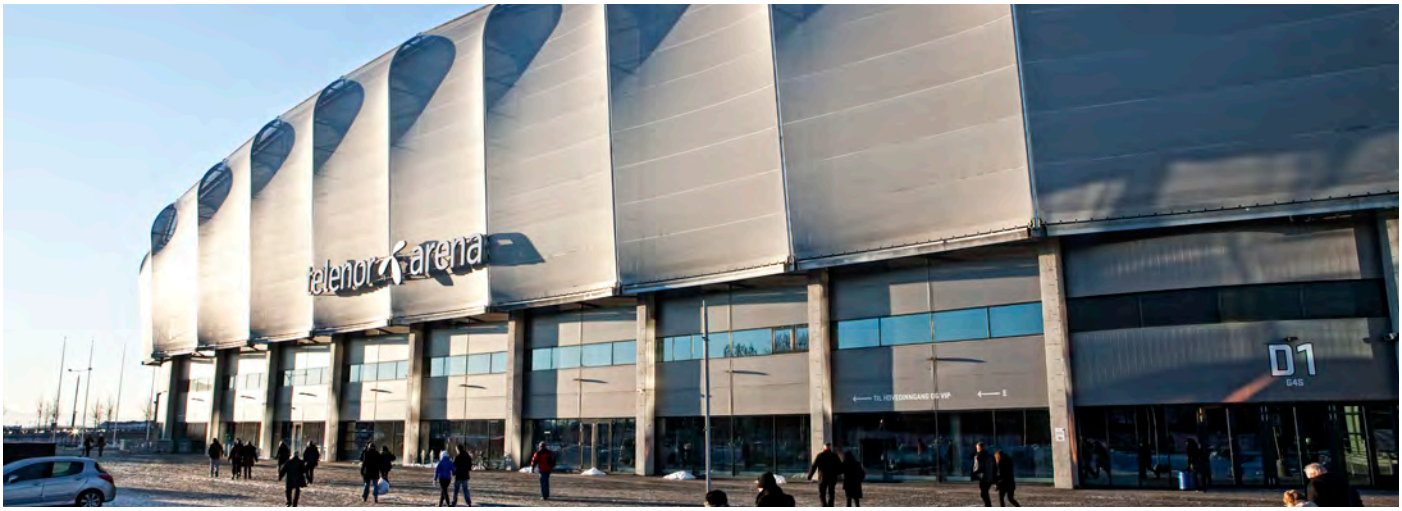
Making Today's Live Concerts More Connected Experiences

Customer Case Study



Nordic service provider adopts Cisco Connected Stadium Wi-Fi to keep the smiles on fans' faces

EXECUTIVE SUMMARY

Customer Name: Telenor

Industry: Service Provider

Location: Norway

Number of Employees: 4500

Challenge

- Provide reliable mobile Wi-Fi access for thousands of fans at pop concerts
- Enable video and picture sharing with heavy upload to social networking sites
- Transform arena into showcase for Telenor as leading mobile provider

Solution

- Cisco Connected Stadium Wi-Fi, with Cisco Prime Management and Cisco Mobility Services Engine underpinned by Cisco Catalyst switching

Results

- Strong positive publicity generated by Wi-Fi performance at high-profile events
- Wi-Fi network supports 50 percent fan usage with 250GB data transfer
- Ideal testing ground for future Wi-Fi implementations and applications

Challenge

Europe's first domed stadium, Telenor Arena, hosted the Eurovision song contest in 2010 and has since become a sought-after concert venue. That popularity presented a problem. The venue's sponsor, Telenor, is a leading Nordic service provider operating across 12 countries. However, its mobile network was not originally designed to cope with 10,000 people trying to connect all at once in the same area, and the arena held more than double that number.

Telenor addressed that issue with indoor Wi-Fi, using a design developed for hotels and convention centers, but with carrier-grade backhaul circuits. That installation was completed in time for a Madonna concert in 2012. Berit Svendsen, the Telenor CEO, was at the event. She was not impressed by Madonna's late arrival, nor when her company's wireless solution failed to perform.

With more big concerts coming up, the race was on to find an effective alternative. Keenly aware of the demands of today's young mobile users, Telenor wanted to make the arena a brand showcase. With 4G launching in October 2012, the time was opportune.

Solution

Shortly after, Telenor was alerted to the strength of the Cisco® Connected Stadium Wi-Fi solution. Marianne Arnesen, the Telenor Arena project manager, says: "I went to the London 2012 Olympic and Paralympic Games, where the wireless infrastructure was Cisco-provided, and I got great high-speed Wi-Fi access inside the venue and throughout the Olympic Park." Along with a detailed market survey, that hands-on experience tipped the Telenor decision in favor of Cisco.

During the Telenor Arena installation project, Cisco Services engaged with Datametrix, a Cisco Gold partner wholly owned by Telenor, which has become the first systems integrator in Norway to win Cisco certification for stadium projects. Providing high- and low-level designs, Cisco Services was also on hand to help fine-tune the new Wi-Fi network at concerts by The Killers, Justin Bieber, and Bruce Springsteen. "Bringing a lot of knowledge to the project on design, implementation and testing, Cisco Services did a great job," says Arnesen.

"Since the Telenor Arena will have our name on it for years to come, it's very important that fans come out happy and smiling, and the Cisco Wi-Fi solution will help us do exactly that."

John Richardsen
Product and Business Manager, Public Wi-Fi
Telenor

"Bringing a lot of knowledge to the project on design, implementation, and testing, Cisco Services did a great job."

Marianne Arnesen
Technical responsibility Trådløs sone/Public WiFi
Telenor

One of the key advantages of Cisco Connected Stadium Wi-Fi is that it enables 2G, 3G, and 4G offload, relieving the pressure on mobile networks in a densely populated environment. It's specifically designed to meet the challenge of handling lots of concurrent users and big spikes in demand, extending reliable access to applications and services on mobile devices to tens of thousands of fans simultaneously. As part of the Cisco Connected Stadium solution, it also enables new commercial opportunities from ticketing and electronic point-of-sale to location-based services and targeted marketing.

Based on Cisco Enterprise Network architecture, the arena's high-density wireless network is built on Cisco Aironet® 3500 and 3600 Series Wireless Access Points with Cisco CleanAir® Technology. Cisco Catalyst® 4500X Series Switches and Cisco Catalyst 2960 Series Switches run in the fixed network environment. A Cisco 5500 Series Wireless Controller is combined with Cisco Prime™ Management for supervision and performance visibility. Meanwhile, a Cisco Mobility Services Engine makes it easy to deploy new Wi-Fi-based solutions and services, and offer a personalized mobile experience, while helping protect the network from wireless threats, rogue wireless devices, and denial-of-service attacks.

Results

The Justin Bieber concert series in April 2013 was a high-profile media event and proved to be a publicity coup for Telenor, garnering favorable press coverage and positive feedback on social websites such as Facebook and Twitter. Bieber played three successive nights. Each concert was attended by some 22,000 fans, mostly young girls making heavy use of their smartphones to record pictures or video and upload them to social sites.

John Richardsen, product and business manager for Public Wi-Fi at Telenor, says: "Peak traffic registered so far was at a One Direction concert, where simultaneous users reached 48 percent of the audience, thanks to the group's strong following among younger fans." In contrast, a Jon Bon Jovi concert with older fans recorded mobile device usage at just under half that level.

At one of the Bieber concerts, Telenor notched up 9700 unique users on the Wi-Fi network, running at speeds up to 210Mbps with data transfer of 250GB. For Telenor, what matters more than these impressive statistics is the wholesale uplift in user experience, enabling fans to use their devices for anything from making calls to uploading video.

"Since the Telenor Arena will have our name on it for years to come, it's very important that fans come out happy and smiling, and the Cisco Wi-Fi solution will help us do exactly that," says Richardsen. "We see real traffic peaks when the band comes on and just after, with 12,000 smartphone screens flashing when everyone has their appliances up in the air."

Apart from that very public usage, the Cisco Connected Stadium Wi-Fi network is used for ticketing and enabling stadium tenants and retailers to securely access the network.

Next Steps

Telenor regards the arena as a valuable testing ground for future Wi-Fi projects. It now plans Extensible Authentication Protocol-SIM integration as a first step to bringing the mobile and Wi-Fi networks together, testing a more powerful mobile network side by side with Wi-Fi; and it may launch a tier of additional services for Telenor subscribers on top.

Discussions are also under way on how Cisco Connected Stadium could bring new efficiencies to operating the arena or enable new services for the future. "The technology is very new, but who knows what the future will bring?" Richardsen concludes.

For More Information

To learn more about the Cisco solutions described in this case study, go to:
www.cisco.com/web/strategy/sports/stadium_wifi.html

Product List

Routing and Switching

- Cisco Catalyst 4500X Series Switches
- Cisco Catalyst 2960 Series Switches

Wireless

- Cisco Aironet 3500 and Cisco Aironet 3600 Series Access Points with Cisco CleanAir
- Cisco 5508 Series Wireless Controller
- Cisco Mobility Services Engine

Management

- Cisco Prime Infrastructure

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at **www.cisco.com/go/offices.**