

Danish Service Provider WebPartner Chooses Cisco Virtual Private LAN Service to Interconnect Ethernet-based Enterprise Customers

EXECUTIVE SUMMARY

CUSTOMER NAME

- WebPartner

INDUSTRY

- Danish service provider to small and medium-sized businesses

BUSINESS CHALLENGE

- The service provider wanted to provide broadband services to businesses with multiple locations cost effectively and with minimal complexity

NETWORK SOLUTION

- Cisco VPLS lets WebPartner deploy and manage multipoint services to dispersed users over one virtual Ethernet LAN operating over a WAN
- Traditionally, Layer 2 services from service providers have been point-to-point. With new Layer 2 architectures like VPLS, the multipoint nature of the Ethernet LAN can be extended over a WAN

BUSINESS VALUE

- Cisco VPLS enabled WebPartner to deliver scalable broadband Ethernet services to existing and new customers at multiple locations over a common central infrastructure.
- WebPartner reduced costs and network complexity

Service provider WebPartner serves a customer base of small and medium-sized businesses throughout Denmark, Norway, and Sweden. Operating on an Ethernet access network, WebPartner in 2003 recognized that many other service providers had begun offering Multiprotocol Label Switching (MPLS) services to customers to operate various types of broadband services over a converged network with quality of service (QoS). The company considered a solution that could easily scale for customers with multiple locations and support growing bandwidth requirements without adding a lot of complexity or increasing costs. The solution was to deploy Cisco IP/MPLS in the network core and offer Cisco Virtual Private LAN (VPLS) services based on Ethernet.

AVOIDING UNNECESSARY COMPLEXITY

“We wanted to provide our customers with broadband connectivity between their offices that was as similar as possible to their existing LANs,” says Rasmus Helmich, CEO of WebPartner. “MPLS introduces the complexities of IP routing between the enterprise customer and the provider. A lot more configuration of IP addresses is necessary. For smaller customers with limited scalability issues, Cisco told us about VPLS, which is like having a virtual switch in the network cloud that emulates an Ethernet virtual private LAN.”

In December 2004, Cisco invited WebPartner and Cisco partner NetDesign to a proof-of-concept lab in Bedford Lakes, England, where VPLS was demonstrated. A VPLS prototype with different configurations was shown in operation.

HOW CISCO VPLS WORKS

With IP/MPLS running in the network core, VPLS supports the emulation of multipoint Layer 2 technologies, such as Ethernet, as VPNs across a service provider’s network to deliver multipoint Ethernet services to customer locations. In contrast to traditional Layer 2 VPN services such as Frame Relay and ATM, VPLS establishes VPN connections without requiring multiple site-to-site VPN mesh connections for each customer location. This simplifies the management of VPNs, reduces operational costs, and simplifies WebPartner’s ability to offer broadband Ethernet services to existing and new customers.

“We can now offer MPLS for customers who want it and VPLS for customers who want to maintain a Layer 2 infrastructure,” says Helmich. “VPLS is easy, understandable, and based on the Ethernet LAN technology that so many of our customers are comfortable with. With VPLS, they feel less dependent on their providers.”

VPLS relies on the use of pseudowires, which encapsulate Layer 2 protocol datagram units (PDUs), or cells, for transport across public switched networks. The VPLS architecture is an alternative to implementing high-bandwidth multipoint services across a WAN.

“We evaluated several technologies to support our service rollout, but decided that Cisco's approach to VPLS offered us a very scalable way to take advantage of our existing understanding of Cisco equipment and software to deliver new Layer 2 Ethernet-based VPN services to our customers.”

—Nicolaj Ottsen, Chief Technical Officer, WebPartner

VPLS AS A DIFFERENTIATOR

WebPartner deployed Cisco VPNS in Cisco IOS® Software Release 12.2S on three Cisco Catalyst® 6500 Series switches in the network core. The ability to offer multipoint-to-multipoint Layer 2 services with existing Ethernet gear at the edge allows WebPartner to differentiate itself from the incumbent provider in Denmark.

SBS Radio, a group of Danish radio stations, required a high-speed interconnect between stations to move MP3 files. Instead of buying expensive point-to-point lines, requiring provisioning and maintenance, SBS chose VPLS from WebPartner. The service has given SBS Radio the flexibility of multipoint-to-multipoint VPNs.

“They can run their network to all of the stations as if it is one LAN with Gigabit speeds,” says Helmich, “making it much more cost-effective and easier to manage.”

Helmich acknowledges that Layer 2 Ethernet services do not scale well beyond 15 locations and that IP/MPLS may be a better choice for larger implementations, but WebPartner's customers typically have fewer than 10 offices. Additionally, VPLS is a relatively new technology, and vendors maintain varying standards, but Cisco has committed to supporting this technology through standards organizations. Cisco expects VPLS to be an industry standard soon.

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