

*Dynamic disruption
through applied innovation*

ESRI (UK) Case Study:

**Converged VPLS WAN delivers hosted
voice and data**

"The simple network design, made possible by the unique features of VPLS layer 2 networking, meant it was a simple plug-and-play process for adding in two further sites."



Exponential-e - the UK's thought leader in Ethernet-based WAN solutions



ESRI (UK) designs and develops market-leading Geographic Information System (GIS) technology. Organisations use GIS to analyse complex geographic situations, visualise problems and create plans and solutions. The parent company, ESRI, has 2,700 employees in the US, based across 10 regional US offices and users in more than 150 countries. The organisation has 80 international distributors of which ESRI (UK) is one.

The organisation's reputation is built on its technical knowledge, highly experienced people and valuable contribution to the collection, analysis and communication of geographic information. Geographic information exists in almost every business system as customer addresses, property assets, operational areas, administrative boundaries, road and delivery or access routes to name but a few examples.

ESRI's solutions meet a range of business needs in different markets including Business, Local and Central Government, Public Safety, Utilities, Telecommunications and Defence as well as working in partnership with system integrators and application developers.

WAN challenge faced

ESRI (UK)'s existing network was slow and not flexible enough to support the high bandwidth traffic and rigorous demands placed on the network by a business such as this. ESRI (UK) has five sites in the UK and they were communicating with each other over 2Mbps leased lines with VPN connections. The company's large, distributed software development team and programmers based at different sites were using the WAN for everything they used on the LAN – copying data files; running distributed applications; checking source code into a central server and looking up project information on a central SharePoint server.

These applications were becoming far too slow over the 2Mbps legacy infrastructure as well as very costly to maintain and operate. Not only that, but ESRI (UK) wanted to move away from the use of encrypted connections over the Public Internet due to the extra performance issues this creates.

Exponential-e - the UK's thought leader in Ethernet-based WAN solutions

The Solution

Exponential-e deployed a five-site Virtual Private LAN Service (VPLS) solution to overcome the problems being faced. The initial deployment provided ESRI (UK) with a 10Mb private dedicated WAN between their sites in Aylesbury; Newbury; Cambridge; Newcastle & Edinburgh. These five sites were pulled together into a single LAN-like WAN over a layer 2 bridged domain. ESRI (UK)'s services are switched across the WAN at layer 2, using MAC addresses, avoiding the need for complex router configuration in the core. VPLS is provided as a familiar Ethernet service layer over a robust MPLS backbone. The simple network design, made possible by the unique features of VPLS layer 2 networking, meant it was a simple plug-and-play process for adding in two further sites in Cardiff and Ledbury more recently.

Exponential-e furnishes the solution with its Ethernet Demarcation Device (EDD) as standard. This feature gives last mile visibility and transparency across the network. The devices which are installed as CPE also enable 24x7 pro-active management and RFC254 testing using the EDD's loopback feature.

Intelligent Quality of Service

Service-aware functionality is a critical feature of ESRI (UK)'s new wide area network. This functionality allows the network to be tuned so that each of the converged services running through it can be treated as distinct, each given their own performance characteristics. Each service (voice; video; critical GIS WAN traffic and email/internet) has been assigned its own bandwidth allocation; performance parameters and management and security policies as four different classes of service.

- The "Voice" class of service is engineered to provide a minimum of MOS 4 toll quality voice regardless of other traffic levels.
- Video is optimised to provide the optimum conditions for video conferencing and streaming.
- The critical data class of service ensures bandwidth is reserved for ESRI (UK)'s highest priority GIS traffic, however busy the network might be with other ESRI traffic.

Exponential-e - the UK's thought leader in Ethernet-based WAN solutions

- Finally a best effort class is supplied for less business critical traffic such as email and Internet. ESRI (UK)'s contract includes service level guarantees on the entirety of their WAN.

*"Not only are our GIS programmers now much happier with the response times of their applications but so are our Sales; Marketing and Admin teams. We have been able to use our SharePoint Server much more effectively and have been able to centralise all our email onto a central Exchange server". **Greg Wright;** Technical Services Manager; ESRI (UK) Ltd*

Exponential-e Ltd

Central House, 25 Camperdown Street, London E1 8DQ

Tel: +44 (0) 207 096 4100 **Fax:** +44 (0) 207 096 4101

Email: enquiries@exponential-e.com

www.exponential-e.com

