

IT/MEP convergence allows new design approaches

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From addressing sustainable design issues to providing enhanced system capabilities, IT/MEP convergence is changing the way MEP engineers and IT consultants approach building design. IT/MEP convergence is the merging of distinct technologies, systems, and devices into a unified whole. IT/MEP convergence enables the seamless sharing of a common communication infrastructure (physical cabling and local-area network), and permits a sequence of operations based on data sharing through common interfaces. Simply stated, these once disparate systems are now talking, and as a result, great things are happening. IT/MEP convergence is not a future concept which may or may not take hold - it is here now. The benefits of this convergence include reduced construction cost, ongoing energy efficiency, and the ability to deliver enhanced features and functions.

IT/MEP convergence offers several benefits, and should be considered whether your project is a small commercial office fit out or a large mixed use development.

If the design team understands the technical, operational and perhaps political factors that influence the engineering of these systems, converged systems can be designed and deployed successfully. Interdisciplinary convergence allows the MEP/IT engineer to issue a single cohesive bid set rather than multiple low voltage packages. This reduces the number of contractors and integrators installing essentially duplicate systems, yet allows the appropriate levels of resiliency to be incorporated.

Two areas in which IT/MEP convergence is already making significant impacts on design include general commercial offices and luxury high-rise living.

Many typical commercial office facilities utilize a dedicated system to determine whether users are present in rooms and spaces throughout. If an office remains unoccupied for a certain period, lights are auto-

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matically shut off and temperature is adjusted. A converged MEP/IT approach would include utilizing an occupant's personal computer for additional presence detection. Data shows that using PCs as presence detectors provides more reliable feedback than sensors alone. This enhanced feedback can reduce lengthy time delays programmed to

avoid falsely turning off lights in an occupied room. The enhanced validation will reduce the timeout before turning out lights and adjusting room temperature, to save energy, without affecting user comfort. Under this scenario occupancy sensors may not require a dedicated cable and again can be simply built into the light switch.

Over recent years, home automation systems have proven themselves through an increasing presence in new construction. These same concepts can be applied to larger residential properties. Consider the impact that a converged IT/MEP design can have on luxury high rise living. Residential access control and video surveillance are accom-

plished with high quality audio and color video communications. Communications take place on discrete circuits so other residents cannot view or intercept private voice or video communications. Perhaps you're expecting guests, but are in traffic on the way home. The converged access control system can forward callers to your cell phone where you can speak to them and even buzz them into your unit. A kiosk in the elevator lobby facilitates dinner reservations and show tickets. Arriving home, the lighting system senses your presence and adjusts lighting levels while automatically adjusting blinds for privacy or scenic city views. The same concept of presence detection utilized in the

commercial model is applied to overall building temperature control based on occupants' preferences. The building security system may allow you to access sidewalk or entryway cameras with the touch of a finger.

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