![ideal — Create. Protect. Accelerate.]

Achieving the benefits of smart building technologies

Why and how to upgrade to a Converged Network System

Enter

WHY ARE MORE BUILDINGS SWITCHING TO A CONVERGED NETWORK?

To make the most of the increased efficiencies and opportunities offered by smart building technologies, buildings need a Converged Network System (CNS). A CNS enables different systems within a building to interact with each other securely and effectively, and streamlines network management. This helps improve operational and cost efficiencies and user experience within the building.

But while new buildings tend to install a CNS during construction, many older buildings have a patchwork of disparate systems that separately control heating, lighting, CCTV, telephones, etc. They face navigating what Forbes calls "the alphabet soup of legacy and emerging technologies" [1] involved in setting up and managing smart buildings.

Read more about what a Converged Network System is in our guide.

Although replacing several networks with a CNS poses some challenges, the process is considerably easier in the hands of an experienced partner. Ideal has helped many commercial buildings to both migrate to a CNS and keep it running smoothly.

Here, we'll unpack the reasons for making the switch, and then explain what's involved in each of the four phases:

Audit

Design

Install

Manage

Read more about why to switch

Jump to How to switch

1 INCREASE YOUR COMPETITIVE EDGE

The COVID-19 pandemic accelerated the trend towards hybrid working, requiring a mixture of in-office and remote working configurations.

Many businesses are now focusing on providing a safe, secure environment for workers, while ensuring business continuity in the face of unexpected health events and other disruptions. Businesses need to ensure workplace hygiene, facilitate social distancing, and enable people to work remotely without compromising productivity.

> *The rules for what makes a safe, efficient, and effective workspace have changed. Solving these challenges will require a new way of thinking in office and building management.*
>
> Cisco[2]

Smart technologies are key to adapting efficiently, through collecting and using data in automated, dynamic processes, and enabling rapid, evidence-based responses. Without a CNS system to enable this, businesses are hampered in optimising both a healthy, safe environment and business resilience.

As tenants' needs and expectations evolve, building owners and managers need to adapt to remain competitive. Offering a high degree of control over working environments, with support for business continuity, helps boost the attractiveness of a building to tenants. Meanwhile, the cost-efficiencies of a CNS also benefit your operating expenses.

"From COVID-19 to political unrest to climate change, organizations are constantly buffeted by unexpected events. But the promise of digital business as a way to thrive and outperform the competition during these disruptions remains clear." – Gartner[3]

2 FUTURE-PROOF YOUR NETWORK AND ENSURE YOUR SYSTEMS CAN WORK TOGETHER

Modern buildings typically rely on multiple systems installed by IP partners (Internet Protocol partners) to control different functions. These include energy, heating, ventilation and air conditioning (HVAC), alarms, lighting, door access, lifts, CCTV, telephones, and more.

When these functions run on separate networks, issues can arise with data exchange and system interactions.

Read more →
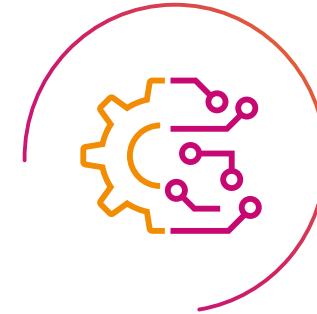
Incompatibility

Different networks may not have compatible set-ups, making connections difficult to achieve or sub-optimal.

Security concerns

The providers of one system may be reluctant to link with another, if they are unsure of their security credentials.

Unclear lines of responsibility

IP partners may not agree on who is responsible for making and managing the connection securely.

When all building systems are on a converged network, they talk, interact and create synergies. And because all functions are feeding data into the same centralised system, it's easier to spot and resolve issues. You can realise economies of scale in use of energy and ports, while optimising uptime and network performance.

> Smart Buildings can only be smart if all digital components can communicate unhindered. Appropriate networking can help realize this... and brings us closer to ecological, economical, convenient and secure Smart Building installations.
>
> Smart Buildings Magazine[4]

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1 INCREASING COMPETITIVENESS

2 FUTURE-PROOFING AND INTEROPERABILITY

3 ENHANCING CYBERSECURITY

4 EASIER NETWORK MANAGEMENT

5 SMARTER DATA USE

6 HOW TO SWITCH TO A CNS

3 STRENGTHEN YOUR BUILDING'S CYBER SECURITY AGAINST INCREASED CYBER CRIME

600%
increase in cyber crime during the COVID-19 pandemic[4]

57%
57% of IoT (Internet of Things) devices are vulnerable to attacks[5]

38%
38% of smart buildings experienced cyber attacks in 2019 [6]
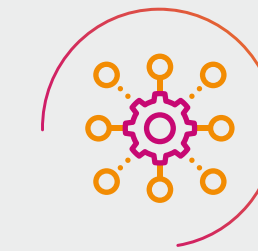
Read more ▶

When all systems are on one network, implementing and upholding robust cybersecurity standards becomes much easier:

Fewer points of ingress
into the building for cyber criminals to exploit

Just one network
to monitor and maintain security controls for, rather than several

Clear lines of responsibility and accountability,
with a single team responsible for monitoring and ensuring adherence to the building's cybersecurity governance policy

4 STREAMLINE YOUR NETWORK MANAGEMENT

Managing a single converged network rather than separate systems offers operational and financial advantages:

Less power used
Resulting in lower energy costs, and an improved carbon footprint.

Less equipment required
Saving on both cost and physical space.

Simplified and streamlined monitoring
One central platform run by a single team, rather than multiple platforms and teams.

More efficient troubleshooting
Making identifying and fixing problems faster and more straightforward.

Minimised disruption by routine maintenance
Minimising downtime and user inconvenience.

Clear lines of responsibility and accountability
Eliminating duplicated effort and uncertainty around responsibilities.

If you lack the resources and in-house expertise for the ongoing management of your CNS, you can use a Managed Services Provider (MSP). You will want to select a reputable provider with an established record of providing a high-quality service, with experience in the construction/buildings management sector in general, and smart buildings in particular.

Ideal is a trusted Managed Service Provider for several high-profile buildings, including Battersea Power Station and the award-winning smart building, 22 Bishopsgate.

5 ENHANCE YOUR USE OF DATA TO IMPROVE PROFITABILITY AND USER EXPERIENCE

For building owners and managers, understanding exactly how people are – or aren't – using a building's functions is extremely valuable.

A CNS enables you to collect substantial amounts of data and analyse it to discover patterns, bottlenecks, and other insights. You can use this information to make dynamic, real-time and/ or scheduled adjustments to various functions in specific parts of the building, to improve both profitability and tenant experience.

For example:

- Don't waste money on heating or lighting unused rooms, by adjusting lighting and HVAC settings based on real-time usage.

- Help maintain a pleasant environment by monitoring footfall counters in bathrooms to ensure the busiest ones are cleaned more often.

- Notify all building users and restrict access to certain areas when the number of people inside reaches a set limit (e.g. to help social distancing).

The energy and other operational efficiencies produced also contribute to a lower carbon footprint for organisations – an increasingly valuable asset in today's world.

HOW TO SWITCH FROM MULTIPLE NETWORKS TO A CONVERGED NETWORK

Although the benefits of switching from multiple networks to a CNS are clear, the prospect may seem somewhat daunting. We have a four phase process to assess and plan the build of a CNS. Here's what's involved and what to expect:

Audit   **Design**   **Install**   **Manage**

Read more

Phase 1 - Audit

The first phase focuses on taking stock of all existing systems, networks and equipment: to understand how they are set up and used, and to identify gaps, blockages and opportunities.

Our engineers will check and document:

- How each network is arranged (topology)
- Which equipment is used by each system and network
- Existing connections between the various networks
- Any external links to each network
- Actual or potential security risks
- Misconfigurations
- Any performance issues

The audit also includes tallying up current operating expenses for running and maintaining all systems and networks. This provides an important baseline for understanding the cost-efficiencies possible with a CNS. Even taking account of the costs of retrofitting a CNS, the overall savings can be significant, due to lower ongoing operating costs.

By the end of this audit phase, we will have established a clear and documented understanding of the existing systems and networks, options, key challenges and considerations. This provides a solid basis for the next phase: design.

Key steps in this phase:

- Audit existing systems and equipment
- Audit operating expenditure
- Create audit report

Key output for this phase:

Audit report to inform CNS design

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Phase 2 - Design

Analysis of the audit findings will be used to create a high-level preliminary design for a converged network to connect the various systems in your building.

This includes:

- Proposed topology and gap analysis
- Quick wins and potential obstacles identified
- A provisional equipment list
- A high-level budget and business case

The next step is a workshop to discuss our findings and high-level design, explore options, and clarify what's possible within budget. We'll work with you to fine-tune the design to best reflect what you — and your building's users — want and need from the converged network.

Once everything's clarified and agreed, we will finalise the CNS design and get ready to build it.

Key steps in this phase:

- Create high-level design and budget
- Hold workshop to present findings and preliminary design, and explore your vision for the new building network
- Finalise CNS design, based on audit findings and vision workshop

Key output for this phase:

Detailed CNS design

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Phase 3 - Install

Engineers will build your CNS according to the design specifications. We then work with you and your IP partners to plan and carry out the migration of all your current systems and applications to the CNS.

Once everything has been migrated to the converged network, it needs testing to ensure everything is operating as it should.

Our engineers will conduct extensive testing of:

- The functioning and performance of the network itself, including security controls

- The functioning and security of each system's connection to the network

- The functioning and security of all connections between different systems and applications, via the network

Given the complexity and sophistication of the network topology and the various technologies involved in the different connecting systems, there will inevitably be some teething problems to iron out. An experienced partner in CNS installation and management can proactively find, identify and resolve such issues.

Once all testing is complete and any issues resolved, the network is fully installed and ready to go.

Key steps in this phase:

- Plan migration to CNS, including managing network downtime

- Actual migration to CNS

- On-site testing and IP partner testing

Key output for this phase:

Converged network system up and running

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Phase 4 - Manage

Once the installation and testing phase is complete, you will need to put in place a plan and team for ongoing management and maintenance of the network.

This includes:

- Providing regular network monitoring and timely updates

- Planning routine maintenance to minimise downtime and disruption for building users, plus troubleshooting and resolving any issues

- Ensuring any new applications or systems are added to the network securely and in harmony with each other

- Upholding and ensuring adherence to the building's cybersecurity governance policy

- Liaising regularly with all IP partners to carry out the above

Get in touch >

There are two options for the management of your converged network:

In-house management:

This can be a highly effective option where a building owner or manager has the necessary in-house resources and expertise to provide this service.

A Managed Service Provider:

If you don't have this capacity in-house, outsourcing to a Managed Service Provider provides peace of mind that your CNS will keep running smoothly and securely in the background, while you focus on other priorities.

Ideal offers both expertise in converged networks and smart buildings, as well as a strong record in the construction and building management sectors. Our experienced technicians function as an integral part of your team, keeping the network (and everything connected to it) running efficiently and securely.

Key steps in this phase:

- Transition network to Managed Service Provider or in-house network management team

- Sit back and enjoy a more efficient, secure and future-proof network

Key output for this phase:

Secure and smooth functioning of the network

Talk to us about your CNS options today, call 01273 957500

Or visit our website ❯

References:
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3. Gartner – Top Strategic Technology Trends for 2022
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