

IdentiFi Wireless Appliance

High-performance, Enterprise-class WLAN Appliance

BENEFITS

Business Alignment

- Support for demanding voice/video/data applications to enhance mobile worker productivity and convenience
- Role-based grouping of users, devices, and applications to deliver priority, QoS, and security in accordance with business needs
- Integrated management, security, and QoS features reduce operating cost and ensure a consistent user experience regardless of location
- Key element of mobility solutions that enable VoWLAN and dual-mode devices

Operational Efficiency

- Centralized visibility and control to simplify management, accelerate problem resolution, optimize network utilization, and automate response to wireless threats
- Integrated wired and wireless management, and role-based access control greatly reduce administration time and effort
- Adaptive architecture reduces complexity and optimizes information flow for each application



Scalable to over 2000 Access Points per wireless Appliance with unified management of IdentiFi Access Points

Seamless roaming with centralized and distributed data forwarding Virtualized management and control planes for cloud deployments

High-availability architecture for real-time voice/video/data applications

Lifetime warranty on entry-level appliance reduces the total cost of ownership

Product Overview

The award-winning IdentiFi Wireless Appliance family provides a scalable range of solutions that are ideal for managed WLAN deployments supporting demanding voice/video/data applications. Our Wireless Appliances are simple to deploy and manage, yet provide advanced functionality to allow organizations to define how wireless voice/video/data traffic is processed without architectural constraints and in accordance with the business needs. Select wireless Appliances come with a lifetime warranty and phone support as well as free software maintenance releases for 1 year to protect your wireless networking investment and minimize the total cost of ownership.

The IdentiFi Wireless Appliance portfolio includes:

- The C25 supporting up to 100 Access Points (APs)
- The V2110 supporting up to 500 APs
- The C5210 supporting up to 2000 APs

The V2110 is available as a VMware appliance for easy deployment in cloud environments. Scalable up to 500 APs, the V2110 extends all the cost savings, hardware independence, and resiliency benefits of data center virtualization to the wireless infrastructure.

IdentiFi Wireless Appliances enable role-based management for users, devices, and applications with individualized services including Quality of Service (QoS), call admission control, secure access policies, network access control (NAC), captive portals, rate limiting, multicast, filtering, and traffic forwarding. These services are enabled by the unique and flexible IdentiFi Wireless Virtual Network Service (VNS) architecture and easily provisioned and managed by an intuitive web interface.

Security

- Authentication and authorization functions include role-based access control using 802.1X, MAC authentication, and captive portal
- Standards-based encryption (WEP, TKIP, WPA, WPA2, WPA-PSK, WPA2-PSK, and AES)
- External captive portal allows full customization for guest access
- Integrated wired and wireless intrusion prevention
- Denial of Service (DoS) protection for management, control, and data traffic

Support and Services

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services, including site surveys, network design, installation, and training
- Lifetime warranty for select wireless Appliances

Each Appliance supports mixed mode deployments of 802.11ac, 802.11n and 802.11a/b/g APs along with the ability to seamlessly roam between wireless Appliances and access points, providing scalability and ease of deployment. For large deployments, IdentifiFi Wireless further simplifies the management of thousands of APs by creating mobility zones that extend the VNS properties across multiple wireless appliances. Mobility zones maintain the VNS definitions and the individual policies throughout the entire mobility zone, ensuring that policies follow the user regardless of physical location.

IdentifiFi Wireless provides an easy, low cost way to deploy 802.11ac/abgn solutions, delivering cost-effective pricing, wired/wireless integration, and low TCO while openly supporting a broad range of mobile voice, video, and location-based applications to drive enterprise productivity and reduce the overall cost of mobility. With the ability to deliver both centralized and distributed traffic forwarding by application, IdentifiFi Wireless Appliances enable a flexible, cost-effective path to deploying 802.11ac/abgn for the enterprise. Backed by industry-leading global support and services, IdentifiFi Wireless solutions enable customers to leverage existing investments and avoid forklift upgrades.

Virtual Network Service (VNS) - An Adaptive WLAN Architecture

Most WLAN solutions force network administrators to choose between a centralized or distributed architecture. A significant advantage of IdentifiFi Wireless Appliances is that they can support both deployment models simultaneously, offering significant flexibility benefits over other solutions. Network administrators can select how traffic will be handled on a per-SSID basis, without any restrictions, so that the wireless LAN infrastructure can adapt to business requirements and applications.

A centralized architecture requires all traffic to be backhauled to a centralized Appliance. With the higher data rates of 802.11ac and 802.11n APs, traffic loads on the wired network can be much greater than those created by legacy 802.11a/b/g APs. Depending on the size of the WLAN deployment and how much data is forwarded to the centralized Appliance, significant congestion may result.

A fully distributed deployment eliminates backhauling traffic to a wireless Appliance but increases the processing complexity for real-time mobile applications that require seamless cross-subnet roaming (e.g. VoWLAN). This can force IT managers to either create a large broadcast domain or apply many VLANs.

IdentifiFi Wireless Virtual Network Services control traffic flow by allowing traffic to be backhauled to a wireless Appliance or switched locally at the AP on a per SSID basis. With local switching, the AP is still managed centrally by the wireless Appliance, but data is not backhauled to the wireless Appliance. This improves responsiveness and ensures that traffic does not unnecessarily traverse costly WANs or contribute to bottlenecks at aggregating switches. A VNS also provides

role-based policies providing security, NAC, mobility, and QoS priority that can be implemented on a per user and per application basis. The table below highlights this capability:

SSID	USER TYPE	SECURITY ROLE	TOPOLOGY (DATA PATH)
Single	Multiple	Multiple	Single
Single	Multiple	Single	Multiple
Single	Multiple	Multiple	Multiple
Multiple	Multiple	Multiple	Single
Multiple	Multiple	Single	Multiple
Multiple	Multiple	Multiple	Multiple

Integrated Management and Control Across Wireless and Wired Networks

WEB-BASED CENTRALIZED MANAGEMENT VIA WIRELESS ASSISTANT

The Wireless Assistant provides network administrators with a centralized web-based interface designed to easily manage both infrastructure and services. Hosted on the wireless Appliance, this interface allows network administrators to separately configure, enable, or disable each AP or group of APs. The wireless Appliance consolidates data received from across the network to provide meaningful statistics in easy-to-read reports. Additionally, a number of standards-based management tools are available to facilitate integration of the WLAN infrastructure with enterprise management applications. For large networks with multiple wireless Appliances the optional OneFabric™ Control Center Management Suite can be used to collect and manage data for a centralized view of the entire WLAN.

MULTI-APPLIANCE MANAGEMENT

IdentifiFi Wireless Management Suite provides centralized management for the IdentifiFi Wireless portfolio, consolidating management information from across the entire WLAN for a global network perspective. The solution is enhanced by the addition of the Wireless Intrusion Prevention System (WIPS) option which provides sophisticated wireless intrusion prevention and location assessment capabilities. Wired and wireless network integration is further enhanced by the visibility of all the wireless elements through the OneFabric™ Control Center Management Suite. Integration between OneFabric™ Control Center and the IdentifiFi Wireless portfolio provides end-to-end visibility of wireless Access Points, Appliances, and wireless clients from the OneFabric™ Control Center Console. The integration delivers improved network management efficiency and wired/wireless infrastructure topology mapping and visibility for network administrators. Further integration with OneFabric™ Control Center Inventory Manager effectively centralizes distribution of software and tracking of configuration changes.

INTEGRATED SECURITY

Wireless IPS enhances security with embedded wireless intrusion prevention and location-based services. When deployed in conjunction with the IdentifiFi Intrusion Prevention System (IPS), full packet inspection, adaptive signature pattern matching, protocol analysis, and behavioral anomaly detection are delivered for both wired and wireless users. Further, OneFabric™ Control Center Network Access Control (NAC) identity-based policy privileges are unified across the wired and wireless infrastructure to deliver role-based access control – regardless of connectivity method.

The NAC policies ensure only the right users have access to the right information, from the right place, at the right time. Third party authentication systems can also be integrated with the use of the External Captive Portal interface.

High Performance & High Availability

IdentifiFi Wireless delivers the perfect combination of high-performance and high-availability demanded by today's wireless applications. By combining unique voice optimization features and the latest in industry standards, IdentifiFi Wireless provides enterprise grade reliability for all users.

HIGH SCALABILITY

The IdentifiFi Wireless portfolio supports from a single AP to 2,000+ APs per wireless Appliance, providing linear scalability from small to large wireless deployments. In addition, wireless Appliances can be networked to scale beyond the limits of a single Appliance or availability pair to offer a multi-wireless Appliance mobility zone. Mobility zones enable seamless roaming across a large number of wireless Appliances while still delivering real-time session-availability services without requiring the purchase of additional AP licenses for redundancy.

IdentifiFi Wireless provides true end-to-end Quality of Service (QoS) with each Appliance and AP supporting native IP prioritization (DiffServ, TOS, Precedence), Ethernet 802.1p, as well as 802.11e's WMM and TSPEC wireless QoS standards. IdentifiFi Wireless devices support distinct queues on all interfaces, whether wired or wireless.

When voice and data traffic are running on the same AP, voice traffic can be prioritized to ensure minimal delay and jitter for optimal voice quality. The wireless Appliances are able to translate WMM prioritized traffic to existing QoS prioritization schemes on the wired network (TOS, DSCP, etc.).

FAST AND SECURE ROAMING FOR SEAMLESS VOICE AND DATA MOBILITY

IdentifiFi Wireless Appliances manage sessions centrally to ensure fast, secure, and seamless roaming as users and devices move

throughout the radio coverage range of each AP. Seamless roaming greatly improves productivity by providing true mobility across the enterprise, all transparent to the user.

The Wireless Appliances use industry standards to deliver fast and secure roaming. 802.11i pre-authentication (Pre-Auth) ensures that the user is authenticated to adjacent APs before entering their coverage range, preserving voice calls as users move throughout the enterprise. Opportunistic Key Caching (OKC) is also a supported mechanism which greatly improves device roaming times.

HIGH AVAILABILITY AND SELF-HEALING

Redundant IdentifiFi Wireless Appliances can be deployed across the network and operate in failover or load sharing mode. Access points can be configured for fast-failover mode to allow configuration and service restoration (in tunnel mode) in less than two seconds, thus enabling user sessions to continue uninterrupted. When switching traffic locally, APs continue to provide service even when the link to the wireless Appliance is severed and can be configured to resume service should a power outage force them to restart.

IdentifiFi Wireless APs also feature Dynamic Radio Management, which enables the network to automatically adapt to changes in the RF environment or failure of any individual APs, ensuring availability and performance to users. Each wireless AP continuously monitors channel use, signal to noise ratio (SNR) for interference, and the receive power of neighboring APs (IdentifiFi or third party) to adjust their channel and transmit power.

Extreme Networks Wireless Appliance



SUPPORTED FEATURES	V2110	C25	C5210
CAPACITY			
Total APs supported per appliance	500	100	2,000
Total APs supported in standard mode	250	50	1,000
Additional APs supported in high-availability mode	250	50	1,000
Total simultaneous users per Appliance	8,192	2,048	16,384
Total simultaneous users in standard mode	4,096	1,024	8,192
Additional simultaneous users in high-availability mode	4,096	1,024	8,192
MANAGEABILITY			
Pre-standard (CAPWAP)	✓	✓	✓
Integrated VLAN-VNS	✓	✓	✓
Auto-discovery of new APs	✓	✓	✓
CDR/RADIUS accounting	✓	✓	✓
Visibility through Extreme Networks OneFabric™ Control Center	✓	✓	✓
Integration with Extreme Networks Oneview	✓	✓	✓
Integration with Extreme Networks NAC	✓	✓	✓
Integration with Extreme Networks IPS and SIEM	✓	✓	✓
PERFORMANCE AND AVAILABILITY			
High availability with automatic failover to a backup controller (license included)	✓	✓	✓
Client mobility with fast failover and session availability	✓	✓	✓
Dynamic Radio Management (DRM), Flexible Client Access (airtime fairness), Load Balancing & Band-steering	✓	✓	✓
Support for hybrid traffic forwarding: local switching at AP or controller-based switching (based upon user, application or segment)	✓	✓	✓
Dual, hot swappable power supplies	-	-	✓
SECURITY			
Robust standards-based security: 802.11i, WEP, WPA, WPA2, TKIP, AES	✓	✓	✓
802.1x Authentication: EAP-TLS, EAP-SIM, EAP-TTLS, PEAP, EAP-MD5, EAP-FAST	✓	✓	✓
RADIUS Authentication and Accounting	✓	✓	✓
Encryption Algorithms: AES (CCMP), RC4-40, 104, 128-bit (TKIP, WEP)	✓	✓	✓
Guest Services (captive portal, URL redirect, NAC) and Walled Garden (unauthorized access to URL)	✓	✓	✓
Advanced filtering and integration with OneFabric™ Control Center Policy Manager	✓	✓	✓
VOICE			
Voice-over-WLAN Optimization: 802.11e/WMM, U-APSD, TSPEC, CAC, QBSS	✓	✓	✓
Wired-Wireless (DSCP/TOS-to-WMM) QoS Mapping	✓	✓	✓
Roaming between IP subnets	✓	✓	✓
Roaming between multiple appliance	✓	✓	✓
NETWORKING			
SNMPv2c/v3	✓	✓	✓
Routing – OSPF v2	✓	✓	✓
CSMA/CD	✓	✓	✓
802.11-802.3 bridging	✓	✓	✓
IEEE 802.1D-compliant bridging	✓	✓	✓
IEEE 802.1Q VLAN tagging and trunking	✓	✓	✓
Proxy ARP	✓	✓	✓
Link Aggregation (Static LAGs)	NA	✓	✓

Extreme Networks Wireless Appliance (cont.)

TECHNICAL SPECIFICATIONS	C25	C5210
DIMENSIONS		
Length	24.9 cm (9.8 in)	70.9cm (27.95in)
Width	43.6 cm (17.2 in)	43cm (16.93in)
Height	4.3 cm (1.7 in)	4.45cm (1.75in) - 1U
Weight	4.5 kg (10 lbs.)	14.4 kg (31.8lbs.)
ENVIRONMENTAL		
Operating Temperature	0° C to 40° C (32° F to 104° F)	10° C to 35° C (50° F to 95° F)
Storage Temperature	-40° C to 70° C (-40° F to 158° F)	-40° C to 70° C (-40° F to 158° F)
Humidity	8% to 90%, non-condensing	5% to 90%, non-condensing
MOUNTING		
19" Rack Mountable	1U configuration to fit standard 19" rack (mounting kit included)	1U configuration to fit standard 19" rack (mounting kit included)
Front and Rear Mount	I/O cabling at back of unit; power cabling and power switch at the rear	I/O cabling and power cabling at back of unit; power switch at the front
POWER RATING		
	<ul style="list-style-type: none"> • Voltage: 100-240 VAC • Frequency: 50-60 Hz • Power (max): 200W 	<ul style="list-style-type: none"> • Voltage: 110/240 VAC • Frequency: 47-63 Hz • Power (max): 750 W
PORTS		
Data Ports	2 x 10/100/1000 Base-T	2 x SFP+ (GBICs sold separately) 2 x 10/100/1000 Base-T
2Management Ports	<ul style="list-style-type: none"> • 1 x 10/100/1000 Base-T • 2 x USB Port • Console Port DB9 	<ul style="list-style-type: none"> • 1 x 10/100/1000 Base-T • 5x USB Ports available. Use one. • Console Port RJ45
STANDARDS COMPLIANCE		
Regulatory/Safety	<ul style="list-style-type: none"> • UL 60950-1 • CSA 22.1 60950 	<ul style="list-style-type: none"> • UL60950 - CSA 60950 (USA/Canada) • EN60950 (Europe) • IEC60950 (International) • CB Certificate & Report, IEC60950 GS Certification (Germany) • GOST R 50377-92 - Certification (Russia) • Ukraine Certification (Ukraine) • CE - Low Voltage Directive 2006/95/EC (Europe) • IRAM Certification (Argentina)
Emissions/Immunity	<ul style="list-style-type: none"> • FCC Part 15 (Class A) • ICES-003 (Class A) • AS/NZS CISPR 22 (Class A) • EN 55022 (Class A) • EN 55024 • EN 61000-3-2 • EN 61000-3-3 	<ul style="list-style-type: none"> • FCC/ICES-003 - Emissions (USA/Canada) • CISPR 22 - Emissions (International) • EN55022 - Emissions (Europe) • EN55024 - Immunity (Europe) • EN61000-3-2 - Harmonics (Europe) • EN61000-3-3 - Voltage Flicker (Europe) • CE - EMC Directive 2004/108 EC (Europe) • VCCI Emissions (Japan) • AS/NZS 3548 Emissions (Australia/New Zealand) • BSMI CNS13438 Emissions (Taiwan) • GOST R 29216-91 Emissions (Russia) • GOST R 50628-95 Immunity (Russia) • Ukraine Certification (Ukraine) • KC Certification (Korea)

VIRTUAL WIRELESS SERVICES ENGINE (WISE) V2110

DESCRIPTION	
Virtual Platform	VMWare ESXi 5.0 & 5.1
Virtual Machine CPUs	4 cores or higher
Virtual Machine Memory	2G or higher
Virtual Machine Storage	25G or higher
Virtual Network Interfaces	Two data ports and one management

Ordering Information

PART NUMBER	DESCRIPTION
APPLIANCE	
WS-C25	C25 WLAN Appliance. Manages 16 Access Points, expandable to 50 in 1 or 16 AP increments. Requires Regulatory Domain Key.
WS-C5210	C5210 WLAN Appliance. Manages 100 Access Points, expandable to 1000 in 25 or 100 AP increments. GBICS ordered separately (see compatibility list below). Requires Regulatory Domain Key.
VIRTUAL WIRELESS SERVICES ENGINE	
WS-V2110-8-IL	V2110 Virtual Appliance for Israel. Base of 8 APs, expandable to 250 APs in 1 or 16 AP increments
WS-V2110-8-JP	V2110 Virtual Wireless Services Engine for Japan. Base of 8 APs, expandable to 248 APs in 16 AP increments (WS-C20XCAPUP16).
WS-V2110-8-NAM	V2110 Virtual Appliance for NAM (FCC) Regulatory Domain. Base of 8 APs, expandable to 250 APs in 1 or 16 AP increments
WS-V2110-8-ROW	V2110 Virtual Appliance for Rest-of-World (verify country availability before ordering). Base of 8 APs, expandable to 250 APs in 1 or 16 AP increments.
CAPACITY UPGRADES	
WS-APCAP-1	WLAN Appliance capacity upgrade for C25 and V2110. Increases capacity of WLAN Appliance by 1 access points.
WS-APCAP-16	WLAN Appliance capacity upgrade for C25, and V2110. Increases capacity of WLAN Appliance by 16 access points.
WS-APCAP-25	WLAN Appliance capacity upgrade for C5210. Increases capacity of WLAN Appliance by 25 access points.
WS-APCAP-100	WLAN Appliance capacity upgrade for C5210. Increases capacity of WLAN Appliance by 100 access points.
WS-CTLCAPUP25	WLAN Appliance capacity upgrade for C4110 and C5110. Increases capacity of WLAN Appliance by 25 access points.
RADAR CAPACITY UPGRADES	
WS-RADAR-1	Radar capacity for C25 and V2110. Adds Radar capacity for 1 access point.
WS-RADAR-16	Radar capacity for C25 and V2110. Adds Radar capacity for 16 access points.
WS-RADAR-25	Radar capacity for C4110, C5110 and C5210. Adds Radar capacity for 25 access points.
WS-RADAR-100	Radar capacity for C5210. Adds Radar capacity for 100 access points.
REGULATORY DOMAIN KEYS	
WS-CTLREG8P-IL	V8 Regulatory Domain Key for Israel. Enables WLAN controller and access points with appropriate radio settings for Israel.
WS-CTLREG8P-JP	V8 Regulatory Domain Key for Japan. Enables WLAN controller and access points with appropriate radio settings for Japan.
WS-CTLREG8P-NAM	V8 Regulatory Domain Key for FCC Domain. Enables WLAN controller and access points with appropriate radio settings for this region.
WS-CTLREG8P-ROW	V8 Regulatory Domain Key for Rest-of-World (verify country availability before ordering). Enables WLAN Appliance and access points with appropriate radio settings for this region.
REGULATORY DOMAIN KEYS	
MGBIC-02	1 Gb, 1000BASE-T, IEEE 802.3 Cat5, Copper Twisted Pair, 100 m, RJ 45 SFP
MGBIC-LC01	1 Gb, 1000BASE-SX, IEEE 802.3 MM, 850 nm Short Wave Length, 220/550 m, LC SFP
MGBIC-LC03	1 Gb, 1000BASE-LX, MM, 1310 nm Long Wave Length, 2 km, LC SFP
10GB-LR-SFPP	10 Gb, 10GBASE-LR, IEEE 802.3 SM, 1310 nm Long Wave Length, 10 km, LC SFP+
10GB-SR-SFPP	10 Gb, 10GBASE-SR, IEEE 802.3 MM, 850 nm Short Wave Length, 33/82 m, LC SFP+
10GB-LW-SFPP	10Gb, Laserwire*SFP+ adapter for use with Laserwire cable assembly
10GB-C10-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 10 meters
10GB-C03-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 3 meters
10GB-C01-SFPP	10 Gb, pluggable copper cable assembly with integrated SFP+ transceivers, 1 meter

Warranty

As a customer-centric company, Extreme Networks is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible.

Select Extreme Networks Wireless Appliance come with a lifetime warranty. For full warranty terms and conditions please go to: <http://www.extremenetworks.com/support/enterasys-support/how-to/warranty/>.

Service & Support

Extreme Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Extreme Networks account executive for more information about Extreme Networks Service and Support.



<http://www.ExtremeNetworks.com/contact> / Phone +1-408-579-2800

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