

I D C C U S T O M E R S P O T L I G H T

Thiess Improves Quality of Countrywide Communications with Blue Coat Systems

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Managing National Growth

Thiess is one of the largest construction and services companies in the Australian region. The growing enterprise, which specializes in building, civil engineering, mining, environmental services, utility services, and facilities operations, has annual revenue topping \$4.5 billion.

Like many multinational corporations, Thiess faces a myriad of IT challenges, particularly with networks and datacenter consolidation. The nature of Thiess' business requires IT flexibility and consistency, despite the fact that offices and project sites across a wide range of locations have communications infrastructures of different quality. This infrastructure inconsistency has dramatically affected quality of service for the company's networks. In many instances, regional service providers simply cannot supply the bandwidth necessary for Thiess' changing communications needs.

While the company uses multiplexing to manage existing bandwidth, it has been difficult to monitor communications and change bandwidth allocations as needs change or fluctuations in regional communications occur. And the challenges of providing consistent quality of service are growing as the company increases its dependence on bandwidth-intensive applications such as streaming video and videoconferencing.

In addition, while Thiess has standardized on major applications such as email and accounting, its networks must accommodate a wide variety of specialized applications because of the diversity of Thiess' services. The data required to support a mining operation, for example, differs from the information needed to support facilities management. Further, contracting jobs last from several months to several years, creating a need for a stable networking environment in which connections, applications, and data can be created or moved rapidly, sometimes from one country to another. In addition, as contracts end, data must be transferred to a central location for storage and analysis to make future jobs more efficient.

Solution Snapshot

Organization: Thiess, a leading contractor and services provider in Australia

Operational challenge: Improve WAN performance to consolidate applications and manage network performance across multiple infrastructures

Solution: Blue Coat Systems Application Delivery Network with Blue Coat PacketShaper and Blue Coat ProxySG MACH5 multiprotocol application accelerator technology

Project duration: Two-year pilot, with full implementation currently in progress

Benefit: Holistic application delivery with the ability to provide consistent levels of service for critical applications, such as VoIP, across multiple, disparate telecom infrastructures

Two years ago, Thiess embarked on a program to consolidate its systems and centralize data across multiple infrastructures in order to simplify management, security, and backup. But with vast amounts of data, bandwidth is a precious commodity, as is the consistency of communications quality. In addition, facilities range from major sites with 500 employees to satellite offices with only a handful of personnel, making it hard to standardize. During this program, in addition to many years of experience managing this challenging IT infrastructure, Thiess has learned that while speed is important, consistency of service is paramount.

A Distributed Approach to Consolidation

A major tool in Thiess' consolidation program is Blue Coat Systems' Application Delivery Network portfolio, which includes Blue Coat PacketShaper and Blue Coat ProxySG with MACH5 multiprotocol application acceleration technology. PacketShaper provides integrated data traffic visibility, control, and compression capabilities in a single appliance. Using PacketShaper, Thiess' IT department can identify all the applications on the network and monitor response times and utilization. In addition, IT can optimize performance by using granular quality-of-service (QoS) controls to regulate traffic and increase WAN capacity through application-specific compression techniques. The ProxySG MACH5 technology accelerates wide area file services (WAFS).

Thiess regularly faces a common challenge: purchase additional bandwidth from service providers or increase the efficiency of existing network resources on an ongoing basis. IT resources include a virtual datacenter divided into two physical sites to support global operations, with additional local resources managed at their respective offices. Connections between the two datacenters are almost exclusively "dark fiber," with Thiess providing its own multiplexing and 10 Gigabit Ethernet and Fibre Channel signaling. Applications range from enterprise software for company operations, voice, and videoconferencing to specialized applications. As a result, Thiess must manage multiple types of network traffic.

Thiess had been using PacketShaper for several years at select locations and, as a result, chose the Application Delivery solutions of PacketShaper and ProxySG for its consolidation program. The company now has deployed PacketShaper appliances at approximately 70 sites out of 200 across Australia. The technology enables Thiess to monitor network performance and traffic and quickly reallocate resources as needed. Thiess prioritizes this allocation based on the criticality of data, the number of people impacted, the need for remote access, and the length of the contract remaining.

An application delivery network with deep inspection of network traffic has made it possible to deliver converged network services. A router without an appliance such as PacketShaper would not be able to handle as many different protocols, making it more difficult to provide a consistent level of service. In addition, PacketShaper allows Thiess to change bandwidth allocations quickly, even on a shift-to-shift basis. As a result, different classes of data — from remote access information, to management data, to voice or videoconferencing — receive the proper bandwidth as needed.

Of critical value has been Blue Coat's role in Thiess' move to VoIP. "We wouldn't have been able to achieve the success we've had with VoIP solutions without the PacketShapers and ProxySGs in place," reports Richard Moran, Data Centre Manager, "because we'd have no good way of controlling the quality of the call without them." The company now has virtually all its offices communicating via VoIP, despite regional carriers' service inconsistency. A holistic application delivery network provides the foundation to offer global VoIP. PacketShaper automatically allocates bandwidth to the VoIP protocols because Thiess has made this a priority. The rapid reallocation is transparent to users, who just get consistent service.

Similarly, PacketShaper adds a level of security to the Thiess networks because the technology can specify what types of traffic can move across the networks. If certain protocols aren't necessary, they not only are deprioritized but also are not allowed on the network at all. PacketShaper can set

policies around unwanted applications or questionable Web sites and content, adding another layer of security. This layer is augmented by the specific security functions of ProxySG and the capability that Blue Coat Web Filter adds to the Application Delivery Network, such as guarding against malware and dynamic links to malicious content through cloud security.

Challenges

The biggest challenge to implementing an application delivery network has been the general acceptance of the new processes and priorities that come with any new technology. The diversity of Thiess' business means that there are competing application priorities. The IT organization had to work with stakeholders across the business to seek agreement on application priorities. "We learned from harsh experience that if you sneak in the dark of night, whip out the file servers, and shove in a new solution, you get bad results," says Moran. "New equipment is best implemented with full disclosure of the changes." The importance of good change management cannot be overstated. The company did go through a period, however, when any glitch in the network was automatically blamed on the "new" technology, regardless of whether it was justified.

And the setting of priorities was not easy. Because of the diversity of Thiess' contracts and locations, the company had to determine which protocols were necessary for everyone. Then, the company needed to determine secondary protocols, essentially setting up a hierarchical system of bandwidth allocation. As with any bandwidth allocation, to maintain consistent quality of service for priority applications such as VoIP, other application performance sometimes must suffer. Therefore, getting buy-in from management and users alike was critical to the success of this prioritization.

Benefits

The key benefit of the Blue Coat approach to application delivery is that Thiess can provide consistent quality for critical applications, such as VoIP and videoconferencing, despite regional infrastructure inconsistencies. This consistency of service is what ultimately gained buy-in from Thiess' range of IT specialists and users. Thiess is able to deploy security, visibility, and optimization all working together. For example, PacketShaper offers WAN visibility and intelligence to the IT department to determine policy as to which applications need to be accelerated or guarded against. Working in conjunction with PacketShaper, ProxySG is able to accelerate business applications and protocols between centralized and remote locations while providing Web gateway security.

Through these integrated functions, the company is now better able to provide communications, security, and applications to the far edges of its networks so that even very remote locations have similar quality of service. And for Thiess — with dozens of locations in remote areas around the Asia/Pacific region — quality and consistency of service for all offices are far more important than speed alone.

"Oftentimes it's a matter of having to make do with what you've got for bandwidth," Moran explains, "and the only way we can deal with that is by making sure that the traffic on the network is managed to the best of our ability to optimize it."

Thiess has minimized infrastructure cost increases, though actual cost savings are a moving target. "Our WAN costs have been minimized because we can get maximum utilization out of the link," says Moran, "and we don't have to massively oversubscribe the link to deal with worst-case scenarios. In fact, we're able to manage a worst-case scenario when it arises because we can achieve maximum utilization without degrading performance on the applications that we don't want to degrade."

Because of this consistency, Blue Coat application delivery technology also has made the switch to VoIP easier across the entire Thiess network. Even in regions where telecommunications and Internet connectivity vary in quality, the PacketShaper appliances can quickly reallocate bandwidth

used by applications with lower priority as needed. The result is consistent quality of service regardless of location.

As a result of the successful implementation of PacketShaper in the initial 70 sites and ProxySG servers in the network core as Internet proxies, Thiess is moving ahead with the consolidation program for all of its approximately 200 offices and project sites across Australia and Southeast Asia.

Methodology

The project and company information contained in this document was obtained from multiple sources, including information supplied by Thiess and Blue Coat Systems, questions posed by IDC directly to Thiess and Blue Coat employees, and Thiess and Blue Coat corporate documents.

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Global Headquarters: 5 Speen Street Framingham, MA 01701 USA P.508.872.8200 F.508.935.4015 www.idc.com