The Tridium Revolution

A New Face for Integration

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BAS integrations have become more prevalent over the course of the last five years as DDC equipment developed in the 90's has reached its end-of-life. Manufacturers are turning to new, more advanced control systems that have enhanced capabilities to better support their end users. With all of the new options on the market, where do you turn? Do you have to install an entirely new control system if your automation is no longer supported? Since the early 2000's a company called Tridium released and maintains a platform many know as Niagara A/X to combat high integration costs and maximize equipment life. But what truly is Niagara A/X? Why is the Tridium logo stamped on so many different systems?

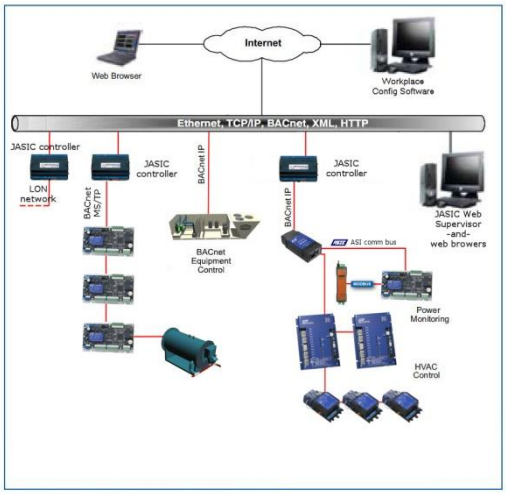

Figure 1: An overview of the Tridium architecture in a building.

Tridium, as a company, is an O.E.M (Original Equipment Manufacturer) who both develops and supports the software platform Tridium A/X. The Tridium A/X software is loaded to a device called a JACE which is rebranded individually through the O.E.M partner channel. If exposed to the Tridium product line you will notice that there are many brands of the JACE from Tridium Vykon to Honeywell WEBs; yet under the cover is the same hardware manufactured by Tridium.

The flexibility of the Niagara platform has allowed it to gain much of the integration market share, as many companies have developed drivers to communicate with disparate systems such as Barber-Coleman Network 8000 (RS-485 ASD Driver) and Johnson Controls Metasys (RS-485 N2 Driver). By utilizing a driver for communications, Tridium integrators can reduce total BAS costs on average over thirty percent as opposed to the traditional full system replace strategies. The ability to remove the existing proprietary supervisory system from your BAS and add a Tridium JACE, driver, and server package maximizes current unitary control equipment life; ultimately saving a large amount of capital and delivering a new front-end hardware and software. So with the reduced cost and flexibility of the Niagara platform, what is the future of Tridium?

The evolution of the Tridium product line is most associated with that of Microsoft Windows or Apple iOS. Windows was born from the MS-DOS operating system much like the Tridium A/X was wrought from the legacy R2 platform. Typical automation platforms run a seven to ten year life cycle where upon a manufacturer releases an End-of-Life report and controllers are no longer produced. As technology rapidly progresses, this business model has gradually decreased automation life expectancy as low as five years for some systems; with manufacturers requiring full upgrades to new automation platforms at extremely high costs. So what differentiates Tridium? When will Tridium A/X become obsolete?

Tridium has progressed through three major Niagara platform overhauls throughout its eight year life span, making many wonder when its obsolescence will occur. It's easy to compare Niagara's development to that of Apple's iOS, which is a foundation for all of their products. Older hardware assemblies including the iPhone 3 are still able to run newer, optimized versions of iOS including their latest platform iOS 6. The life cycle of Apple equipment is more based around the technology of the hardware than the development of their core software. Following this business model, Tridium is soon to release N4 (Tridium Niagara version 4.0) which will include software optimization, an energy based dashboard, and a GUI built in HTML 5 among other features (Capable of displaying graphics on any handheld). Although a newly designed software platform, N4 will run on all Tridium equipment manufactured in the last few years.

The Niagara platform continues to reshape integrations as it's estimated to have gained 50% of the market share for existing automation replacements. The levels of customization and flexibility offered by the platform reduces overall cost of integrating existing legacy building systems; both by preserving expensive unitary controls as well as recycling current communications wiring. Installation costs on automation equipment for BAS retrofits typically doubles the overall project cost, especially when considering tenant occupation; moving tenants to a temporary location while completing installation work is typically not an option. The flexibility of Tridium integrations continues to reduce high initial capital costs for legacy BAS upgrades in many scenarios.

I currently maintain an engineering sales position at Controlco. Our business is consulting customers on energy consumption through a combination of BAS and analytic systems. I'm an avid follower of the industry and am always open to new opportunities and approaches. You can reach me at z.denning@controlco.com or my cell at 510-318-4456.