

**TSCC MEETING MINUTES**

**Held**

**October 22, 2007**

**Las Vegas, Nevada**

**Riveria Hotel & Casino**

The meeting was called to order by Chairman James Yates at 0800 hours.

Members and Alternates present:

James Yates	Chair
Sheila Horan	Vice-Chair
David Grebe	Secretary/Treasurer
Tim Chalfant	Member
Scott Brierley	Member
Lee Eccles	Member
Ed Greenberg	Alternate
Russ Jedlicka	Member
Greg Kazz	Member
Wayne Klein	Alternate
Gerhard Koehler	Guest
John Kolb	Member
George Manz	Member
Michael Marcellin	Guest
Guenter Mueller	Guest
Steve Nicolo	Member
Jim Perkins	Guest
Bill Rymer	Ex Officio
Ron Pozmantier	Ex Officio
Dan Skelley	Alternate

**ATTENDANCE AND DETERMINATION OF QUORUM** David Grebe  
There was a quorum present.

**REVIEW AND APPROVE AGENDA** James Yates  
Review and approved agenda without change.

**OFFICER REPORTS**

**Chair** James Yates  
James reviewed the TSCC's report submitted to the IFT for the past year.

**Vice Chair** Sheila Horan  
No report

**Secretary-Treasurer** David Grebe  
The minutes were reviewed and approved as posted on the web site.

**Financial Report**

The financial report was presented and included the activity for past year as well as the proposed

budget for next year, primarily involving web site hosting, membership plaques, the spring meeting expenses and again a plaque for the Larry Rauch award.

## **COMMITTEE REPORTS**

### **Nominating Committee**

Scot Brierley

Scott reported there are currently no open positions. He recommended the next addition should be from the government sector, which would bring representation closer to the 1/3 goal. George Manz has indicated he will be leaving the committee and this will open up a slot.

### **Radio Frequency**

Scot Brierley

Scott reported working on updating the committee's membership but there were no standards to be reviewed. There was a discussion on the RF communication link for INET. There's a standards working group with JPL leading the work. This will be getting underway and interested parties are encouraged to participate in the upcoming reviews.

### **Data Multiplex**

Steve Nicolo

Steve noted the XML scheme for TMATS, Data Display in IRIG 106, has been completed. Upcoming work is to produce a TMATS handbook which should include details on specifications, especially in areas of unknown and interpretation.

### **Networking and Protocols**

Dan Dawson was not present

The committee used this time for updates on INET by Dan Skelly. The emphasis on a payload agnostic stack was highlighted. INET does not define the payload or ground components, just the transmission between air and ground. Development is following the IETF (Internet Engineering Task Force) process, which includes four steps: Exp, Proposal, Draft, and Final Standards. It is required that at a minimum, two instantiations be acceptable; i.e., at least two independent vendors with verified interoperability must exist in order to advance to the Draft level. Once prototype versions of the proposed architecture exist, then two to five contracts will be placed to get the stuff built to move to Draft level.

Existing equipment is being modified at Patuxant River and EAFB to try to put something together that is good enough to allow architectural issues to be flushed out. The goal is to develop something good enough to be useful to test engineers.

The RCC's ad hoc committee on TM-over-IP efforts was also reviewed. Wayne Klein provided a brief overview of the progress on a ground-based standard for transport. A copy is out for review. Comments due to Brian Eslinger on TMOIP also cc: James Yates by mid-November. Brian Eslinger is the motivator of this work and INET is funding the effort.

Bruce Lipe at EAFB is looking at Layer 5-7 for ground applications with Bill Rymer's involvement, but this is currently outside of the INET purview.

### **Transducers (DG needs to see in print)**

Lee Eccles

The 1451.1 (RF Wireless) has been approved. MMA: Intelibus network as part of the test network, but it's for Boeing's use only. There is no action to move it to the IEEE Standard.

Lee suggested that ISA100 Wireless Systems for Automation from the Process Control area should be listed as a Standard of Interest under the Transducer Committee.

There is TG work going on in the area of uncertainty analysis (118 was updated last year).

IEEE-1588: The second version is about to be balloted. Note: this version may not be backwards compatible. This is the time protocol for INET in the Vehicle Network.

### **Coding / Data Compression**

Sheila Horan

Sheila has been working on a table to summarize several coding types (turbo codes, LDPC, etc.. Not the standard, per an agency or group). She questioned just how deep this effort should go.

Multispectral and Ultra spectral CCSDS work has started up. Arron Kiely (Aaron.B.Kiely@jpl.nasa.gov) JPL is the POC for these emerging Imaging Standards. He is the CCSDS Multi- and Hyper-spectral Imaging Working Group chairman for this activity.

Orange Book (CCSDS) from NASA has LDPC and 1/2 rate, 7/8<sup>th</sup> rate, is now out.

### **Recorder / Reproducer**

Tim Chalfant

Tim is working on the committee's membership and is trying to use his ICTS contacts to include some international members.

He reports the RCC released IRIG 106-07 (updates to Digital Recorder Standard (Chapter 10) and TMATS for Recorders (Chapter 9).

Recommending ID-1 & VLDS be moved to Appendix (so it's covered, but not recommended for new apps.)

The Europeans are looking at a holographic standard. The hardware is immature at this point in time, low rate and low capacity, but it is worth keeping an eye on.

Work is going on for a Ground Recorder Standard for Chapter 7 in IRIG 106.

New Task for Chapter 10 adds TMATS, 1553 C&C, AFDS, Serial, 1588, CAN, ganging multiple RMM, looping, etc..

Note: Chapter 10 releases are "filling in the loopholes," and it's now starting to be used in tactical test applications for bombers, etc.. Gaining widespread acceptance.

Open actions:

STANAG 4575 Standard for RMM security work

Updates to IRIG 118 on hold...validation/verification facility for Chapter 10 task is too big.

*Digital Recorder Handbook* would cover how to apply the Chapter 10 standard. The question to answer is, "What should go in there?"

### **ETTC**

Gerhard Mayer was not present

Gunter Mueller reports that ETTC will be combined with the Aerospace Testing Expo next year, April 14-17, 2008. This will be held at the New Munich Trade Fair Centre, Germany.

Brochures and Call for Papers were distributed.

### **Old Business**

The committee explored areas for a possible TSCC Session in 2008:

- 1588 Timing : What is it, how to use it, and what are the network requirements?
- Chapter 10 updates/applications/resources
- Present the combined list of Standards that exists listing info and people resources available.

Combined RCC and TSCC Session--perhaps a panel to field questions (Jim will talk with the ITC '08 Tech Chair about a joint session.) This may also be better facilitated as a Special Session

(no prepublished papers, the committee selects/solicits papers).

It was announced that this year's winner of the Larry Rauch Award is Brian Eslinger for the TM over IP standard development overview paper.

### **New Business**

CCSDS Protocols & Long Erasure Codes Presentation.

Bill Rymer is working on a history of TSCC and has sent it to the Chairman. Jim will forward it to committee members for review and comments. Bill requests lots of feedback.

Spring Meeting: Everyone agreed that it works best to hold the Spring meeting in conjunction with the RCC meeting to facilitate travel for the Government members and to promote communications between the two organizations. The exact date in late February or early March was not yet known, but the meeting will be at Yuma. The TSCC Chair will follow up.

Having no further business the meeting was adjourned at 1159 hours.