

Customer Success Story

Telewest Broadband

Executive Summary

Customer Name
Telewest Broadband

Industry
Telecommunications

Business Challenge

- Launch new national TV-on-demand service, 'Teleport'
- Reduce distribution network management requirements and reduce costs
- Position network for future delivery of feature-rich business data and consumer video and voice services

Network Solution

- Cisco 7609 routers with I-Flex design and FlexWAN support

Business Value

- Converged six network projects onto one network
- Reduced the anticipated converged network (broadband, video on demand, and business networks) upgrade plan from four years to less than 12 months
- Saved significantly on capital and operational expenditures

Telewest consolidated a range of data, voice, TV, and video services over a single network – quickly, cost-effectively, and with tremendous scalability. It chose the Cisco 7609 routing platform.



Business Challenge

Telewest is one of the largest broadband communications and media groups in the United Kingdom, providing multichannel television, telephone, and Internet services to 1.8 million residential customers in England and Scotland. While Telewest Business supplies broadband services to consumer, business, and public-sector markets, its content division, Flextech, is the BBC’s partner in UKTV. Together they are the largest supplier of basic channels to the UK pay-TV market with a portfolio that combines wholly owned and managed channels, including ten joint venture channels with the BBC.

One of the company’s strategic goals was to launch Teleport, a TV-on-demand (TVoD) service for customers by 2006, which would also include on-demand programming from the BBC and other television content providers. Traditionally, voice, video, business data services, and broadband Internet access services have been delivered over separate networks. The new TV-on-demand services would normally have required Telewest to build a dedicated transport network. However, as demand for IP-based services and broadband subscription rates are growing rapidly, Telewest undertook a reevaluation of its network in light of delivering future capabilities.

“Our TV-on-demand service Teleport is bandwidth intensive and required a significant upgrade to our network distribution and edge layers,” explained Joe Foster, director of network engineering and technical strategy for Telewest. “In planning for this service, we realized that by consolidating various networks over a single platform and upgrading our network edge – we could deliver the Teleport service and several other important projects more cost-effectively than if we had built a dedicated TVoD network.”

Specifically, Telewest wanted to enable public telephone network users and existing data customers to migrate easily to the new IP-based services, while enjoying the same reliable service levels they were accustomed to. Business customers wanted higher-bandwidth Ethernet and IP virtual private network (VPN) services with quality of service (QoS) functionality. The company also wanted to assure future scalability and simplify network management by unifying its infrastructure on a single edge routing platform. As a result, the Telewest Edge Upgrade Programme was established, with the ultimate goal of supporting Telewest’s business data, TV, Internet, and communications services on a common next-generation network backbone.

After evaluating its alternatives, Telewest chose the Cisco® 7600 Series routers with integrated dense wavelength-division multiplexing (DWDM) optics, to provide a highly resilient dual 10-Gbps capacity edge network.

“Cisco was able to fulfill all the complex requirements of each area of our business with one design,” explained Foster. “The benefits of moving to an IP next-generation network are obvious, but there are also risks to consider. Working with Cisco helps us to make a smooth and fast transition so that we can continue to make market-leading service innovations and fully exploit new opportunities in the broadband market.”

Network Solution

Telewest’s 3000 kilometer, fully SDH core network offers capacity ranging from OC-48 to OC-192 and carries traditional digital broadband cable television channels, voice, and business data services.

The company’s new IP distribution network is Multiprotocol Label Switching (MPLS)-enabled and based on the Cisco 7609 Series Router. The Cisco 7609 is the industry’s first router to offer integrated, high-density Ethernet switching, carrier-class IP over MPLS routing, and 10-Gbps interfaces for service provider and enterprise deployments. It incorporates the new Cisco I-Flex design, which offers a portfolio of shared port adapters (SPAs) and SPA interface processors that prioritize voice, video, and data services for intelligent, flexible, and secure networking. Cisco FlexWAN support enables Telewest to support existing Cisco 7500 Series port adapters, enabling a smooth migration for the existing WAN. Telewest is deploying two Cisco 7609 routers in each of 13 regional headend locations, and one system at each of 55 smaller points of presence (PoPs).

With dual Cisco Catalyst® Sup7203BXL cards in each Cisco 7609 Router, Telewest can support MPLS L2 and L3 VPNs natively on all Gigabit Ethernet line cards. At the same time, the cards are configured for stateful switchover – assuring high resiliency with two- to three-second switchover if necessary. To maximize routing performance, Telewest also deployed Cisco Catalyst distributed forwarding cards (DFCs) on line cards in each of its Cisco 7609 chassis. Modules that are DFC-enabled make forwarding decisions locally to accelerate any IPv6, MPLS, QoS, and security capabilities that are being deployed.

Regional headend Cisco 7609 routers are linked to smaller PoPs using dual 10-gigabit links. The 55 small PoPs around the UK carry subscribers’ services from the regional headend to the local cable termination point, or street-side box, for a group of approximately 500 homes.

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– Joe Foster, director of network engineering and technical strategy, Telewest

Business Value

The new Cisco solution provides the substantial broadband capacity required for the national rollout of Telewest’s Teleport service with ample additional bandwidth to support the growth of broadband services. Video content arrives in each regional headend location from a central ingress staging server, where quality assurance (QA) and other administrative activities are performed. Next, content is distributed over the core



IP network and stored on video servers. Subscribers choose the video program they want to watch and that video stream is sent between the regional headend and the hub site over the Telewest 10-Gbps edge network. It is then routed onto the cable HFC network for distribution to consumers’ set-top boxes.

“The Cisco 7609 routing platform allowed us to converge Layer 2 and Layer 3 switching, voice, video, and data services over one network and standardize service and interface termination on one common edge point,” says Matt Ryan, IP Network Architect for Telewest. “As a result, we reduced six scheduled projects to one and reduced a four-year upgrade plan to less than 12 months. It significantly reduced our capital expenditures on multiple equipment platforms as well as our operational costs.”

The new distribution network also enabled Telewest to extend high-bandwidth Ethernet and IP VPN services to more business customers by doubling the number of business hub sites in the network from 30 to 62. At the same time, businesses will have an average of 10 Gbps of capacity per uplink – even while the Teleport system is running. Dual configurations also afford the high resilience necessary to support voice and video-based services. With the Cisco 7609 routers, Telewest can assign more users to each port or local hub – delivering high-quality services while reducing its cost per port.

Next Steps

Now that the Teleport service has successfully launched, Telewest has additional plans for the new network. The Cisco Optical Switch Module, which is deployed in the Cisco 7609 Series routers, will enable Telewest to implement rich features like virtual private line services (VPLS) and hierarchical QoS to offer business customers a choice of premium services. Telewest will eventually implement QoS capabilities, which will help the company prioritize business traffic over the Internet.



For More Information

To learn more about Cisco routing solutions, visit: <http://www.cisco.com/go/routing>.

To learn more about Telewest Broadband, visit: <http://www.telewest.co.uk>.

This customer story is based on information provided by Telewest Broadband and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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