CASE STUDY

Cervinia, Italy

A fast-growing communications service provider successfully extends its business into new geography by installing a world-class network that delivers broadband service for VoIP, email and web browsing to a remote ski area.

A Great Business Opportunity: Offering Broadband to a Remote Ski Resort Community

The town of Cervinia, in Valtourneche valley, is a high-altitude ski resort with fabulous long runs and virtually guaranteed snow conditions throughout the winter. Cervinia lies at the foot of the Matterhorn, at the base of the Alps, and is a favorite place for hundreds of thousands of tourists coming from all around the world.

Unfortunately, being a high altitude ski paradise also means that broadband access to the Internet is not commonly available. Wireless Internet Service Provider FastAlp decided to change that by making broadband service available for Cervinia hosts and residents. The availability of broadband communications would not only allow residents to be connected to the world, it would allow businesses in the skiing community to increase their efficiency and their profits in new ways, like easily marketing their services on the Internet. It would also allow tourists visiting the area to more easily stay in touch while on holiday.

To support broadband communications, FastAlp faced a serious challenge: taking the broadband connection from the nearest fiber-enabled point across the Alps and up to the town of Cervinia. This meant that FastAlp had to extend a very long link across a highly varied terrain that experienced difficult and wide-ranging weather conditions.

The Motorola MOTOwi4™ Difference

After evaluating several broadband wireless options, the customer chose Motorola's wi4 Fixed wireless broadband solutions because of their superior technical performance, including the ability to intelligently and dynamically reduce potential interference and fading – which is highly critical when supporting such long connections across such varied terrain.

The customer installed the Motorola Point-to-Point (PTP) 54400 Wireless Ethernet Bridge and the point-to-multipoint (PMP) fixed wireless Canopy access network equipment. Using the broadband wireless system, FastAlp was able to extend communications from the nearest fiber point and cover the entire town of Cervinia using only a single link between the tower located at the mountain's summit and a second tower located nearly 35 kilometers away and at an altitude 2,000 meters lower.

"The Motorola fixed point-to-point solution allowed us to easily establish a reliable link over 35 kilometers, featuring an aggregate throughput of 14.8 Mbps – more than enough bandwidth to feed a consistent number of hotels and facilities. In addition, the radio units had to be installed at an altitude of

FASTALP'S WIRELESS BROADBAND SERVICE AT-A-GLANCE

Network Operator:
FastAlp

Network User:
Cervinia ski resort

Project Location:
Valtourneche, Aosta Valley, Italy

Customers:
Business and Residential

Applications:
VoIP, Email, Web Browsing

Web site:
www.fastalp.it

3,500 meters where the temperature may drop below -30°C and lightning hazard is very serious," says Pierpaolo Valzolgher from FastAlp. "Also, the technical support that we received from our distributor BPG Radiocomunicazioni in planning and designing the radio link was excellent."

The actual equipment installation took only one day, largely due to the fact that FastAlp technicians relied on Motorola's Link Estimator tool to determine the network capacity, throughput and overall viability of the point-to-point links prior to deployment, thus significantly shortening the time needed for deployment.

"The Link Estimator automated software tool is very easy to use: in a few minutes it offers a reliable picture of how a link would perform and how it could be improved choosing different antennas, site heights and other factors," says Pierpaolo Valzolgher from FastAlp. "The Link Estimator accuracy proved to be very high and made our deployment work correctly the first time."

Final Results

Internet broadband access is now considered an indispensable element of the Cervinia tourist system, which is composed of more than 50 hotels. Not only can these hotels now offer their guests the same comforts available in their homes and offices, they can also expand their own use of the Internet to run their businesses more efficiently. The bottom line is that MOTOwi4 technology enables tourists and residents to receive Internet connectivity and VoIP telephony at a price that is competitive with the most advanced wireline solutions.

Future development plans include the construction of public hotspots using wi4 Mesh technology. FastAlp will also provide coverage to other towns in Valtourneche valley and offer VoIP telephony services.

"The MOTOwi4 portfolio dramatically improved our business. As we satisfy customers, our sales continue to grow. Motorola wireless broadband products have made our business a success," says Valzolgher.

Motorola's MOTOwi4 Solutions

Motorola's wi4 Fixed portfolio delivers connectivity to help our customers extend their reach to virtually any environment. With its unique combination of advanced technology, superior performance, flexibility, ease of installation and cost effectiveness, wi4 Fixed solutions connect people to the Internet and applications, increase the productivity of enterprise workforce teams in more places, strengthen communities by connecting more residents, businesses and public services and increase efficiencies of public service agencies wherever they may be. The wi4 Fixed portfolio, part of the MOTOwi4 family of solutions and services, is supported by Motorola's foundation of unique technology expertise and heritage in wireless mobility, innovation and value.

Connecting the Alps: Minimizing Interference and Fading with Motorola's Point-to-Point Wireless Ethernet Bridges

Making a wireless link work well is particularly challenging in environments like the Alps, where air pressure is varying due to altitude and so are weather conditions. Wireless signals can even be affected by the amount of sunlight being reflected off of the snow.

But these varying conditions represent no difficulties for Motorola's PTP 54400 Wireless Ethernet Bridge which employs a number of superior interference-reducing techniques. First, it relies on Multiple-Input Multiple-Output (MIMO) technology, which is a method of transmitting multiple data beams on multiple transmitters to multiple receivers. This increases the odds of the receivers actually capturing the data because if any one path is faded, there is a high probability that the other paths are not, so the signal still gets through.

Motorola's PTP solutions also employ adaptive modulation to ensure maximum throughput that is optimized for the radio path even as path characteristics change. And it employs intelligent Dynamic Frequency Selection, which automatically changes channels to avoid interference and combat link fading without user intervention.

MOTOROLA

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