InterNational Committee for Information Technology Standards (INCITS)
Secretariat: Information Technology Industry Council (ITI)
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INCITS Annual Report

Annual Report for: INCITS/SSE-Software and Systems Engineering

Covering the Period from April 2018 to March 2019

1. Executive Summary

INCITS/SSE, the US TAG for ISO/IEC JTC 1/SC 7, (software and systems engineering) is performing effectively. SSE began operations on December 1, 2017, with a transition from the previous SC 7 US TAG administrator (IEEE Computer Society). Currently SSE has 12 voting member organizations and 3 organizations pending voting membership status. The total number of member organizations has hovered between fifteen and eighteen for the last year. There are 55 principals and alternates (up from 45 in 2017). SC 7 remains one of the largest, if not the largest, subcommittees in JTC 1.

The primary areas of standardization for ISO/IEC JTC 1/SC 7 are software and system engineering processes and process assessment; the measurement and evaluation of software quality; enterprise architecture, including systems of systems; systems and software product lines and tools: systems and software documentation; and IT asset management.

The following are the SC 7 working groups and special working groups. SSE members participate in or monitor all of them except WG 19, which has a different US TAG:
• SWG 1 Business planning group
• SWG 5 Standards management (US convenor)
• WG2 Systems/software documentation (US convenor)
• WG4 Tools and environment
• WG6 Software product and system quality
• WG7 Life cycle management
• WG10 Process assessment
• WG19 Techniques for specifying IT systems
• WG20 Software and system bodies of knowledge and professionalization
• WG21 IT asset management (US convenor)
• SWG 22 Vocabulary (US convenor)
• WG24 System life cycle profile and guidance for very small enterprises (VSE)
• WG26 Software testing
• JWG 28 (joint with ISO TC 159/SC4) Common industry formats for usability reports (US convenor)
• WG 42 Architecture

2. Accomplishments

JTC 1/SC 7 has approximately 125 standards in various stages of development or revision, and 100 standards at a published stage (some projects are both completed and in revision). Eighteen standards were published in 2018 or early 2019.

Significant publications during this period include the following:

- ISO/IEC/IEEE 24748-1:2018 Systems and software engineering -- Life cycle management -- Part 1: Guidelines for life cycle management I
- ISO/IEC/IEEE 24748-2:2018 Systems and software engineering -- Life cycle management -- Part 2: Guidelines for the application of ISO/IEC/IEEE 15288 (System life cycle processes)
- SO/IEC/IEEE 24748-7:2019 Systems and software engineering -- Life cycle management -- Part 7: Application of systems engineering on defense programs
- ISO/IEC/IEEE 24748-8:2019, Systems and software engineering — Life cycle management — Part 8: Technical reviews and audits on defense program
- ISO/IEC/IEEE 26511:2018 Systems and software engineering -- Requirements for managers of information for users of systems, software, and services
- ISO/IEC/IEEE 26512:2018 Systems and software engineering -- Requirements for acquirers and suppliers of information for users
- ISO/IEC/IEEE 26515:2018 Systems and software engineering -- Developing information for users in an agile environment
- ISO/IEC/IEEE 29148:2018 Systems and software engineering -- Life cycle processes -- Requirements engineering
- ISO/IEC/IEEE 90003:2018 Software engineering -- Guidelines for the application of ISO 9001:2015 to computer software

3. Challenges

SSE and SC 7 are effectively managing a large workload. As of May 2017, the Chair and Secretariat of SC 7 transitioned from Canada, which had held the Chair for over 20 years, to India (BIS). The new SC 7 Secretariat has been quite efficient and responsive and the challenges of transition have mostly been successfully met. However, fewer US delegates than ever before traveled to the May 2018 SC 7 plenary in New Delhi, India. Others attempted to participate through WebEx, where some communication challenges were experienced. Some of these challenges were due to the time difference from the US. We expect a slightly larger onsite turnout for the 2019 plenary meeting in Espoo (Helsinki), Finland, 19-24 May 2019, as it is a bit easier to get to and there are no visa requirements for US citizens when visiting Finland (an EU member).

US Government and related contractor possible budget changes and travel limitations which may be imposed upon them impact members ability to participate in many activities including TAG and international meetings. To compensate, SSE continues to expect to hold a single one-day face-to-face meeting annually and approximately six virtual meetings annually, reducing the cost and need for travel. Also, US travel restrictions can limit participation of other NB in US-hosted meetings.

Although the US holds the convenorship of five of the SC7 working groups, the US has not been invited to participate in the chair's SWG 1, Business Planning Group

4. Future Trends and Related Technical Activities

Systems and software engineering processes, services, and products are fundamental to all US technical enterprises and organizations. New trends leading to future standardization needs include emphases on artificial intelligence and autonomous vehicles, blockchain, internet of things, smart cities, agile methods, DevOps, cybersecurity, and systems of systems. Study Groups have been set up to address some of these topics and others. The following study groups were approved at the 2018 plenary in New Delhi:

SG 1: Investigation of standards on quantum computing
SG 2: Investigation of newer ways to produce standards
SG3: DevOps and agile practices
SG4: SC7 Architecture review
SG5: Tools and methods for Model Based Software and Systems Engineering (MBSSE)
SG6: Specification techniques standardization

The core standards of ISO/IEC JTC 1/SC 7, ISO/IEC/IEEE 12207:2017 and ISO/IEC/IEEE 15288:2015, have recently completed revision to reflect a unified model set of acquisition, organizational, technical management, and technical processes for systems and software. US editors in the SC 7 US TAG are leading the work of development and revision of specialized process standards and guides for consistency. Other fundamental standards include ISO/IEC 19770 (IT asset management series), which US Government Agencies are starting to call out in US Government Procurement language and which is being implemented by major IT vendors. New members joining SSE have primarily joined to participate in this area.

SC 7 coordinates particularly with SC 27 (software security), SC 38 (cloud), SC 40 (IT Governance and IT Service Management). and soon with SC 42 (Artificial Intelligence).

5. Liaison Activities

There are twenty-one liaisons from other organizations to SC7 and seventeen liaisons from SC7 to other organizations. There are nine organizations in Category A and B liaison with SC7 and twelve organizations in Category C liaison.

SC 7 liaisons are listed on the SC7 website.

6. Other Administrative Information

Adjustment from administrative procedures of the previous SC 7 US TAG are ongoing and handled through normal communication channels. One notable difference from the IEEE CS administration is that most administrative tasks previously performed by the IEEE CS TAG Administrator are now required to be done by the TAG Chair or Secretary.

Also, some SSE members find that there are still too many duplicate emails. For example, the INCITS staff contact will distribute an action item to the membership for position and comments on a particular document ballot. The TAG chair then distributes another email essentially asking for the same thing with the only addition of whom the point of contact is and the due date. Nevertheless, there is a good working relationship between the TAG Chair and the INCITS staff contacts.

In 2018, for virtual meetings, ISO transitioned from WebEx to Zoom.

7. Does your committee collect funds?

No.

8. Committee membership and officer information will be added by the Secretariat

First	Last	Company	Role
Michael	Gayle	IEEE Computer Society	Group Chair
Annette	Reilly	IEEE Computer Society	Vice Chair
Theresa	Hunt	American Society for Quality (ASQ)	Secretary

INCITS/SSE Membership as of 03/13/2019

Company	Role	Membership Class
American Society for Quality (ASQ)	Member	Voting

Anglepoint	Member	Voting
Booz Allen & Hamilton Inc	Member	Voting
CAST Software	Member	Voting
Cisco Systems Inc	Member	Voting
Department of Commerce - NIST	Member	Voting
Flexera	Member	Voting
IEEE Computer Society	Member	Voting
International Function Point Users Group (IFPUG)	Member	Voting
Lockheed Martin Corporation	Member	Voting
Microsoft Corporation	Member	Prospective Voting
Mitre Corporation	Member	Voting
Ray Allen Inc	Member	Advisory
Software Engineering Institute/CERT, a division of Carnegie Mellon University	Member	Prospective Voting
United States Dept of Defense	Member	Voting
United States Dept of Defense - NSA	Member	Prospective Voting