

Deploying Wi-Fi for high density Case: Helsinki Exhibition and Convention Center

The Helsinki Exhibition and Convention Center (Messukeskus, or the Helsinki Convention Center) is the largest convention center in Finland, with 58,000 square meters of exhibition space, 53 meeting facilities, and a broad range of conference services. In 2014, the events held in the convention center attracted

9,400 exhibitors and more than 1.1 million exhibition visitors. The IT team at the Helsinki Convention Center decided to upgrade the Wi-Fi network as the existing wireless installation was no longer able to meet the requirements of today's network demands.





Challenge:

Customer:

Helsinki Exhibition and Convention Center

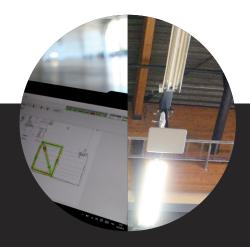
Requirements:

High density wireless network for thousands of users

Capacity to support real-time applications from web browsing to video streaming

Easy re-configuration for different events

Installation area 33 000 square meters (first phase)



Solution:

Ekahau Site Survey & Planner was used for network design, testing and validation

78 pcs Cisco 3702p access points with ANT2513P4M-N antennas



Results:

Happy customers and great Wi-Fi!

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We are very impressed with Ekahau capabilities to design and to validate High Density WLANs.

- Toni Heikkinen, Helsinki Convention Center

Requirements

The team at the Helsinki Convention Center chose to upgrade the Wi-Fi network in two phases, starting immediately with the two biggest exhibition halls, which cover an area totaling 33,000 square meters.

The center's new Wi-Fi installation required meeting the connectivity demands of thousands of users simultaneously. Exhibition visitors come to the Helsinki Convention Center from all over the world carrying devices ranging from mobile devices to high-end laptops. The site's Wi-Fi network must have enough capacity and intelligence to support real time applications and exhibitors' streaming video presentations in addition to the more typical network traffic generated by visitors.

The two biggest halls could have up to 10,000 concurrent WLAN devices within a single coverage area, emphasizing the importance of minimal cochannel interference and the utilization of highest possible data rates. As each exhibition is different from an RF perspective, the convention center has to be able to fine tune the Wi-Fi network easily without being forced to make any extensive network changes.

Solution

The network was designed by Toni Heikkinen, ICT Expert at the Helsinki Exhibition and Convention Center. The Wi-Fi hardware included Cisco Wi-Fi access points, controllers and antennas.

The planning phase started in February 2015, AP installation started at the end of July 2015, and the first phase of installation was complete by mid-August that same year.

The 3D Wi-Fi Network Planner in Ekahau Site Survey Pro software was used for predictive planning and pre-deployment site surveys, testing different configurations at the planned AP locations. Multiple validation surveys were executed using Ekahau Site Survey Pro during different events to achieve optimal network configurations.

"Each major exhibition requires a new validation site survey. We use Ekahau Site Survey very frequently for this. It's easy-touse and offers all the features needed for professional wireless LAN design", said Heikkinen.



Results

During and after the completion of the Helsinki Convention Center's first phase of WLAN installation, Ekahau Wi-Fi tools have proven to be instrumental in planning and testing the network performance. Enabling mobile clients to quickly connect to the strongest AP is one of the key requirements of the wireless network, which is something that is easily verified with Ekahau Site Survey. The IT team utilizes data provided by Ekahau Site Survey for changing the configurations as necessary in the new WLAN.

"The WLAN works already quite smoothly. We still need to add and relocate a few APs. And of course do some validation surveys. Overall we are extremely pleased with what we've achieved so far", Heikkinen noted.

"Planning and deploying a HD network is no easy task. To get started, the Wi-Fi community provides some good material and case studies. Each vendor has their own tweaks and cheats that you need to know", Heikkinen continues.