

Simplifying Remote LAN Management

Introduction

Many organizations operate data networks that are distributed over multiple sites. For large organizations operating multiple large sites, this problem can be solved by locating Information Technology (IT) staff in different sites. But, for smaller organizations, or for organizations that operate a very large number of low-staffed sites or unstaffed sites, the option of locating IT staff at every remote site is simply not feasible.

This has long been a significant issue for entities like school districts, retail chains, municipal authorities, public transport operators, real estate offices, and the great variety of other organizations with more sites than IT staff.

Such organizations have employed a variety of methods to manage the networking equipment at their multiple remote sites:

■ **Co-opting non-specialist staff**

In many situations, a school's math or science teacher also acts as a part-time network administrator. The success of this method is very dependent on the individual teacher. Some will manage the network adequately, others will not. Whatever the case, the individual typically operates in a reactive mode, acting only when problems occur, rather than being proactive and preventing problems. The individual's primary job invariably takes precedence over the part-time network administration role, and the result is that they do just enough to keep the network running.

■ **Outsourcing to an IT maintenance company**

Contracting the network maintenance out to an IT company is one way to reliably ensure that qualified technical staff are available to work on multiple sites. However, this approach has drawbacks:

- » Cost is an issue. Data networking technical expertise is not cheap, even if it is only paid for as it is needed.
- » Contractors, unlike in-house staff, do not have a strong incentive to improve the network or pre-empt future problems. Maintenance tasks will often be treated as a series of one-off events, without a view to the future reliability of the network.
- » Utilizing contracted services adds an overhead of thorough specification of service requirements. Unless contracted tasks are clearly and fully specified, annoying and costly misunderstandings will occur. However, creating high quality task specifications is a difficult and time-consuming activity, especially for tasks where some onsite skilled judgement is involved.

■ **Sending central site IT staff to remote sites**

This approach removes the complications and drawbacks of using contractors to perform skilled network maintenance tasks. However, it is not necessarily a cost-effective option. Spending time travelling to multiple locations to perform maintenance tasks is not the best use of skilled network engineers' time.

While these approaches to managing remote networks each have a certain amount of merit, it is clear that none of them is ideal. Organizations with constrained resources, but with networks spread over multiple locations, need a better solution for managing those multiple remote networks.

The growth of data networks at unstaffed sites

The problem of remote LAN management is further compounded by the proliferation of data networks being installed in unstaffed locations.

The ubiquity of data networking is driving a growing trend for networking equipment to be installed in unstaffed locations to provide connectivity for purposes such as:

- remote control of equipment
- back hauling data collected by environmental sensing devices
- video surveillance
- controlling electronic signage
- information services at historic sites
- wireless hotspots
- information services at unstaffed railway stations
- communications with automated weather stations

The unstaffed nature of these locations means that there is not even a semi-skilled staff member present to call on for routine maintenance tasks. Moreover, such sites are often in quite inaccessible places, adding to the expense of getting skilled network engineers onsite.

Allied Telesis Autonomous Management Framework™ (AMF)

The growing number of data networks installed in unstaffed sites represents an increasing need for simpler and more efficient network management and maintenance methodologies.

Allied Telesis has decades of experience working with customers who have installed a diversity of networks, for a wide range of purposes, all around the world. Allied Telesis has a wealth of direct experience of the practical, logistical difficulties involved in establishing and operating data networks. In particular, we are acutely aware of the universal, and growing, difficulties that customers face in terms of getting the right expertise onsite at remote locations.

In response to the problems we have seen our customers grappling with, we have produced a powerful solution that changes the nature of network management and maintenance. This solution is called AMF.

AMF helps to solve the problem of remote site staffing, by embedding intelligence into the network itself, thereby automating a range of routine network maintenance tasks, and reducing the need for staff.

Enabling AMF in a network unlocks all of the following benefits:

- plug and play addition of new switches to a network
- plug and play replacement of failed switches
- simultaneous configuration of multiple switches
- automated roll out of software upgrades across a network
- automated backup of configuration and operating system images from all nodes in a network

AMF unites the whole management plane of the network, as though the network nodes are line cards in a distributed virtual chassis. Most importantly, AMF extends this management plane integration across a Wide Area Network (WAN), to provide an effective solution to the problem of network maintenance at locations with no IT staff.

By embedding the know-how into the network, it is no longer necessary to transport a skilled engineer to remote sites, or to expect an onsite non-specialist to gain network management skills. The tasks that must be carried out onsite are simple, such as plugging in power and cables. Then, the network takes care of integrating in new or replacement units.

For unstaffed sites, tradesmen or technicians visiting to carry out other repairs and maintenance can also replace or add data network equipment. The replacement of nodes, even at highly remote locations, is essentially just a matter of “slide the old one out, and then slide the new one in”. The network itself then takes care of integrating and configuring the new unit, just as a chassis automatically integrates a newly inserted blade.

Conclusion

Large organizations operating data networks over multiple sites face numerous issues with providing and funding adequately skilled IT staff to manage their remote sites. This is a significant issue for many organizations.

The Allied Telesis Autonomous Management Framework solution greatly reduces the time and cost of managing network infrastructure. Through a combination of robust features, AMF drives lower network operating expenses by reducing the complexity and level of effort required to maintain the network.

With AMF extending IT skills to every corner of the network, organizations can solve both the long-standing problem of cost-effective network maintenance at low-staffed sites, and the growing problem of network maintenance at unstaffed sites.

About Allied Telesis

For more than 30 years, Allied Telesis has been delivering reliable, intelligent connectivity for everything from enterprise organizations to complex, critical infrastructure projects around the globe.

In a world moving toward Smart Cities and the Internet of Things, networks must evolve rapidly to meet new challenges. Allied Telesis smart technologies, such as Allied Telesis Autonomous Management Framework™ (AMF) and Enterprise SDN, ensure that network evolution can keep pace, and deliver efficient and secure solutions for people, organizations, and “things”—both now and into the future.

Allied Telesis is recognized for innovating the way in which services and applications are delivered and managed, resulting in increased value and lower operating costs.

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