

Test and Diagnosis for Electronic Systems

Standards Committee (SCC20)

Chairs Report
April 18, 2023

Mike Seavey
Draft 2
April 13, 2023

Acronyms & IEEE Submittal Dates (1 of 2)

Acronym	Meaning
AI-ESTATE	Artificial Intelligence – Expert Systems Tie to All Test Environments (IEEE-1232)
ARINC	Aeronautical Radio Incorporated
ATE	Automatic Test Equipment
ATLAS	Abbreviated Test Language for Avionics Systems & Abbreviated Test Language for All Systems
ATML	Automatic Test Markup Language (IEEE-1671 & IEEE-1871)
JSON	JavaScript Object Notation
MBSE	Model Based Systems Engineering
NDIA ATC	National Defense Industry Association Automatic Test Committee
P&P	Policy and Procedure
S&SI	<u>S</u> tandards & <u>S</u> tandards <u>I</u> nnovation
SCC	<u>S</u> tandards <u>C</u> oordinating <u>C</u> ommittee (now obsolete)

Acronyms & IEEE Submittal Dates (2 of 2)

Acronym	Meaning
SIMICA	Software Interface to Maintenance Information Collection and Analysis (IEEE-1636)
SMDC	<u>S</u> trategic <u>M</u> anagement and <u>D</u> elivery <u>C</u> ommittee
STD	Signal Test Definition (IEEE-1641)
XML	eXtensible Markup Language

Submittal Deadline	Meeting
October 16, 2023	December Standards Board Meetings

SCC20

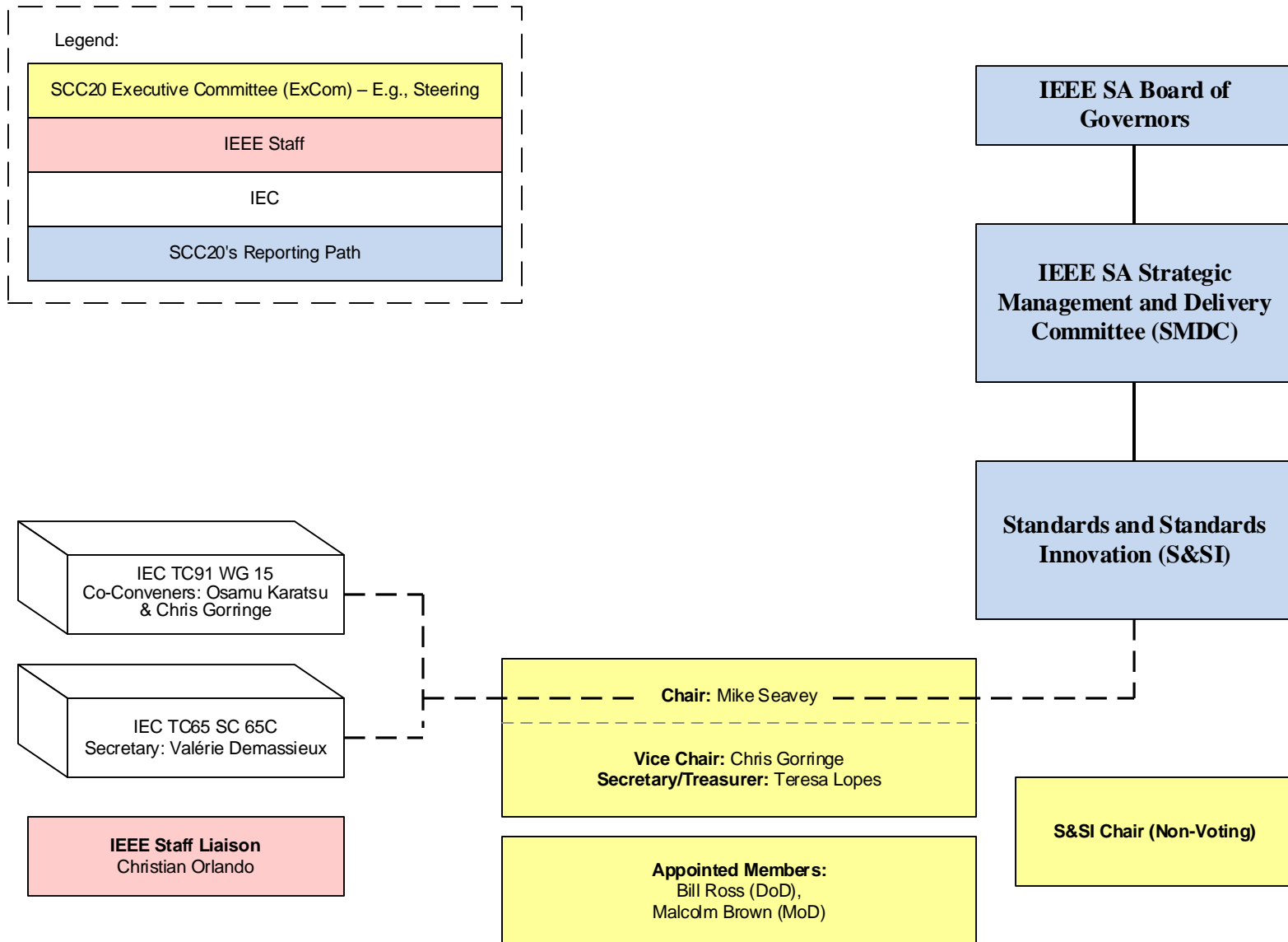
- The Committee that is now known as the ‘Test and Diagnosis for Electronic Systems Standards Committee (SCC20)’ is approaching 60 years old.
 - Originally formed by ARINC to develop a common test language for use in commercial aircraft avionics testing – ATLAS.
 - ARINC transferred the standardization efforts to the IEEE Standards Board in 1976.
 - ATLAS was published as IEEE Std. 416.
 - Today we are responsible for 28 Standards, Users Guides, & Recommended Practices; and have developed over 35 unique Standards since 1976.
- My first meeting was in 1978; I have been the Chair of this Committee for the last 15 years.
 - I have been appointed Chair by S&SI for 2023, 2024, 2025.
- I served as a member of the Standards Board from 2011 to 2014.

For Disclosure

- I Retired from Northrop Grumman on July 15, 2022.
 - In the foreseeable future:
 - I will continue as SCC20 Chair for the next 3 years.
 - I will continue with Standards Activities, both IEEE and IEC.
 - I will continue with any U.K. CATS4D Activities.
 - I will continue with NDIA Automatic Test Committee (ATC) Activities.
- I am an IEEE Autotestcon 2023 Technical Program Co-Chair.
 - I have been a Co-Chair or the Chair for each of the last 5 Autotestcon Conferences.

2023 SCC20 Organization

(1 of 4)



Malcolm Brown's Retirement

- I would like to personally thank Malcolm for his contributions to, and support of SCC20

2023 SCC20 Organization

– Working Groups

(2 of 4)

IEEE P2848
Prognostics and Health
Management for ATS

WG Chair: John Sheppard

In Working Group

IEEE P1636.1 Cor. 1
SIMICA Test Results
Corrigenda to 1636.1-2018

WG Chair: Anand Jain

In Working Group

IEEE P1671.1 Cor. 1
ATML Test Description
Corrigenda to 1671.1-2017

WG Chair: Ion Neag

In Working Group

2023 SCC20 Organization

– Study Groups

(3 of 4)

JavaScript Object Notation

Support of JSON File Formats
in ATML (1671 family)

SG Chairs: Anand Jain &
Teresa Lopes

2020 Survey Responses
Path Forward (ATML) Study
Group

SG Chairs: Chris Gorringer
& Ion Neag

2023 SCC20 Organization

– Potential New Study Groups

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- Cyber Security & Resiliency for ATS Recommended Practice
 - Chair: Mike Seavey – A lot of Interest was initially shown; however, no work has been done. The pandemic did not help.
- IEEE-488.1-2003 & IEEE-488.2-1987 – Digital I/F for Programmable Instruments & Std Codes, Formats, Protocols, Commands
 - Chair: Mike Seavey – I have not worked on this since the pandemic began.
- ATE Wireless Communication

SCC20 Standards Tracking

Type	Publication	Project	PAR by	PAR Approval Date	PAR Expiration Date	Valid Standard Until	Notes
Standard	488.1-2003	—		—	—	3/19/2019	IEEE Has Requested This Remain Active
Standard	488.2-1992	—		—	—	6/17/2020	IEEE Has Requested This Remain Active
Standard	716-1995(R2011)	—		—	—	12/31/2021	Moves to inactive
Users Guide	771-1998(R2009)	—		—	—	12/9/2019	Moves to inactive
Standard	1232-2010	—	—	—	—	12/8/2020	Draft PAR for Revision
Users Guide	1232.3-2014	—	—	—	—	12/31/2024	
Standard	1445-2016	—	—	—	—	12/8/2026	IEEE Published February 2017
Standard	1505-2010	—	—	—	—	9/30/2020	Moves to inactive
Standard	1505.1-2019	—	—	—	—	12/31/2029	Moves to inactive
Standard	1505.3-2015	—	—	—	—	12/31/2025	Moves to inactive
Users Guide	1546-2000(R2011)	—	—	—	—	12/31/2021	This was the 1445 guide, incorporated in the latest standard moves to inactive
Standard	1636-2018	—	2025	—	—	12/31/2029	Published February 28, 2019
Standard	1636.1-2018	P1636.1 Cor 1	—	June 4, 2019	December 31, 2023	12/31/2029	Published March 8, 2019
Standard	1636.2-2018	—	2025	—	—	12/31/2029	Published March 8, 2019
Standard	1636.99-2013	—	—	—	—	12/31/2023	Moves to inactive
Standard	1641-2022	—	—	—	—	12/31/2032	Published 2023
Users Guide	1641.1-2013	—	2019	—	—	12/31/2023	
Amendment	1641.1a-2018	—	—	—	—	12/31/2028	Published March 8, 2018
Standard	1671-2010	—	2016	—	—	9/30/2020	Draft PAR for Revision
Standard	1671.1-2017	P1671.1 Cor 1	—	November 7, 2019	December 31, 2023	12/31/2027	Published March 19, 2018
Standard	1671.2-2012	—	2018	—	—	12/31/2022	
Standard	1671.3-2017	—	2023	—	—	12/31/2027	Published April 13, 2018
Standard	1671.4-2014	—	2020	—	—	12/31/2024	
Standard	1671.5-2015	—	2021	—	—	12/31/2025	
Standard	1671.6-2015	—	2021	—	—	12/31/2025	
Recommended Practice	1871.1-2014	—	2020	—	—	12/31/2024	
Recommended Practice	1871.2-2017	—	2023	—	—	12/31/2027	Published March 14, 2018
Standard		P2848		November 7, 2019	December 31, 2023		

Standards Activities since the 22-2 Meeting

(1 of 2)

- IEEE Std. 1641-2022 (Revision of IEEE Std. 1641-2010).
 - Approved September 21, 2022.
- Corrigenda for IEEE Std.1636.1-2018
 - The draft Standard was approved at our 22-2 meeting to proceed to MEC and the IEEE ballot process.
- Corrigenda for IEEE Std.1671.1-2017
 - Drafts of the Corrigenda have been developed.

Standards Activities since the 22-2 Meeting

(2 of 2)

- P2848 Prognostics and Health Management for ATS
 - Working Group continues to meet electronically, on a once per month schedule.
 - The Working Group will not be meeting this week.
 - There are apparently “issues” with the IEEE Word Template and the Apple Operating System.
 - I would like to talk to Christian this week regarding the IEEE Reliability Society participation & their perceived ownership of P2848.

Chairs Activities since the 22-2 Meeting

(1 of 4)

- The SCC20 Standards Committee P&Ps
 - The P&Ps were submitted to AudCom.
 - Editorial updates were incorporated after approval by S&SI.
 - The IEEE SA Standards Board accepted the P&Ps on February 10, 2023 – they are valid until December 31, 2028.
- SCC20 Working Group P&Ps
 - On April 12, AudCom requested updated Working Group P&Ps within 2 months; for their review & approval.
 - I will need S&SI to approve the Working Group P&P before submitting it to AudCom.
 - I will be requesting a Working Group Microsoft Word template for a Standards Committee.
 - Our Existing Working Group P&P is in a SCC template. (SCCs no longer exist)
 - I will develop the P&P and submit to S&SI by the end of April.

Chairs Activities since the 22-2 Meeting

(2 of 4)

- IEEE Required Training for Chairs, Vice Chairs, Secretaries, Treasurers
 - For both the Committee and Working Group level Chairs, Vice Chairs, Secretaries, Treasurers.
- There are 3 training classes
- I have completed all 3
 - 1 of the classes was 6 hours in length.
 - There is at least 1 SCC20 Working Group Chair who has not yet completed the training.
 - Note: There is no wording in the P&Ps regarding action to be taken in the event a Chair, Vice Chair, Secretary, or Treasurer does not complete the training.
 - Nor is completing the training a criteria to be considered for any of those positions.
 - The emails from the IEEE state that completing the training is required, and must be completed by a certain date, or action will be taken.

Chairs Activities since the 22-2 Meeting

(3 of 4)

- IEEE myProject updates
 - SCCs no longer exist.
 - The Standards Committee (SCC20) paths were updated to ‘disconnect’ from the Standards Board and ‘connect’ to S&SI SMDC
 - The update was supposed to eliminate previous SCC20 Subcommittees (TAD, TII, DMC, HI) from the path for previous efforts – however, this did not occur.
 - In 2022 I had phone conversations with IEEE Staff regarding the updates.
 - The update as it is today, is not consistent with the new SCC20 P&P. (there are no subcommittees)

Chairs Activities since the 22-2 Report

(4 of 4)

- P1671 Draft PAR
 - The Revision of IEEE Std. 1671-2010
 - Standard for Automatic Test Markup Language (ATML) for Exchanging Automatic Test Equipment and Test Information via XML
 - Proposed updated project title:
 - Standard for Automatic Test Markup Language (ATML) for Exchanging Automatic Test Equipment and Test Information via XML or JSON
 - This PAR was deferred to this meeting at the 22-2 meeting.
 - The latest draft PAR will be submitted to SCC20 'Steering' for approval to submit to NesCom.
- P1671.1 Cor. 1 & P1636.1 Cor. 1 PAR Extensions
 - The latest draft PARs are to be submitted to SCC20 'Steering' for the approval to submit to NesCom.
 - Each should be 2 Year extensions.

March 7, 2023, NDIA ATC Meeting

- Of interest to SCC20:
- US DoD MBSE will be making a call for additions to ATML.
 - Adding Optics was a given example.
 - This appears to be more of an addition to IEEE Std.1641-2022.
- A Downsized Mass Interconnect is desired.
 - A revision of IEEE Std.1505-2010 is not feasible.
 - Reason: More than 15 US Patents have been granted since 2010, for various aspects of a mass interconnect.
- Note: The next NDIA ATC will be held on:
 - Thursday, August 31, 2023, at the conclusion of IEEE Autotestcon.

Autotestcon 2023 Papers

- Of interest to SCC20:
- Virginia Tech University has submitted an abstract related to ATML.
 - Their paper will outline proposed additions to ATML they feel are needed for Machine Learning.
 - I will be recruiting the Authors and Professors to participate in the SCC20 Working Groups.

2023 SCC20 Meetings

- Electronic “Steering” Meeting

- Date and Time: TBD. (Before September)
 - P2848 PAR Extension.
 - AI-ESTATE (IEEE Std. 1232-2010) Revision PAR.

- 23-2 Committee Meeting

- IEEE Autotestcon 2023 is August 28 - August 31.
 - Gaylord National Convention Center, National Harbor, Maryland.
- I am working on 4 options for our fall meeting
 1. SCC20 meets at the Gaylord Convention Center on Sunday August 27.
 2. SCC20 meets at the Johns Hopkins University Applied Physics Lab on Sunday August 27.
 3. SCC20 meets at Reston Software, Reston Virginia on Sunday August 27.
 4. SCC20 meets in September/October.
 - Hyatt Regency Hotel, New Orleans, Louisiana
 - Chicago, Boston, Austin

Questions?

