Next Generation Network (NGN)

Webinars

Considerations and Findings Regarding Virtualized Protection and the Work of B5.84

Summary

Since Process Bus applications with Sampled Values reached maturity, there has been significant work to apply the IEC 61850 standard to take advantage of the benefits of having a centralized connection to a process bus. A virtualized and centralized protection and control system (VPAC) offers many advantages due to the separation of hardware and software and the efficiencies that this entails, such as improvements in standardization, the reduction of replacements, spare parts and maintenance times, and the elimination of many of the tests that are necessary during the start-up phase. Power System Protection is a mission critical service and despite the very significant benefits in CAPEX and OPEX, the VPAC systems must also demonstrate the ability to consistently offer hard real time performance and levels of reliability and determinism similar or better than those currently offered by separate IEDs whose functionality is fixed to hardware. Therefore, one of the challenges is the consolidation of deterministic real time operating systems (RTOS) for Protection with other, less time sensitive, non-real time applications on a single hardware platform and this requires an application isolation method which can facilitate the use of different operating systems.

Speaker

After receiving his MEng degree in Electrical and Mechanical Engineering from the University of Strathclyde, David worked in the utility industry, first within Scottish Power and latterly as Protection and Control Standardization Manager at Iberdrola's DNO in Spain. Here highlights included the specifications of automated configuration tools and qualification of various device types for a first of a kind automated engineering process. David gained Chartered Engineer status with the IET. Since 2022 he is a Solution and Standardization Architect, working within the Office of Innovation at GE Grid Automation, to develop new proof of concept projects and take the next generation of Grid Automation technologies towards maturity. He has co-authored five patent applications, presented at numerous conferences, authored various technical papers, delivered many technical training seminars. He is also an active member of the Working Group 10, which defines the IEC 61850 standard, and of other collaborative groups defining Virtualized Protection and Control. He is convener of Cigre B5.84 Working Group which aims to make recommendations on the development and interfacing of Virtualized Protection and Control applications.

Links & Information

Wednesday, October 16, 2024
11 am CDT | 12 pm EDT

Duration: 1 hour

Register Here

David Macdonald

GE Grid Automation
Solution and Standardization Architect