

# Customer Release Notes

## ExtremeCloud IQ Controller

Firmware Version V.10.11.02.0013

March 11, 2025

### INTRODUCTION

The ExtremeCloud IQ Controller is a next generation orchestration application offering all the mobility services required for modern unified access deployments. The ExtremeCloud IQ Controller includes comprehensive critical network services for wireless and wired connectivity, wireless device secure onboarding, distributed and centralized data paths, role-based access control through the Application Layer (Layer 7), integrated location services, and IoT device onboarding through a single platform. Built on field-proven architectures with the latest technology, the embedded operating system supports containerization of applications, enabling future expansion of value-added applications for the unified access edge.

- The CE1000 is an application on the Universal Compute Platform 1130C, replacing the E1120 appliance with similar functionality and limits. It supports up to 250 APs/Defenders and 2000 users standalone, or 500 APs and 4000 users in an availability setup.
- The E1120 is an entry to mid-level platform expandable to 250 APs/Defenders, 100 switches, and 4,000 mobility sessions in high-availability mode.
- The E2120 is an application appliance that meets the needs of medium-sized, high-density and mission-critical deployments. It supports up to 4,000 APs/Defenders, 800 switches, and 32,000 mobility sessions in high-availability mode. Optionally, a redundant power supply can be ordered separately.
- The E2122 is an application appliance that meets the needs of medium-sized, high-density and mission-critical deployments. It supports up to 4,000 APs/Defenders, 800 switches, and 32,000 mobility sessions in high-availability mode. Optionally, a redundant power supply can be ordered separately.
- The E3120 is a large application appliance that meets the needs of high-density and mission-critical deployments. It supports up to 20,000 APs/Defenders, 2000 switches, and 100,000 mobility sessions in high-availability mode. Optionally, a redundant power supply can be ordered separately.
- The E3125 is a large application appliance that meets the needs of high-density and mission-critical deployments. It supports up to 20,000 APs/Defenders, 2000 switches, and 100,000 mobility sessions in high-availability mode. Optionally, a redundant power supply can be ordered separately.
- The VE6120 is an elastic virtual appliance that supports up to 1,000 APs/Defenders, up to 400 switches, and 16,000 mobility sessions in high-availability mode, depending on the hosting hardware.
- The VE6120, VE6120H, and VE6120K offer elastic capacities to cover the full range of offerings as VMWare/MS Hyper-V/Linux KVM, ranging from VE6120/VE6120H/VE6120K-Small to VE6120/VE6120H/VE6120K-Large.
- The VE6125/VE6125K XL are virtual appliances that support up to 4,000 APs/Defenders, up to 400 switches, and 32,000 mobility sessions in high-availability mode, depending on the hosting hardware.

The ExtremeCloud IQ Controller can expand capacity to meet any growing business needs. The hardware and virtual packages are available for purchase. The customer purchases adoption capacity as a Right-To-Use Subscription model, supporting flexible quantities (per managed device) and term (multiple-year extended term) options.

Changes in 10.11.02.0013	ID
Fixed check for maximum topology count on the AP.	CFD-12884
Resolved an issue where the LLDP Port-System Name from a switch was not correctly displayed due to improper data parsing, ensuring accurate network information visibility and interoperability.	CFD-12801
Corrected an issue where a required URL parameter for the external captive portal was missing, causing authentication or redirection failures.	CFD-13284
Strengthened an internal component to properly handle inter-process communication messages, thereby enhancing system reliability and resilience.	CFD-13354
Improved memory usage through multiple optimizations, including data type adjustments, garbage collection enhancements, and error handling improvements.	CFD-12142
Fixed a UI glitch on the Advanced VLAN page that prevented multicast rules from being rearranged or deleted, ensuring changes are applied correctly.	CFD-13486
Improved the reporting of octet counts in RADIUS accounting stop requests, ensuring more reliable and precise network usage data.	CFD-13188
Optimized the access point upgrade reports page to significantly reduce loading times, ensuring a faster and more responsive user experience.	CFD-13123
Fixed Radio ID mismatch in Station Events.	CFD-12770
Improved handling of client sessions to ensure seamless transitions when the client roams between two sites.	CFD-12992
Enhanced the GUI when creating a new network to accurately reflect the relationship and mapping between authentication methods and captive portal types.	CFD-13084
Fixed a critical issue in which a configured external captive portal was incorrectly saved as an internal one, ensuring accurate settings and seamless authentication.	CFD-13475
Resolved issues affecting data accuracy and consistency, improving overall reliability and reporting.	CFD-12435, CFD-12516, CFD-12313, CFD-12694
Resolved an issue where the GUI failed to display the 6GHz heat map on floor plans.	CFD-12578
Improved AFC timer expiry handling.	CFD-12681
Updated compliance tables to reinstate channels 149 and above, which were inadvertently removed.	WOS-7087
Introduced Indonesia outdoor mode support for AP460S12C.	WOS-7043
Enhanced the AP sensor terminating functionality for ADSP.	CFD-12419

Changes in 10.11.02.0013	ID
Improved 802.11b legacy support. This setting is configurable via AP CLI.	CFD-12560
Improved HA failover times for AP3000 and AP3000X.	CFD-12968
Enhanced column handling in the GUI for site configuration, providing a more streamlined and user-friendly experience.	CFD-12726
Improved the reliability of stats display on the dashboard by strengthening the data handling component.	CFD-12343
Adjusted map parameters to resolve an issue with floor plan scaling, ensuring it appears at a readable size.	XCC-5821

Enhancements in 10.11.01.0025	ID
Introduced support for the latest encryption standard GCMP-256 for WPA3 Personal Network (WLAN). Wi-Fi 7 supports 256-bit Galois Counter Mode Protocol (GCMP-256), providing stronger data protection than CCMP-128. The AP indicates the support for GCMP-256 in RSNE.	XCC-5048
Optimized AFC server queries to only send requests when standard-power capable AP 6GHz radios are operational.	XCC-5026
Extended ExtremeCloud IQ Controller functionality to support ExtremeCloud Tunnel Concentrator running on UCP 1130C as a Generic Routing Encapsulation (GRE) concentrator.	XCC-5146
Improved the resilience of Windows+Intel AC/AX clients multicast streaming.	XCC-4872
Release 10.10.01 introduced the AP5020 Wi-Fi 7 Access Point, featuring software-defined radios with six configurable modes. Initially, modes 1 and 3 were supported. With Release 10.11.01, we now support the remaining modes (2, 4, 5, and 6). For detailed information on the AP5020 and its software-defined radio modes, please refer to the AP5020 datasheet.	XCC-4662
Implemented support for Beacon Protection. WPA3 introduced Beacon Protection, whereby an AP provisions its clients with the AP's Beacon Integrity Key during security association setup and adds a message integrity check (MIC) element to Beacon frames that covers all but the timestamp field of the Beacon frame contents. This allows clients that are associated with the AP to verify the Beacon frame integrity.	XCC-3369
We are pleased to announce the addition of Mesh and Client Bridge capabilities for AP5050U/D on the 6 GHz frequency band, leveraging standard power transmission and incorporating Automatic Frequency Coordination (AFC) checks to ensure compliant operation.	XCC-4390
This release introduces highly anticipated support for ExtremeGuest Essentials and ExtremeAirDefense Essentials. To utilize these features and future cloud capabilities, ExtremeCloud IQ Controller requires Pilot licenses at the system level, equivalent to the total number of managed Access Points (APs), regardless of AP model type.	XCC-4285

Enhancements in 10.11.01.0025	ID
The Pilot-only mode is configurable via a toggle option by administrators and can be reverted if necessary.	
We are pleased to announce the integration of ExtremeCloud IQ Controller with ExtremeGuest Essentials and ExtremeAirDefense Essentials.	XCC-3499
Improved data accuracy and reporting capabilities when integrating ExtremeCloud IQ Controller with ExtremeCloud IQ.	XCC-4584

Changes in 10.11.01.0025	ID
Removed an unnecessary check for duplication of the Fabric Attach configuration item, streamlining the upgrade process.	CFD-12402
Resolved an AP 802.1X authentication issue utilizing PEAP, wherein improperly formatted passwords resulted in failed AP port authentication in some cases.	CFD-12051/CFD-11944
Resolved an issue where the license expiration warning time was not recalculated when transitioning from connected mode to air-gap mode.	CFD-12309
Enhanced the Ekahau floor plan import functionality to show the AP names on the floor plan instead of '?' mark that previously served as a placeholder.	CFD-11860
Resolved an issue that prevented AP5010 information from displaying on reports and floorplans.	CFD-11415
Resolved an issue where data could be read from Redis before it was fully ready, leading to unintended changes in network order.	CFD-11093 CFD-12086
We're excited to announce the availability of 6 GHz Mesh functionality on outdoor AP5050, leveraging standard power (AFC). Note that this initial release supports 20MHz channels only; broader channel widths will follow in a future release.	WOS-6799

**Extreme Networks recommends that you thoroughly review this document prior to installing or upgrading this product.**

**For the latest firmware versions, visit the download site at:**  
[www.extremenetworks.com/support/](http://www.extremenetworks.com/support/)

**FIRMWARE SPECIFICATIONS**

Status	Version No.	Type	Release Date
Current Version	V.10.11.02.0013	Maintenance Release	March 11, 2025
Previous Version	V.10.11.01.0025	Feature Release	October 03, 2024

**SUPPORTED APPLIANCES, ACCESS POINTS, AND SWITCHES**

Product Name	Image
ExtremeCloud IQ Controller CE1000 application for Universal Compute Platform 1130C	XIQC-10.11.02.0013-1.dke
ExtremeCloud IQ Controller VE6120 VMware Min Supported ESXi version 5.1 or later (tested 7.0)	XIQC-10.11.02.0013-1.dle
ExtremeCloud IQ Controller VE6120H (Windows server 2016 or later)	XIQC-10.11.02.0013-1.spe
ExtremeCloud IQ Controller VE6120K Linux KVM	XIQC-10.11.02.0013-1.dve
ExtremeCloud IQ Controller VE6125 Min Supported ESXi version 5.5 or later (tested 7.0)	XIQC-10.11.02.0013-1.rse
ExtremeCloud IQ Controller VE6125K Linux KVM	XIQC-10.11.02.0013-1.mfe
ExtremeCloud IQ Controller E1120	XIQC-10.11.02.0013-1.sme
ExtremeCloud IQ Controller E2120	XIQC-10.11.02.0013-1.jse
ExtremeCloud IQ Controller E2122	XIQC-10.11.02.0013-1.wze
ExtremeCloud IQ Controller E3120	XIQC-10.11.02.0013-1.ose
ExtremeCloud IQ Controller E3125	XIQC-10.11.02.0013-1.dze
AP3000-WW	AP3xxx-LEAN-10.11.2.0-006R.img
AP3000X-WW	AP3xxx-LEAN-10.11.2.0-006R.img
AP302W-CAN AP302W-FCC AP302W-IL AP302W-WR	AP302W-LEAN-10.11.2.0-006R.img
AP305C-1-CAN AP305C-1-FCC AP305C-1-IL AP305C-1-WR AP305C-CAN AP305C-FCC AP305C-IL AP305C-WR AP305CX-CAN AP305CX-FCC AP305CX-IL AP305CX-WR	AP3xxC-LEAN-10.11.2.0-006R.img
AP310e-1-WR AP310e-CAN AP310e-FCC	AP3xx-LEAN-10.11.2.0-006R.img

Product Name	Image
AP310e-IL AP310e-WR AP310i-1-WR AP310i-CAN AP310i-FCC AP310i-IL AP310i-WR	
AP360e-CAN AP360e-FCC AP360e-IL AP360e-WR AP360i-CAN AP360i-FCC AP360i-IL AP360i-WR	AP3xx-LEAN-10.11.2.0-006R.img
AP3912i-FCC AP3912i-ROW	AP391x-10.51.26.0001.img
AP3915e-FCC AP3915e-ROW AP3915i-FCC AP3915i-ROW	AP391x-10.51.26.0001.img
AP3916ic-FCC AP3916ic-ROW	AP391x-10.51.26.0001.img
AP3916-camera	AP3916IC-V1-0-14-1.dlf
AP3917e-FCC AP3917e-ROW AP3917i-FCC AP3917i-ROW AP3917k-FCC AP3917k-ROW	AP391x-10.51.26.0001.img
AP3935e-FCC AP3935e-ROW AP3935i-FCC AP3935i-IL AP3935i-ROW	AP3935-10.51.26.0001.img
AP3965e-FCC AP3965e-ROW AP3965i-FCC AP3965i-ROW	AP3935-10.51.26.0001.img
AP4000-1-WW AP4000-WW	AP4000x-LEAN-10.11.2.0-006R.img
AP410C-1-CAN AP410C-1-FCC AP410C-1-IL AP410C-1-WR AP410C-CAN AP410C-FCC	AP4xxC-LEAN-10.11.2.0-006R.img

Product Name	Image
AP410C-IL AP410C-WR	
AP410e-CAN AP410e-FCC AP410e-IL AP410e-WR AP410i-1-FCC AP410i-1-WR AP410i-CAN AP410i-FCC AP410i-IL AP410i-WR	AP4xx-LEAN-10.11.2.0-006R.img
AP460C-CAN AP460C-FCC AP460C-IL AP460C-WR AP460S12C-CAN AP460S12C-FCC AP460S12C-IL AP460S12C-WR AP460S6C-CAN AP460S6C-FCC AP460S6C-IL AP460S6C-WR	AP4xxC-LEAN-10.11.2.0-006R.img
AP460e-CAN AP460e-FCC AP460e-IL AP460e-WR AP460i-CAN AP460i-FCC AP460i-IL AP460i-WR	AP4xx-LEAN-10.11.2.0-006R.img
AP5010-WW	AP5xxx-LEAN-10.11.2.0-006R.img
AP5020-WW	AP5020-10.11.1.0-044R.img
AP5050D-WW	AP5xxx-LEAN-10.11.2.0-006R.img
AP5050U-WW	AP5xxx-LEAN-10.11.2.0-006R.img
AP505i-FCC AP505i-WR	AP5xx-LEAN-10.11.2.0-006R.img
AP510e-FCC AP510e-WR AP510i-1-FCC AP510i-1-WR AP510i-FCC AP510i-WR	AP5xx-LEAN-10.11.2.0-006R.img
AP560h-FCC AP560h-WR AP560i-FCC AP560i-WR	AP5xx-LEAN-10.11.2.0-006R.img

Product Name	Image
SA201	AP391x-10.51.26.0001.img
Switches	
210-12p-10GE2 210-24p-10GE2 210-48p-10GE2 210-12p-10GE2 POE 210-24p-10GE2 POE 210-48p-10GE2 POE	210-series_V1.02.05.0013.stk fp-connector-3.3.0.4.pyz (cloud connector)
220-12p-10GE2 220-24p-10GE2 220-48p-10GE2 220-12p-10GE2 POE 220-24p-10GE2 POE 220-48p-10GE2 POE	220-series_V1.02.05.0013.stk fp-connector-3.3.0.4.pyz (cloud connector)
X435-24P/T-4S	summitlite_arm-30.7.1.1.xos summitlite_arm-30.5.0.259-cloud_connector-3.4.2.6.xmod
X440G2-12t-10G4 X440G2-24t-10G4 X440G2-48t-10G4 X440G2-12t-10G4 POE X440G2-24t-10G4 POE X440G2-48t-10G4 POE	summitX-30.2.1.8-patch2-5.xos summitX-30.2.1.8-cloud_connector-3.4.1.8.xmod (cloud connector)
X465_24W X465_48T X465_48P X465_48W X465_24MU X465_24MU_24W	onie-30.2.1.8-patch2-5-vpex_controlling_bridge.lst onie-30.2.1.8-cloud_connector-3.4.1.20.xmod
X620-16x	summitX-30.2.1.8-patch2-5.xos summitX-30.2.1.8-cloud_connector-3.4.1.8.xmod (cloud connector)

**NETWORK MANAGEMENT SOFTWARE SUPPORT**

Network Management	Version
ExtremeControl™	22.3 or higher
ExtremeAnalytics™	22.3 or higher
ExtremeCloud™ A3	4.0
ExtremeCloud™ IQ-Site Engine	22.3 or higher



Air Defense	Version
ExtremeAirDefense™	10.6.2
ExtremeGuest	Version
ExtremeGuest™	6.0.1.0-001

**Note:**

Platform and AP Configuration functions are not supported by ExtremeManagement™. ExtremeCloud™ IQ Site Engine v21.9 or greater is required.

**INSTALLATION INFORMATION**

Appliance Installations	
CE1000	<a href="#">Extreme Campus Controller CE1000 Installation Guide</a>
E1120	<a href="#">Extreme Campus Controller E1120 Installation Guide</a>
E2120	<a href="#">Extreme Campus Controller E2120 Installation Guide</a>
E2122	<a href="#">Extreme Campus Controller E2122 Installation Guide</a>
E3120	<a href="#">Extreme Campus Controller E3120 Installation Guide</a>
E3125	<a href="#">Extreme Campus Controller E3125 Installation Guide</a>
VE6120/VE6125	<a href="#">Extreme Campus Controller VE6120/VE6125 Installation Guide</a>
VE6120H	<a href="#">Extreme Campus Controller VE6120H Installation Guide</a>
VE6120K/VE6125K	<a href="#">Extreme Campus Controller VE6120K/VE6125K Installation Guide</a>

**Known Restrictions and Limitations**

Known Restriction or Limitation	ID
Certain wireless clients (such as Qualcomm Killer Wireless 1535 and Intel 7265D/8260/8265) have been known to not complete the 4-way handshake in order to fulfill the association process in networks that have both PMF/MFP (802.11w) and Fast-Transition (802.11r [FT]) enabled. The currently-recommended workaround is to not enable PMF/MFP configuration on a service that is also using 802.11r. Such clients	nse0003416

Known Restriction or Limitation	ID
<p>have been demonstrated to work correctly on services with just 802.11r (FT) enabled.</p>	
<p>Please note that for the use of Mesh function on 6 GHz, you have to attach a network (WLAN) to the Mesh APs. This limitation will be addressed in an upcoming release.</p>	XCC-5616
<p>Important Note: A known issue affects the map display size on the AP Monitoring page. This will be resolved in an upcoming software release.</p>	XCC-5365
<p>Controller functions, including internal communications and containerized applications, require the usage of reserved address space. Two subnets are reserved internally to the controller:                      * {{172.17.0.0/24}}                      * 172.31.0.16/28                      The user interface prevents assigning IP addresses to local interfaces (physical or virtual) that conflict with these ranges.</p>	XCC-3121
<p>For ExtremeCloud IQ Controller (v5) systems previously onboarded into an ExtremeCloud IQ account for visibility, following an upgrade to ExtremeCloud IQ Controller (v10), you must remove and redeclare the controller to ExtremeCloud IQ. This facilitates the re-synchronization of the controller with the ExtremeCloud IQ account.</p>	XCC-2463
<p>Before installing a new ExtremeCloud IQ Controller license, you must configure Network Time Protocol (NTP) Server settings. Licensing management is dependent on accurate NTP configuration. Configure NTP via the ExtremeCloud IQ Controller initial Configuration Wizard or go to Admin &gt; System &gt; Network Time to configure and verify the NTP settings.</p>	XCC-2353
<p>For ExtremeCloud IQ Controller configured for authentication of administrators over RADIUS server, the GUI responsiveness may be slow, possibly over 30 seconds if the target server(s) are unavailable or unreachable at login time. If the outage is extensive, the system will eventually timeout to validate against local credentials when provisioned.</p>	XCC-2350
<p>ExtremeCloud IQ-Site Engine 22.3.10 is the minimum required revision for representation of ExtremeCloud IQ Controller 10.01.01 or later revisions. Extreme Management Center (8.5.x or later) does NOT recognize a controller running ExtremeCloud IQ Controller 10.01.01 or later.</p>	XCC-2348
<p>To improve stability of mesh when SmartRF is used with a mesh root AP:                      * Use fixed channel width.                      * Set SmartRF sensitivity to "Low" to decrease the time that the AP will abandon the channel for scanning.</p>	XCC-1684
<p>Important Note: When using AP5050 as a MESH root on 6 GHz, adding a second MESH root on 5 GHz will disrupt connections between 6 GHz root and non-root MESH nodes. This issue is scheduled to be resolved in an upcoming release.</p>	WOS-6843
<p>Important Note:                      * 802.11mc is not recommended for use on 2.4 GHz.                      * Supported AP models for 11mc on 5 GHz: AP5020, AP5010,</p>	WOS-5655

Known Restriction or Limitation	ID
<p>AP3000, and AP5050.                      * 6 GHz 11mc support is currently exclusive to AP5020, with expansion to other models planned in future releases.</p>	
<p>Allow UTF-8 characters in JSON payload for all Rest API so non-ASCII / Unicode characters are accepted in Rest API requests to comply with current Rest API standards.</p>	ECA-321
<p>MAC-based authentication and WPA3-Compatibility (SAE or WPA2-PSK) and PMF "Required" may not work. This issue will be addressed in a future release.</p>	ECA-1961
<p>For the Access Point Test feature, when using the wireless client option for the 5GHz band, if the access point is operating in dual-5GHz mode, and radio 1 is set to 5GHz low (not 2.4GHz), the AP as a client will operate on the 5GHz low band. This may limit the test client's capability to connect to the infrastructure APs that operate in the 5GHz high band.                      Recommendation: Only exercise wireless AP Test on devices that are configured for full-band mode.</p>	XCC-3284
<p>AP3900 series requires a minimum firmware revision of 10.41.01 (or later) for onboarding into ExtremeCloud IQ Controller. Customers migrating from ExtremeWireless installations or onboarding new AP3900 inventory to ExtremeCloud IQ Controller must ensure APs are running at least the minimum revision prior to onboarding. Depending on the age of the inventory, this may require a manual upgrade of the unit firmware outside of the management framework.</p>	XCC-3178
<p>Upgrade failure occurs when using special characters (escape back slash) in topology.</p>	ECA-466
<p>In SmartRF mode, the AP510 power may temporarily drop to 0dBm and return to 4dBm.</p>	ECA-469
<p>With on-air-busy channel conditions, it is possible for the ACS not to produce the expected results. In this instance, perform manual channel selection.</p>	ECA-528
<p>Widgets do not show tooltips for lower and upper values. This issue will be addressed in a future release.</p>	ECA-567
<p>Firmware for ExtremeWireless AP3900 series access points does not currently support Smart RF. No Smart RF data is displayed.</p>	ECA-1484
<p>With 11r enabled on an 802.1x network, a Windows 10 PC with an Intel Wi-Fi card (ax200, ax210), running driver version 22.170.0.3 cannot reconnect automatically after an MU is disconnected. The workaround is to toggle the Wi-Fi off and on from the PC.</p>	WOS-4480
<p>Default router/gateway should be configured with a next hop associated with one of the physical interfaces. Pointing the default route to the Admin interface will lead to issues because access points will not get the correct services from the data plane. We recommend setting the default route via data ports, and, if necessary, configuring static routes on the Admin port for administration level access.</p>	Info
<p>For AP deployments in remote locations where access points and controllers may need to be discovered and connected over firewalls,</p>	Info

Known Restriction or Limitation	ID
<p>a best practice is to leverage DNS or DHCP Option 60/43 methods for zero-touch-provisioning discovery. These methods provide direct connectivity to the defined IP address. DHCP Option 78, which refers to the controller as a Service Location Protocol – Directory Agent (SLP- DA), requires the exchange of SLP protocol between the AP and the appliance at the core, necessitating that UDP 427 be allowed by any firewall in the path. For such installations, discovery over DHCP Option 78 assist is not recommended.</p> <p>When using SLP, for an AP to establish connection with a controller, it must first exchange SLP Directory Agent registration before IPSEC establishment with the eventual controller. That means that SLP UDP 427 must be open along the path.</p> <p>Further issues can occur if Network Address Translation (NAT) is involved. While this method is popular and widely deployed within a homogenous campus, it may result in inadvertent complications for remote connections. Therefore, it should not be used in favor of an alternate method (DHCP 60/43, DNS, or static override).</p>	
<p>When configuring system for NTP time assignment, ensure that the NTP server is properly configured. Incorrect time settings (like timestamps far in the future) may adversely affect system operation, such as certificate expiration that may trigger failures in device registration or system instability.</p>	<p>Info nse0003696</p>
<p>Appliances in a High-Availability pair must be of the same model and at the same exact software revision (and time synched) for configuration synchronization to propagate to the peer. During the upgrade process of a High-Availability pair, any configuration changes made while only one appliance has been upgraded (and therefore resulting in a version mismatch) will not be propagated until the peer is correspondingly upgraded to the same revision. We recommend that you do NOT perform configuration changes to one of the members of a High-Availability pair while the peer has a different software revision.</p>	<p>Info nse0005086</p>
<p>For High-Availability configurations, during upgrade phases or configuration restore operations, wait until the availability link is established and synchronized before attempting to make any new configuration changes. The Availability status will only re-establish to Synched status when both appliances are running the exact same firmware revision.</p> <p>During upgrade periods, the Availability link will only re-establish when both the appliance status of availability link and synchronization status can be found.</p> <p>Go to:</p> <ul style="list-style-type: none"> <li>.* "Network Health" widget on the Dashboard, or</li> <li>.* Administration -&gt; System -&gt; Availability</li> </ul>	<p>Info ECA-776</p>
<p>Recommendation settings for setup of redundant RADIUS server authentication:</p> <ul style="list-style-type: none"> <li>.* Response Window to 5s [Default: 20s]</li> <li>.* Revival Interval to 10s [Default: 60s]</li> </ul>	<p>Info ECA-875</p>
<p>11mc not recommended for 2.4GHz band 11mc works better with wider channels.</p>	<p>Info</p>

**SUPPORTED WEB BROWSERS**

For ExtremeCloud IQ Controller GUI, the following Web browsers were tested for interoperability:

Browsers	Version	OS
Chrome	117.0.5938.152	Windows 10 Windows 11
Microsoft Edge	117.0.2045.60	Windows 10 Windows 11
Firefox	118.0.01	Windows 10 Windows 11

**Note:** Microsoft IE browser is not supported.

For Wireless Clients (Captive Portal, AAA), the following Web browsers are supported:

Browsers	Version	OS
Chrome	117.0.5938.152	Windows 10 Windows 11
Microsoft Edge	117.0.2045.60	Windows 10
Firefox	118.0.01	Windows 10 Windows 11
Safari	15.4 (17613.1.17.1.13)	iOS 16.7.1

**PORT LIST**

The following list of ports may need to remain open so that the Appliances and APs will function properly on a network that includes protection equipment like a firewall.

**ExtremeCloud IQ Controller TCP/UDP Port Assignment Reference**

Comp. Source	Comp. Dest	Protocol (TCP/UDP)	Src Port	Dest Port	Service	Remark	Open Firewall Req'd
<b>Ports for AP/Appliance Communication</b>							
Appliance	Access Point	UDP	Any	13910	WASSP	Management and Data Tunnel between AP and Appliance	Yes
Access Point	Appliance	UDP	Any	13910	WASSP	Management and Data Tunnel between AP and Appliance	Yes
Appliance	Access Point	UDP	4500	Any	Secured WASSP	Management Tunnel between AP and Appliance	Optional

Comp. Source	Comp. Dest	Protocol (TCP/UDP)	Src Port	Dest Port	Service	Remark	Open Firewall Req'd
Access Point	Appliance	UDP	Any	4500	Secured WASSP	Management Tunnel between AP and Appliance	Optional
Access Point	Appliance	UDP	Any	13907	WASSP	AP Registration to Appliance	Yes
Access Point	Appliance	UDP	Any	67	DHCP Server	If Appliance is DHCP Server for AP	Optional
Access Point	Appliance	UDP	Any	68	DHCP Server	If Appliance is DHCP Server for AP	Optional
Access Point	Appliance	UDP	Any	427	SLP	AP Registration to Appliance	Optional
Appliance	Access Point	TCP/UDP	Any	69	TFTP	AP image transfer	Yes
Access Point	Appliance	TCP/UDP	Any	69	TFTP	AP image transfer	Yes
Appliance	Access Point	TCP/UDP	Any	22	SCP	AP traces	Yes
Any	Access Point	TCP	Any	2002, 2003	RCAPD	AP Real Capture (if enabled)	Optional
Any	Access Point	TCP/UDP	Any	22	SSH	Remote AP login (if enabled)	Optional
Any	Access Point	TCP/UDP	Any	445	Microsoft CIFS	LDAP support	Optional
Any	Access Point	TCP/UDP	Any	137, 138, 139	NetBIOS	LDAP support	Optional
<b>Ports for Appliance Management</b>							
Any	Appliance	TCP/UDP	Any	22	SSH	Appliance CLI access	Yes
Any	Appliance	TCP/UDP	Any	5825	HTTPS	Appliance GUI access	Yes
Any	Appliance	TCP/UDP	Any	161	SNMP	Appliance SNMP access	Yes
Any	Appliance	TCP/UDP	Any	162	SNMP Trap	Appliance SNMP access	Yes
Any	Appliance	TCP	Any	80	HTTP	Appliance SNMP access ICP Self Registration	Yes
Any	Appliance	TCP	Any	443	HTTPS	ICP Self Registration	Yes
Any	Appliance	UDP	500	500	IKE	IKE phase 1	Yes
Any	Appliance	TCP/UDP	Any	69	TFTP	TFTP support	Yes

Comp. Source	Comp. Dest	Protocol (TCP/UDP)	Src Port	Dest Port	Service	Remark	Open Firewall Req'd
Any	Appliance	UDP	Any	4500	IPSec	IPSec NAT traversal	Yes
Any	Appliance	UDP	Any	13907	Discovery	Used by Discovery	Yes
Any	Appliance	UDP	Any	13910	WASSP	Used by L3 WASSP	Yes
<b>Ports for Inter Controller Mobility<sup>1</sup> and Availability</b>							
Appliance	Appliance	UDP	Any	13911	WASSP	Mobility and Availability Tunnel	Yes
Appliance	Appliance	TCP	Any	427	SLP	SLP Directory	Yes
Appliance	Appliance	TCP	Any	20506	Langley	Remote Langley Secure	Yes
Appliance	Appliance	TCP	Any	60606	Mobility	VN MGR	Yes
Appliance	Appliance	TCP	Any	123	NTP	Availability time sync	Yes
Appliance	DHCP Server	UDP	Any	67	SLP	Asking DHCP Server for SLP DA	Yes
DHCP Server	Appliance	UDP	Any	68	SLP	RespoECA from DHCP Server for SLP DA request	Yes
Appliance	Appliance	TCP	Any	6380	REDIS	High Availability (HA) Pair Configuration Synchronization	Yes
<b>Core Back-End Communication</b>							
Appliance	DNS Server	UDP	Any	53	DNS	If using DNS	Optional
Appliance	Syslog Server	UDP	Any	514	Syslog	If Appliance logs to external syslog server	Optional
Appliance	RADIUS Server	UDP	Any	1812	RADIUS Authentication and Authorization	If using RADIUS AAA	Optional
Appliance	RADIUS Server	UDP	Any	1813	RADIUS Accounting	If enabled RADIUS accounting	Optional
Appliance	RADIUS server	UDP	Any	1814	RADIUS Authentication and Authorization	If using RADIUS AAA	Optional
Appliance	RADIUS server	UDP	Any	1815	RADIUS Accounting	If enabled RADIUS Accounting	Optional

<sup>1</sup>For extension of ExtremeWireless deployment via Inter Controller Mobility.

Comp. Source	Comp. Dest	Protocol (TCP/UDP)	Src Port	Dest Port	Service	Remark	Open Firewall Req'd
Dynamic Auth. Server (NAC)	Appliance	UDP	Any	3799	DAS	Request from DAS client to disconnect a specific client	Optional
Appliance	AeroScout Server	UDP	1144	12092	Location Based Service Proxy	Aeroscout Location-Based Service	Optional
AeroScout Server	Appliance	UDP	12092	1144	Location Based Service Proxy	Aeroscout Location-Based Service	Optional
Appliance	Extreme Cloud IQ	TCP	Any	443	NSight	Statistics Report into ExtremeCloud IQ	Yes

**IETF STANDARDS MIB SUPPORT**

RFC No.	Title	Groups Supported
Draft version of 802.11	IEEE802dot11-MIB	
1213	RFC1213-MIB	Most of the objects supported
1573	IF-MIB	ifTable and interface scalar supported
1907	SNMPv2-MIB	System scalars supported
1493	BRIDGE-MIB	EWC supports relevant subset of the MIB
2674	P-BRIDGE-MIB	EWC supports relevant subset of the MIB
2674	Q-BRIDGE-MIB	EWC supports relevant subset of the MIB

**EXTREME NETWORKS PRIVATE ENTERPRISE MIB SUPPORT**

Extreme Networks Private Enterprise MIBs are available in ASN.1 format from the Extreme Networks website at: <https://extremeportal.force.com/>.

**Standard MIBs**

Title	Description
IEEE802dot11-MIB	Standard MIB for wireless devices
RFC1213-MIB.my	Standard MIB for system information
IF-MIB	Interface MIB
SNMPv2-MIB	Standard MIB for system information
BRIDGE-MIB	VLAN configuration information that pertains to EWC



Title	Description
P-BRIDGE-MIB	VLAN configuration information that pertains to EWC
Q-BRIDGE-MIB	VLAN configuration information that pertains to EWC

**Siemens Proprietary MIB**

Title	Description
HIPATH-WIRELESS-HWC-MIB.my	Configuration and statistics related to EWC and associated objects
HIPATH-WIRELESS-PRODUCTS-MIB.my	Defines product classes
HIPATH-WIRELESS-DOT11-EXTNS-MIB.my	Extension to IEEE802dot11-MIB that complements standard MIB
HIPATH-WIRELESS-SMI.my	Root for Chantry/Siemens MIB

**802.11AC AND 802.11N CLIENTS**

Please refer to the latest release notes for ExtremeWireless™ 10.41.09 or later and/or ExtremeWireless WiNG 5.9.02 or later for the list of compatibility test devices.

**RADIUS SERVERS AND SUPPLICANTS**

**RADIUS Servers Used During Testing**

Vendor	Model OS	Version
FreeRADIUS	1.1.6	FreeRADIUS
FreeRADIUS IAS	1.0.1	FreeRADIUS
	5.2.3790.3959	Microsoft Server 2003 IAS
SBR50	6.1.6	SBR Enterprise edition
NPS	6.0.6002.18005	Microsoft Server 2008 NPS

**802.1x Supplicants Supported**

Vendor	Model OS	Version
Juniper Networks® / Funk	Odyssey client	Version 5.10.14353.0
		Version 5.00.12709.0
		Version 4.60.49335.0

Vendor	Model OS	Version
Microsoft®	Wireless Zero Configuration	Version Windows XP-4K-891859-Beta1
	Wireless Network Connection Configuration	Version Microsoft Window Server 2003, Enterprise Edition R2 SP2
	Wi-Fi Protected Access 2 (WPA2)/Wireless Provisioning Services Information Element (WPS IE) update for Windows XP with Service Pack 2	Version WindowsXP-KB893357-v2-x86-ENU.exe
Intel®	Intel PRO Set/Wireless	Version 13.0.0.x (with Windows® Intel® driver version 13.0.0.x)
Microsoft® Wireless Zero	Windows 7, 8, 8.1 Pro, 10 Pro Windows Phone 8.1, Windows Mobile 10	Provided with Windows®

### Appliance LAN Switch Verification

Vendor	Model OS	Version	Role
Extreme	X-460-G2	12.5.4.5	XIQC connection
Extreme	X440G2-48p-10G4	21.1.1.4	XIQC connectivity
Extreme	Summit 300-48	7.6e1.4	XIQC connection
Extreme	VSP-4850GTS-PWR	(6.0.1.1_B003) (PRIVATE) HW Base: ERS 4850	XIQC connection
Extreme	K6	08.63.02.0004	XIQC connection
Extreme	K6	08.42.03.0006	XIQC connection
Extreme	X440G2-48p-10GE4	21.1.5.2	XIQC connection
Extreme	X440-G2-12p	21.1.1.4	XIQC connection
Extreme	X460-48p	12.5.4.5	XIQC connection
Cisco	Catalyst 3550	12.1(19)EA1c	XIQC connection

**CERTIFICATION AUTHORITY**

Server Vendor	Model OS	Version
Microsoft CA	Windows Server 2003 Enterprise Edition	5.2.3790.1830
Microsoft CA	Windows Server 2008 Enterprise Edition	6.0
OpenSSL	Linux	1.1.1g

**RADIUS ATTRIBUTES SUPPORT**

**RADIUS Authentication and Authorization Attributes**

Attribute	RFC Source
Called-Station-Id	RFC 2865, RFC 3580
Calling-Station-Id	RFC 2865, RFC 3580
Class	RFC 2865
EAP-Message	RFC 3579
Event-Timestamp	RFC 2869
Filter-Id	RFC 2865, RFC 3580
Framed-IPv6-Pool	RFC 3162
Framed-MTU	RFC 2865, RFC 3580
Framed-Pool	RFC 2869
Idle-Timeout	RFC 2865, RFC 3580
Message-Authenticator	RFC 3579
NAS-Identifier	RFC 2865, RFC 3580
NAS-IP-Address	RFC 2865, RFC 3580
NAS-IPv6-Address	RFC 3162
NAS-Port	RFC 2865, RFC 3580
NAS-Port-Id	RFC 2865, RFC 3580
NAS-Port-Type	RFC 2865, RFC 3580
Password-Retry	RFC 2869
Service-Type	RFC 2865, RFC 3580
Session-Timeout	RFC 2865
State	RFC 2865
Termination-Action	RFC 2865, RFC 3580
Tunnel Attributes	RFC 2867, RFC 2868, RFC 3580
User-Name	RFC 2865, RFC 3580
Vendor-Specific	RFC 2865

**RADIUS Accounting Attributes**

Attribute	RFC Source
Acct-Authentic	RFC 2866
Acct-Delay-Time	RFC 2866
Acct-Input-Octets	RFC 2866
Acct-Input-Packets	RFC 2866
Acct-Interim-Interval	RFC 2869
Acct-Output-Octets	RFC 2866
Acct-Output-Packets	RFC 2866
Acct-Session-Id	RFC 2866
Acct-Session-Time	RFC 2866
Acct-Status-Type	RFC 2866
Acct-Terminate-Cause	RFC 2866

**GLOBAL SUPPORT**

By Phone: +1 800-998-2408 (toll-free in U.S. and Canada)

For the toll-free support number in your country:  
<https://extremeportal.force.com/>

By Email: [support@extremenetworks.com](mailto:support@extremenetworks.com)

By Web: <https://extremeportal.force.com/>

For information regarding the latest software release, recent release note revisions and documentation, or if you require additional assistance, please visit the Extreme Networks Support website.

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