



Secure Resilient Networks

## VPN delivers connectivity and performance to civil engineers



BAM Nuttall, (formerly Edmund Nuttall) a leading UK civil engineering company, identified a requirement to replace its aging IP Clear network with a Virtual Private Network (VPN). The company wanted to move to a single supplier able to provide and manage leased lines, LES and DSL circuits. This supplier also needed to be able to adapt to their rapidly changing network environment and have experience in technology that would assist in the mobilisation of new construction projects.

A Wide Area Network (WAN) is vital to the smooth running of BAM Nuttall's complex and diverse operations. Their old system, which served the Camberley head office, other regional offices and a number of construction sites with 256Kbps links, was struggling to meet demand. With this in mind, BAM Nuttall identified the need for a fully managed WAN which could keep pace with their rapidly changing requirements for security, connectivity and data transfer.

Requirements were identified for:

- Additional network capacity to cope with the increased frequency and size of data exchange.
- Ability for new remote users and sites to access central resources via the network.
- Industry-standard encryption to provide additional security for data transmitted between remote locations.
- Improvement of cost/ performance ratio as costs of higher speed links were not proportional to 256K links.
- Outsourcing of network management to reduce costs and free up support staff time.

BAM Nuttall invited six suppliers to tender and selected CI to provide the services. "We needed a supplier to propose an innovative solution and to be able to demonstrate a proactive support and supply function," explains BAM Nuttall's ICT Manager Steve Shepherd.



**Without VPN a considerable amount of reconfiguration, installation of new fibre-based connections and additional testing would have been required - incurring extra cost, time and risk.**

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"We selected CI for this key project because their focus on delivering business solutions means they quickly understood our requirements and proposed a flexible solution which met all our needs," states Shepherd. "We agreed on a phased implementation and I have been really impressed by their approach and am pleased with the very limited disruption to our day to day operations," he adds.

## Resilient connectivity

The secure VPN solution provides increased bandwidth to each location. At the head office, which provides most Information Systems, connectivity is provided via a 100Mbps Ethernet circuit with 30Mbps of committed bandwidth and a 2Mbps SDSL backup. A minimum of 2Mbps is provided to all 16 regional offices with ADSL or ISDN providing resiliency in case of failure. At construction sites SDSL or ADSL connections are implemented. The fully meshed VPN design means that remote sites are capable of direct communication.

Security is maintained by segmenting each site from the Internet using a private addressing scheme and is further enhanced through a Stonegate firewall/VPN device which introduces government standard encryption for data transmitted between locations. By using Stonegate's active-active load balancing CI can provide seamless connectivity in the event of a circuit becoming unavailable. By co-locating a content filtering solution at CI's London-based site, bandwidth at the head office can be freed up for other requirements.

## Access from anywhere

CI's recommended global roaming solution, iPass, combined with IPSec VPN for static locations and SSL VPN security for flexible, remote access enable the workforce to exchange information, access email, or download files from the corporate network wherever they are.

Without VPN, this major change would have required a considerable amount of re-configuration, installation of new fibre-based connections and additional testing by BAM Nuttall staff - incurring significant cost, time

and risk. The decision to use CI to upgrade to the new VPN service was based on the need to reduce total cost of ownership, a desire for greater flexibility to support future expansion and a requirement to implement encryption for improved security.

"Our experience of delivering bespoke solutions, tailored for business has enabled us to design a WAN that fully meets BAM Nuttall's expectations. This moves CI up a division in the level of the 'fully managed service' we can offer to our customers," says Graham McLean, CI Managing Director. "We are now working with several other civil engineering companies that have comparable requirements for fast data transfer, high security and remote access."

"Provision of data telecommunication is now a simple process, which is in general handled by our Project Management Team as part of their site mobilisation work with little need for input from IT Services," says Shepherd. "A further example of CI's flexibility is their ability to offer us customised billing which means that we can easily pass the costs of these services directly on to specific sites or clients."

**Global roaming for business travellers, IPSec VPN for static locations and SSL VPN security for flexible, remote access enables the entire workforce to exchange information, access email, or download files from the corporate network wherever they are.**



**"We selected CI for this key project because their focus on delivering business solutions means they quickly understood our requirements and proposed a flexible solution which met, and in certain instances exceeded, all our needs."**

**Steve Shepherd, ICT Manager, BAM Nuttall**

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