



PSMA

Reliability Committee

TIME: Wednesday, 11/11/20, 11-12pm CST

PLACE: Zoom (669-900-6833 or 408-638-0968), 272 780 335, <https://zoom.us/j/272780335>

MINUTES: https://www.pdma.com/technical-forums/reliability/meeting_minutes

ATTENDEES:

PRESENT?	COMMITTEE MEMBER
	TBD – Co-Chair
X	Brian Zahnstecher, PowerRox – Co-Chair
	Joe Horzepa, PSMA – PSMA Representation
	Lisa Horzepa, PSMA – PSMA Representation
X	John Horzepa, PSMA – PSMA Representation
	Ada Cheng, AdaClock – Member
X	Rick Fishbune, IBM – Member
X	Patrick Le Fèvre, Powerbox – Member
	Tim McDonald, Infineon – Member
	Steve Miller, SL Power (RETIRED) – Member
	Kevin Parmenter, Taiwan Semi – Member
	Shane Callanan, AEI – Member
	Greg Miller, Silanna – Member
	Mike Seeman, Eta One Power – Member
X	Ed Massey, Ed Massey Consulting – Member
X	Eric Swenson, IBM – Member
	Finbarr Waldron, Tyndall National Institute – Member CONFIRM MAILING LIST
X	Bill Mallory, SL Power – Member
	Jon Fifield, Astronics – Member
	Burak Ozpineci, ORNL – Member – CONFIRM MAILING LIST
	Dao Zhou, Aalborg University – Member
	Huai Wang, Aalborg University – Member
	Shobhana Punjabi, Cisco – Member
	Patrick McCluskey, Univ of MD, CALCE Lab – Member
	Abhijit Dasgupta, Univ of MD, CALCE Lab – Member
	Hamish Laird, ELMG Digital Power – Member
	Francesco Carobolante, IoTissimo – Member
	Nitish Agarwal, SL Power – Member
	Manish Bhardwaj, TI – Member
	Evan Lucore, Artesyn – Member
	Gary Gong, Cisco – Member
X	Denis Downey, Cisco – Member

* Attending APEC

GREEN = NEW MEMBER, 1st MEETING (i.e. – introduce yourself)

ACTIONS (w/OWNER) HIGHLIGHTED BELOW

ACTION COMPLETED

AGENDA:

IF ANYONE IS INTERESTED IN CO-CHAIR ROLE, THEN PLEASE REACH OUT TO BZ RIGHT AWAY.

- **New Comm Introductions / Membership**

- Elevator pitch intros, roundtable.
 - NEW MEMBERS =
- New Member Recruiting
 - Time to survey Comm members, confirm interest, purge rest. **BZ WILL PROPOSE A PROCESS FOR THIS.** Ed offers to help reach out.

- **Comm Website / Purpose Statement**
 - Comm website up and running on PSMA.com ADA REPORTS FULL PSMA WEBSITE REVAMP UP BY END-JAN
 - **COMM = IF HAVE ANY GOOD RESOURCES, LINKS, PAPERS, ETC. TO POST ON WEBSITE (REMINDER, OPEN TO PUBLIC), THEN PLEASE SEND TO BZ & TO FOR POSTING VIA LISA.**

- **Initiatives**
 - New Committee Execution Strategy
 - Separate champions for key initiatives, run meetings accordingly.
 - 1. PS Comm Bus Reliability (*Brian*), 2. PTR Webinar(s) (**CHAMPION NEEDED**), 3. APEC '21 IS (*Ed!!!*)

 - **Power Supply Communication Bus Reliability (BRIAN SPEARHEADS)**
 - Schedule (**BZ WILL COMMUNICATE TO BoD IN MTG THIS FRI**)
 - **1/6/20**: Project Kickoff Meeting
 - **PROJECT FROZEN PENDING BOB RESCHEDULING**
 - ~~5/18/20~~: Chapter 3 Completion Target
 - ~~5/25/20~~: Project Meeting (target CH. 2-3 REVIEW)
 - ~~6/1/20~~: Chapter 4 Completion Target
 - ~~6/8/20~~: Project Meeting (target CH. 4 REVIEW)
 - ~~6/15/20~~: Chapter 5 Completion Target
 - ~~6/21/20~~: Project Meeting (target CH. 5 REVIEW)
 - ~~7/6/20~~: Chapter 6 Completion Target
 - ~~7/13/20~~: Project Meeting (target CH. 6 REVIEW)
 - ~~7/13/20~~: Chapter 7 Completion Target
 - ~~7/20/20~~: Project Meeting (target CH. 7 REVIEW)
 - ~~7/20/20~~: Chapter 8 Completion Target
 - ~~7/27/20~~: Project Meeting (target CH. 8 REVIEW)
 - ~~7/31/20~~: Presentation of Draft Deliverables for Final Editing (**END OF SPECIAL PROJECT**)
 - ~~8/31/20~~: Presentation of Final Deliverables
 - ~~??/20~~: Webinar Target
 - Actions
 - SubComm Review Needs: no team support requested until project back on-track
 - TO notes we can hone expectation and “editing quality level” so **NEEDS TO PROVIDE FIRST-PASS REVIEW BEFORE PUSHING OUT RAW CAPTURE.**
 - Steve m. Notes proj should be sure to capture content/app exams outside of ICT (auto, medical, other common busses).
 - Project in frozen status, need to workout pivot/recovery offline with bob. **BZ/TO WILL ADDRESS WITH BOB DIRECT.** Bob reached out on 7/20 to report he is back with a major focus on our project, but has been unresponsive since so not sure what is going on. **BZ + JOE H. TO REACH OUT OFFLINE AND FIGURE OUT SITUATION, PLAN**

MOVING FORWARD. NO CHANGE AS OF 9/9/20, **JOE ESCALATING WITH BOB, WILL REVISIT AS APPROPRIATE**.

- **TENTATIVELY** back on as of 9/18/20. Chapters 1-3 on Dropbox for review, BUT NO REVIEW REQUESTS BEING MADE UNTIL **BZ CAN VERIFY MATERIAL LOOKS TO BE MEETING EXPECTATIONS**. Comm needs to review proposed, updated project schedule. Comm finds general schedule acceptable, though expresses desire for hybrid version in which off-line reviews may occur as content is written and before formal review sessions (can also be requested earlier, as appropriate).
 - Project Subcomm preferences for providing feedback (i.e. - .DOC Track Changes, .PDF Comment/Markup, etc.)? No strong opinions either way so all can accept either. **BZ WILL INFORM BOB PDF MARKUP WILL BE THE POR**.
 - For APEC '21 support, Comm is supportive of IS proposal, but feels it is not solid enough to submit PES at this time so will wait for future opportunities.
- **PTR Webinars (NEED NEW CHAMPION SPEARHEADS):**
 - Topics? Speakers? Schedule? **FOR ANY WEBINAR, DECIDE IF PROPOSE TO PTR OR IF RELIAB COMM INDEPENDENT EVENT**. TO PREFERS TO PRIORITIZE FOR PTR, DEFAULT TO INDY IF JUSTIFIED.
 - **COMM ACTION: WEBINAR TOPICS, PERHAPS FROM WITHIN COMM.**
 - Bob White, Power Supply Communication Bus Reliability (pending special project activities **ON-COMING OFF HIATUS**)
 - Bob is back "in play" again after getting project going again. Initial priority for APEC '21 IS session, then webinar after that.
 - Steve Miller recommends Red Tiger Security, Jonathan Pollet (APEC/PSMA/EPRI '13 "Are you smart enough for the Smart Grid?" Workshop...see full report here: <https://www.pσμα.com/technical-forums/energy-management/resources>)...Ada also attended and confirmed interest. **TO WILL REACH OUT TO JONATHAN TO GAUGE INTEREST, SOLICIT PROPOSAL, DET. IF APPROPRIATE FOR PTR OR STANDALONE**. No action taken, **TO WILL ATTEMPT THIS MONTH**. **BZ WILL ATTEMPT THIS MONTH**.
 - "He presented a great high level view of IoT security applied specifically to malicious hacks of industrial and grid controllers."
 - BZ reached out to Jonathan and got an affirmative on 9/10/20 for interest. Now still waiting on talk abstract, sent ping 10/13/20.
 - Initial priority for APEC '21 IS session, then webinar after that.
 - **Charles Hymowitz, AEi Systems**
 - "Test vs. Analysis; what's the right ratio?"
 - **Consider for PTR webinar? BZ TO REACH OUT. CHARLES CONFIRMS PRELIM INTEREST, ASKING FOR TIMEFRAME**...ADA MENTIONS MAY HAVE ALREADY PRESENTED, **JOHN/BZ WILL INVESTIGATE**. Has not given before so free to do so. PTR Comm requested more detail to justify as part of supporting PTR series. **BZ WILL PING AGAIN FOR RESPONSE TO PTR CLARIFICATIONS**. PTR Co-chairs now pinging (last 8/9/20) Charles direct for date. **BZ WILL CHECK ON STATUS WITH PTR TEAM**. Charles now has schedule conflicts...looking to date in early '21.
 - **Doug Kirkpatrick, CEO, Eridan Communications**
 - "System Reliability for Small Cells Enable 5G"

- **Consider for PTR webinar? BZ TO REACH OUT. GIVING COMP TIME TO WORK OUT LOGISTICAL ISSUES FIRST, REVISIT IN LATER NOVEMBER.**
- **APEC '21 INDUSTRY SESSION (ED!!! SPEARHEADS):**
 - Prelim proposal for 4-slot session abstract submitted to APEC for consideration, **BZ WILL SHARE WITH MTG MINS**. Ed has agreed to own this for us, THANKS ED!!! **BZ ADDING ED TO ALL DISCUSSIONS AS APPROPRIATE.**
 - Ada notes importance to highlight interests of academics that need help understanding how to transition developments from research to production (particularly through lens of reliability). **COMM WILL NOTE AS FOCUS FOR SPEAKER SEARCH.**
 - Potential Speaker Chase List (**TARGET CLOSE ON SPEAKERS/TOPICS BY END-NOV**) –
 - Ada suggests we consider highlighting collaboration efforts with IPC (particularly IPC-9592 or other investigation spearheaded by Rick/Eric). Rick open to it with buy-in from (and potential co-present with) IPC's Matt K. **BZ TO HELP CULTIVATE DISCUSSION BETWEEN RICK/ERIC/MATT**. BZ emailed follow-up 11/10/20. Eric confirms interest on IBM side, but **STILL NEED TO CONFIRM IPC INTEREST WITH MATT BY END-NOV**. BZ confirms no need to conform to APEC submission website/dates. IBM Team may be interested in presenting (even if a different topic) as a contingency if not collaborating with IPC (**RICK/ERIC TO CONFIRM BY END-NOV IF NOT COLLABORATING WITH IPC**).
 - Bob White, Embedded Power Labs (representing PSMA Reliab Comm) = Special Project Overview (major assumption on sufficient project status and APEC slippage past April). **BZ WILL SOLICIT TALK PROPOSAL**. Abstract received 11/10/20.
 - **"TALK TITLE TBD"** Potential Options: 1.) *"The PSMA Report On Power Supply Communication Reliability"* **OR** 2.) *"Power Supply Communication Reliability"* **OR** 3.) *"Overview Of Power Supply Communication Reliability"* Comm leans toward **OPTION 1**.
 - The PSMA is publishing a new report on Reliability in Power Supply Communication. This presentation will give an overview of the contents of the report including why we communicate with power converters, communication basics, failure modes and effects, a deeper look at the most common communication interfaces and protocols and their specific failure modes, and best practices to improve communication reliability. The report concludes with a brief discussion of power supply communication security. This presentation will be useful to both power conversion designers and system engineers implementing communication with power conversion in their systems.
 - Jonathan Pollet, Red Tiger Security = Grid Security topic. **BZ WILL SOLICIT TALK PROPOSAL**. Had call 11/3/20 in which Jonathan reaffirmed commitment and said abstract coming shortly, also emailed follow-up 11/10/20.
 - Ada notes PSMA newsletter (<https://www.psmar.com/HTML/newsletter/page17.html>) recently highlighted iNemi article about the impacts COVID needs have on equipment reliability. **BZ WILL FIGURE OUT WHOM TO SOLICIT FOR TALK PROPOSAL**. BZ emailed iNEMI 10/14/20 with a follow-up 11/10/20 since no response to-date.
- **General**
 - Post-mortem PS SW/FW Reliability Report Update

- Powerbox: given to design teams, lot of interest, inhibited by language barrier (Japanese in this case).
- SL: given to teams, already have Reliab stakeholders involved, driving change in FW review process.
- IBM: presented to some suppliers, neutral response so far, awaiting next major project kickoff for true assessment.
- Patrick notes similar activities kicking-up within EPSMA, **PATRICK WILL INQUIRE FURTHER TO SEE IF THERE ARE ADDITIONAL COLLABORATION OPPORTUNITIES**. Patrick reports no response as of 10/14/20, 11/11/20 (Patrick pinged again, expecting response).
- Any other revenue-generating thoughts for PSMA?
 - Virtual Workshop (recent '20 Cap & Mag Virtual Workshop success as example)
 - Very well-received thus far, most seem to be ok with virtual format.
 - Joe notes guidance to reduce proposed event budget by ~20% for offset, F2F expenses, and pass through to attendee registration. Also, consider turning PS SW/FW Reliability Report into workshop theme.
 - Viability determined by success of existing webinar efforts.
 - Standards (primarily through conversion of existing project outputs)
 - Input into IPC-9592B standard update. Consider SW/FW input? **Rick former colleague of IPC CTO (Matt Kelly), will work with IPC/PSMA efforts to cultivate opportunity here. BZ to facilitate email discussion with Mike Hayes as part of overall PSMA/IPC collaboration efforts.** SW/FW report currently with IPC for review/feedback/suggestions. Eric also notes deep experience with this and interest in efforts. IPC currently reviewing with their committees to determine best course of action.
 - Offer supporting resources to enable utilization of PS SW/FW Reliability Report. **COMM ACTION TO SUGGEST OTHER POTENTIAL RESOURCES/TOOLS TO CREATE TO SUPPORT THIS.**
 - For example, extract a checklist from report to simplify barrier to entry (i.e. – team code review checklist). **COMM ACTION (ADA SPEARHEADING) TO PROPOSE LIST OF POTENTIAL TOOLS FOR DETERMINING ACTIONABLE PRIORITIES.** White paper? Checklist?
 - Thoughts from Nitish: commonly challenged by disconnect between SW/FW & HW stakeholder expectations...could be helped by Process Checklist (for code reviews, functional flowchart/review, test plan, etc.).
 - Thoughts from Ada: “Dashboard” of Metrics, Process Diagram, Prototyping & BIST...**ADA WILL EMAIL LIST w/ DESCRIPTIONS**. Ada sent analysis to Comm list 9/9/20, captured below for convenience (**REVIEW NXT MTG**):
 - **Those already in the report are as follows:**
 - * Sources of Coding Standards (p. 80)
 - * SW Development Process Audit Checklist (p. 85)
 - * Safety Assessment using a Risk Matrix to determine acceptable and unacceptable risks (p. 93)
 - * Regulatory inputs for software quality (p. 98)
 - * Example Software Quality Specification (pp. 98-100)
 - * Software Development Process Assessment Template (pp. 101-104)

- * Software Security Assessment Specification (pp. 104-105) includes security checklist (also on p. 150)
- * Digital PSU Verification Test Plan Example (pp. 106-109)
- * Development Team Specifications (pp. 110-112) includes PSU Functional Partition Specification Template, & SW Interface Specification Template.
- * Testing Checklist example (p. 159)

- **Some proposed resources/tools that are not currently in the report:**
(COMM PRIORITIES?) BZ WILL PREPARE PROPOSAL FOR ADDRESSING BY NEXT MTG
 - * Process Flow Diagram **(1)**
 - * Design checklist? **(2)**
 - * BIST examples? **(3.1)**
 - **Functional examples very enabling to new users.**
 - * “Dashboard” of metrics **(3.2)**
 - **Propose hybrid dashboard of HW and SW metrics.**
 - * Code review checklist? **(5)**
 - * Software release checklist? **(6)**

- **Some inputs on the report for next phase/revision:**
 - * Add prototyping?
 - * Need to define code escrow

- **Next Meeting**
 - Wed 12/9/20, 11am CST.
 - Regular Schedule = 2nd Wed of each month, 11am-12pm CST