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Road to crossing the final hurdle of IT convergence

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Information technology (IT) has had an increasing influence on how buildings are built, renovated and occupied.

Convergence (operating various information systems through a common network) within a building is a technology and real estate trend that will help contribute to achieving a green building.

The final hurdles in convergence are slow developing computer networking standards, security concerns, and control system integration.

Convergence is one step closer to addressing environmental concerns by reducing construction costs and obtaining better energy efficiency.

IT convergence is dependent on common computer networking standards to enabling previously separate end user networks to be combined into one.

This is most commonly seen today



evolving to follow the same standards, but have thus far utilized a separate building control network and independent cabling system.

Further developing these computer networking standards will enable data sharing between base building control systems and enterprise business networks.

An example would be a today's typical office environment. Many projects may utilize a dedicated system to determine whether a person is present in an office.

If that person is not there, lights shut down after a certain time delay.

by the consolidation of voice, data, and video distribution systems into a single network. Base building control systems for lighting, heating, air conditioning and security are also

An alternative approach will be 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 will reduce time delays unnecessarily programmed to prevent people from waving hands in the air to turn lights back on. This enhanced validation that someone is present 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.

In the late 1990s, a typical office

environment included five cables to each office, a cable for an occupancy sensor, one for voice, one for data, and two spare. Presently, many

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clients install three, a cable for an occupancy sensor; one voice, data, and video; and one spare.

Convergence of building networks with enterprise networks will facilitate further reductions in the quantities of cabling and sensors required, and provide better feedback to facilitate building control at a higher efficiency.

The early adopters in enterprise converged networks have proven successful.

Going forward, owners who encourage their outside MEP and IT design consultants (and internal IT and facilities teams) to collaborate will be the first to reap all the benefits convergence has to offer. ■