

EMA'S ENGINEERING TODAY

AUGUST 2013

*Information and Helpful Hints for
School Districts and the Architects
who serve them.*



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*For assistance, more
information, and a customized
solution, please contact EMA's
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**Estes, McClure
& Associates, Inc.**
Engineering and Consulting

“OPEN” CONTROL SYSTEMS: Not an Open and Shut Case Advantages and Strategies to Ensure Standard Open Systems

Due to changing control technologies and procurement methods, many educational owners face situations where they have multiple control types, multiple manufacturers of control systems, multiple protocols, and multiple front-ends or central control stations. Some include standard protocols that are not truly completely open. EMA offers control system audits and strategies to assist educational owners with the multiple control system issues and headaches.

Today's building automation controls and energy management controls may be based on open systems allowing different types of devices to interact with different manufacturer's products. **Interoperability** results in exchange of information between products and software or devices. “Open” protocols or systems can mean a lot of different things. For example, there are proprietary protocols developed by manufacturers that are not freely distributed. Open protocols may be created by manufacturers and made available for all to use. **Standard Open Protocols**, such as BACnet (ASHRAE Standard 135), are developed by professional societies in committees. LonWorks is another standard open protocol.

The advantage to building owners is that a truly standard open system buys leverage. For replacement devices or facility renovation, expansion projects, and new construction, competitive procurement is available, compared to a proprietary system or only partially open systems.

EMA - Providing Solutions That Deliver Results

First, EMA conducts district-wide control system audits to identify the various types of control systems, protocols, issues with the system, etc. Solutions that preserve as much of the prior control system investments as possible are evaluated while allowing retrofit and new work to be truly competitive procurement of standard open systems among manufacturers and control company bidders. This control system audit and solutions would ideally be part of a complete HVAC Master Plan, taking note that today's integrated operable control systems include more than just HVAC (e.g. lighting, security, etc.).

Second, in future systems EMA ensures that all products and software are based on a truly complete non-proprietary standard open protocol. “Open” means also to include all of the programming software and tools free and easily obtainable.

Today there are **newer brain type controllers such as Vykon Tridium JACE** that can integrate multiple control systems and multiple standard open protocols as well as some proprietary networks into a unified system. **This is a very powerful tool** because it can integrate multiple systems in the same building, campus, or district and present those systems on a common front end or graphics system. The JACE (or equal product) is open in that multiple companies may buy, sell, program and install and it adapts to standard open protocols (e.g. BACnet, LonWorks, and others) as well as some proprietary protocols. **Another great feature is that it is fully web accessible.** One does not need any special software to program or view the system, just a web browser like Fire Fox, Internet Explorer, etc. This is convenient/efficient, as technicians do not have to carry, update, and manage software on a laptop or central workstation.

Using these solutions, EMA has assisted school districts to enhance their facility investments, occupant comfort, energy efficiency, and IAQ through control system audits, commissioning and retro-commissioning, master planning, district-wide control specifications for current and future procurement, and solutions to integrate multiple control systems and protocols.



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COMPANY SPOTLIGHT



Michael Cork

EMA would like to welcome Michael Cork, QCxP, as our new Director of Commissioning!

Before joining EMA, Michael worked at ESA: Energy Systems Associates, Inc. in Austin, TX.

Michael has more than 14 years of experience providing Mechanical, Electrical, Plumbing and Special Systems commissioning and design services. His expertise includes providing commissioning, design and construction administration services for universities, K-12 schools, hospitals, universities, commercial and residential facilities. His

commissioning experience includes large high schools in the Austin and Houston area as well as numerous elementary schools, middle schools, and universities. He is a member of ASHRAE, Building Commissioning Association, and California Commissioning Collaborative. Michael has also served in the United States Navy. He will be working in EMA's Austin office.

Congratulations to Jared and Jennifer Plyler on their June 15, 2013, marriage. Jared is a 8 year EMA employee.

Welcome Clay Thomas! Clay Thomas recently joined the EMA Construction Administration team in the Tyler office. Mr. Thomas has more than 17 years of commercial and industrial construction

experience including being the previous owner of an electrical contracting business. In addition, he is a master electrician and good at finding solutions to problems.

Mason Oliver is the son of EMA's



Mason Oliver

Ebony Oliver. He likes being outdoors and playing the drums. Mason likes to learn and is excited to be a future Tyler ISD student. The team at EMA is hopeful Mason will be a future EMA engineer.