ExtremeCloud™

High-Performance, Enterprise-Class, Cloud-Hosted Network Management

HIGHLIGHTS

BUSINESS ALIGNMENT

- Support for demanding voice/video/data applications to enhance mobile worker productivity and convenience

- Role-based access control of users, devices, and applications to deliver priority, QoS, and security in accordance with business needs

- Integrated management and security, and 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

- Zero-touch, automated provisioning of managed network devices

- Cloud-based visibility and control to simplify management, accelerate problem resolution, optimize network utilization, and automate response to network issues

- Integrated network management, and role-based access control greatly reduce administration time and effort

- Adaptive architecture reduces complexity and optimizes information flow for each application

- Secure, worldwide, highly-available network management services

- Seamless roaming inter-site and intra-sites with authentication

- Fully distributed data and control planes with enforcement at on premise devices

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

Product Overview

ExtremeCloud ™ is a resilient and scalable cloud-based network management solution offered by Extreme Networks as a subscription service. ExtremeCloud is designed and optimized to take advantage of the elasticity, resiliency, and scalability provided via state-of-the-art datacenters distributed strategically for worldwide availability. ExtremeCloud combines enterprise-grade, high-density mobility with SMB-like ease-of-use for ordering, purchasing, provisioning, and management for IT departments that are overwhelmed by their users' growing demands for more applications and more devices, ultimately driving higher-bandwidth and controls to ensure a consistent user experience. On-premise network devices are simple to deploy and manage, yet provide advanced enterprise grade functionality to allow organizations to define how your network provides consistent services for voice/video/data traffic to meet the most demand the business requirements.

ExtremeCloud can manage and provision the following enterprise-grade platforms:

- AP3935i-FCC/ROW 802.11ac/abgn Wave 2, dual-radio, dual-band, 4x4:4 MIMO indoor AP

ExtremeCloud enables 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 (BYOD), Guest services, rate limiting, multicast, filtering, and traffic forwarding. These services are enabled via a unique, flexible and extensible distributed architecture that is easily provisioned and managed via an intuitive web interface. ExtremeCloud supports mixed mode deployments of 802.11ac, 802.11n and 802.11a/b/g clients along with the ability to seamlessly roam within mobility sites; roaming with authentication is also available across multiple sites for scalability.

ExtremeCloud is an easy to use and scalable cloud-based management platform enabling the deployment of an enterprise-grade mobility solution, delivering cost-effective pricing, network integration, and low TCO while supporting a broad range of mobile voice, video, and data applications to drive enterprise productivity and reduce the overall cost of mobility. Backed by Extreme Network's industry-leading global support and services, ExtremeCloud simplifies the difficult task of ensuring a consistent user experience to end-users as they roam freely around campus.

Adaptable Network Architecture

ExtremeCloud's on premise network devices support a fully distributed architecture eliminating backhauling data traffic to a centralized location. Each managed device has the intelligence and processing capacity to handle real-time mobile applications that require seamless roaming across the campus.

ExtremeCloud controls traffic flow at the ingress point into the network; applying enforcement rules at the entry point of the network ensures that business critical network resources are protected from over-subscription and ensures a consistent user experience. A highly-adaptable and extensible flow-based architecture provides high-fidelity controls based on roles defined by what, who, and when services are needed. Different actions are supported at the rule level including allow, deny, VLAN segmentation, QoS marking, and rate limiting of application services, ensuring that services are available based on each customers' business requirements. The flow-based architecture provides unparalleled visibility into the session data with minimal impact to performance. Unique in the industry, Extreme Networks' policy-based infrastructure works independent of VLANs or SSIDs which allows the policy to roam with the user and/or device as the move about the campus and further simplifies the configuration and management of enterprise networks.

WEB-BASED CENTRALIZED MANAGEMENT

ExtremeCloud provides network administrators with a centralized web-based interface designed to easily manage both infrastructure and services. This graphical interface allows network administrators to configure, enable, or disable each device or group of devices. ExtremeCloud consolidates data received from across the network to provide meaningful statistics in easy-to-read dashboards and views.

ExtremeCloud provides remote management and makes it easier for a centralized IT team to manage a geographically distributed enterprise, regardless of where IT is located.

MULTI-SITE MANAGEMENT

ExtremeCloud provides centralized management of multiple virtual or physical sites, consolidating management information from across the entire network for a global network perspective. A site is a virtual or physical group of network devices that work together to provide continuous, seamless roaming for mobile users. Site nodes share session, profile, and policy enforcement data for up to 2,000 mobile devices ensuring that low-latency or high-bandwidth applications continue uninterrupted as users roam across the campus. For larger deployments inter-site roaming is supported via automatic re-authentication by the mobile device. For most applications, the user will not notice that their device re-authenticated ensuring a consistent user experience.

SECURITY

Security is built-into the entire fabric of ExtremeCloud and the devices that it manages. During the manufacturing process of cloud-enabled network devices, a unique certificate is installed along with the cloud-discovering services. When the managed device connects to the cloud it uses client-side certificates with a robust PKI infrastructure to prevent man-in-the-middle attacks and preserve the authenticity and confidentiality of communications between the device and the ExtremeCloud. The devices under management use SSL over TCP/443 ensuring transparent connectivity through most firewall and NAT implementations. Administrative management sessions are secured over HTTPS/SSL and different levels of administrative access are available.

High-Performance and High-Availability

ExtremeCloud delivers the perfect combination of high-performance and high-availability demanded by today's mobile user in an easy to use package. By combining unique data (unicast/multicast), voice optimization features and the latest in industry standards, ExtremeCloud provides enterprise grade reliability for all users.

HIGH SCALABILITY

ExtremeCloud provides linear scalability from small to large network deployments. The cloud platform itself was designed to scale infinitely based on an underlying elastic architecture. The network devices themselves can support up to 480 users per device and process up to 90,000 packets per second minimizing the risk of any bottlenecks in the network infrastructure. Inter-site roaming is supported across large deployments delivering real-time session-availability services across for demanding users.

FAST AND SECURE ROAMING FOR SEAMLESS

ExtremeCloud provides true end-to-end Quality of Service (QoS) with each device supporting native IP prioritization (DiffServ, TOS, Precedence), Ethernet 802.1p, as well as 802.11e's WMM and TSPEC wireless QoS standards. When voice and data traffic are running on the same network device, voice traffic can be prioritized to ensure minimal delay and jitter for optimal voice quality. The network devices are able to translate WMM prioritized traffic to existing QoS prioritization schemes on the wired network (TOS, DSCP, etc.) to ensure continuous high-priority service across the entire network.

VOICE AND DATA MOBILITY

ExtremeCloud manages sessions centrally to ensure fast, secure, and seamless roaming as users and devices move across the campus. Seamless roaming greatly improves productivity by providing true mobility across the enterprise, all transparent to the user.

ExtremeCloud managed devices use industry standards to deliver fast and secure roaming. Using 802.11i pre-authentication (Pre-Auth), 802.11r and 802.11k ensures that the user is authenticated to adjacent APs before entering the next APs 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 for legacy devices.

HIGH AVAILABILITY AND SELF-HEALING

ExtremeCloud is hosted in multiple regional datacenters across the world that offer 99.9% availability of infrastructure resources. Each datacenter offers backup and redundant services to ensure that ExtremeCloud is available when you need it. Although ExtremeCloud is a critical component to the operation of the network, the network devices do not need continuous access to ExtremeCloud in order to provide essential network services. All network services such as access control, client load balancing, authentication, etc. provided by the on premise equipment operate independently of the ExtremeCloud application. If access to ExtremeCloud is unavailable, the only services you lose are management services such as statistics, reporting, configuration changes, and firmware upgrades. However, all end-user services continue to work, thus enabling user sessions to continue uninterrupted.

ExtremeCloud managed access points also feature Dynamic Radio Management (DRM), which enables the wireless network to automatically adapt to changes in the RF environment or failure of any individual access point, ensuring availability and performance to users.

SUPPORTED FEATURES	31012 / 31013 (AP3935i-FCC/ROW)
CAPACITY	
Total devices supported per access point	480
Total APs supported per site	50
Total number of sessions per site	2,000
Total sites per account	100
Total number of sessions per account	200,000
Max roles per site	64
Max account administrators per account	20
MANAGEABILITY	
Secure Socket Layer (SSLv3) / secured communications	✓
Modern, web-based graphical interface	✓
Auto-provisioning of managed devices	✓
Worldwide availability and redundancy	✓
Out-of-band management	✓
Read-only administrator accounts	✓
Self-help administrator password reset	✓
Administrator selectable color schemes	✓
Mobile application for device registration	✓
Remote reboot of on-premise equipment	✓
Remote firmware upgrades of on-premise equipment	✓
Remote capture of over-the-air traffic for troubleshooting	✓
Remote capture of local logging data for troubleshooting	✓
PERFORMANCE AND AVAILABILITY	
Client mobility with fast failover and session availability within site (intra-site)	✓
Dynamic Radio Management (DRM) / auto channel selection and power adjustment	✓
Client load balancing with 802.11k	✓
Flexible client access (airtime fairness)	✓
Session load balancing between radios and/or bands (independent of client)	✓
Band-preferencing	✓
Network services run independent of the cloud platform	✓
SECURITY	
802.11i, WPA2-PSK (AES or Auto), WPA2 Enterprise (Radius)	✓
802.1x Authentication: EAP-TLS, EAP-SIM, EAP-TTLS, PEAP, EAP-MD5, EAP-FAST, EAP-AKA (all EAP methods)	✓
Protected Management Frames (802.11w)	✓
RADIUS authentication to local authentication services	✓
Data integrity and confidentiality protection: AES (CCMP), SHA-1, PKCS#10, X.509 DER / PKCS#12, TLS 1.2	✓
Time-based access controls	✓
Bonjour / UPnP / LLMNR containment	✓
Layer 2 – 4 rule enforcement (allow, deny, contain to VLAN)	✓
Flow-based access control	✓
VOICE / DATA	
Voice-over-WLAN Optimization: 802.11e/WMM, U-APSD, TSPEC, CAC, QBSS	✓
Fast roaming with 802.11r	✓
Wired-Wireless (DSCP/TOS-to-WMM) QoS Mapping	✓
Intra-site seamless roaming (up to 50 APs / 2,000 sessions)	✓
Inter-site roaming with re-authentication (no limits)	✓

Extreme®
Connect Beyond the Network

Ordering Information

PART NUMBER	PRODUCT DESCRIPTION
31012	WS-AP3935i-FCC (US, Puerto Rico, Colombia) - Dual band Dual Radio 802.11ac/abgn, 4x4:4 MIMO Indoor Wave 2 access point with eight internal antenna array and active/active E/N data ports (Requires V10.01 or higher)
31013	WS-AP3935i-ROW (EU and Rest-of-World; verify country availability) - Dual band Dual Radio 802.11ac/abgn, 4x4:4 MIMO Indoor Wave 2 access point with eight internal antenna array and active/active E/N data ports

SERVICE PART NO.	SERVICE DESCRIPTION
91011-31012	ExtremeWorks CLOUD TAC & OS with Next Business Day Onsite 31012
91008-31012	ExtremeWorks CLOUD TAC & OS with 4 Advanced Hardware Replacement Onsite 31012
91007-31012	ExtremeWorks CLOUD TAC & OS with 4HR Advanced Hardware Replacement 31012
91004-31012	ExtremeWorks CLOUD TAC & OS with NBD Advanced Hardware Replacement 31012
91000-31012	ExtremeWorks CLOUD TAC & OS 31012
97304-31012	ExtremeWorks CLOUD Education NBD Advanced Hardware Replacement 31012
91011-31013	ExtremeWorks CLOUD TAC & OS with NBD Advanced Hardware Replacement Onsite 31013
91008-31013	ExtremeWorks CLOUD TAC & OS 4HR Advanced Hardware Replacement Onsite 31013
91007-31013	ExtremeWorks CLOUD TAC & OS 4HR Advanced Hardware Replacement 31013
91004-31013	ExtremeWorks CLOUD TAC & OS NBD Advanced Hardware Replacement 31013
91000-31013	ExtremeWorks CLOUD TAC & OS 31013

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.

For full warranty terms and conditions please go to: http://www.extremenetworks.com/support/policies/warranty

Service and 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/support