

# IEEE 1588 Working Group Update

TICTOC

IETF 88

November 2013

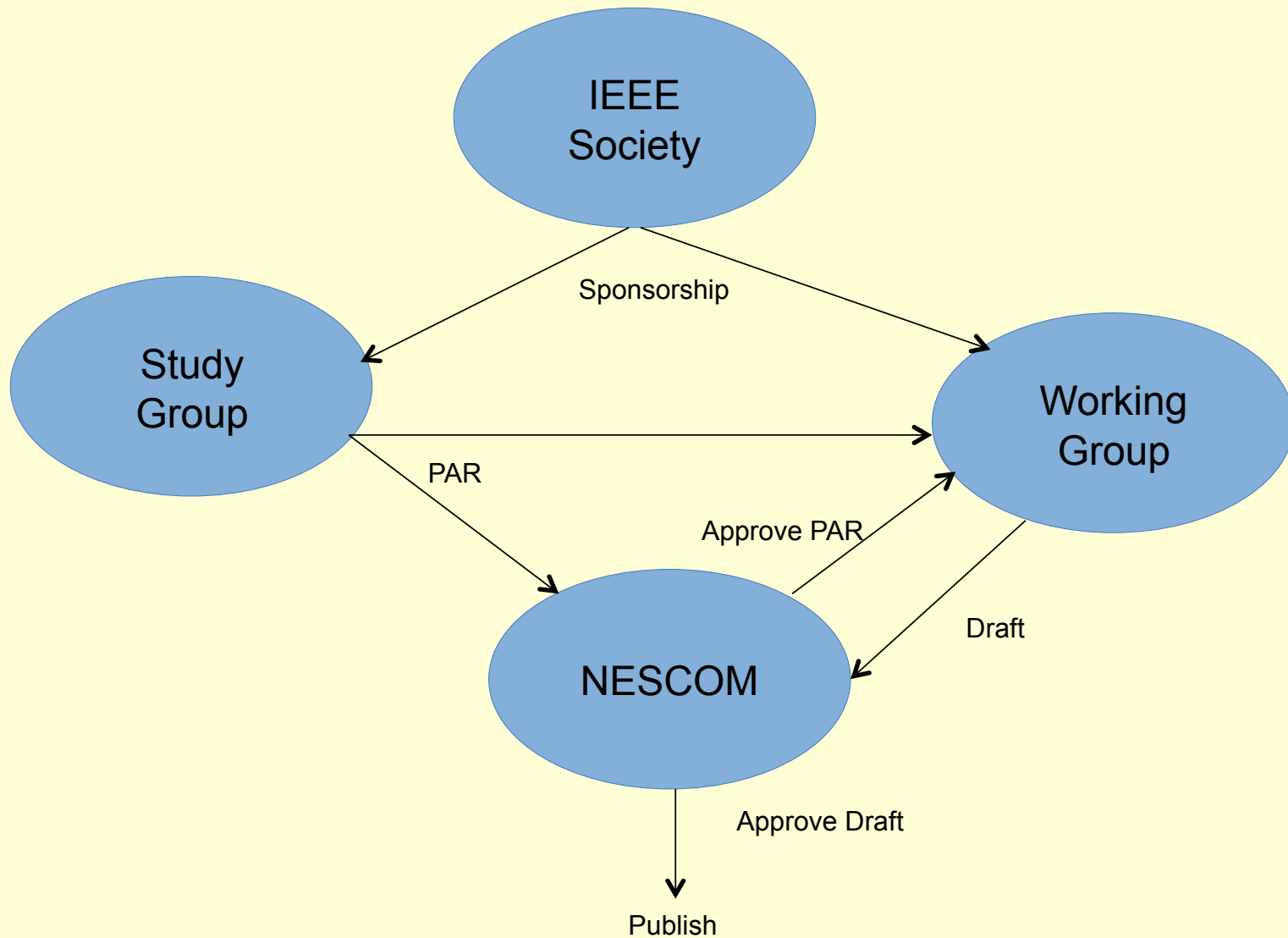
Vancouver, BC, Canada

Doug Arnold

# Agenda

- Status
- Scope
- Organization
- Subcommittees
- Summary

# IEEE Process (simplified)



# Status

- Sponsor
  - Instrumentation and Measurement Society
  - Sponsored previous two 1588 standards
- PAR approved, June
- Working Group
  - First meeting, July
  - Face to face meeting, Lemgo, Germany, Sept.
  - 187 people signed up
  - ~1/2 attended at least one meeting
  - ~1/3 are voting members

# Bylaws

- Build from IEEE template, with numerous MUST have requirements
- Must please both Sponsor and IEEE Standards Association
- Rules for membership, establishing quorums, officer selection, meetings, minutes, etc.
- **“The Working Group shall: Ensure that the resulting draft has the highest degree of backward compatibility possible with the previous edition of IEEE 1588...”**

# Highlights from the PAR

- Support for synchronization to better than 1 nanosecond.
- Path asymmetry corrections.
- SNMP-compliant MIB
- Security
- Correcting known errors, including message path and timestamp point issues and layer violation.
- Clarify the layering, interfaces, and protocol, including the behavior of systems that deploy different protocol options.

# Organization: Officers

Office	Volunteer	Affiliation
Project Manager	Kang Lee	NIST
Co-Chair	John Eidson	Calnex
Co-Chair	Doug Arnold	Meinberg
Vice-Chair	Hans Weibel	ZHaW
Secretary	Silvana Rodrigues	IDT
Editor	John Mackay	Progeny Systems Corp



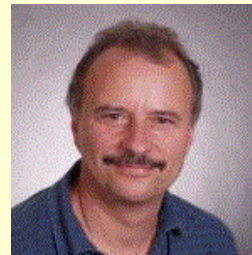
Kang



John E



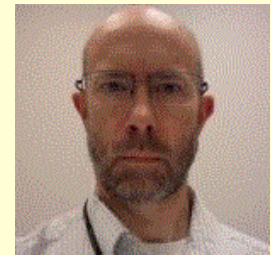
Doug



Hans



Silvana



John M

# Organization

- Plenary conference calls are scheduled once a month
  - Third Wednesday of each month at 11AM Eastern Time
- Five sub committees have been created
  - Architecture, High Accuracy, Maintenance, Management, Security
  - Each sub committee meets once or twice a month via conference call
  - A charter and a requirements document were the first task for each sub-committee
- Two face-to-face plenary meetings (Spring and Fall)



# Architecture Subcommittee

- Charter
  - “... clarify the layering, interfaces, and protocol of the standard, including the behavior of systems that deploy different protocol options”
- Requirements document is under discussion within the subcommittee
- Subcommittee agenda
  - Clarify the definitions of ports and clocks
  - Requirements for description of new profiles
  - Revise the description of the architecture and layering
  - New mappings

# High Accuracy Subcommittee

- Charter:
  - *“The protocol enhances support for synchronization to better than 1 nanosecond”*
- Proposal includes the option to use Synchronous Ethernet for frequency synchronization at the physical layer
- Add clause(s) and/or informative annex to clearly describe the steps when a PTP link is being established for high accuracy
- The requirements document has been finalized

# Maintenance Subcommittee

## Charter:

- “Incorporate official IEEE interpretations and other known errors or needed clarifications into 1588-2008 in order to provide a clean version as a basis for modifications of the current P1588 working group.
- Once this is done serve as a 'quality control' function for any modifications proposed by other committees to ensure freedom from inconsistencies and backward compatibility issues.”

Items dealt at the IEEE 1588 Interpretations Committee will be addressed

- A proposal to clarify Transparent Clock Source Address has been accepted

# Management Subcommittee

- Charter :
  - “The management SC will consider the management of IEEE 1588 clocks, e.g. MIB, related management protocols (SNMP and native management protocol), and OAM mechanisms.”
- One goal is to create a single IEEE 1588 SNMP compatible MIB
- Proposal to create metrics for TC and BCs to report a measured quality of a timing stream

# Security Subcommittee

- Charter
  - “To specify a security capability for PTP. This capability is expected to be optional”
- The requirements document is based on the IETF document “draft-ietf-tictoc-security-requirements”
- Plan to replace Annex K

# Subcommittees Officers

- **Maintenance:** Pat Diamond, John Eidson, Jeff Laird
- **High Accuracy:** Maciej Lipinski, John MacKay, Geoff Garner
- **Architecture:** Rodney Cummings, Doug Arnold, Richard Tse
- **Security:** Karen O'Donoghue, Silvana Rodrigues, Stefano Ruffini, Tal Mizrahi
- **Management:** Hans Weibel, John MacKay, Marcus Seehofer, Richard Schrange

# Summary

- PAR Approved
- Includes high accuracy, security, MIB, Architecture
- ~~Fix the TC source address issue~~ Establish the limits of the scope of IEEE 1588
- Backward compatibility
- About twice as many people involved as last time
  - Detailed work in 5 Subcommittees
  - More structure and organization

# IEEE 1588 Update

Thank you!

Please send questions or comments to:

[doug.arnold@meinberg-usa.com](mailto:doug.arnold@meinberg-usa.com)