

TELEMETERING STANDARDS COORDINATION COMMITTEE



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INTERNATIONAL FOUNDATION FOR TELEMETERING

TSCC Spring 2022

Chair Report

April 26, 2022
Hilton Garden Inn Fort Walton Beach
Fort Walton Beach, FL
141st RCC-TG

Agenda

1730	Call to Order	P. Ellerbrock
1730	Attendance and determination of Quorum	W. Klein
1735	Review and Approve Agenda	P. Ellerbrock
1740	Officer Reports	
	Chair Report	P. Ellerbrock
	Action Item Review	P. Ellerbrock
	Secretary-Treasurer	W. Klein
	Financial Status	

Agenda (Continued)

1800 Committee Reports

Nominating Committee	S. Nicolo
Radio Frequency	S. Brierley
Telemetry Data Processing	B. Fleury
Networking and Protocols	M. Weir
Recorder / Reproducer	M. Buckley
EITTS (former ETSC) Report	TBD

Agenda (Continued)

1830 Website S. Nicolo

1845 Old Business S. Nicolo/Phil Ellerbrock

1855 New Business All
Fall Meeting

1910 Adjourn All

Action Item Review

- S. Nicolo updated but needs to update member list again on web site.
- Resolve/Update Attendance History Document (Treasurer will then take ownership)..... OPEN
- One year Plaques still need to go out... OPEN

TELEMETERING STANDARDS COORDINATION COMMITTEE



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Treasurer Report Spring 2022

April 26, 2022 (1730 CST)
Hilton Garden Inn
1297 Miracle Strip Parkway SE, Fort Walton
Beach FL 32548

Treasurer Report

for the Period 10/26/21 thru 4/25/22

■ INCOME (Total)	\$ 0.00
■ EXPENDITURES (Total)	\$ (0.00)
■ Net Increase (Decrease) in Cash	\$ (0.00)
■ Beginning Cash Balance	\$ 2342.18
■ Ending Cash Balance	\$ 2342.18

- Note(s): 1) TSCC account #: xxxxxx2632
2) TSCC.ORG Domain Name will expire/auto renew on 1/3/24

TELEMETERING STANDARDS COORDINATION COMMITTEE



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TSCC SPRING 2022
*Nominating
Subcommittee Report*

April 26, 2022
Hilton Garden Inn Fort Walton Beach
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Nominating Sub-Committee Membership

- Current Nominating Subcommittee Membership
 - CHAIR ...S. Nicolo Chair
 - Scott Brierley - United Launch Alliance
 - Wayne Klein – Apogee Labs

Sub-Committee Focus

- The nominating sub-committee shall **propose TSCC members and officers** for approval by the membership.
- **Prospective TSCC members and officers can be nominated by the TSCC membership or by a nominating subcommittee.**
- All nominations must be approved by a membership **vote.**

TSCC Membership Rules

- The TSCC shall have **16 members**.
- **Adequate representation** shall always exist from the **diverse groups constituting the telemetry community**
- Representatives of **government and commercial entities** shall **each** constitute a **minimum of one-third (1/3)** of the regular TSCC Membership
- The **remaining one-third (1/3)** may include, **but is not limited to those in commercial, government, and academic organizations**
- Membership by representatives of non-US entities shall not exceed 25% of the total regular membership

TSCC Membership Terms

- TSCC Membership Terms are for five years
 - Terms are staggered so that the terms of 20% (rounded to the nearest integer) of the regular membership end each year
 - Members may be re-nominated for additional terms by the nominating sub-committee.
- 5 Year Term Expirations –

We have not had a quorum for past several meetings due to COVID and also because of retiring members over the COVID period. I will propose at this meeting that in special cases like this, we change the rule to a majority and not require a quorum for the vote.

- Fall 2019: (Vote Fall Meeting 2021)
 - Mark Bender (Government): Would like to serve another term- Majority voted –YES
 - Dr Michael Marcellin (Academic): Dr Marcellin will stay another year (to the end of 2021) or until he can be replaced. -NO VOTE REQUIRED
 - Recommended a replacement (Chuck Creusere from New Mexico State) I contacted Chuck and he is considering this but can only attend ITC meeting.
- Fall 2020 (Vote Fall Meeting 2021)
 - Brad Fleury -Majority voted –YES
 - Steve Nicolo (Can not stay for another 5 year term. Will stay for TBD period to help get things back on track after Covid)
- Fall 2021 (Vote Fall Meeting 2021)
 - Scott Brierley -Majority voted –YES
 - Albert Gabaldon -Majority voted –YES
 - Tab Wilcox -Majority voted –YES

TSCC Membership

- Academia (1)
 - (*1) Dr. Michael Marcellin
- Government (4)
 - Mark Bender
 - Albert Gabaldon
 - (*2) ~~Richard Graham~~
 - Todd Newton (New Member)
 - Tab Wilcox
- Industry (6)
 - Scott Brierley
 - Brad Fleury
 - Philip Ellerbrock
 - Wayne Klein
 - Steve Nicolo (*3)
 - Malcolm Weir
- Ex-Officios
 - Clifford Aggen (IFT Rep)
- Members Emeritus
 - Lee Eccles

(*1) Dr Michael Marcellin will be retiring when we can replace him.

(*2) Richard has Graham moved on from his job with Corona. He also left the TSCC.

(*3) Steve Nicolo has served for 15 years but can not serve another 5 year term. He is good for another year or two or until he can be replaced.

Membership Changes

- MEMBERS:
 - TSCC currently has 11 members with 1 of the 11 retiring asap. We are short people.
 - Members retired from TSCC: Joe Sulewski, Myron Moodie, Sergio Penna, Gilles Freud, Richard Grahm
 - Dr Michael Marcellin (Retiring from TSCC at the end of 2021 or until we can replace him)
 - Steve Nicolo will continue to serve until he can be get back to full membership.
- Voting on Members & Alternates:
 - Member Replacement for Myron Moodie (Todd Newton) Voted in just before Fall 2021 meeting. He is now a full member
 - Steve Proudlock is now IFT alternate for Cliff Aggen
 - Brad Fleury has nominated Mike Bartoldus as his alternate
- Alternates still needed for: Mark Bender, Albert Gabaldon Tab Wilcox, Malcolm Weir, Steve Nicolo

Open Membership Slots

- We currently have 11 of 16 full members as of Spring 2022.
- Need 6 members.
- We must all go into full gear to recover from Covid.

TSCC Officers

- Officers shall serve for a two year term of office
 - The term of office shall begin at the start of the TSCC Year in even calendar years
 - The TSCC Vice-Chair succeeds to the Chair's position to fulfill a two year term as Chair
 - The Secretary-Treasurer may be re-elected
- Officers
 - Chair – New Chair Philip Ellerbrock
 - Vice-Chair - TBD
 - Secretary-Treasurer – Wayne Klein
- Subcommittee Chairs
 - All filled at this time

Open Actions

- TSCC has 6 open positions.
- Members needed (major focus)
- Alternates still needed for several members

TELEMETERING STANDARDS COORDINATION COMMITTEE



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RF Sub-Committee Report – Spring 2022

**April 26, 2022
Hilton Garden Inn Fort Walton Beach
Fort Walton Beach, FL
141st RCC-TG**

Sub Committee Membership

- Scott Brierley, Chairman
- Members:
 - Johnny Pappas
 - Mark Bender
 - Mark Dapore
 - Brad Fleury
 - Lloyd Lautzenhiser
 - Bill McNatt
 - Rich Siegal
 - James Carwell

Sub-Committee Focus

- RF Subcommittee reviews standards dealing with the Radio Frequency (RF) telemetry link
- Current standards
 - RCC IRIG-106
 - RCC IRIG-118
 - RCC RF Handbook
 - CCSDS-401
 - CCSDS-411
 - SGLS
 - STDN
 - 1451.5

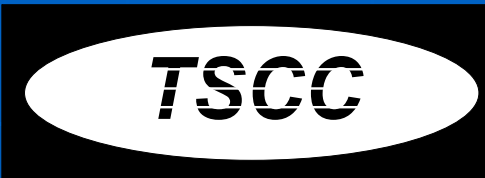
Significant Activity

- Ping sheet review of Appendix 2-G of IRIG-106
 - Standards for Data Quality Metric and Data Quality Encapsulation
 - Standard defines how to map the Data Quality Metric (DQM) into a 16 bit word
 - Standard for Data Quality Encapsulation (DQE) allowing the DQM and associated data to be transported to a distance best source selector
 - Pink sheets provided to RF subcommittee
 - No comments to pink sheets

Open Actions

- None

TELEMETERING STANDARDS COORDINATION COMMITTEE



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Telemetry Data Processing Committee Report

TSCC Spring 2022

Brad Fleury
TE Solutions Group – Sales Representative

Committee Members

- Brad Fleury – Sales Representative,
TE Solutions Group
- Alternate – Mike Bartoldus

Sub-Committee Standards

- Current standards
 - IRIG-106
 - Telemetry App's Handbook.
 - TMATS use cases, complete but updates are made as needed
 - RCC XML handbook for IHAL and DDML XML

Sub Committee Membership

Looking for new members

Jon Morgan – replacement needed for our gov contact

Joe Merritt – part time Kratos

Jack Sheldon

Erwin Straehley

Duane Wheaton

Sub-Committee Focus

- Very low activity last year
- Pink sheet – TG-182 Appendix 2D review. DQM and bit error rate calculation standardization. No comments from committee
- IRIG 218 was updated and released
 - Tm over ip spec has been released
 - Vendors and customers are using new spec

Open Actions

- Support RCC ongoing efforts:
 - TMATS Handbook releases
 - IRIG standards
- Support RCC –TG Telemetry Data Processing telecons and RCC meetings.

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Network & Protocols Subcommittee Report – Spring 2022

**April 26, 2022
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Fort Walton Beach, FL
141st RCC-TG**

Sub Committee Membership

- Malcolm Weir, Chair

- Ben Abbott
- Dave Buckley
- Chris Dehmelt
- Rich Hoffman
- Wayne Klein
- Fil Macias
- William Malatesta
- Myron Moodie

- Steve Nicolo
- Sergio Penna
- Carl Reinwald
- Joe Sulewski
- Gary Thom
- Robert Weaver
- Malcolm Weir
- Hyong Yi

Sub-Committee Focus

- The use of Industry-Standard Networking Technology for Telemetry
- Standards in Place
 - "Part 2" of IRIG-106 (Chapters 21-28)
 - IRIG-218
 - IETF RFCs 791,2460,793,768,3411,959,etc
 - IEEE 802.3, 1588
 - CCSDS Colored Books
 - SMPTE, MISB, DISA publications as applicable
 - *Note that only the first two mentioned have a telemetry focus*

Significant Activity

- Draft Appendix to IRIG-106 Chapter 24:
 - “Guidance for Using Chapter 11 Data Types”
 - Links legacy (Chapter 10) standard to new transports (TmNS)

Open Actions

- None at this time

TELEMETERING STANDARDS COORDINATION COMMITTEE



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Recorders & Reproducers Report – Fall 2021

April 26, 2022

Eglin AFB

TG 141

Sub Committee Membership

- Mark Buckley (Telspan Data), Chairman
- Albert Gabaldon (NAVAIR-CL), Alternate Chairman

1.	Balázs Bagó	Safran
2.	Bob Baggerman	ATAC
3.	Paul Carrion	NOVA V
4.	Chris Dehmelt	L3-Harris
5.	Justin Denning	EAFB
6.	Paul Ferrill	ATAC
7.	Tim Gatton	Aerogear Telemetry
8.	Dan Green	Safran
9.	Bill Harrison	Smartronix
10.	Eric Lamphear	Telspan Data
11.	Jake Layer	Smartronix
12.	Mike Lockard	EMC Corp
13.	Hung Mach	Boeing
14.	Gary Marker	Wideband
15.	Doug Novak	Tyndall AFB
16.	Johnny Pappas	Safran
17.	Steve Proudlock	Net Acquire
18.	Christian Rueck	Databus Tools
19.	Malcolm Weir	Ampex
20.	Craig Wierzbicki	Curtiss Wright
21.	Rick Williams	SDS

Sub-Committee Focus

- Data Recorders, Ground and Airborne
- Standards in Place
 - IRIG 106 – Range Commanders Council (RCC) Telemetry Standards
<http://www.wsmr.army.mil/RCCsite/Pages/Publications.aspx>
<https://www.trmc.osd.mil/wiki/display/RCC/Home>
 - STANAG 4575 – North Atlantic Treaty Organization (NATO) Standard Agreement (STANAG) – NATO Advanced Data Storage Interface (NADSI) Allied Engineering Documentation Publication (AEDP)
<http://www.nato.int/STRUCTUR/AC/224/standard/4575/4575.htm>

Note the new URL. Hosted by TRMC

- **DoD ONLY** ← ← ← ← ← ← ← ← ← ← ← ← ← ←

- Not likely to ever change

- **Publicly released documents should still be available**

Significant Activity

- RCC Telemetry Group Recorder & Reproducer Committee
 - IRIG 106 Chapters 6/9R/10/11
 - 2021 version to be released, shortly. **REALLY!!!**
- STANAG 4575

Significant Activity

- Finally made progress on SQ-Group
 - Publication is "Ready Soon" **REALLY!!!**
- Numerous weekly telcons held
 - Sporadic to rare telcons since then
 - Much discussion and resolutions on
 - Distributed MUX's/DAU's Publishing CH10
 - Use lower 48 bits of PTP in place of RTC w/ packet flag bit to indicate PTP not RTC
 - No time packets from MUX's/DAU's
 - CH10 publishing destination to recorder from MUX's/DAU's
 - Unwrap CH10 packets to commit to media & produce/record network time packets for the upper PTP bits

Future Work

- Finish up the IF analog recording, Format 2
- New proposed CRs (via email to RnR Chair)
 - Use secondary header to extend CH ID to 32 bits for ground systems with more than 65K channels
 - Use reserved bits of secondary header
 - IEEE 1588 time uses UTC instead of TAI time value
 - Clarifications on the test methods
 - Redo naming convention. yyymmdd.
 - Gives a more 'natural' sorting of the file names
 - CR19-003 Format 1 Message Packets
 - Uses message/sub-message/measurement description ID

Old Business - TSCC Activities

- **TSCC Spring 2020: Canceled due to Covid**
- **TSCC Fall 2020: ITC 2020 was canceled due to Covid.**
- **TSCC Spring 2021 - Webex**
- **TSCC Fall 2021 – ITC Vegas/Webex.**
- **TSCC Spring 2022 – Eglin AFB**

New Business

Subjects for discussion during RCC-TG:

- ***NAS/NFS recorders***
 - *For network data systems*
 - *Alternative to Chapter 10 recorders*
- ***Chapter 9***
 - *Q Groups for high volume network recording*
- ***Chapter 10***
 - *Higher Speeds: 25G, 40G, 100G*
 - *Promotion of RTC used for absolute time*
 - *Promotion of secondary header for absolute time*
- ***Chapter 24***
 - *Chapter 11 Data Types promoted in new appendix draft*

Adjourn!