. As such, the goal of the CC SCA will be to advocate for adoption of each roadmap project by at least one government program or to secure a commitment by at least two industrial participants to adopt the results independently in their product offerings.

4.1.3 Membership growth

Execution on this strategy requires resources beyond the Forum's current membership. As such, the CC SCA will establish a sub-group focused on strengthening membership based on traditional SCA activities. This strategy will be short term focused with the goal of both increasing committee participation from existing members and getting new members to join, as longer term successful execution on the strategy is expected to bring in increasing numbers of new members. Objectives for this group will be as follows:

- Membership grows by 5 organizations in year 1
- Membership grows by 5 organizations in year 2
- Membership grows by 10 organizations in year 3

In supporting this strategy, the CC SCA Steering group will do a review of member pricing to ensure alignment with the market, and make recommendations for changes to the Board of Directors as appropriate.

4.2 Promotion of the CC SCA Standards Recommendations

4.2.1 Adoption of SCA 4.1

Members of the CC SCA strongly believe that the adoption of a SCA 4.1 specification supporting backwards compatibility with SCA 2.2.2 is critical for maximizing the use of the SCA in tactical radio markets worldwide and enabling the ecosystem to continue development toward defined objectives of cost reduction, and waveform portability. Toward that end a targeted strategy is needed to ensure the adoption of this new specification. The goal of the CC SCA is to have at least one radio program publically adopt SCA 4.1 within the first year of its release, and broad adoption within the timeframe of this strategy. To meet with this aggressive target, the CC SCA will look at mechanisms for promoting the specification and facilitating the success of potential early adopters of the specification.

4.2.2 Promoting the broader adoption of CC SCA standards

The CC SCA will also work to ensure government stakeholders are aware of CC SCA products to minimize rework of existing solutions. This includes working with international procurement bodies to move them to a standards model, showing the benefit of adopting CC SCA endorsed standards as a strategic investment through case studies and business model developments. As a part of this strategy, the CC SCA will establish mechanisms to identify relevant projects worldwide, and then target communications specifically to engage with those programs on behalf of the community. One tactic that could be utilized in support of this activity is to hold an industry sponsored "industry day" for relevant programs.

5 Structure

5.1 Rebranding

The strategies defined in this document are intended to broaden the appeal of the CC SCA beyond traditional defense industry vendors and tools suppliers. In doing so, the current name will become an impediment to success, so the CC SCA will determine a new name and charter and develop a plan for rolling out the new Committee, to be completed by the end of FY2015. The new brand must remain in alignment with the Forum mission statement to address "essential and mission critical communications", and care must be taken not to alienate traditional defense industry vendors and tool suppliers by assuring the continued development of relevant standards (SCA and others) to those providers. In rebranding, the existing suite of standards that are relevant to the SDR market will be evaluated as well as new platforms. The rebranding will also evaluate emerging domains in which global coordination will be beneficial such as network provisioning and management.

5.2 Structure

Aside from the Advisory Council activities, the focus within the CC SCA is largely tactical at this time, focused on delivering work products towards enhancing the SCA. The CC SCA shall be structured so that completion of strategic plan activities and others with strategic importance is assured. The CC SCA shall also consider structural changes in alignment with Outreach initiatives. An example of this could be a focus group within a regional organization, or a standing SCA advocacy group.

6 Execution of this Strategy

The order of execution of these plans will be important. Activities towards strengthening the traditional membership will be of immediate priority as this is the quickest way to secure the participation necessary to achieve the other defined objectives. Other elements of the outreach strategy will start after the strengthening theme but will not wait until the strengthening goals are met, occurring in parallel to the greatest extent possible. The strengthening and rebranding will be completed within the next Fiscal Year. Standards harmonization and outreach are processes that continue through the horizon of the strategic plan.