

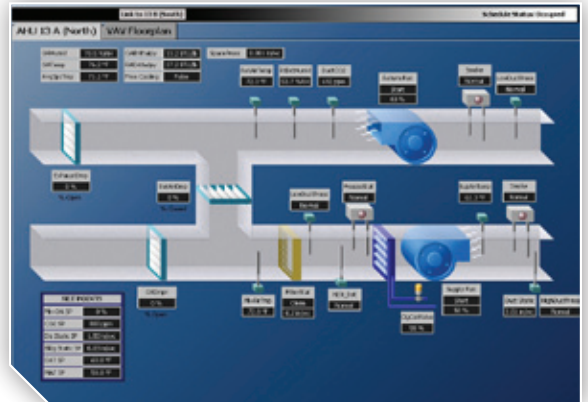
Two North Riverside Plaza Phased Remodel with Building Automation System

When the owners of Two North Riverside Plaza began phased remodeling of the historical 1929 structure, Althoff Industries was awarded the contract to replace the Pneumatic Building Automation systems and integrate existing proprietary legacy control systems with a new System (BAS). "Inside the building was a hodgepodge of obsolete equipment and technologies," said Rami Nassib, Director of the Althoff Technology Group. "The owners knew they wanted to go to new technology and equipment, but didn't want to rip out an expensive, but out of date proprietary control system that was only five years old. We were able to integrate their legacy system with our open-protocol Tridium AX control platform, linking it to our backbone front-end system that serves all 26 stories." The Tridium control platform is a distributed control system that allows for real time 24/7 monitoring and e-mail or text message alarm notification should any set parameter of the BAS become violated.

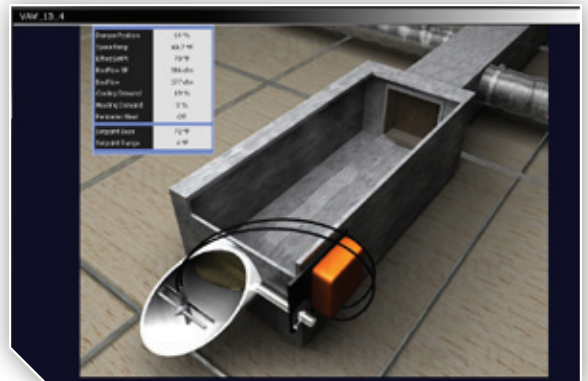
The first order of business was to design and install a building automation communication backbone consisting of a Ethernet riser that extends from basement level 3 to the 26th floor, which is connected to a PC running Tridium AX Web Supervisor Software. There is one IP Managed switch per every five floors and one standard IP switch on each of the floors. Ethernet wiring runs from the risers to the rooms where the IP switches are located. This setup allows for future migration path of the existing BAS systems within the facility and for a future expansion for the new Tridium Jace controllers to view the entire building BAS from a central location, appearing seamless to the engineers.

The initial remodeling phase covered six floors, and included replacing existing pneumatic variable air volume (VAV) boxes with direct digitally controlled VAVs connected via the backbone system to the BAS. The old inefficient air handling fans were replaced with state-of-the-art Variable Frequency Driven (VFD) fans which will deliver over 30% reduction in energy consumption. The DDC system also created a stable comfort level by eliminating large temperature swings, maintaining temperatures at +/- 1° to the set points on each floor. The remodeling program continues in phases as occupancy needs dictate.

In addition to controlling the air handling systems and VAV Boxes, the BAS is controlling the Public Area lighting at Two North Riverside, the boiler plant, the river filtration plant and the smoke evacuation safety fans. Future expansion may also include controlling the chiller plant, power metering and a building energy profile dashboard.



The Tridium AX control system features real-time 24/7 monitoring for the BAS.



Direct digitally controlled VAV boxes are linked to the Tridium control system.

