

802.11abg+n Wi-Fi Arrays



Overview

- Up to 16 Integrated Access Points in a single device
- Embedded Wi-Fi Controller/switch
- Multi-sector Antenna System
- Integrated Gigabit switch
- Dedicated Wi-Fi threat sensor and spectrum analyzer
- Wi-Fi stateful Firewall

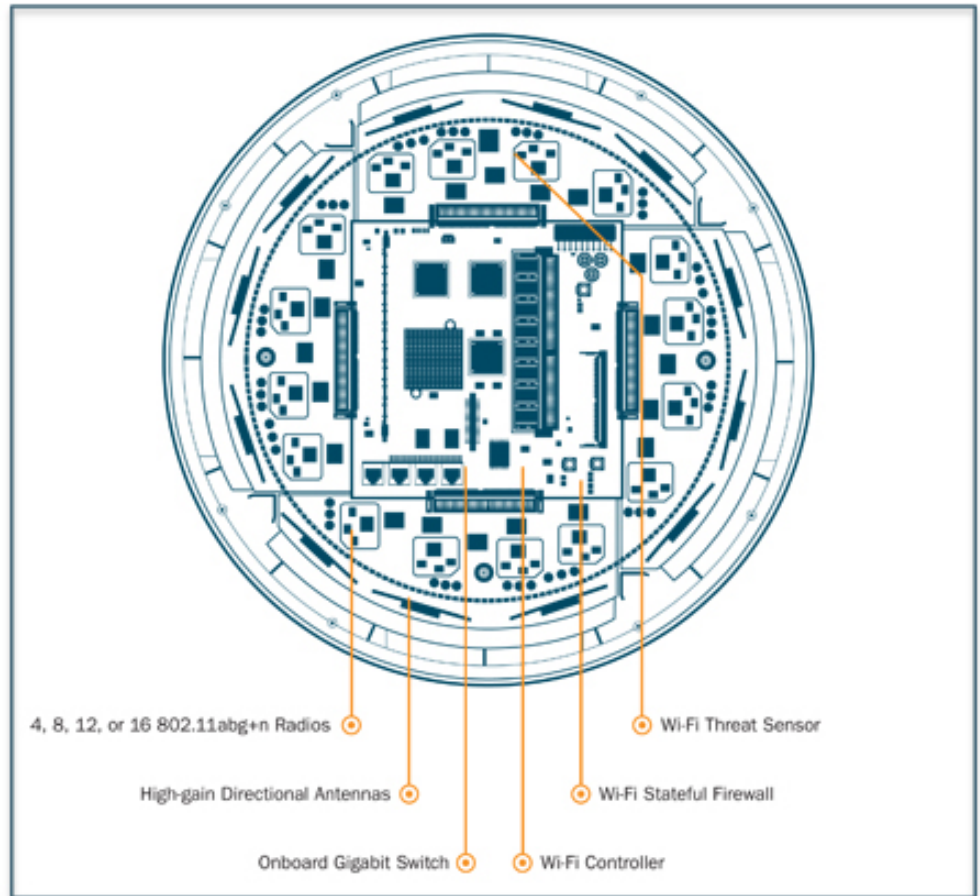
Value Delivered

- Wi-Fi Bandwidth up to 4.8Gbps
- Coverage up to 125,000sqft
- 75% fewer devices to deploy and manage
- Integrated intrusion detection and prevention

The Xirrus Wi-Fi Array is the only Wi-Fi device that can effectively replace a traditional Ethernet workgroup switch and provide users a wired experience over Wi-Fi. The Xirrus family of Wi-Fi Arrays provides an unparalleled level of capacity, range, coverage, and performance to deliver Wi-Fi service that can replace the functionality of a traditional Ethernet switch. Now the ability to securely deliver data, voice, and video services to large user populations is realizable - and all at reduced deployment and ownership costs compared to traditional wired networks.

Key Features

- **More Coverage per device** - delivers 4x more coverage than traditional APs
- **More users per device** - supports 100's of users per device
- **High Performance Wi-Fi** - up to 8X the bandwidth and 14X the throughput of traditional APs
- **Best RF management** - multiple tunable radios, automatic channel, cell, interference, and load optimization of the RF environment
- **Highly Secure Wi-Fi** - integrated Wi-Fi Firewall, integrated spectrum analyzer, and dedicated Wi-Fi Threat Sensor, and rogue AP blocking
- **Highly Resilient Wi-Fi** - resiliency at the radio, Array, uplink, backhaul and power level
- **Line Rate Encryption** - line rate encryption within the Array - no bottlenecks
- **Future Proof** - modular design and flash upgradeable allows for quick field upgrades
- **Reduced Cost** - 75% less devices, cabling, switch ports, and installation time
- **Layer 3 Roaming** - security policies can be created for different types of users to control parameters such as time-of-day and day-of-the week access, QoS, and traffic limits
- **Location Services** - clients location can be mapped to building floorplans based on location of the client relative to the Array.



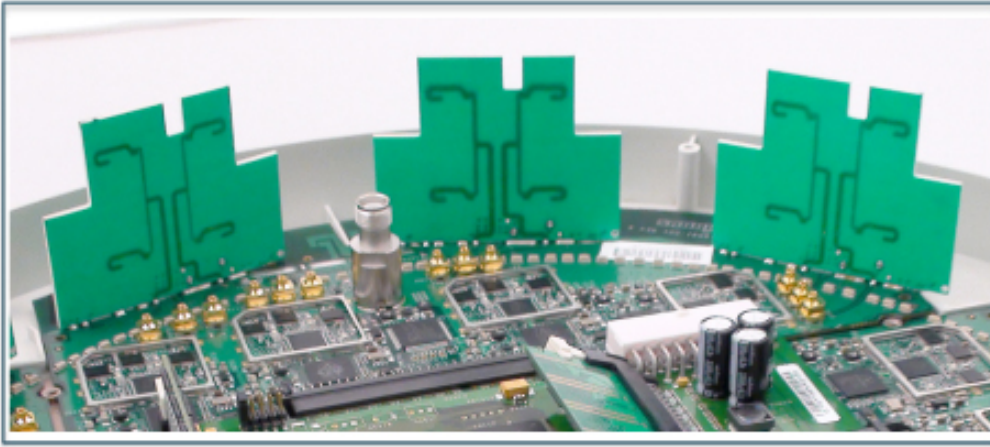
Array Architecture

The Xirrus Wi-Fi Array represents the next generation in Wi-Fi architectures - integrating up to 16 Wi-Fi radios with an onboard Wi-Fi controller, Gigabit Switch, Firewall, Spectrum Analyzer, and a dedicated Wi-Fi Threat Sensor into a single device.

Multiple radios are co-located in a circular configuration to create a radio "Array" that provides significant range, capacity, and RF management advantages. Each Integrated Access Point (IAP) uses a high gain, directional Antenna System to deliver increased transmit gain and receive sensitivity in all directions, resulting in up to 4x the coverage area of traditional AP / Wi-Fi controller architectures.

By implementing the intelligence at the edge of the network, rather than in a centralized controller, the Xirrus Array improves network efficiency, lowers latency, improves network throughput, and simplifies network deployment.

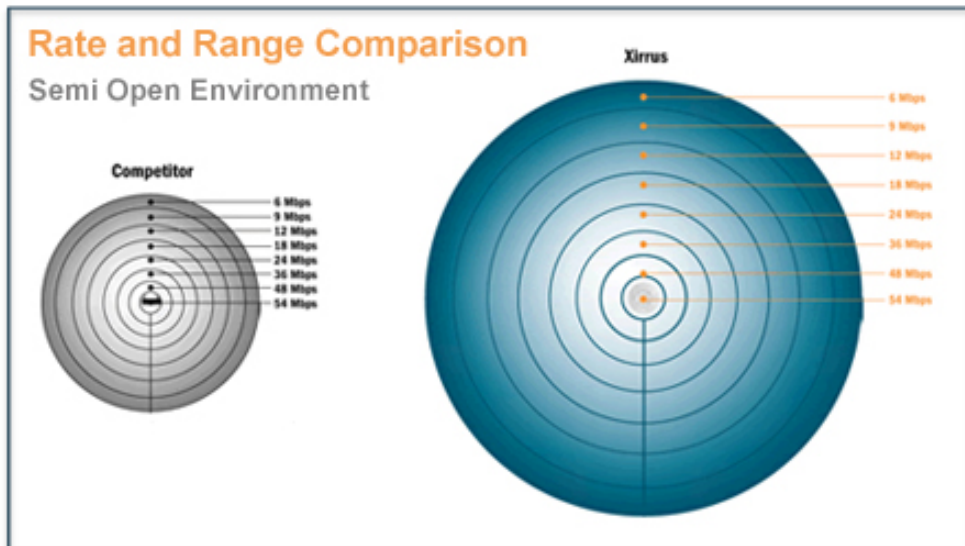
The Xirrus 802.11n Array uses 3x3 MIMO technology to support data rates up to 300 Mbps per radio. The Array has three built in antennas per IAP integrating up to 60 antennas into a single device. The Array's unique architecture provides an easy to install, aesthetically pleasing solution with no need for external cables or antennas.



The Xirrus Wi-Fi Array delivers the most coverage, bandwidth, throughput, and support for more users on a per device and per system basis that anything else available on the market today - resulting in a solution that uses 75% fewer devices, cabling, switch ports, power, space, and installation time compared with any other offering.

Longer Range - Extended Coverage Area

- Multi-radio, multi-sector antenna system creates a customizable 360° coverage pattern
- Directional antennas provide increased transmit gain and greater receive sensitivity to increase range
- Provides 2X the range and 4X the coverage area, enabling greater data rates at a given range



Superior Wi-Fi Performance

- Delivers up to 4.8Gbps of RF bandwidth to provide up to 8x the capacity of devices used in current Wi-Fi deployments
- Embedded Array Controller features multi-gigabit switching fabric and provides unprecedented coordination of the RF spectrum, security and Quality of Service (QoS) functions across the Integrated Access Points

Structured Wi-Fi Management

- Dynamic channel assignment and monitoring of interference optimizes spectrum usage
- Each RF sector size can be independently controlled, creating an adaptive pattern of desired coverage or to limit RF "bleed" outside of a given area
- Load balances clients across the Integrated Access Points based on changing load conditions

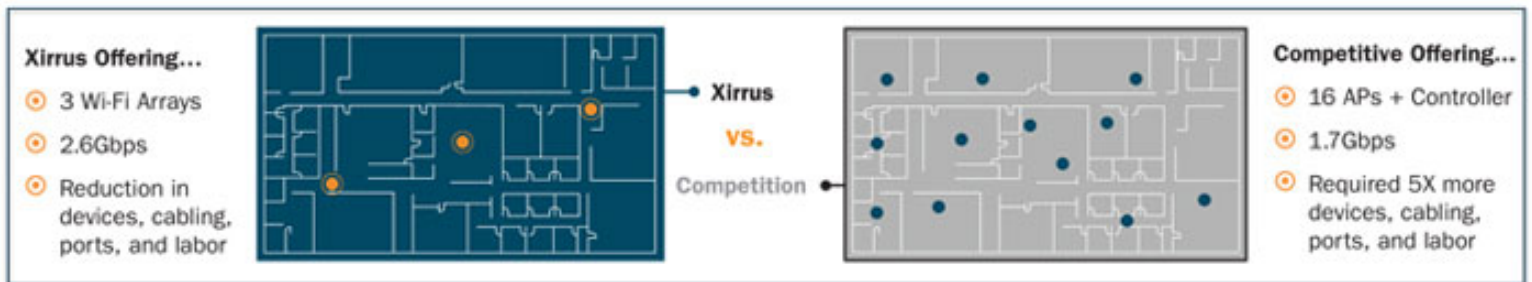
Enterprise-Grade Security

- Supports the latest wireless encryption and authentication standards including IEEE 802.1x, WPA (Wi-Fi Protected Access) and IEEE 802.11i AES (Advanced Encryption Standard) for data protection
- Monitors the RF environment for rogue access points and other security threats by dedicating one 802.11a/b/g IAP as a full-time Wi-Fi Threat Sensor
- Array maintains intrusion detection table for all detected APs, adhoc, and stations
- Unauthorized AP can be blocked preventing network users from associating to rogue APs

- Integrated Spectrum Analyzer helps identify interference and provide insight into network behavior
- Integrates with Xirrus Defense Module application to provide a proactive Intrusion Detection / Intrusion Prevention System (IDS/IPS)
- Interfaces with external RADIUS servers to ensure proper authentication and accounting of users - also includes an embedded RADIUS server to support smaller deployments
- Physical security of the Array is provided through a Kensington locking mechanism
- Authentication for newly deployed Arrays can be automated using the optional Xirrus Management System
- Each Array ships in a secure mode with the RF interfaces disabled ensuring the system is completely secure from installation through start up
- Dynamic VLANs enable the Array to dynamically assign wireless stations to VLANs specified by RADIUS policy settings
- Stateful firewall protects wireless network from unauthorized traffic

Deployment Efficiency

- Simplifies Wi-Fi deployments by reducing the number of devices to install, manage, and support an average of 75%
- Modular design allows for the replacement of Integrated Access Points for future upgrades as new 802.11 standards become available
- Xirrus Management System provides efficient central management for large Array deployments, automatically discovering, authenticating and configuring new Arrays as they join the network
- Straightforward installation using the included ceiling mounting kit with template or using optional indoor and outdoor enclosures



Reliability

- Multiple points of redundancy, including at the radio, uplink port, and Array levels
- Adjacent RF sectors overlap to provide continual service in the unlikely event of an Integrated Access Point failure
- Radio Assurance executes self-diagnosis to detect and correct many issues before they are detected by network users
- Integrated self-test helps validate integrity of Array and isolates issues to simplify troubleshooting
- Full Array failover available by configuring a secondary Array to be used in a "hot standby" mode

Product Summary

	Model XN16	Model XN12	Model XN8	Model XN4
802.11a/b/g/n Radios	4	4	4	4
802.11a/n Radios	12	8	4	0
Total Number of Radios	16	12	8	4

Number of Integrated Antenna	48	36	24	12
Uplink Ethernet Ports	2	2	2	1
Maximum Wi-Fi Bandwidth	4.8Gbps	3.6Gbps	2.4Gbps	1.2Gbps
Integrated Wi-Fi Threat Sensor	Yes	Yes	Yes	Yes
Integrated Spectrum Analyzer	Yes	Yes	Yes	Yes
Maximum Number of Users per Radio	64	64	64	64
Maximum Number of Users per Array	1024	768	512	256

Specifications

General

Gigabit Ethernet Interfaces	Dual Gigabit uplink ports can be used for link aggregation, redundancy, or bridging (XN4 has 1 Gigabit Link)
Fast Ethernet Interfaces	1 Fast Ethernet Link for out of Band Management
Serial Console Port	RS-232 RJ-45 Serial Console Port for Local Configuration
Integrated Switch	2.1Gbps integrated wireless switch
System Memory	XN16: 1G System RAM XN12: 1G System RAM XN8: 1G System RAM XN4: 512 System RAM
System FLASH Memory	1G Compact Flash

Wireless

Wireless Standards Supported	802.11a 802.11b 802.11d 802.11g 802.11e 802.11h 802.11i 802.11j 802.11n
Channel Selection	Manual and Automatic
Frequency Bands	11a/n: 5.15-5.25 GHz (UNII 1) 11a/n: 5.15-5.25 GHz (TELEC) 11a/n: 5.25-5.35 GHz (UNII 2) 11a/n: 5.470-5.725 (ETSI) 11a/n: 5.725-5825 GHz (UNII 3) 11b/g/n: 2.412-2.462 GHz (FCC) 11b/g/n: 2.412-2.472 GHz (ETSI) 11b/g/n: 2.412-2.484 GHz (TELEC)
Wi-Fi Monitoring	One Integrated Access Point can be set as a dedicated Wi-Fi Threat Sensor 2dBi Omni-directional Antenna
802.11a/n Antennas	Integrated 6dBi, sectorized

802.11b/g/n Antennas	Integrated 3dBi, sectorized
802.11a/b/g/n External Antenna Connectors	XN16: 3 RP-TNC Connectors XN12: 3 RP-TNC Connectors XN8: 3 RP-TNC Connectors XN4: 1 RP-TNC Connector

Security

Wireless Encryption	Line speed, hardware-accelerated encryption modes: WPA TKIP WPA2 AES WEP 40/64 WEP 104/128
Wireless Authentication	Open Pre-shared Key 802.1X EAP PEAP EAP-TLS EAP-TTLS EAP-LEAP Pass-through Web Page Redirect (Captive Portal) MAC Address Access Control List (ACL)
Firewall	Integrated stateful-inspection, rules-based firewall
IDS/IPS	Integrates with Xirrus XDM Intrusion Detection / Prevention System for real-time wireless security protection
Rogue AP Detection and Blocking	Integrated Rogue AP detection and alerting via dedicated internal RF Threat Sensor. Rogue AP can be shielded.
Integrated RADIUS Server	Integrated 802.1x Authentication Server supporting EAP-PEAP
Time of Day Access	Specify when SSID access is allowed
Secure Management	Secure HTTP (HTTPS) Secure Shell (SSH) Enable/disable management for any interface Read-write and Read-only administrator accounts
Station-Station Blocking	Station-to-Station traffic blocking option

Quality of Service

Multiple SSIDs	16 unique SSIDs per Array Each SSID beacons a unique BSSID per radio
Prioritization	802.11e wireless prioritization 802.1p wired prioritization
Wireless Voice Support	Spectralink Voice Priority (SVP) protocol support

Networking

DHCP	DHCP Server and DHCP Client Multiple DHCP Pools
DNS	DNS Client

Management

Xirrus Management System	Layer 3 Element Management via the Xirrus Management System (XMS)
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Web	HTTPs Web Management Interface (WMI)
Command Line Interface	Industry-standard command line interface via SSH, TELNET or Local Serial Console
SNMP	SNMPv1, v2c, v3
Configuration Files	Import, export, and compare text-based configuration files
Net Flow	Import, export, and compare text-based configuration files
Syslog	Log messages can be stored on internal Syslog server or sent to up to three external syslog servers
Cisco Discovery Protocol	CDP supported to obtain protocol addresses and platform information of neighboring devices

Mechanical and Environmental

Operating Temperature	0-55C, 0-90% humidity, non-condensing
Chassis	Lockable mounting plate, Kensington lock slot
AC Power	XN16: 100W nominal XN12: 90W nominal XN8: 75W nominal XN4: 60W nominal
DC Power	All Arrays: 48VDC, Maximum 2A
Dimensions	XN16: 18.65in (47.4cm) diameter x 3.87in (9.83cm) height XN12: 18.65in (47.4cm) diameter x 3.87in (9.83cm) height XN8: 18.65in (47.4cm) diameter x 3.87in (9.83cm) height XN4: 12.58in (31.95cm) diameter x 2.58in (6.55cm) height
Weight	XN16: 10lbs (4.54kg) XN12: 10lbs (4.54kg) XN8: 9lbs 12oz (4.43kg) XN4: 3lbs 8oz (1.59kg)

Compliance

Electromagnetic	FCC Part 15.107 and 15.109, Class A ICES-003 (Canada) EN 301.893 (Europe) EN 301.489-1 and -17 (Europe)
Safety	EN 60950 EN 50371 to 50385 CE Mark

Warranty

Hardware	Five Year Standard (extendable)
Software	90 Days Standard (extendable)

Product Ordering Information

Model Number	Description
XN4	4 Radio Wi-Fi Array with on-board controller/switch 4 802.11a/b/g/n IAPs DC Power <i>Note: The Array OS AO-4ABGN must be ordered separately.</i>

XN8	8 Radio Wi-Fi Array with on-board controller/switch 4 802.11a/n IAPs, 4 802.11a/b/g/n IAPs AC/DC Power <i>Note: The Array OS AO-8ABGN must be ordered separately.</i>
XN12	12 Radio Wi-Fi Array with on-board controller/switch 8 802.11a/n IAPs, 4 802.11a/b/g/n IAPs AC/DC Power <i>Note: The Array OS AO-12ABGN must be ordered separately.</i>
XN16	16 Radio Wi-Fi Array with on-board controller/switch 12 802.11a/n IAPs, 4 802.11a/b/g/n IAPs AC/DC Power <i>Note: The Array OS AO-16ABGN must be ordered separately.</i>

Model Number	Description
AO-4ABGN	802.11a/b/g ArrayOS Software for XS4 or XN4 Arrays including base software functionality plus Advanced RF monitor features. <i>Note: Required to order one for each XN4 Array.</i>
AO-8ABGN	802.11a/b/g ArrayOS Software for XS8 or XN8 Arrays including base software functionality plus Advanced RF monitor features. <i>Note: Required to order one for each XN8 Array.</i>
AO-12ABGN	802.11a/b/g ArrayOS Software for XS8 or XN8 Arrays including base software functionality plus Advanced RF monitor features. <i>Note: Required to order one for each XN12 Array.</i>
AO-16ABGN	802.11a/b/g ArrayOS Software for XS8 or XN8 Arrays including base software functionality plus Advanced RF monitor features. <i>Note: Required to order one for each XN16 Array.</i>