

Case Study

Compuware Builds New Global Headquarters; Uses Vykon® by Tridium® to Enable Smart Building



New Compuware World Headquarters in Detroit, MI

Compuware is a billion-dollar company delivering software tools and professional services that increase productivity for approximately 25,000 customers worldwide. Until recently, their headquarter operations were scattered between several buildings in Farmington Hills, MI, which was creating inefficiencies and lost productivity. In 2001, Compuware began construction on a 1.5 million square foot complex in downtown Detroit and divested their Farmington Hills facilities.

The new 15-story facility has two wings, an extravagant atrium, and parking garage. Limbach Company LLC was chosen as the mechanical design/build contractor for the facility and was tasked with integrating multiple systems and providing a single user interface. Included in the integration were Tridium JACE controllers, American Auto-matrix Unitary controllers, Trane Chiller Plant Unitary controllers, Square D Powerlink lighting panels, Siemens switchgear and fire panels, Powerware UPS and PDU systems, Active Flywheel systems and Kone elevators. Each of these systems used unique communication protocols and each had dedicated front-end user interfaces. Limbach needed to connect to each unique bus, unify data into a common platform, and provide a user interface to manage all underlying systems.

Limbach turned to Cochrane Supply, a large value-added distributor in Michigan, to aid

in the engineering and design of the project. In turn, Cochrane implemented Vykon Building® from Tridium® as the enabling technology to meet project requirements. Limbach and Cochrane worked for over a year to install and engineer a unified system and dedicated fiber optic LAN for the facility systems.

Compuware

- ◆ Billion-dollar company offering software solutions and services worldwide.
- ◆ Over 9,000 employees worldwide.
- ◆ Provide consulting services and maintenance for software integrations.

Compuware Needs

- ◆ Consolidate multiple facilities into new 1.5 million square foot world headquarters facility.
- ◆ Eliminate dedicated workstations and proprietary solutions for systems monitoring and controlling the new facility.
- ◆ Implement a solution allowing easy access to all systems at the four 24-hour control centers and throughout the 15-story building.

Vykon Provided

- ◆ Integrated platform for all building systems including lighting, fire, HVAC, and elevators.
- ◆ Thin-client access through a browser allowing each control center and various staff/contractors to have immediate access.
- ◆ Real-time access to alarms and the ability to react with system adjustments.

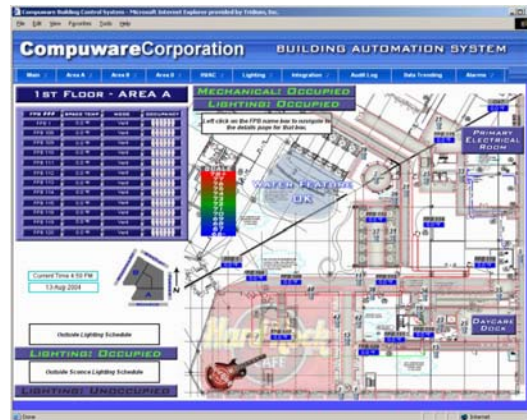
Benefits

- ◆ Easy access at four control centers and throughout the large facility.
- ◆ Compuware was able to select best of breed for all building systems without integration concerns.

Tridium technology used to manage new Compuware Headquarters; browser access enables several efficiencies.

“We were able to seamlessly integrate systems from multiple manufacturers, each using different communications protocols and dedicated front ends into a unified network with browser access. The operational efficiencies of this systems will be realized for years to come.”

Scott Cochrane, President, Cochrane Supply



The Challenge

Limbach and Cochrane had several challenges. There were four communication protocols that needed to be integrated and utilize IT-friendly protocols such as HTTP or XML. Although building protocols such as BACnet and Modbus can communicate on an Ethernet backbone, they can only do so in their native protocol, creating concerns for IT departments. To utilize the dedicated LAN for the facility systems, Limbach needed to convert unique protocols to universally accepted IT standards.

The contractors were asked to consolidate ten front-end applications into a single user interface to avoid costly software packages, dedicated workstations, and associated maintenance. Furthermore, a thin-client browser user interface was required so each of the four control centers and other personnel within the facility could monitor and control facility assets from any computer.

Finally, Compuware would be leasing two of the floors and part of the adjacent parking garage, and needed a method for tracking utilities and producing invoices for the tenants.

The Solution

Limbach and Cochrane used Vykon by Tridium to meet their needs. There were over 30 JACE controllers installed to connect to underlying systems and convert building communication protocols to IT protocols. Within each JACE, integration and control logic was programmed. The

communication between JACE controllers utilized very efficient and secure IT standards.

The Compuware building has four control centers that are manned 24/7, each requiring access to the diverse systems in the facility. Because multiple instances for ten dedicated packages would be such a maintenance problem, Cochrane implemented Vykon to create a unified front-end that utilized graphics and navigation from unique systems where appropriate, while adding sophisticated scheduling and alarming capabilities on top. This flexible and fully customizable GUI allowed Compuware to bypass dedicated front end applications and associated workstations. Because Vykon is a browser-based user interface, the four control centers had real-time access to monitor and control facility assets, as did others with a network connection and access rights. Response time is considerably better than is typically seen in large commercial facilities.

Finally, Compuware will utilize the Vykon Tenant Billing application to allocate utility costs and generate invoices for tenants. This browser-based application will take meter reads via a JACE controller, and assign predetermined rates for individual commodities.

The Benefits

Compuware realizes operational efficiencies with reduced energy, labor, software, and billing costs. In addition, they were able to choose best of breed mechanical and electrical systems, including lighting, HVAC, fire, and elevators, without the worry of integrating protocols or user interfaces.

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