



THE NORTH AMERICAN SYNCHROPHASOR INITIATIVE WEBINAR SERIES

Merging Units

Evandro de Oliveria (Siemens) and Galina Antonova, and Bharadwaja Vasudevan (Hitachi Powergrids)

There have been a number of requests from the NASPI community to learn more about merging units (MU): the basic technology uses, design approaches, dealing with large data volumes and data issues, communication protocols and IEC 61850, network challenges, MU benefits and limitations, etc. The industry is gathering more data than ever before, and this webinar will be beneficial to many in our NASPI community. Please join us for an extended 90-minute webinar on MU.

Evandro will discuss the process bus concept, advantages to using process bus relays, communications, IEEE 1588 clock, and network architecture and redundant protocols. Following will be a presentation on Merging Units and Substation Digitalization with Bharat and Galina, discussing a concept of sharing digital data samples of analog measurements using communications instead of conventional copper connections known as IEC 61850 process bus. Industry standards for Merging Units (MUs) that perform this function and their interoperability will be covered, including UCA IEC 61850-9-2LE implementation Agreement and IEC 61869-9 and IEC 61869-13 standards. Key requirements placed on communications and time synchronization will be outlined. Application examples showing modularity of the solutions, added monitoring capabilities and synchrophasors support will be provided.



Evandro de Oliveira completed his studies at the University of Sorocaba in Electrical Power System in 1992. He joined Siemens Brazil in 2005 working in the

engineering group. Moved to Siemens USA in 2014 working as an Application Engineer. The current position is Technical Promoter for Digital Grid Products.



Galina S. Antonova serves as a Technical Sales Engineer with Hitachi ABB Power Grids in North America. She has over 20 years of experience in the area of electrical

engineering, data communications and time synchronization, which she applied to the electrical power industry. In her current role Galina is applying her expertise to substation automation and protective relay applications. Galina received her M.Sc. Degree with Honors in 1993 and a Ph.D. in 1997 in Electrical Engineering and Data Communications from the State University of Telecommunications, St. Petersburg, Russia.



Bharat Vasudevan graduated from North Carolina State University with a Masters degree in power systems and joined ABB as an Protection and

Control Application Engineer. He started his career in power systems with Areva T&D India Ltd. He has engineered and designed various EHV substation projects throughout India. Currently he is working out of New Jersey as the Regional Technical Manager for North East US. In the last 6 years he has been involved in numerous IEC 61850 projects across US helping utilities implement process bus designs in their installed base.

To attend this free webinar, please register at <https://www.naspi.org/node/881>.

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Wednesday, January 27, 2021
10:00 a.m. Pacific / 1:00 p.m. Eastern (1.5 hr.)
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