Increasing intelligence

Professional installation engineers will increasingly find that they must install systems with additional intelligence – such as logistical control – for building management tasks if they are to win contracts. However, this does not mean that security will be compromised!

For many, security is something of a touchy subject. Many sites will no more breathe a word about the measures they have taken to prevent crime than they would throw open their doors and let all and sundry have a good look around. Equally, there are many who see security systems as needing to be clearly discrete from all other on-site systems. The security elements are managed separately by a distinct team, and are usually monitored in some out-of-the-way room where other non-security mortals fear to tread. To allow security solutions to become sullied by interaction with other everyday systems is to compromise the protection on offer – or that is the way traditional security philosophy goes. However, it might not be the most prudent thought-process to follow, and as an increasing number of end users catch on to the benefits of total system integration, installers will find themselves increasingly facing projects where security must work hand-in-hand with building management systems!

The term 'intelligent building management system', or IBMS for short, has been bandied about with some abandon for many years, and instantly conjures up images of buildings which assess their own status and react in some sci-fi way. As temperatures rise, windows automatically open; as Mr Jones arrives, his computer goes through a start-up procedure to be ready and waiting when he gets to his desk; as the sun sets, the lighting intensifies to keep a constant level of internal illumination. Such processes are the stuff of futuristic films, so do they have anything to do with security installers?

Intelligent building management systems have been discussed for many years, and whilst the above scenarios are possible, few would consider them as being worthy of the type of investments required for today's systems. Indeed, if people are too lazy to get up and switch on a light as the sun goes down, they deserve to sit in the dark!

Whilst preventing rooms filled with workers being obscured by twilight does seem a little foolish, consider the opposite situation. Given the current predilection for flexible working practices, how many offices have empty offices or even whole floors which are lit up? How many offices have the heating level turned up by workers coming back from a wintery trip out for lunch, not to be turned back down before they leave? Lights might eventually be obvious to a caretaker if left on, but heating is another matter! Whilst the designers of intelligent building management systems want to show the world how they can turn devices on for the ease of the worker or resident,

the reality is that end users – those who pay the bills for lighting, heating, ventilation and all the other services – want things turned off!

Energy wastage is a major concern for businesses, and taxes such as the Climate Change Levy will increasingly hit companies in the pocket if they do not act to reduce the levels of wastage currently being experienced. Assessment schemes have shown that even small businesses can save thousands of pounds per annum by implementing simple strategies such as putting lighting and heating services on timers. It therefore takes little imagination to realise that if a system switches off power-consuming resources intelligently (and switches on exceptional resources only when they are really required), the savings could be significant. Indeed, they could be significant enough to make investment in such a system a justifiable exercise.

Could anything be better? Well, it could be – if the selected solution was to be based on a security system!

Taking control

It might seem an odd thing to suggest, because security systems are traditionally kept well away from building management processes, and at first a large number of installation engineers will consider the proposal a step too far! However, there are many similarities in the way an IBMS system and a security system work which warrant further consideration.

The first step when considering such a solution is to think about what an energy-controlling system would need to do, if it were to be classed as intelligent. The first task would be to gather data about the status of the site in a real-time mode. This would include which parts of the site are occupied, which are unoccupied, which have been closed for the end of a day's business, which have not been opened, etc.. Compare this to the data collecting tasks performed by a security system. It will detect which areas have human movement and which do not, and will identify zones which

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authorised users have passed into and out of. Access and egress is tracked, as is motion and other activity. In short, security systems – whether they be intruder detection, access control or CCTV with event triggers, and whether set or unset – gather the data which a building management system would need for energy control!

Once data is collected it is a matter of assessing it to best control the various functions around the site. For example, an access control system could inform an energy management solution when everyone entitled to access to a specific zone or floor has left the building. Non-essential resources could be closed down, but if an authorised user such as a manager wishes to enter the area, a swipe of their card would allow the lighting, for example to be switched back on. When an alarm system is set for a specific partition, all non-essential powered resources could be shut down until the area is unset again.

To go through the various possibilities could fill this entire issue, so the rest of the system design will be left to the installers who want to go on and further explore this sector. The next question is how to create a high level of communication to achieve such a result.

On the bus

In the past, engineers would have to seek out equipment from manufacturers who themselves had bought-in to an intelligent bus system such as LonWorks. However, nowadays the widespread use of IP connectivity makes this a thing of the past. CCTV systems with VMD can talk to lighting controllers; alarm systems can talk to HVAC units; access control systems can pass details of on-site personnel (and their locations) to any other device. The shared data can ascertain where energy is being wasted, and switch it off!

Such solutions save money for the end user, add value to the offering of the installer, and utilise the benefits that security products already offer.

Are you still sure that IP-based solutions might not be for you?