

Abercrombie & Fitch Improves Retail Operations with Cisco Routers

Executive Summary	
Customer Name	Abercrombie & Fitch
Industry	Retail
Business Challenge	<ul style="list-style-type: none"> • Deploy broadband connectivity to 804 stores across the U.S. to improve application performance • Minimize connectivity costs • Build a foundation for delivering future capabilities to stores
Network Solution	<ul style="list-style-type: none"> • Cisco routing solutions, including the Cisco 1841 and 2811 integrated services routers, and Cisco 7200 Series routers • Cisco switching solutions, including the Cisco Catalyst 2950 switches and 6500 Series switches • Cisco IP Communications solution, including Cisco CallManager Express and Cisco IP phones
Business Value	<ul style="list-style-type: none"> • Established broadband connectivity for 804 store locations while taking advantage of existing investment in Cisco networking equipment • Improved application performance through Cisco quality-of-service features and offloading Web-based applications to broadband secure virtual private networks • Established platform for adding wireless connectivity in the future

Continuing to provide a distinctive shopping experience while gaining closer control over a far-flung network of retail stores required Abercrombie & Fitch to upgrade its branch location routing solution. Using the Cisco Integrated Services Router as its platform, the company cost-effectively improved performance of existing applications and created a foundation for continued innovation.

Business Challenge

A retail company’s stores represent its primary marketing vehicle, customer service “face,” and revenue engine. Perhaps nowhere is this truer than in the fashion industry, where a company’s brand encompasses not only the merchandise sold, but also its store staff, interior design, merchandising, and even its soundtrack. Each element contributes to a unique shopping experience.


Headquartered in New Albany, Ohio, Abercrombie & Fitch Co. (A&F) is a leading specialty retailer that understands what its customers want in a shopping experience. The company supports four concept brands, each with its own stores: the flagship

Abercrombie & Fitch brand, targeted to 18-to-24-year olds, is sold through 355 retail stores; 163 “abercrombie” stores sell merchandise geared to children aged eight to 14;

281 Hollister stores offer merchandise for high-school students; and five RUEHL stores, designed to appeal to consumers aged 22 to 35. At the end of the company’s second quarter in 2005, A&F had a total of 804 stores in operation with more new stores expected to be added in each coming year.



In 2003, the company built a Frame Relay WAN that connected each store to the home office over a 56 Kbps link and a Cisco® 1760 Modular Access Router. The network was used to obtain credit authorizations and carry store polling data – transaction data generated by the store’s point-of-sale system that is regularly delivered to the company’s main database. A Cisco Catalyst® 2950 Series Switch also connected to the



Cisco 1760 Router in each store to provide LAN functionality. Each store also relied on standard key telephone systems. Using Cisco voice-over-IP (VoIP) features available on the Cisco 1760 Router, two lines were dedicated to the key system, which enabled employees to dial the home office using four-digit dial over the Frame Relay network. Stores opened since 2003 have used Cisco CallManager Express and Cisco 7960 IP phones on the Cisco 1760 routers.

The company has experienced rapid growth in income and shareholder value. To keep pace with this growth, A&F has taken steps to increase control over store operations and enhance customers' shopping experiences. To support this goal, in 2004 A&F began distributing Web-based applications to stores. One application enables prospective employees to apply for a job with Abercrombie & Fitch at a kiosk within the store. "In-Store" is another, server-based application designed to deliver and solicit operations data from store managers. The interactive applications with graphic-intensive interfaces consumed WAN bandwidth and, as a result, slowed response times for credit authorizations and voice traffic.

Because it planned to deploy more Web-based content, A&F began looking for a broadband access solution for its stores. The company turned to Cisco Systems®.

With Cisco equipment already in its network, the A&F IT team advised deploying a Cisco solution, rather than that of another vendor, to ensure easy integration. The team chose Cisco 1841 integrated services routers and then began upgrading the connections at all of the company's stores.

Network Solution


The Cisco 1841 Integrated Services Router is optimized for high-speed delivery of secure data-access applications. It delivers five times the performance of older Cisco branch office solutions and enables secure concurrent services – such as voice, data, and security.

With more than 800 stores across the United States, the IT team had to work through local carriers and service providers to deliver DSL, cable, or subrate T1 connectivity to all stores. With cost as the primary consideration, the company chose to implement DSL links; if DSL was not available, cable was deployed, and if all else failed, a direct subrate T1 connection would be leased from a local carrier. The Cisco Integrated Services Router's wide range of connectivity options, including the new high-speed WAN interface card (HWIC), enables Abercrombie & Fitch to terminate its variety of broadband access links directly on the router. Each DSL or cable connection terminates on the carrier-provided modem, which connects directly to the Cisco 1841 Integrated Services Router, while subrate T1 connections terminate directly on the Cisco 1841 Integrated Services Router's HWIC. Virtual private network (VPN) tunnels are established over the broadband access links from each store to the home office.

In addition, the company wants to ensure that its network is protected from unauthorized access, as well as from viruses that could potentially breach the gap between the store core network and a separate headquarters network. In addition to a range of other security measures, Abercrombie & Fitch takes advantage of the Cisco 1841 Integrated Services Router's powerful security features, including on-board encryption features.

High-bandwidth applications are routed over the broadband VPN network and the Cisco 1841 integrated services routers, while the voice and point-of-sale applications are routed through the Cisco 1760 routers and the Frame Relay network. To prioritize voice and credit authorization applications, the IT team has implemented traffic-shaping and traffic-prioritization quality-of-service (QoS) features over the Frame Relay network. The company also retained its Cisco Catalyst 2950 switches for each store's LAN. The Cisco Catalyst 2950 switches provide Fast Ethernet and Gigabit Ethernet connectivity and a range of data, voice, and video services at the network edge.

New stores use Cisco 2811 integrated services routers, Cisco 1841 routers, and Cisco Catalyst 2950 switches. In addition to delivering high performance and supporting voice and data traffic concurrently, the Cisco 2811 routers offer built-in Power over Ethernet (PoE) capabilities that will power Cisco IP phones in the stores and, eventually, wireless access points.



All broadband VPN links terminate at the company's disaster recovery site on eight Cisco 7200 Series routers running IP Security (IPSec) VPN hardware acceleration modules. Designed for high availability, the Cisco 7200 Series Router implementation is comprised of multiple, redundant Cisco 7200 Series chassis. The Cisco 7200 Series routers combine exceptional performance for secure VPN services with a wide range of connectivity options and high-performance modular processors. Using the Cisco 7200, Abercrombie & Fitch can scale its store network and simultaneously address a wide range of density, performance, and service requirements while ensuring investment protection for future network needs.

The Frame Relay circuits that carry all credit authorization and voice traffic terminate over four DS-3 connections and multiple, redundant Cisco 7500 Series routers at the company's New Albany headquarters. Today, two encrypted VPN tunnels run from each store through the Cisco 1841 routers over a broadband link to redundant Cisco 7200 Series routers at the disaster recovery location. Two permanent virtual circuits (PVCs) run from the Cisco 1760 routers over the Frame Relay network to redundant Cisco 7500 Series routers at the company headquarters. Should the store core network go down, or should the headquarters facility lose power, servers at the disaster recovery site will pick up the load and Enhanced Interior Gateway Routing Protocol (EIGRP) – a dynamic routing protocol implemented on the network routers – will reroute traffic over the other network.

Cisco Catalyst 6500 Series firewall services modules running in a Cisco Catalyst 6500 Series Switch are deployed in the disaster recovery and headquarters locations to provide firewall protection behind the Cisco 7200 Series routers. This module allows any port on the Cisco Catalyst 6500 switch to operate as a firewall port, thereby integrating stateful firewall security inside the network infrastructure.

In 350 stores that are new or renovated since 2003, and in all new stores going forward, A&F will use Cisco CallManager Express (CME), a solution embedded in Cisco IOS® Software that provides call processing for Cisco IP and Cisco IP 7900 Series phones. This solution enables the company to deploy a cost-effective, highly reliable IP Communications solution while keeping the phone system easy to administer, maintain, and use.

The IT team also relies on CiscoWorks LAN Management Solution (LMS) as a monitoring and change management tool. While network systems are configured manually, CiscoWorks LMS enables the IT team to easily distribute configuration changes across the network.

Business Value

The new Cisco Integrated Services Router-based solution provides Abercrombie & Fitch with numerous benefits, including cost-efficiency, improved application performance, and the ability to add new capabilities in the future.

The ability to run voice over the network reduced the company's long-distance charges to one tenth of what it previously paid. In addition, application performance has dramatically improved. For example, wait times for credit card authorizations have been dramatically reduced, improving customer satisfaction. Cost-effective broadband connections have enabled A&F to expand application deployment and further enhance its control over operations at all stores. Currently, the network supports point-of-sale systems, voice, credit authorization, and trickle polling – an application that downloads every cash register's data to the headquarters database every 15 minutes.

In many stores, the network also supports the heating, ventilation, and air-conditioning (HVAC) control application so that changes to lighting or temperatures can be implemented. The security panels in many stores are connected to the network, allowing security controls and alerts to be monitored over the network. Using the network, A&F and its music partners also have the ability to download MP3 files for new music play lists in stores.

With the Cisco integrated services routers, Abercrombie & Fitch now has access to low-cost, high-bandwidth broadband solutions and a protected network path to the home office – as well as the ability to add new functionality in the future, such as wireless.

Next Steps

By the end of 2005, the company's IT team expects to extend broadband to an additional 50 stores. The team is also evaluating the Cisco Security Monitoring, Analysis, and Response System (MARS) to manage logs from Cisco intrusion detection modules and to perform mitigation.

Additional Web-based applications, such as employee training applications, in-store security cameras, or digital video recorders, are being considered, as well as a wireless solution. These efforts further advance A&F's goal to continuously enhance the shopper's experience and improve operations.

For More Information

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

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

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

To learn more about Abercrombie & Fitch, visit: <http://www.bercrombie.com>.

This customer story is based on information provided by Abercrombie & Fitch 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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