Customer Profile

Cisco Helps Wienstrom Make Broadband the New Utility Service in Vienna

Wienstrom—the largest utility company in Austria—has expanded its business from being the country's largest electricity supplier to becoming the country's premier consumer broadband Internet service provider—and it is relying on Cisco® technology to help make the transition.

Background

Established in 1902, Wienstrom is the largest utility company in Austria. It supplies electrical power to some 2 million people living in and around Vienna. Each year, Wienstrom produces more than 10 billion kilowatts of electrical energy, and it has annual revenue of more than $640 million Euro. The company, which is owned by the City of Vienna, employs approximately 3500 people, who serve some 1.2 million homes and 200,000 businesses.

In 1983, Wienstrom took the first steps toward expansion into the telecommunications market. In order to control its electricity distribution network, the company began by building a telecommunications network based on fiber-optic technology. Fiber was required, as the 10,000-volt electrical network would have produced interference on standard copper cabling.

This high-quality network was soon used to provide an intranet for the administration of the City of Vienna. It was then used to connect all 450 Viennese city schools to provide them with Internet access, as well as to give teachers an intranet that would allow them to carry out their administrative tasks.

By 2000, the network had grown to more than 1000 km of fiber-optic cables—connecting all municipal and governmental institutions and schools and passing through many residential areas.

The company also had between 2000 and 3000 km of empty ducts and approximately 50,000 km of "rights of way" under public streets—which provided the ideal opportunity to extend fiber directly to residential customers.

A Market Opportunity

Cities such as Stockholm and Milan were already using fiber networks to connect residences to the Internet, and Wienstrom was keen to reap the same financial benefits in Vienna. The company completed a business plan in December 2001 to provide Internet access to residential consumers.

In June 2002, Wienstrom unveiled blizznet, a pilot program aimed at bringing high-speed Internet access to as many as 5000 homes in Vienna. Projections for the program indicated the business case would be positive in about four years—because most of the initial investment in infrastructure had already been made.

"We have a very dense network," explains Wolfgang Zidek, project manager for blizznet at Wienstrom. "We only need to link the existing network with the dwellings to be connected."

"We thought the network was ready to be used more widely by more customers," says Monika Wührer, head of blizznet marketing at Wienstrom. "We saw an opportunity to expand to the residential market, initially to provide Internet access."

Wienstrom was in an ideal position to capitalize on this market potential. Vienna boasts one of the highest concentrations of consumer Internet access, personal computers, and cable television subscribers in Europe. Persuading customers to switch to "real broadband access" proved relatively easy.

Challenge

In order to effect the expansion, Wienstrom needed Ethernet equipment that could support a range of possible services, including data, voice, and video. The company wanted to create an infrastructure capable of supporting an initial customer load of 2000 for the pilot program, but wanted to be able to easily scale the network to create a permanent solution.

It also needed to support multicast so that single broadcasts of radio and television could be sent to the access routers for distribution to multiple customers. This would allow the entire network to be scalable by minimizing the use of capacity in the core and distribution networks.

Wienstrom's challenge required a reliable solution to roll out its blizznet pilot program and it chose Cisco as its vendor to help ensure the project's success. "We were confident that Cisco equipment was the right choice, because the company has the right vision for broadband network services," explains Zidek. "Cisco is the clear leader and has more successful customers than any other vendor. Also, we had many years' positive experience, since we were already using Cisco equipment for most of our network components. We therefore had all the necessary experience and training."

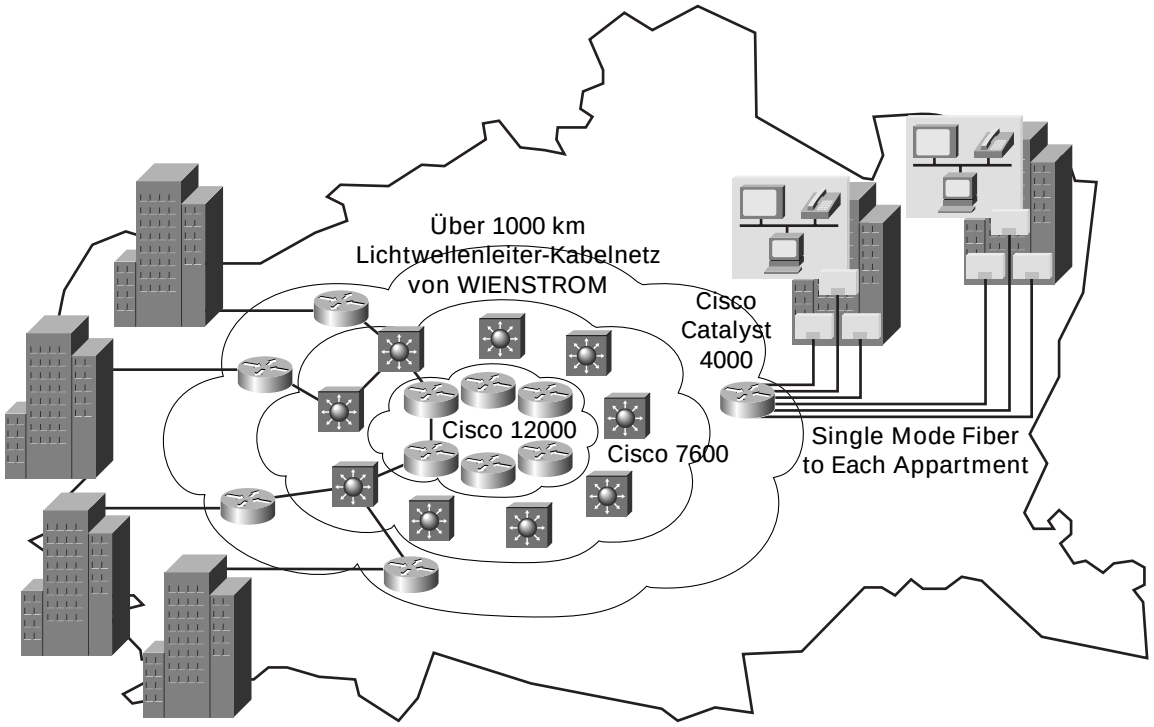
Another important factor in Wienstrom's decision to implement Cisco technology was the ability Cisco had to provide all the necessary equipment, from core nodes to the smaller access nodes. "We were aware that all the other major metro Ethernet networks used only Cisco equipment, so we didn't want to risk being the first to integrate two different vendor's equipment," says Zidek. "Another major factor was the experience Cisco has with other big customers, such as B2 in Sweden and FastWeb in Milan."

In June 2002, Wienstrom offered a contract for supplying the Cisco equipment and installing the network expansion to a consortium that consisted of VA Tech—a Vienna-based global technology and service company, Cap Gemini Ernst & Young, and Getronics, the systems integrator.

"This combination would give us the service we need, both now and in the future," explains Zidek. "It would also meet our network requirements with scalable, proven technology that is capable of delivering multiple services. Cisco has the reputation and experience to successfully deliver solutions. It is the market leader and no other vendor delivers the thought leadership or has more success stories in metro Ethernet solutions."

As a Cisco Gold Certified Partner, Getronics supplied and integrated Cisco network equipment and software from its metro Ethernet switching solutions portfolio. This consisted of Cisco Catalyst® 4000 Series switches in the access layer to serve individual apartment blocks. The portfolio also included Cisco 12000 Series routers to provide an IP backbone based on Multiprotocol Label Switching (MPLS) for the core network and Cisco 7600 Series routers in the aggregation layer of the metro network. Figure one shows Wienstrom's metro Ethernet switching solution.

Figure 1
Wienstrom's Metro Ethernet Switching Solution



A third-party media converter would be used in each home. Cap Gemini Ernst & Young provided and installed network management in the metro network and VA Tech provided project management and implementation services.

Results

The pilot phase was restricted to two districts in Vienna. Although it was marketed to existing residences, the opportunity was taken to lay fiber throughout two apartment blocks that were under construction at that time. Digging the 'first-mile' connections to individual buildings started in August 2002, and it took just three months to install the Cisco equipment. VA Tech was supported, not just by Cisco staff in Austria, but also by Cisco staff in Europe and in the United States.

"The technical implementation by VA Tech went very well," says Zidek. "The main problems we encountered were dealing with administrative matters and getting contracts with house owners."

Today, Wienstrom is offering customers a choice between three different high-speed products, all based on a 10-Mbps connection, with e-mail and Web hosting capabilities. Pricing was designed to be competitive with local broadband services from Telecom Austria and cable companies, while offering customers much more bandwidth.

In addition, the company has a gateway to ORF, the Austrian broadcaster, which enables it to stream the two local television channels and four radio channels to its customers. By using multicast, this can easily be expanded in the future to provide other channels.

“Electricity is still our main business, but the importance of our telecommunications revenue stream is growing,” says Wienstrom’s Chief Technology Officer Reinhard Brehmer. “The experience and proven technology Cisco has provided has been a major advantage. The blizznet network has laid the foundations for expansion of a range of exciting new broadband services to all Viennese consumers.”

“The pilot is going well,” reports Wührer. “The market opportunity clearly exists and the initial penetration of buildings is very high. Although people don’t know blizznet, the Wienstrom name is very strong and people trust it. Customers say that it is great to have speed, especially when it allows them to watch videos, listen to music, or play games.”

The Cisco Advantage

“It is a major advantage that all network equipment is from Cisco,” says Zidek. “The products just fit together because they were designed to work with each other. There is no other network of this size using components from different suppliers, so we are much safer relying on Cisco. It leads to a more reliable network and increased quality of service, which will be critical when we scale up to a full service.”

The network equipment was originally purchased to provide an initial data service with limited video and voice broadcasting, but it will be able to support several new services in the future. “The Cisco equipment provides us with a platform on which we can very easily extend our service offerings,” says Zidek. “The multicast capability is essential to offering streamed voice and video broadcasts. Because it is scalable, we won’t have to change the equipment as we grow beyond the pilot, only add new routers as we sign up more customers. It is also secure, with firewalls for the network management system and redundancy built in.”

Although Wienstrom mainly works with VA Tech, it is aware of the high level of support it receives from Cisco. To ensure Wienstrom’s success, Cisco has copied Wienstrom’s network configuration at its California headquarters to test and support the future delivery of additional service offerings and planned extension of coverage in Vienna.

“They have tested our equipment on the exact same network so when we implement new services, support will be very good,” says Zidek. “It is a long-term relationship and we are pleased to have Cisco, a financially strong company, providing the foundation of our new services.”

Wührer believes that the new network is definitely giving Wienstrom an advantage over its competitors. “There is no other real broadband service in Vienna,” she says. “The incumbent telecom operator is offering video on demand, time-shift television, and videoconferencing via ADSL. However, it is more like a slide show, without people moving smoothly, on a small screen. We will be able to offer the same services with excellent quality.”

The Future

Wienstrom’s main operational target is to reach 50,000 homes passed by mid-2004. The data collected during the trial will allow it to plan the timing of a full expansion beyond this target. The company will both increase the services offered and extend coverage to the whole of the Vienna region.

The results of the trial and the complete development plan will be presented to the management of Wiener Stadtwerke and Vienna Energy, along with agreed proposals for financing and an appropriate corporate structure. The end-to-end Cisco network will support the delivery of multiple services, so it will also include proposals for the provision of future services, such as video on demand and voice over IP. Wienstrom will continue to expand its service offering over time in order to maximize its profit by taking into account the local competitive landscape. “The market

is ready for 'real' broadband," says Wührer. "Our customers are surfing, downloading, and gaming. We get a lot of e-mails and telephone calls from people outside the pilot area asking for a connection earlier than planned."

She believes that all utility companies should be doing the same thing. There are not many large broadband projects in Europe and a lot of utilities are approaching Wienstrom for advice and consultancy.

"Our main strengths are having 1.2 million residential customers, an existing fiber-optic network, and the ability to extend it at low cost," she says. "We also have six years' experience in providing external telecommunication services through large networks. However, the unrivalled experience of Cisco in the metro Ethernet model in other major broadband networks, such as Milan and Stockholm, together with its innovative multicast, has been very important in making it happen."

For more information about the Cisco Metro Ethernet Switching Solution visit:

http://www.cisco.com/en/US/netsol/ns110/ns221/ns223/ns227/networking_solutions_package.html

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