ABSTRACT for the 2016 ISA WWAC Symposium

Centralized Control System Architecture

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ABSTRACT

Industry trends are always evolving, and the automation industry is no exception. One trend that has experienced the greatest change has been the move from disparate systems to a centralized system architecture. Older systems were usually standalone packages, each with its own security configuration, communication protocols, etc... With the move towards doing more with less, having to maintain numerous independent systems becomes a time consuming task that most utilities do not have the resources for. Security concerns for protecting the process systems from external, or internal, attacks are also more complicated with independent systems. Moving to a centralized system architecture resolves some of the issues and makes the administration of the whole system more manageable.

Our presentation will show what this centralized control system architecture framework entails, and the parts and pieces that make up a complete system and how they interconnect. Software and hardware required given the new security standards; network topologies to layer and connect the various networks; and what parts are optional yet indispensable for high level data visualization and analysis. Options for connecting the process and business systems while maintaining a security "air gap" to protect against intrusion, and the wealth of process information that opens up for distribution to the business entities. The audience for this presentation would be anyone involved in the planning phase of a control system, those involved with the day-to-day maintenance of the system, and those managing and reviewing system performance and output.

The goal is to give users and planners a guide for creating a centralized architecture in their systems. While not an end-all solution, it should help with the administration and maintenance of the control system, and provide paths for meeting security and data transfer needs.

ABOUT THE AUTHORS

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