IEEE SCC20 23-1 Minutes

APRIL 18 – 20, 2023 | BEST WESTERN PLUS HOTEL, PARIS MEUDON ERMITAGE, PARIS, FRANCE

Alain Vervain - Teradyne	Jean-Christophe Hertzog – MBDA
Alicia Helton – Lockheed Martin RMS	Malcolm Brown – UK MoD
Anand Jain – NI	Michal Krawczynski – Spherea
Chris Gorringe – Spherea	Mike Seavey
Christian Orlando – IEEE	Paul Grealis – UK MoD
Damien Willenet - MBDA	Ron Knight – Rockwell Collins (Teams)
Ion Neag – Reston Software	Teresa Lopes – Teradyne
Jared Boyden – Lockheed Martin RMS	Yan Rodriguez – Lockheed Martin RMS (Teams)

AGENDA TOPICS APRIL 18, 2023

10:00 AM – NOON | Plenary | Mike Seavey

1) *CALL TO ORDER* — *Mike Seavey*

Meeting called to order at 10:08 AM UTC+2

2) *MEETING LOGISTICS* — *Jean-Christophe Hertzog*

3) *INTRODUCTIONS/ATTENDANCE SHEET* — *All*

4) *23-1 MEETING AGENDA* — *Mike Seavey*

Agenda reviewed and accepted

5) *22-2 MEETING MINUTES* — *Teresa Lopes*

Minutes posted – need to updated UK MoD report for last meeting

6) *IEEE PATENT SLIDESET* — *Mike Seavey*

IEEE patent slides presented – there are two sets of slides: one for activities with a PAR and for activities without PARs

7) *CHAIRS REPORT* — *Mike Seavey*

Chairs Report (see IEEE SCC20 23-1 Chairs Report.pdf)

Discussion

Need more than 1 day and important to meet in conjunction with AUTOTESTCON so that European attendees don't have to choose between AUTOTESTCON and SCC20

8) *APPOINTED MEMBERS REPORTS*

A. US DoD — *Bill Ross*

Appointed member not present

B. UK MoD — Malcolm Brown

Due to myself moving to partial retirement as of today, I have been working with DECA to transfer my ATS duties and standards work to them. The position of the MOD appointed member to ExCom will be transferred to Paul Grealis from today. DECA have the advantage of implementing the standards onto their ATS and TPS's and will be taking responsibility for the various Defence Standards relating to ATS.

DECA were a MOD agency, but from the 1st April 2023 they have been transferred into Defence Equipment and Support (DE&S) and will continue to provide a UK MOD perspective to the standards Committee.

There will be a transition period and I will continue to provide support to DECA over the next year.

DECA will also be taking the role of Chair of the CATS4D (Committee for Automatic Test Systems for Defence). This is a forum which is used to pass information on the standards, work in progress and what is happening within the MOD to various interested parties in the UK and abroad.

My new role will be in support of setting Testability requirements and therefore will continue to have an interest in the Standards.

9) WORKING GROUP PLANS

C. IEEE P1636.1 Cor 1 Working Group *Anand Jain*

Document ready for MEC, but need to submit an extension PAR

D. IEEE P1671.1 Cor 1 Working Group *Ion Neag*

Need to discuss whether or not this should be a revision due to the number of changes

10) STUDY GROUP PLANS

E. Support of JSON File Formats in ATML (1671 family) Anand Jain & Teresa Lopes

Understand whether it makes sense to support JSON in the standards. XML viewed as old technology

F. 2020 Survey Responses – Path Forward (ATML) Study Group Chris Gorringe & Ion Neag

People were keen on the standards, but the information seemed to be tied up with individuals, hard to find information. Want to be able to discover and understand on their own. Should we be getting a user guide / recommended practice for ATML. Each standard has an example, but the examples are not related. Modify the standards to use a common example. Address understanding and training needs identified by the survey. Helping users figure out where to start.

11) ADJOURN PLENARY

Meeting Adjourned at 11:32

1:15 PM – 2:30 PM | P1636.1 Corrigenda Working Group & PAR Extension

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Small update to the standard. Submitted to MEC this morning will not have time to complete the MEC and balloting process this year so need an extension.

Two options:

- Extend the PAR
- Let this one expire and create a new one

Make sure to include a plan to getting to completion in the PAR extension

Malcom motions that we submit the PAR extension to Steering, seconded by Chris. Motion passes

Technical work is complete. Just need to finish the approval process.

[ACTION: Anand] Submit to MEC and start ballot invitation

[ACTION: Anand] Submit PAR extension to Steering

2:45 PM – 4:00 PM | P1671.1 Corrigenda Working Group & PAR Extension

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Draft PAR extension

All changes are to Annex A – the text representation of the schema

Review the technical solutions that are implemented and discuss which solutions are in scope and which we leave for the revision.

Scope: schema files published with the standard are not correct which limits their use for validation

- Example: test results ID should be unique as defined by the standard, not enforced by the standard

PAR written under the assumption that text in Annex A takes precedent over the schema file.

Three data items

- Schema file
- Annex A which is a text description of what is in the schema
- Clause 4

Only statement of precedence is that schema takes precedence over clause 4 (descriptive) no statement about Annex A – assume that because Annex A is normative and the schema is a supporting document. Not explicitly spelled out in any of the standards.

We intended that Annex A takes precedence of the schema. We should probably state this explicitly. The words always outweigh the supporting documents. If everything is done right, then Annex A and the schema are identical.

- In Clause 4, state that Annex A takes precedence over the descriptive text
- Then explicitly state that Annex A takes precedence over the schema files
    - You would write the Annex as normative if you didn't want it to be followed

Review of issues (see IEEE SCC20 23.1 IEEE 1671.1 Corrigendum - Summary of Changes.pdf)

- TestResult@ID uniqueness constraint missing
    - Test says that it's unique
    - Nothing in the schema enforcing uniqueness
- TestGroupParameter@ID uniqueness constraint
    - Same as above
- Inconsistent Fault@ComponentID
- Missing signal name reference in AttributeChange
- Incorrect annotation of @SignalName
- Missing "Description" element in TestResultDescription
- Unnecessary element in td:TestGroupOutcomeReference in td:Result
    - Hold over from previous version of the standard
    - Use "should not" instead of "can not"
- Issue with one example – doesn't follow the naming convention used for IDs in other examples [out of scope]
- Ambiguous out values in example 2 – discussed in 2022 meeting [out of scope]
- Missing "Out" attributes in signal definitions
- Incorrect key in DetailedTestInformation/Tests/Test – schema is correct, the standard is incorrect
- Editorial
    - Not easy when a table changes – make changes to specific cells of tables
    - Replicated the entire table
    - "Underline" things that are addition (for the purpose of this discussion have highlighted the additions in yellow)
    - Christian to get us in touch with an IEEE editor who can make recommendations
- Path forward
    - Ask for a PAR extension
    - Retire this PAR and submit new PAR with extended scope

Review list of issues and impact on the standard/users

Can't change the scope of the PAR – need to stay within scope.

There could be a derived requirement that in changing the schema we force an example change. What's the minimum that we need to change to stay within scope. Log the other issues/changes for the revision.

Create a document and XML package that contains only the changes that are in scope

Submit a PAR extension similar to the 1636.1 extension

Are there any other changes that fall within the scope that should be addressed? Submit by the next face-to-face meeting – working group believed we should just move forward with the changes we know about and discuss further changes as part of the revision.

Chris motions that we submit the PAR as amended to Steering, Malcom seconded. Motion passes

[ACTION: Ion] Update Xml package and document to include only items in scope

[ACTION: Ion] Submit PAR extension to Steering

Resume meeting tomorrow at 1:15 PM

Meeting adjourned 3:46 PM

AGENDA TOPICS APRIL 19, 2023

10:00 AM – NOON | Support of JSON File Formats in ATML (1671 family) Study Group

Meeting started at 10:03 AM Paris Time

Anand presented slides describing why we need to support JSON (see IEEE SCC20 23.1 Support for JSON.pdf)

NI customers expressed concerns; JSON is preferred. XML is considered obsolete (it is not) and therefore ATML is obsolete.

There are known incompatibilities between JSON and XML. JSON schema is still under development. XMLSpy provides support for JSON and JSON schema.

JSON is better at the snippet level (would be added value to ATML). Different JSON to XML converters give different results, so we need to define the mapping.

Path forward:

- Start working on the ATML Recommended Practice for JSON (P1871.3)
- Show industry that we are addressing the concern and the work is in process
- Look at existing IEEE standards that might apply (1589-2020, 1574-2013). Christian looking into seeing if he can share documents with the working group

[ACTION: Anand] Create PAR for new P1871.3 working group

1:15 PM – 1:30 PM | 1671.1 Corrigendum

Revised XML package and slides to include just items covered by the scope of the corrigendum

Schema changes

- Updated version
- Added 2 missing uniqueness constraints

Example

- Update version
- Changes in annotations

Corrigendum Document

- One new element (table addressed by adding an additional new line to provide some space between the underlined text and the cell border)

Chris motions that we propose to steering that the corrigendum is ready for be submitted to IEEE (can start MEC submittal and invitation to ballot at the same time), seconded by Malcolm. Motion passes

1:30 PM – 3:15 PM | 2020 Survey Responses - Path Forward (ATML) Study Group

(see IEEE SCC20 23.1 2020 Survey Responses.pdf)

Background

- DoD sent out survey to a broad mix of users

- Good mix of results
- Provided summary of results to SCC20 with the motivation being could we do something to address some of the questions that came up about the SCC20 standards
- Survey covered more than just the SCC20 standards – feedback provided to IVI as well

Results

- 26 responses, 20 are already participating in standards development
- About 90% have both used standards in the past and are currently using them
- Standards being used – top getters 1671.1 and 1671.2
    - Test Results was at 25% -> VERY surprised by this number, a lot more people using this without knowing it?
        - ATML vs SIMICA
        - Every TestStand user is generating ATML test results
- CTI – 45% responded
- IVI – 60%
- VXIplug&play – 70%
- Other: VXI, 716-ATLAS, PXI, JTAG
- Limitations
    - Standards to not cover all options, drives need to develop work-arounds
    - OS dependencies
    - Standards are always behind technology and extensions (needed?)
    - Lack of modeling in serial communication and digital signals
    - Missing key information to support “execution” of a test from the standards
    - Based on old technology (DTIF)
- Discussion
    - Comment related to electro-optic is because ATLAS did it differently
    - ATLAS has special syntax for parallel digital and serial buses with pre-defined serial protocols
    - ATLAS had specialized statements for buses and EO
        - Configure characteristics of the protocol that don’t change from exchange to exchange
    - More of a perception because there isn’t a separate section to cover these
- Learning Curves
    - Hard to get up to speed
    - Too many variations
        - 1641 not so much that there are multiple ways to do the same thing, but understanding which characteristics are important
    - Too large
    - Access to “experts” or “consultants” that are neutral
- Inconsistent adoption and utilization
    - Among the different branches of the services
    - What each branch is expecting and asking is different
- Does not cover full product lifecycle
    - If the standards aren’t backward compatible people are not going use them
    - Unclear whether users understood that the first 2 years the standards were out there for “trial-use”
- Facilitate implementation of tools
    - Create toolkit to use the output (1636.1)
    - IVI driver automation tools
    - For what? Missing context?
- Communication with Users
    - Address input on standards more fundamentally
    - Spread the advantages of using many standards to increase use within industry
- Suggestions for Improvement
    - Incorporate new technology in standards

    - Extensions
    - Improved explanation of scoping and how to pass information around xml document
    - Standard implementation more universal
    - Reduce complexity and size
- Next steps
    - Provide summary to various working groups
    - Take action on suggestions for improvements
    - Share successes with tool development and use of standards
    - Consider development of standards to address new technologies
- Discussion
    - Need to be cognizant that a lot of the comments coming from lack of knowledge/experience
    - What can we do to increase knowledge/visibility
    - Increase participation
    - Provide guidance on how to progress through the standards
    - People are missing the information in the base standard (1671)
        - IEEE website is misleading and confusing
        - Superseded by IEC but IEC link points back to same page
    - In 2023, is the perception that a standard from 2010 is no longer relevant
    - In our own material, we don't make it clear that you should start with the base document
- Next steps
    - Are there things that need to be added to the standards?
    - Is there information that we need to add to the website?
    - Extract list of things we need to add to the 1671 revision
    - Create a guide that shows you what areas of intertest depending on your role or what you are trying to accomplish
    - Session with experts where questions could be asked and addressed
    - Working group is not complete – schedule some time at next meeting
    - Encourage people to ask questions, can't advise on the standard but can provide information on how to get started
    - Add information to the website
    - Christian and Mike will meet with IEEE marketing to see what they can do to help

Meeting adjourned at 3:30 PM Paris time

3:40 PM – 4:15 PM | IEEE 1671 (ATML) Revision PAR

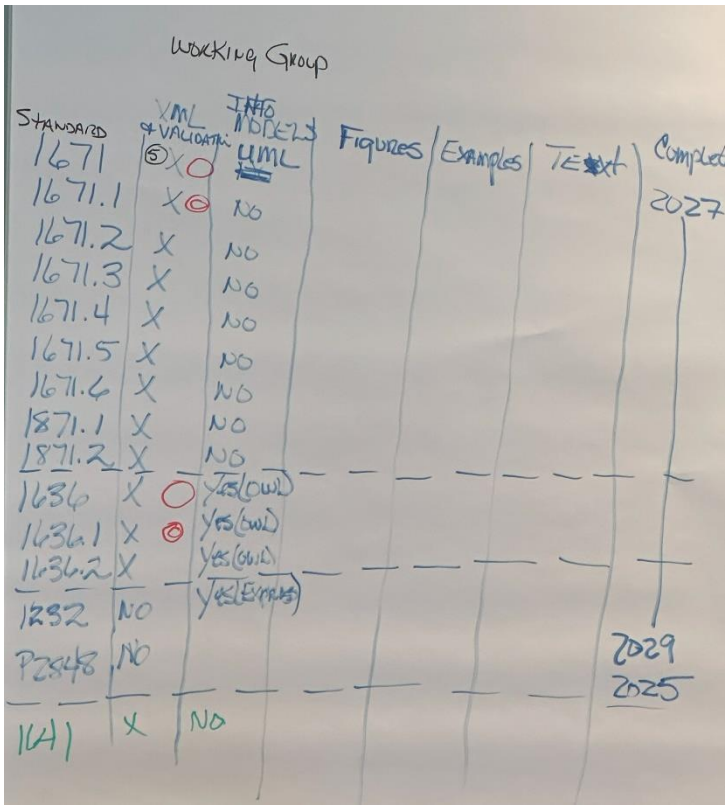
Meeting started at 3:40 PM Paris time

PAR is the same as the PAR from last meeting. Have removed purpose and updated the dates.

References to JSON removed

PAR will be brought to Steering for approval

Reviewed chart with all standards to determine how to accomplish the updates to the standards



Need to consider the impact of changes on things like SIMICA Common

Goal is to avoid making breaking changes

Things that we want to do

- Create a consistent example that spans all the documents
    - Enhance to include parallel digital and serial bus
- Enhance how we link things up across instance documents, have examples in Test Description that we can bring forward
- Do we need something that talks about describing what goes in an ATS system in generic terms

Meeting adjourned 4:45 PM Paris time

AGENDA TOPICS APRIL 20, 2023

10:00 AM – NOON | Presentation by the Chair of the New SCC20 Standards Committee P&Ps

Walk-through of changes to policy and procedures

- New name – kept SCC20 acronym in the name since it's referenced in many places
- Started with IEEE template and added our information
- Scope is unchanged
- Added information for dominance which we didn't have in the past
- Term limits are back – Mike has been appointed chair for the next 3 years
- Subcommittees are gone
- Final copy will get posted in myProject
- [ACTION: Teresa] remove copy currently posted on SCC20 website
- UK MoD Representative has transitioned from Malcolm Brown to Paul Grelis

- Need to determine what is going on with the US DoD position. Is Bill Ross still the representative or is he appointing a new representative

2:00 PM – 5:00 PM | Executive Committee Meeting (E.g., Steering)

1) CALL TO ORDER — *Mike Seavey*

Steering meeting called to order at 1:50 PM Paris

2) QUORUM CHECK — *Teresa Lopes*

✓	**Chair**	**Mike Seavey**
✓	Vice-Chair	Chris Gorringe
✓	Secretary	Teresa Lopes
✓	P1636.1 Corrigendum Working Group Chair	Anand Jain
✓	P1671.1 Corrigendum Working Group Chair	Ion Neag
	P2848 Working Group Chair	John Sheppard
✓	UK MoD Representative	Paul Grealis
	US DoD Representative	Bill Ross

6 of 8 members present

3) STEERING ACTIONS

A. P1671 Draft PAR for Revision — *Mike Seavey*

All Steering members present during development of PAR.

Chris motions that we accept the P1671 PAR and submit it to NESCON as soon as possible. Seconded by Paul. No discussion. Motion passes.

[ACTION: Mike] Submit to NESCON

B. P1636.1 Cor.1 PAR Extension — *Anand Jain*

Corrigendum submitted to MEC and ballot started. Want PAR extension in case we can't finish by end of year.

Chris motions that we accept the P1636.1 PAR extension and submit it to NESCON as soon as possible. Seconded by Anand. No discussion. Motion passes.

[ACTION: Anand] Submit PAR extension to NESCON

C. P1671.1 Cor.1 PAR Extension — *Ion Neag*

Corrigendum is ready for submittal to MEC and approved by the working group but don't have time to finish before the current PAR expires. Everyone in Steering was present when the PAR was created.

Ion motions that we accept the P1671.1 PAR extension request to NESCON as soon as possible. Seconded by Chris. No discussion. Motion passes.

[ACTION: Ion] Submit PAR extension to NESCON

D. P1671.1 Cor.1 Submittal to MEC — *Ion Neag*

Corrigendum document and XML package ready for NEC has been approved by working group. Ready to start the ballot process for this Corrigendum.

Ion motions that Steering approve for P1671.1 Corrigendum to be submitted to MEC. Anand seconded. No discussion. Motion passes.

[ACTION: Ion] Submit P1671.1 Corrigendum to MEC

E. P1871.3 Recommended Practice for using JSON with 1671, 1641, 1636 data models — *Teresa/Anand*

Does it make sense to use SCC20 instead of ATML – yes, because we want to cover both ATML and SIMICA. We can enumerate the standards that are covered in the abstract of the recommended practice. Replace the "SCC20" with the base standard numbers.

Are there existing mappings from XML to JSON that we can just use? Are there existing mappings from XML Schema to JSON Schema that we can just use?

No on both counts. Recommendation could be to use of the existing mappings with modification.

Chris motions that Steering submits a new PAR for 1871.3 Recommend practice to NESCON. Seconded by Anand. No discussion. Motion passes.

[ACTION: Anand] Submit PAR to NESCON

F. Any Other Actions?

Observation: no chair listed or this working group listed? PAR created under SCC20 just not visible by Chair or Vice-Chair. Could be an IT issue will check with IEEE.

23.2 Meeting Plan

Meet on Sunday before AUTOTESTCON at the Gaylord hotel

Meet on Thursday and Friday after AUTOTESTCON in Reston

Both meetings will include an online meeting option

4) ADJOURN

Steering meeting adjourned at 2:26 PM

SCC20 meeting adjourned at 2:26 PM