

The Moscone Center Delivers Rock Solid Wi-Fi to 18,000+ Attendees



“We have built our network the way that we have, selected the vendors that we have and chosen the partners that we have to help us ensure that we can deliver rock solid internet to all of our clients.”

JEFF HARDY,
NETWORK ENGINEER,
MOSCONE CENTER



MOSCONE CENTER



The flagship convention and exhibition center in the San Francisco area, the Moscone Center campus spans 87 acres.

“**DOES MOSCONE HAVE WI-FI?**” is by far the most common question that is asked on the Moscone Center website’s FAQ. For anyone who has been to a convention, tradeshow or exhibition, this may be one of the first questions asked by many convention attendees as soon as they step into the convention center.

A city-wide initiative led the Moscone Center, the flagship convention and exhibition campus in San Francisco, California, to make Wi-Fi an essential part of the convention and exhibition experience. The Moscone Center consists of three main halls spread out across 87 acres, supports up to 74 events per year and holds up to 60,000 guests.

The Challenge

“**IN THE EXHIBITION AND TRADESHOW INDUSTRY**, there are no second chances with customers. Large events require Wi-Fi that works right the first time,” says Jeff Hardy, Network Engineer, Moscone Center. “As part of a city-wide facelift construction project, it was decided that the Moscone Center would be fitted with Wi-Fi in each of its three buildings across its more than two million square feet of space.”

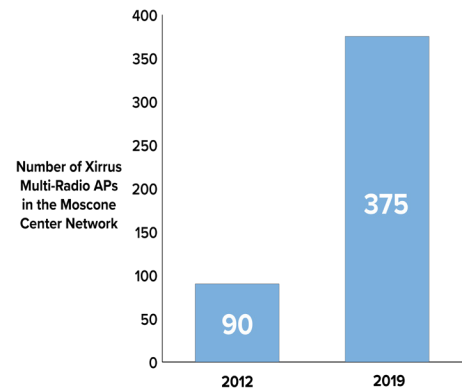
High-density Wi-Fi would soon become an essential part of the convention- and tradeshow-goer experience. Thousands of people at events in this space need to open emails, use online conference applications and participate in interactive sessions requiring Wi-Fi, e.g. exhibitors, staff, security and facility IoT devices. To provide this, the Moscone Center needed a consistent and scalable solution that would improve the attendee experience, support convention organizers’ needs and grow with them as their network evolved.

RECENT EVENT

- Unique device connections: 37,073
- Peak device connections: 14,214
- Peak bandwidth: 2.1 Gbps

The Solution

THERE WAS NO ROOM TO CUT CORNERS FOR MOSCONE. Multiple teams, including the Moscone Center technical team, worked together to select the right Wi-Fi solution for the convention center. After considering two other major supplier finalists, they selected the Xirrus solution for reliability, low total cost over time, reduced cable runs and excellent support from Xirrus engineers.



INITIAL PLANNING OF THE NETWORK began in 2011 to ensure a good design and proper execution for the installation. In 2012, 90 Xirrus APs were deployed in the convention center; today, there are 375 Xirrus multi-radio APs (equivalent to 800 to 1,000 2-radio APs) installed across the campus reflecting the significant increase in demand and usage of wireless by today's customers.

The deployment uses both indoor and outdoor, unique multi-radio Xirrus access points (AP) with software-defined radios to ensure that the Moscone Center has the capacity advantage in their network. Additionally, there are 150 portable APs that can be rapidly deployed on tripods as needed to augment large keynote sessions. To deploy and manage devices in their network, the Moscone Center uses the XMS network management system.



The Moscone Center is divided into three buildings: Moscone North, Moscone South and Moscone West. The three-block, 2 million+ square-foot tradeshow and exhibition center increased the initial 90 Xirrus APs to 375 Xirrus multi-radio APs to cover expansion.

Most events are supported with all 5 GHz Wi-Fi coverage to provide the highest bandwidth connections to users. The unique software-defined radios of the Xirrus solution allow the entire Wi-Fi network to be configured to run at 5 GHz for optimal performance. The Moscone technical team can add 2.4 GHz Wi-Fi coverage for convention customers that put in special requests. The aggregate throughput to the Internet scales to 1.5 Gbps or more for larger events.



The Xirrus APs have supported up to 18,000 guests at its peak. Additionally, convention organizers and the internal staff at the Moscone Center are supported.

The Results

IMMEDIATE RESULTS INCLUDE reliable Wi-Fi connections for customers and attendees, while long-term results include increased satisfaction and a network that works with them. For the average event, there are 6,000 to 7,000 Wi-Fi connections, and for larger events there may be more than 18,000 connections.

Since 2012, there have been no major outages and nothing notable in terms of downtime; a network experiencing such low downtime over several years is proof of Xirrus multi-radio APs' groundbreaking performance and stability. When they needed assistance, technical staff at the Moscone Center received excellent support from Xirrus, since convention centers cannot afford to wait or go through multiple layers to have their questions answered. The combination of a consistently high-performing solution and help from the Xirrus support team made it easy to manage the Moscone Center network.

Specific capabilities include:



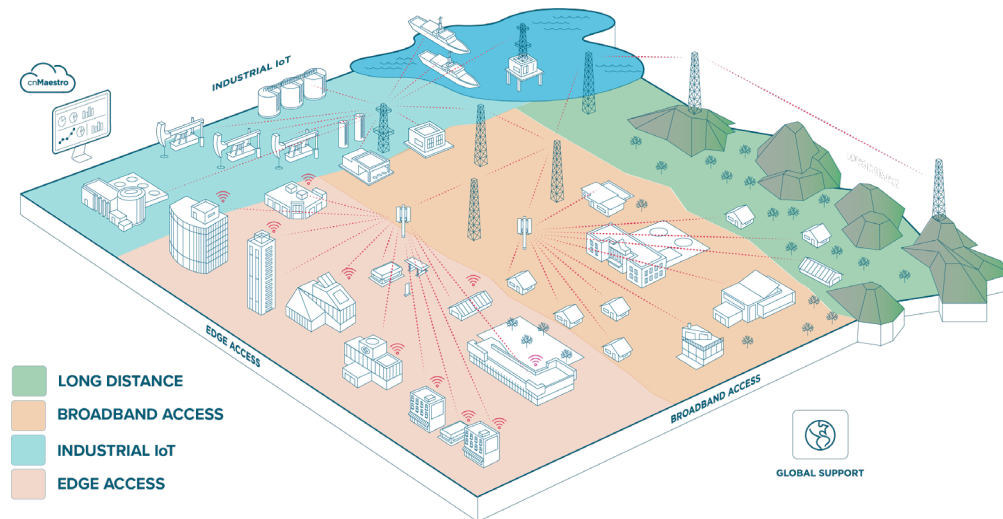
An estimated 4.8 million connections from 2012 to 2019



18,000+ connections for large events



Gbps or more aggregate Internet throughput for events



Cambium Networks' Wireless Fabric of technology solutions enables network operators to tailor connectivity solutions to meet exact requirements and grow as needs evolve.

Expanding the Network

THE MOSCONE CENTER HAS A HIGHLY SCALABLE NETWORK, supporting their internal team, convention organizers and attendees. The Moscone team may not have realized how important high-density Wi-Fi would be when they first started planning their network. However, the Xirrus solution, now part of Cambium Networks' Wi-Fi portfolio, progressed with the Moscone Center as that understanding grew.

About Cambium Networks

CAMBIUM NETWORKS IS A LEADING GLOBAL PROVIDER of wireless connectivity solutions that strengthen connections between people, places and things. Specializing in providing an end-to-end wireless fabric of reliable, scalable, secure, cloud-managed platforms that perform under demanding conditions, Cambium Networks empowers service providers and enterprise, industrial and government network operators to build intelligent edge connectivity. Headquartered outside Chicago and with R&D centers in the U.S., U.K. and India, Cambium Networks sells through a range of trusted global distributors.

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