Knowledge is po

Rahul Rathod of Nexans explains why automated infrastructure management (AIM) is essential for intelligent buildings

Buildings are becoming smarter, with connections between sensors, building management, lighting, security and communications systems bringing a wide range of benefits for different users. But with greater intelligence comes greater complexity. AIM can play an essential role in network management and administration as this complexity increases.

SMART THINKING

Building intelligence is largely being driven by the uptake of connected devices, wireless technology developments, a threefold increase in power over IP networks and increasing convergence as systems interconnect via IP and IT Ethernet infrastructures. The capabilities of smart buildings will continue to change as these trends develop.

In this fast moving environment, IT managers are required to meet high expectations, often with fewer resources and staff. However, even though building network infrastructure is now hugely dependent on connectivity, IT networks are still almost exclusively documented using tools such as spreadsheets. Traditional documentation tools increase the risk of error, which could introduce higher costs. Troubleshooting takes significantly longer and periods of downtime are extended unnecessarily.

NEED TO KNOW

We're seeing a growing need for support for networks connecting an ever wider range of devices, moving beyond traditional requirements related to IT devices such as laptop and wireless access points, and extending to operational technology (OT) for building management such as sensors, alarms and controllers. This increase in the number and variety of devices significantly adds to complexity.

A recent survey conducted by Nexans highlighted the fact that there is a significant amount of concern regarding the difficulty of managing networks – and this is growing. An important part of managing growing complexity is by ensuring records are as accurate as possible. Documentation and administration of networks including ports, switches and cabling is essential.

REAL TIME

An up to date, complete overview of physical infrastructure including all devices, ports and structured cabling makes it easier to use and control the network more efficiently, and manage costs. Being

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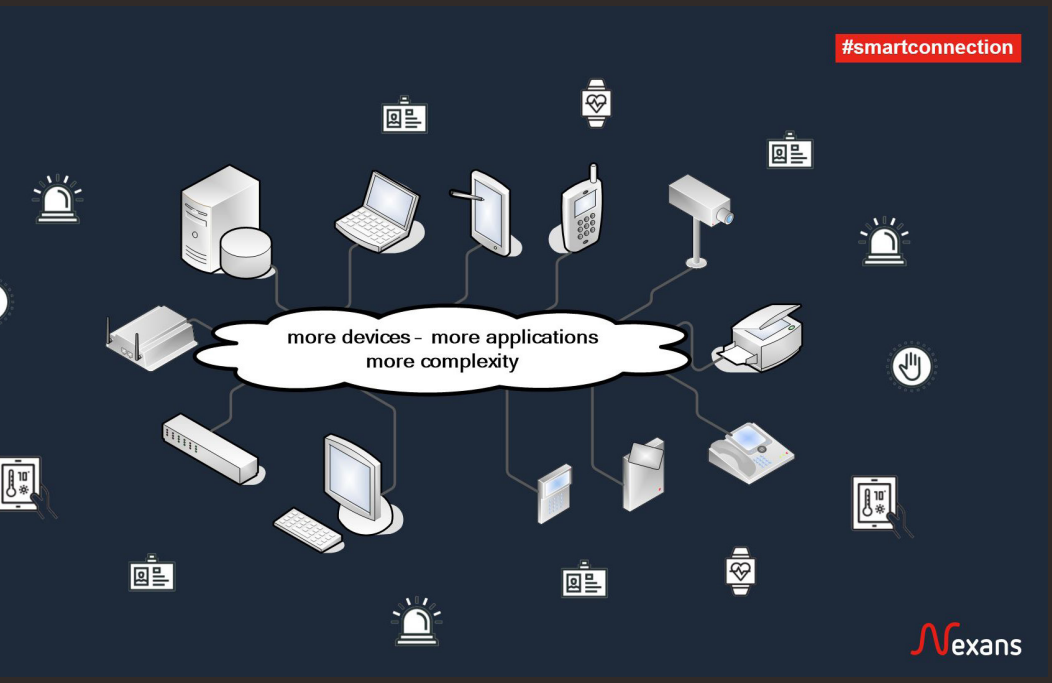
Log
Map
Share
Optimise


#smartconnection
more devices - more applications
more complexity
Nexans

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able to accurately map switches to network outlets makes planning, troubleshooting and repairs faster and easier.

Knowing which device is available where, and whether it has been authorised, supports capacity optimisation and security enhancements. AIM facilitates this by providing a link between the physical (cabling) and logical layer of the network. It automates cabling infrastructure documentation and provides an accurate overview of what is connected where on the network.

This allows fast and easy detection, monitoring and provisioning of connectivity and helps reduce downtime. IT managers can benefit from real time physical layer documentation and they can remotely monitor infrastructure performance with internet based dashboards and receive notifications easily and conveniently across different platforms and devices. Change logs and work orders can be recorded, making audits and troubleshooting easier.

SHARE AND SHARE ALIKE

Smart buildings rely on sharing data to make business decisions and AIM is a way to track some of those connections and collect and share data. Poor network overviews can mean excess capital and operational expenditure (CapEx/OpEx).

Organisations may spend a great deal of money on purchasing and managing new network switches each year and, if they're outsourcing IT, pay for management of unused switch ports. If ports are forgotten and unused it can take a lot of time and effort to find circuit information and identify end locations when provisioning new IT services or carrying out network maintenance without disruption.

Reports and dashboards enable informed decisions to reduce CapEx and OpEx. Switch and port utilisation can be optimised in order to maximise return on investment and avoid overspending or under-utilisation. AIM also makes it significantly easier to make informed decisions about expansions. Capacity planning can even be extended to room level and material and energy consumption can be optimised to save resources.

SETTING THE STANDARD

An AIM solution should guarantee compliance with relevant standards such

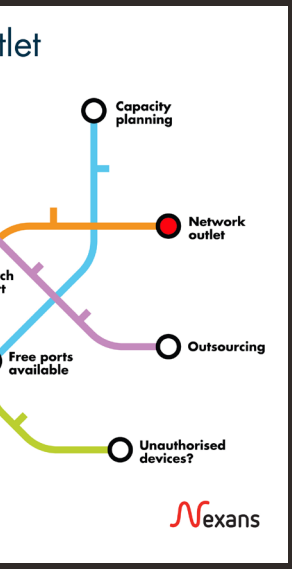
as ISO/IEC 14763-2 and ISO/IEC 18598 – the latter lists building management applications in which AIM solutions can play a role. They include energy management, lighting management, configuration management database, building security and access control. AIM can help satisfy compliance and legal requirements with status reports, trend analyses and audit trails.

Cabling systems may well remain in place for 10-15 years or more and many changes will occur during this lifespan. Building functions may change, building interiors might be altered completely, an organisation may grow or shrink, or new business models might change requirements. With all of these developments and activities, maintaining 100 per cent accuracy on documentation using non-AIM methods is difficult – or probably impossible.

LOOK AHEAD

To remain competitive, productive and profitable, IT infrastructure must meet current requirements and be ready for future challenges. Technology evolution and increasing demands are resulting in increasingly complex, high performing networks and cabling, as well as a rise in CapEx.

What's more, the importance of IT network systems is increasing significantly. Today, this is critical and provides the foundation of business. Downtime and error are to be avoided at all cost – which is why documentation has to be flawless and up to date.



DELIVERY DRIVER

For buildings to become truly smart, they rely on accurate data – including accurate network documentation. This can only be delivered with AIM. However, when choosing an AIM solution, it is important to remember that it needs to be user friendly. If it is to be truly successful, the AIM solution should make managing complex networks of devices significantly easier and faster. ■

RAHUL RATHOD

Rahul Rathod is a product manager at Nexans and responsible for LANsense, Nexans' AIM solution. He has an electrical engineering background and a master's degree in international business. His prior experience was related to the power, cooling and data centre infrastructure management (DCIM) systems.