Large Public Venues

XIRRUS®
High Performance Wireless Networks

Make your wireless network a profit center

In the midst of a mobile Internet revolution, a reliable wireless network is a business necessity. In public venues everywhere, people expect to be connected all the time—to learn, work, play and share. They expect speedy downloads and uninterrupted streaming wherever they are. Video use is rampant, already consuming over 50% of IP network capacity worldwide. Prudent operators of convention centers, meeting facilities, and sports & entertainment venues who provide Wi-Fi to give visitors a more connected, engaging experience see rising attendance and a faster return on their investment.

At Xirrus, we witness this daily. When the Oregon Convention Center asked us to deliver high-capacity wireless over 1 million square feet, they were able to sell premium value wireless packages to Exhibitors, safely handle PCI transactions from concessionaires, and speed up event registration with attendees using their own devices. When we are selected as the wireless infrastructure provider at marque events such as Microsoft Events, Dreamforce, Interop, E3 Expo and Macworld, exhibitors and attendees get wireless access so good, they blogged about it. And when we helped Sleep Train Arena in Sacramento, CA resolve performance issues with their existing 2 radio access point system and deliver wireless to all 17,000 seats, there was an immediate jump in profitability of concession sales.

The wireless revolution has surged amongst end users and manufacturers. Smartphone users—which now outnumber their feature phone counterparts—prefer to use Wi-Fi over that of cellular for data. Email and web browsing is faster, their monthly data plan quota is preserved and battery life is conserved. Not to mention that using Wi-Fi moves them off congested 3G/4G networks that often fail to work at large public venues.

Manufacturers get it too. They know Wi-Fi performance matters. They know 2.4GHz is limited and over-crowded. Leading brands like Apple, Samsung and HTC already have dual-band Wi-Fi in their smartphones, some with speeds up to 150 Mbps. What's next? Faster rates, additional multi-spatial streams, 802.11ac? The answer: Yes, all the above, and sooner than you think.

What does all this mean for large venue operators? From conference to entertainment venues, one thing is certain.

Wireless demand will continue to experience dramatic growth. Reliable high-speed wireless has become an essential part of the infrastructure and services you must provide. No different from lighting.

Handling huge numbers of wireless devices is a given. Scaling network capacity year after year is now mission-critical. Xirrus lets you stay ahead of the insatiable demand curve.

With Xirrus High Performance Wireless Networks you can:

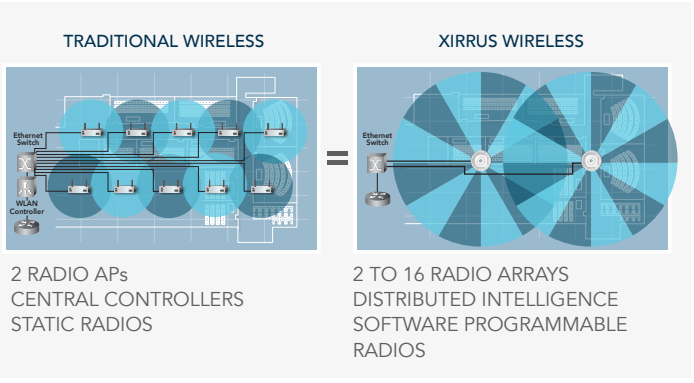
- Support exceptionally high densities of users and massive roaming crowds at conferences and events
- Cover enormous indoor and outdoor areas with over 75% less equipment, cable runs, and switch ports.
- Transition gracefully to less congested 5GHz channels through software-programmable radios as mobile devices migrate away from 2.4GHz.
- Scale capacity and adopt new standards simply by adding radios to existing Arrays with no rip-and-replace or changes to the wired-infrastructure.
- Reduce venue operating costs by streamlining expensive administrative functions such as ticketing, registration and mobile point-of-sale.
- Increase revenue with value-added wireless services such as location-based advertising, preferential access, commerce and exclusive content.

Xirrus wireless networks scale better and deliver more bandwidth

Large venues with thousands of clients normally require lots of APs, cable drops and switch ports. But why spend a large portion of your budget on wired infrastructure when what you really want is **loads of wireless bandwidth**?

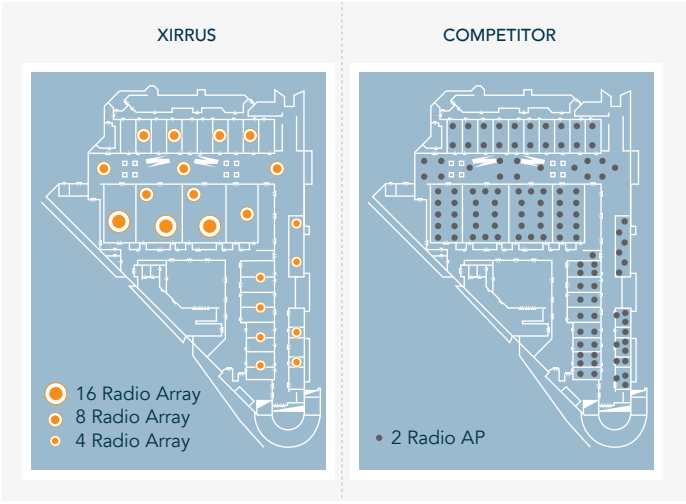
Xirrus provides a broad range of wireless solutions—from a 2 radio AP up to a 16 radio Array—to match the requirements of a broad range of use cases found in large public venues. The Xirrus wireless architecture is unique. Instead of central controllers and multitudes of access points, everything needed for a secure, high performance wireless LAN is built into each Xirrus wireless product: from 2 to 16 radios, integrated antennas, switch, controller, firewall, threat sensor, and spectrum analyzer.

The result is up to 8X the bandwidth and capacity of traditional APs, 75% less equipment, much faster installation and less disruption to your premises. Reducing the supporting infrastructure required to support hundreds of traditional APs simplifies every aspect of deployment and frees budget to provide what is really needed—more wireless bandwidth.



2 RADIO APs
CENTRAL CONTROLLERS
STATIC RADIOS

2 TO 16 RADIO ARRAYS
DISTRIBUTED INTELLIGENCE
SOFTWARE PROGRAMMABLE RADIOS



A typical large public venue space covered with 20 Xirrus Wi-Fi Arrays versus 100 traditional access points

The Xirrus Advantage for Large Public Venues:

Easier, faster, and less expensive to deploy with less equipment in more convenient locations

- Scalable capacity and investment protection with modular, upgradeable architecture
- Application visibility to prioritize, throttle, or block applications to improve control of the network
- More budget available for wireless bandwidth and less on wired support infrastructure
- Comprehensive network services to help you monetize the network

Example of Large Public Venue Clients

BANKERS LIFE FIELDHOUSE (INDIANA PACERS) :: SLEEP TRAIN ARENA (SACRAMENTO KINGS)

JAVITS CENTER :: MELBOURNE CONVENTION CENTER :: MOSCONE CONVENTION CENTER

TAMPA CONVENTION CENTER :: SCOTTISH EXHIBITION & CONVENTION CENTER

MESSE FRANKFURT/BASEL :: THE PHOENIX CONVENTION CENTER :: AMSTERDAM RAI

SANDS EXPOSITION CENTER :: DURHAM COUNTY CRICKET CLUB :: LOLLOPALOOZA

ALEXANDRA PALACE – 2012 OLYMPICS :: TOUR DE FRANCE :: US OPEN

CASE STUDY — showNets DREAMFORCE Event

showNets supported Dreamforce, Salesforce.com's annual user conference in 2012, the largest cloud computing event in the world. For four days, over 70,000 attendees flock to this event to network, learn, with over 750 scheduled break-out sessions and a 350 exhibitors. Not one of them wants to be without wireless. And in 2012 at the Moscone Center not one of them was. Using only 87 Arrays, Xirrus gave attendees reliable high performance wireless access across 2 million square feet of convention space spanning 5 city blocks.

Requirements

- Support up to 90,000 devices
- Over 2 million sq ft coverage
- Ultra high-density during keynotes
- Tiered services for Expo exhibitors
- Self-registration for all devices
- Enterprise-grade security (WPA2)
- Fast deployment and tear down

Xirrus Solution

- Only 87 Xirrus Arrays versus more than 500 APs required with other solutions.
- 70% fewer cable pulls and switch ports than alternative solutions.

Event Statistics

- 45,000+ total Wi-Fi users
- 10,800+ simultaneous devices during keynote in one ballroom
- 850+ simultaneous devices on one Array

The benefits of Xirrus Wireless Solutions

Highest capacity

Xirrus Wireless Arrays and APs support the highest user density and traffic capacity in the industry with 2 to 16 radios per device in a comprehensive, performance-scaled portfolio. This allows you to pick the right product for the right scenario based on density requirements, significantly reducing the amount of equipment that must be deployed.

BYOD-optimized

Xirrus wireless solutions seamlessly support the massive proliferation of mobile devices with guest access and onboarding services to automate the process of bringing new devices and users onto the wireless network. Xirrus ensures all these devices can get onto the network and operate with a good end user experience.

Application Control

Xirrus wireless solutions are the industry's first and only wireless solution to integrate next-generation application recognition and control directly at the network edge where it is needed most. Incorporating a complete Layer 7 deep packet inspection engine with associated policy control in every Xirrus Array or AP, business applications can be prioritized and recreational applications throttled or blocked to ensure the best user experience for your business's critical work.

Services delivery

With multi-core network processor computing power embedded into each Array and AP, all types of business and consumer-centric wireless services are possible: from simple pay-per-use self-registration, to tiered services, to location-based advertising and sponsorship. Xirrus delivers the wireless network service components that enable value-added revenue generating services on a massive scale.

Distributed intelligence

The integrated controller architecture distributes network intelligence to the edge of the network where it enables maximum control of applications, performance and security. This eliminates performance bottlenecks and single points of failure typical with centralized controller architectures. Xirrus Application Control allows administrators to selectively block, throttle or prioritize applications, offering the most predictable network experience for your users' most critical functions.

More economical

Directional antennas on Xirrus Arrays provide greater coverage, and with no central controller, a Xirrus network can be deployed with up to 75% less equipment. With far fewer components to install and cables to pull, a Xirrus wireless network can be installed faster and more economically than traditional solutions to accelerate ROI. Cloud-hosted network management and automatic activation simplifies network installation and reduces the resources required to manage and maintain the network.

Superior scalability

No other vendor matches the investment protection offered by Xirrus Arrays. The software-programmable, modular radio design allows capacity scaling with zero waste and no rip-and replace. Radios can be switched from 2.4GHz to 5GHz over time as the mix of mobile devices evolves. More radios may be added to existing Arrays, and older radios can be upgraded to newer standards such as 802.11ac.

XIRRUS®
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