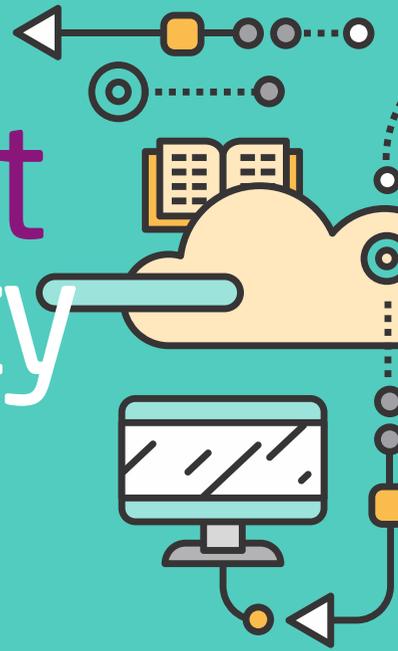# Investment
opportunity

Rahul Rathod of Nexans examines whether automated infrastructure management (AIM) should be considered a luxury or a necessity

Technology evolution and increasing demands are resulting in increasingly complex, high performing networks and cabling, as well as a rise in capital expenditure (CapEx). What's more, the importance of IT network systems is increasing significantly and businesses expect at least 99 per cent uptime. The question is how does AIM play an important role in meeting demand and managing these areas?

THEORY OF EVOLUTION

Today's technology evolution is exponential, and capacity and performance in the areas of power, data, and computation have grown enormously. This has resulted in marked increase in demand for power, bandwidth and internet connection speeds, while growing interest in applications such as power over Ethernet (PoE), the Internet of Things (IoT), the cloud and Industry 4.0 will drive up the requirements even further. Ericsson predicts the internet may connect 50 billion IoT enabled devices by 2020, while IDC gives a far higher number at some 212 billion.

So how is this changing technology paradigm related to documentation and administration of cabling and cabling infrastructures? In this age, for businesses to stay competitive, productive and enjoy profitable growth, they must not only focus on output, but also on IT supporting infrastructure. After all, 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.

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several reasons for this – the people
responsible for documentation won't stay
in their jobs forever and teams change
over time. What's more, having to rely
on documentation managed by a single
person or team is going to present serious
difficulties during critical times.

Cabling systems may remain in place for
10-15 years or more, and many changes will
occur during this lifespan. Potential growth
of the organisation will lead to additional
cabling infrastructure requirements, with

DOCUMENTARY EVIDENCE

Documentation
for all the cabling
infrastructure and
related equipment
created during
installation will, of
course, be accurate
for a very short
time – but definitely
not over a period
of years. There are

more users, changes to user locations, and
more devices, which will ensure countless
moves, adds and changes (MACs). With
all of these developments and activities,
maintaining 100 per cent accuracy on
documentation using non-AIM methods is
difficult – or probably impossible.

CLEAR DEFINITION AND SCOPE

The idea behind AIM has been around
for more than two decades. The core
fundamental functionality remains the
same though – 100 per cent accurate
automated documentation of the cabling
infrastructure and connected equipment.

Scoping an AIM solution to an end user
was never easy due to lack of consistency
and there was often been a gap between
what AIM systems actually do and what the
users wanted them to do. Some expected
AIM to be a data centre infrastructure
management (DCIM) tool, some expected
it to be an IP telephony management/
PBX tool and some expected AIM to be a
network management application.

TIMES CHANGE

The situation has changed. Standards like ISO/IEC 14763-2 recommend the need for electronic record keeping in certain types of installation based on their level of complexity, and thanks to the publication of ISO/IEC 18598 there is now a clear definition of AIM systems.

This not only defines the scope of AIM but also addresses the requirements for a management solution to be called an AIM solution. It also defines interfaces that allow AIM to communicate with other systems, supporting building management functions such as enhanced intrusion detection. In addition, some modern solutions include practical benefits such as allowing unused ports to be reassigned to improve port utilisation, and automated routing.

HAS THE MARKET ADAPTED?

Resolving the scoping issue does not necessarily mean the end of the challenges facing AIM. The practice of using traditional documentation methods such as spreadsheets, Visio, SharePoint and software documentation tools continues to exist. However, these documentation tools do not guarantee the efficiency and 100 per cent accuracy of updated physical layer documentation provided by AIM.

Here, the expression 'time is money' can be interpreted as the ability to diagnose a problem and how quickly it can be resolved. Traditional (software) documentation tools increase the risk of error, which could have serious consequences for organisations in the shape of higher costs, lost business, reputational damage or poor customer service. Troubleshooting will take significantly longer, periods of downtime will be extended unnecessarily, and

implementing and testing MACs will be extremely challenging – especially as port densities and the number of physical connections increases.

LUXURY OR NECESSITY?

Various reasons are given for not choosing AIM. Is the cost justifiable? How important is it really to manage cabling system once it has been installed? Can't we simply rely on basic network management? ISO/IEC 18598 makes it absolutely clear that the benefits of choosing AIM outweigh any reasons for not doing so. Cabling, connectivity and active IT infrastructure represent an important investment for any size or type of business, justified by the growth opportunities presented by today's business world. Investment in structured cabling, cable systems, and connected equipment could be between 5-15 per cent of total CaPex and, considering the risks and costs introduced by poor management of cabling and connected devices, any savings in this area are false economy. ■

AIM IN PRACTICE – A SCENARIO

Normally, over a span of 10 years, the following changes would take place in a company.

- Servers, routers and switches would have been replaced or changed at least twice.
- User PCs/devices would have been changed 2-3 times.
- The organisation would have grown by 10 per cent in terms of employee count, user devices and revenue growth.
- Cabling structure of the organisation would also have grown.
- IT teams will have evolved and changed.
- Cabling systems would be 10 years old.

With so many changes, relying on basic manual or software documentation would make 100 per cent accuracy practically impossible, creating a very high risk to network uptime.

MONEY MATTERS

A study by IHS Markit found that in 2016 businesses in North American market lost $700bn a year due to IT downtime cost. On average, a small to medium sized enterprise (SME) loses $1m and large organisation loses $60m in IT costs.

Having an AIM system in place might not guarantee protection from all conceivable IT downtime costs, but it can help reduce total losses if implemented. AIM's ability to integrate with additional management systems, can help further reduce losses.

RAHUL RATHOD

Rahul Rathod is product manager at Nexans Cabling Solutions for LANsense, Nexans' AIM solution. Before this, he worked in a technical and business development role related to power, cooling, and DCIM for Schneider Electric.