

PSCC Subcommittee Study Group Meeting Minutes

Designation: P21		Name: System Architectures Supporting the Virtualization of Substation Protection and Control Applications			
Meeting Location: Teleconference		Meeting Time: 10 AM	Meeting Date: 2022/03/14	Minutes Revised:	Minutes Approved: 2022/03/28
PAR Output: N/A	PAR Output: N/A	PAR Approval Date: N/A	PAR Expiration Date: N/A	Target Sponsor Ballot Date: N/A	Target Completion Date: N/A
Presiding Officer: Craig Preuss, Chair			Recorded by: Craig Preuss		Draft Number: N/A
Attendance:					
Name		Affiliation		Attending via Phone (P) / Web (W) or Local (L) M/CM/G	
Craig Preuss		Black & Veatch		W	M
Scott Mix		PNNL		W	M
Erin Morales		IEEE-SA		W	G
Jay Anderson		Retired		W	M
Gayle Nelms		SEL		W	M
Ibrahim Abdulhadi		University of Strathclyde, Glasgow		W	M
Thomas Rudolph		Schneider Electric GmbH		W	M
Austin Wade		SEL		W	M
Mike Dood		SEL		W	M
Anthony Sivesind		SRP		W	M
Andre Melo		Schneider Electric		W	M
Herb Falk		OTB Consulting		W	M
Alan Renouf		VMware		W	M
Cole Weber		Advantech		W	M
Dean Samara-Rubio		Intel		W	M
Joemoan Xavier		ABB		W	M
Prasad Shrawane		Greater Sudbury Hydro Inc.		W	M
Farzad Khalilpour		SCE		W	M
Veselin Skendzic		SEL		W	M
Steve Klecker		MidAmerican		W	M
Prithpal Khajuria		Intel		W	M
Paul Myrda		EPRI		W	M
Shane Haveron		AMETEK			M
Adam Caballero		Eaton			M
Jose Ruiz		Doble			M
Ted (Charles) Witham		Eaton			M
Madhab Paudel		Eaton			M
Greg Zweigle		SEL			M
Nathan Wallace		Cybirical			M
Nirmal Nair		University of Auckland, New Zealand			M
Jani Valtari		ABB			M
Laurel Brandt		TVA			M

Jean Raymond	Hydro Québec		M
Michelle Afenya	S&C Electric		M
Mickey Schultz	Black & Veatch		M
Darrin Kite	SEL		M
Kannan Devarajan	TTTech		M
Priyanka Nadkar	SEL		M
Jeff Pack	POWER Engineers		M
James Bougie	GPT		M
Alex Apostolov	OMICRON		M
Anthony Johnson	SCE		M
Benton Vandiver	Hitachi Powergrids		M
Byungtae Jang, KR			M
Chris Huntley	SEL		M
Dean Ouellette	RTDS Industries		M
Dennis Holstein	OPUS Consulting Group		M
Dustin Tessier	Tesco Automation		M
Jay Herman	EPRI		M
Jim Michaelis	Commonwealth Associates. Inc.		M
Jun Verzosa	Doble		M
James Formea	Eaton		M
Song Zhang	ISO New England		M
Miguel Rios	Southern Company		M
Michael Thompson	SEL		M
Fred Agyekum	SEL		M
Sai Chandra Reddy Thota	Megger Ltd		M
Noor Mohd Fadzli B Hj. Othman	PETROLIAM NASIONAL BERHAD (PETRONAS)		M
Eugenio Carvalheira	OMICRON		M
Hao CHEN (来宾)	State Grid Corporation of China		M
Chris Heron	Integrated Power Services		M
Joseph Yang	Advantech		M
Jeff Brown	Advantech		M
Antonello Monti	RWTH Aachen University		M
Arun Shrestha	IEEE		M
Chand Tailor	Eaton		M
Charles Adewole	ERL Phase Technologies		M
Daniel Ridenour	Dominion Energy		M
Daqing Hou	SEL		M
David Dolezilek	SEL		M
Deepak Maragal	NYPA		M
Deryk Yuill	is5		M
Eric Thibodeau	Hydro Québec		M
Florian Ainhirn	Versuchsanstalt für Hochspannungstechnik Graz GmbH High Voltage Test Laboratory Graz Ltd.		M
Gurudatha (Guru) Pai	GE Digital		M
Jeremy Slimmer	Cybirical		M
Jesse Silva	SCE		M
Joshua Hughes	Patterson Power Engineers		M
Juan Placid	J J Power & Energy Inc.		M
Luke Hebert	Cybirical		M

Mital Kanabar	GE Renewable Energy		M
Murty Yalla	Hubbell		M
Ramakrishna Gokaraju	University of Saskatchewan		M
Richard Kephart	Emerson		M
Steven Blair	Synaptec		M
Thai Li	Hubbell		M
Wayne Stec	Distregen		M
Xavier Manel-la	Siemens		M
Zeus Xioco	SCE		M
M: Member CM: Corresponding Member G: Guest			

Item no.	Notes	Action by
CALL TO ORDER	Meeting was called to order by the chair at approximately 10:03 AM Eastern.	
INTRODUCTIONS AND QUORUM	Introductions were not undertaken, the participants list was used. Quorum does not apply to study group per IEEE-SA rules all attendees are considered voting members.	
CALL FOR PATENTS	Pre-PAR patent slides were shown.	
IEEE-SA COPYRIGHT	IEEE-SA copyright slides shown.	
CHAIR'S REMARKS	General welcome given.	
AGENDA APPROVAL	Scott Mix motion to approve agenda, Mike Dood second. No objections or abstentions.	
APPROVAL OF PREVIOUS MINUTES	Joemoan Xavier motion to approve Feb 28, 2022 meeting minutes, Scott Mix second. No objections or abstentions.	
Action Items	<ul style="list-style-type: none"> • Follow up with chair of PSCCC P11 TF Cloud Computing, uses and Requirements of Electric Power Utilities (TW Cease) • Copy of CIGRE B5.60 report for P21 may be subject to new CIGRE and IEEE MOU • IEEE-SA presentation on trial-use standards – scheduled • CIGRE D2.42 report on time synchronization and distribution, that is a challenge for virtualization. Dennis Holstein will investigate whether that work is addressing virtualization or not, it may have been a survey. 	B5.60 report may be available at the end of March, will be distributed by the chair at that time.
New Business	Definition of substation virtualization: A consistent, secure, and managed approach to the decoupling of software from its dedicated hardware using a variety of hardware architectures to support multiple real-time or near real-time substation applications such as protection, automation, monitoring (e.g., condition-based monitoring, validation, transformation), metering, control (closed- or open-loop), or simulation (e.g., digital twin).	
New Business	Upcoming presentations <ul style="list-style-type: none"> • March 28 <ul style="list-style-type: none"> ○ Hydro-Quebec ○ TTTech (?) 	
Next Steps	What does P21 want to recommend to P0 subcommittee <ol style="list-style-type: none"> 1. PAR related work, working group (could address trial use) 2. Report related work, task force 3. No future work is needed 	

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Presentation	Presentation by Alan Renouf from VMWare. Refer to embedded file below on virtual protection relays.	A video was shown that will be placed on the iMeet site when it becomes available for posting.
Presentation	Presentation by Erin Morales from IEEE-SA. Refer to embedded file below on trial use standards.	Erin to check on how comments are submitted – via email and US mail?
ITEMS REPORTED OUT OF EXECUTIVE SESSION	There was no executive session.	
TIME OF FINAL ADJOURNMENT	The meeting was adjourned at approximately 11:23 AM Eastern.	
NEXT FACE TO FACE MEETINGS	Bi-weekly meetings continue, with weekly meetings in April. Final face-to-face meeting will be held May 9-12, 2022, presently scheduled for Reno, NV.	
FUTURE MEETING ROOM REQUIREMENTS	N/A for room size, projector, conflicts.	



IEEE Virtual Protection Relays.pc



Trial use.pdf