All Aboard the SCADA Mothership

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ABSTRACT

During the past two decades, there has been a dramatic evolution in terms of automation. Twisted pair and co-axial cable have been replaced by fiber and wireless; serial communications has been replaced or augmented with Ethernet; processors are smaller, faster and less expensive; graphical displays are everywhere on the factory floor; increased data logging, storage and retrieval has evolved into big data.

Yet, the typical SCADA system architecture has not really evolved. Specifications still call out a variety of independent or sub-applications and a completely separate SCADA central. This insular architecture requires significant design co-ordination between components as well as additional effort in terms of system configuration and commissioning.

This presentation will detail new system architecture options at the single plant level facilitated by emerging software technology. Essentially, multiple workstations can all run their own local applications as integrated parts of a larger system that is akin to a 'Mothership'. In some configurations, benefits could include significant reduction in hardware, configuration time and commissioning costs. Additionally, it lessens the long term burden on maintenance, enhancements and upgrades while providing or increasing redundancy dramatically.

These software tools can be deployed on multi-plant installations to greatly reduce the overall complexity while providing a unified platform for acquiring and sharing data. In concert with new communications' options, redundancy can again be increased with significantly less hardware and system configuration.

As we move forward, we need to address the concerns about growing system complexity and a shortage of trained personnel. The Mothership approach to application architecture has arrived.

ABOUT THE AUTHOR

Patrick Cooke *was born in South Africa and attended schools there as well as in England and Canada. After graduating from Dalhousie University in Nova Scotia with degrees in business and linguistics, he became joined the Canadian diplomatic service. He has been at Trihedral for more than 23 years and is currently the Director of Marketing. Contact: pat.cooke@trihedral.com.*