ExtremeCloud™ IQ - Site Engine Release Notes

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    145 Rio Robles
    San Jose, CA 95134 United States
    ATTN: General Counsel

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23.07.10 Release Notes

ExtremeCloud IQ - Site Engine includes all the features and functionality of Extreme Management Center as well as issues that have been resolved and configuration changes for this release.

If you are an existing Extreme Management Center customer, contact your representative to have your Extreme Management Center license migrated to an ExtremeCloud IQ - Site Engine license. The ExtremeCloud IQ - Site Engine license also includes licensing for ExtremeAnalytics.

IMPORTANT:	• For upgrade and installation requirements, as well as configuration considerations, see ExtremeCloud IQ - Site Engine Configuration and Requirements.
	• ExtremeCloud IQ - Site Engine version 23.07.10 consumes licenses from ExtremeCloud IQ in a connected deployment mode or from a license file in air gap deployment mode. ExtremeCloud IQ - Site Engine is a subscription-based -only licensing model. Existing NMS licenses do not provide access to ExtremeCloud IQ - Site Engine. You can view the status of your license by accessing Administration > Licenses after the installation is complete.
	• ExtremeCloud IQ - Site Engine is not compatible with ExtremeCloud IQ Connect level account. Either the Evaluation or Pilot level is mandatory.
	• In Connected mode, ports statistics are shared with ExtremeCloud IQ only for ports that are enabled to Collect Port Statistics.
	• Onboarding ExtremeCloud IQ - Site Engine devices using an ExtremeCloud IQ HIQ account is not supported. You must use a VIQ Account to onboard ExtremeCloud IQ - Site Engine devices.

For information regarding the features supported by specific devices, see the Firmware Support Matrix. Version 23.07.10 of ExtremeCloud IQ - Site Engine supports the devices listed in the matrix.

Devices that do not have serial numbers or MAC addresses in Extreme Management Center must be rediscovered after you upgrade to ExtremeCloud IQ - Site Engine before they can be onboarded to ExtremeCloud IQ.

Connected mode only - If your number of devices exceeds your licenses available, ExtremeCloud IQ - Site Engine transitions to a license violation state and your access to ExtremeCloud IQ - Site Engine is locked. To resolve the license shortage you need to access the Extreme Networks portal or ExtremeCloud IQ to evaluate the quantities of available Pilot and Navigator licenses versus the number of licenses required by ExtremeCloud IQ - Site Engine.

Licensing Changes

Starting in ExtremeCloud IQ - Site Engine version 23.2.10 each stack member consumes a license in connected mode. In connected mode, ExtremeCloud IQ - Site Engine now reports

stack members to ExtremeCloud IQ. If you use stacks in connected mode, ensure that enough ExtremeCloud IQ Pilot licenses are in the license pool before upgrading to ExtremeCloud IQ - Site Engine 23.2.10 or later.

Beginning with ExtremeCloud IQ - Site Engine version 21.04.10, your ExtremeAnalytics license is included as part of your ExtremeCloud IQ Pilot license. Separate licenses are no longer required.

For users upgrading from Extreme Management Center to ExtremeCloud IQ - Site Engine, note that the XIQ-NAC subscription must be used instead of IA-ES- license. For new users that complete an initial install of ExtremeCloud IQ - Site Engine, ExtremeControl licensing does not include end-system capabilities.

Onboarding ExtremeCloud IQ - Site Engine from ExtremeCloud IQ in Connected Deployment Mode

After installing or upgrading to ExtremeCloud IQ - Site Engine, you need to onboard ExtremeCloud IQ - Site Engine to ExtremeCloud IQ. When the onboarding is complete, you can then access ExtremeCloud IQ - Site Engine.

Entering your ExtremeCloud IQ name and password are required during the first-time login to ExtremeCloud IQ - Site Engine.

NOTE:	If Extreme Management Center is onboarded to ExtremeCloud IQ, when you upgrade to ExtremeCloud IQ - Site Engine, you need to remove Extreme Management Center from ExtremeCloud IQ before onboarding ExtremeCloud IQ - Site Engine.

Enhancements

The following enhancements were made to ExtremeCloud IQ - Site Engine in this release. For additional information about each of the enhancements listed in the release notes, see ExtremeCloud IQ - Site Engine Documentation.

ExtremeCloud IQ - Site Engine

ExtremeCloud IQ - Site Engine Enhancements

ExtremeCloud IQ - Site Engine added a new site tab where you can assign XIQ location for the site. The XIQ location of devices is automatically inherited from the parent site if the new site is created. Locations can be created and updated by ExtremeCloud IQ - Site Engine.

From the top menu, the icon for ExtremeCloud IQ is updated, and a new icon is added for ExtremeCloud applications.

The Operating System has been updated to Ubuntu 20.04 LTS for ExtremeCloud IQ - Site Engine and components.

ExtremeAnalytics

ExtremeAnalytics Enhancements

Removed the Enable Fabric Mode option for the ExtremeAnalytics Engine configuration. The feature is not required anymore.

ExtremeAnalytics now supports deployment with ERSPAN NIC decoupled from the management NIC.

ExtremeManagement

ExtremeManagement Enhancements

Maps can show Fabric Extend links. Fabric Extend links are now part of ISIS links in Map > Network Details.

The section Device Protocols is renamed to Device Protocols/Features in the Site > ZTP+ Device Defaults.

Site > ZTP+ Device Defaults has a new option to enable the DvR leaf feature on VOSS/Fabric Engine devices.

Added a new alarm to detect ISIS Adjacency Down reported by VOSS/Fabric Engine.

Added a new alarm to detect IPsec/VxLAN tunnel Down reported by VOSS/Fabric Engine.

Added a new action in context More Views menu to open SDWAN Appliance 360 view. The option is only available when an Extreme SDWAN appliance detected.

Added a new column in the device grid for SDWAN Neighbors to display Extreme SDWAN appliances neighboring to VOSS/Fabric Engine devices.

Added a Fabric Attach tab to the map > Network Details. The tab with the table appears only if there is at least one fabric attach link on the map.

When a service is selected in the map > Network Details > ISIS Service the label now contains the service name instead of ISID/ServiceID.

Added support for Fabric visualization on DvR Leaf running vIST cluster.

The list of devices in Map > Network Details > ISIS Links > Show Unicast Path form now excludes devices without Fabric Connect or Fabric Extend connections. The benefit is that non-fabric devices are filtered from the list (no fabric unicast path), and devices without the connection are also filtered from the list.

Added recognition of 8720-32C, 8520-48Y, and 8520-48XT switches.

Fabric Extend links are now listed in the Map > Network Details > ISIS Links table.

Fabric Extend links are now included in the Primary and Secondary paths in the Map > Network Details > ISIS Links table > Show Unicast Path.

ExtremeControl

ExtremeControl Enhancements

Updated the MAC OUI vendor list file with the latest from standards-oui.ieee.org. This update included 869 changes to the oui.txt file since last updated in release 23.2.10.
In connected deployment mode you can now share the End-System information with ExtremeCloud IQ.
Default Access Control assessment server option is now xiqse.extremenetworks.com.
Added support for EAP-TEAP protocol. The EAP-TEAP protocol can authenticate the Machine and User in a single EAP session. Windows 10 Enterprise and Windows 11 Enterprise support all four combinations: TLS+TLS, MSCHAPv2+MSCHAPv2, TLS+MSCHAPv2, and MSCHAPv2+TLS. This feature is enabled by default. So, the "Enforce" flag may appear on Access Control Engines. Also, Enforce Preview may show the TEAP setting change - indicating that the existing configuration in the Access Control Engine differs from the one in the Site Engine - post-upgrade.

Customer Found Defects and Known Issues

Customer Found Defects Addressed 23.07.10

ExtremeAnalytics CFDs Addressed	ID
Fixed an issue with VOSS/Fabric Engine app-telemetry scripts to update telemetry*.pol files when adding a new engine or running scripts for VOSS app telemetry. Added Admin-options-Analytics option to disable updating files in tftp/scp directories if present to allow for overrides.	02686333 02743309
Removed the deprecated feature "Detect Behavior Anomaly" from Endpoint Locations.	02730697
Updated to allow the ability to use options.FlowServerOptions.flowCollectorFilter to filter flows in application browser.	02748756

ExtremeControl CFDs Addressed	ID
Updated to implement a health check for local FreeRADIUS to mitigate the TCP socket closing issue in some heavy load environments. If an unresponsive local FreeRADIUS is detected, then FreeRADIUS restarted by the heath check.	02645889
Fixed an issue where end-system distributed cache could become unable to reload cache without a service reset. Distributed cache is now always on, and the enable/disable controls are now removed from the user interface.	02722588
Fixed an issue where an error on load of Access Control notifications could have missing data, making the notifications inoperable.	02723394
Fixed an issue where the original default policy mappings used in profiles are renamed or removed and then restored as the defaults from options, which prevented configuring new profiles.	02728294 02745259
Fixed an issue where a policy enforce was unable to successfully push policy to a switch with Redirect Group Configuration.	02740670

ExtremeControl CFDs Addressed	**ID**
Fixed an issue where certificate information in RADIUS request attributes could cause database write errors on Access Control Engine.	02739578
Fixed an issue where a RADIUS request with a NAS-Port-Id value greater than 64 bytes was exceeding column width for database writes. The column width has been expanded.	02741262
Fixed an issue where Access Control was not restarting as required when the interface mode was changed to Management Only, which disables the End-System Server.	02741265
Updated for interface consistency so that columns MAC OUI Vendor, Switch Nickname, and Switch Location are not sortable in the End-System and End-System Event tables.	02743958
Policy verify fails for EXOS/Switch Engine device when the Access Control is configured for None and the device is not using ACL rule mode.	02747512
Updated to add new DHCP fingerprint for Cisco Aironet AP c4800.	02758478
Fixed an issue where the Frozen Port feature was failing to prevent SNMP Sets to OIDs instanced by dot1dBasePort or ifIndex defined under the iso.org (1.3) tree.	02765684
Fixed an issue where semi-colons could not be entered in Access Control location group port lists and existing entries with semi-colons no longer worked in rule engine.	02763353
Fixed an issue where VPEX Peer bridges would double count the BPE for license allocation.	02763319
Fixed performance issues in Access Control groups table and editors caused by data loading. Used by information in the table is now loaded on demand only.	02773594
Fixed an issue where previously resolved issues in GIM 23.2.10 were not included in this release. Now resolved in the latest release.	02803233

ExtremeManagement CFDs Addressed	**ID**
Fixed an issue where Firmware download bytes transferred would show negative numbers.	02674445
Fixed channel utilization based queries for Venue Reports to correctly base data on channels instead of radio number.	02706165
Fixed an issue where Registering or Unregistering traps for EXOS would not save the configuration after updating the trap sources.	02728871
Onboarding VLAN and Onboarding I-SID now display in the Configure Device dialog. Deletion of Onboarding VLAN/I-SID is not allowed to prevent loss of the connectivity.	02714859 02755706
Updated to prevent comparisons between L2 and L3 empty service names and null strings which are not equivalent.	02737883
Fixed an issue where the system workflow to create a Virtual IST was not working correctly on VOSS/Fabric Engine Universal switches.	02739655
After a server restart, device port groups and device view now show ports for devices that are in the down state.	02735862
Fixed an issue where saving a report could lock the UI with a hidden modal dialog prompt.	02741171
Device and Device Tree menus can now enable Clear Alarms for ping and status only devices.	02746444
Fixed an issue where onboarding devices using a Python script could cause ExtremeCloud IQ - Site Engine to become unresponsive for 20 to 30 minutes due to NGMaps waiting for information. The NGMaps code has now been removed.	02749616

ExtremeManagement CFDs Addressed	ID
Deleting an Access Control engine group is now blocked when used in any Site action configuration.	02749616
Updated so that a new device is only added to a map if the site assigned to the device has the add to map action enabled.	02749616
During onboarding, ZTP+ now changes the default web view URL from HTTP to HTTPS when the HTTP protocol is disabled.	02750194
Python files are now saved to disk without escaping the '\n' to allow running in CLI.	02751903
Unreachable devices added by user group now show up in the group tree.	02759111
Configure Device now saves changes to poll group when configuring using multi-select.	02762056
Fixed an issue where viewing Crit/Error/Warn/Info links in Operations Bar could cause View Active Column Filters to get stuck.	02762410
Updated for Alarm and Events filter to show '!' in filter string if present.	02767888
Fixed an issue where ping-only devices would not complete onboarding from ExtremeCloud IQ - Site Engine to ExtremeCloud IQ and stuck in queue with an XIQ_Pending license state.	02768362
Fixed an issue where Enforce Preview displayed incorrectly for B5 series.	02774606
Updated so that the CLIRules file catches the EXOS/Switch Engine 'disable/enable iqagent' command y/n prompt.	02775282
Fixed an issue where EXOS/Switch Engine bulk archives of 20 or more devices could have file transfer timeouts due to incorrect VR.	02777713
Fixed an issue where updating the dhcpSnooping parameter of a VLAN into a service definition by the northbound Interface (NBI) was not copied into the device database object.	02785126
Fixed an issue where changes to Fabric Auth Key were not shown in Enforce Preview.	02787154

Known Issues Addressed in 23.07.10

ExtremeControl Issues Addressed

Addressed an issue where licenses NMS-xx and NMS-ADV-xx were not perpetual. NOTE: Only perpetual for customers upgraded from Extreme Management Center to ExtremeCloud IQ - Site Engine. NMS-xx provides 250 end-system capacity, and NMS-ADV-xx provides 500 end-system capacity.

ExtremeManagement Issues Addressed

Addressed an issue with fabric configuration enforcement to DvR Leaf running vIST cluster.
Addressed an issue where Map > View > Show Fabric Connect option was not visible due to a filter defined in the Map > Network Details > ISIS Links.
Addressed an issue where Configure Device > VRF Definition synchronized from Site was lost when clicking Save with a 5320 series switch running VOSS/Fabric Engine persona.

Addressed an issue where DvR Domain ID was inconsistently enabled/disabled in the Configure > Fabric Connect Unit Test.

Addressed an issue where the tab name Topology was incorrectly shown in Configure > Enforce Preview validation. The correct tab name of Fabric Connect is now shown.

Addressed an issue where dynamic ISIS Area was reported as empty in some situations.

Addressed an issue where the VOSS/Fabric Engine ISIS Manual Area Flexview was not showing Area information in a human readable form.

Addressed an issue where a ZTP+ Device onboarded and being managed by ZTP+ was not running add actions during the onboarding.

Addressed an issue where the Server Engine ID was displayed in an editable text box. The Server Engine ID is now displayed as read-only text in Administration > Options > Trap > Configuration > Server Engine ID.

Addressed an issue when a workflow (containing the event generating signal activity) was triggered by alarm action, then the properties Severity and Event Name were overridden.

Addressed an issue when in connected mode, the status of unmanaged devices were reported as Disconnected to ExtremeCloud IQ.

Addressed an issue when ZTP+ Automated Templates > Device Mappings > priority of entries did not start from 1, or were not continuous, or both. The gap in priorities prevented ZTP+ port template assignment from functioning properly.

ExtremeAnalytics Issues Addressed

Addressed an issue where Application Analytics Engine installation wizard (dnetconfig) options did not match the GUI options and deployment options. Wording has been updated and redundant options have been removed. Configure complex options in the GUI to avoid inconsistencies.

Installation, Upgrade, and Configuration Changes

Installation Information

There are three tiers of licenses for ExtremeCloud IQ - Site Engine and devices:

- Pilot
- Navigator
- No License

As you begin to onboard ExtremeCloud IQ - Site Engine and your devices, ExtremeCloud IQ will determine if you meet or exceed the license limits for each license type.

For complete installation instructions, see ExtremeCloud IQ - Site Engine Suite Installation.

IMPORTANT:	The **Compliance** tab is available and supported by Extreme on an engine running the Linux operating system supplied by Extreme. Other Linux operating systems can support ExtremeCompliance functionality, but python version 2.7 or higher must be installed. Additionally ExtremeCompliance functionality requires the git, python2, python mysql module, python setuptools module, and python "pygtail" module packages be installed and related dependencies managed by the customer for their server's unique operating system and version.

Installing Without an Internet Connection

If your Linux system requires an operating system upgrade, you are prompted to upgrade using either an internet connection or locally (without an internet connection) if no additional Ubuntu packages need to be installed.

```
!!! ATTENTION !!!

We can attempt to upgrade the OS without using the internet if there were no
extra Ubuntu packages installed. If there were extraneous packages installed,
the upgrade will fail with this method.

Do you want to attempt a local in-place upgrade of the OS and reboot when
complete? (Y/n)
```

Custom FlexViews

When reinstalling ExtremeCloud IQ - Site Engine Console, the installation program saves copies of any FlexViews you created or modified in the `<install directory>\.installer\backup\current\appdata\System\FlexViews` folder.

If you are deploying FlexViews via the ExtremeCloud IQ - Site Engine server, save them in the `appdata\VendorProfiles\Stage\MyVendorProfile\FlexViews\My FlexViews` folder.

Custom MIBs and Images

If you are deploying MIBs via the ExtremeCloud IQ - Site Engine server, they are saved in the `appdata\VendorProfiles\Stage\MyVendorProfile\MIBs\` folder.

If you are deploying device images (pictures) via the ExtremeCloud IQ - Site Engine server, they are saved in the `appdata\VendorProfiles\Stage\MyVendorProfile\Images\` folder.

Important Upgrade Information

ExtremeCloud IQ - Site Engine version 23.07.10 supports upgrades from Extreme Management Center 8.5.7 or ExtremeCloud IQ - Site Engine 23.4.12 only. The following table details the upgrade path supported for each NetSight, Extreme Management Center or ExtremeCloud IQ - Site Engine version.

NOTE:

ExtremeCloud IQ - Site Engine Version 23.07.10 contains an OS upgrade. Internet connectivity is required to download custom packages.

The installer prompts "Do you want to use the Internet to perform the OS upgrade?". The offline upgrade path is supported when no custom packages are installed (answer N). The online upgrade is required when custom packages are manually installed (answer Y). An online upgrade is recommended when an online upgrade was used previously, however there is a risk of session timeout due to 15 minutes of screen inactivity.

To upgrade Access Control Engines and Application Analytics Engines you can use the directive --keepalive to decrease the chance of a session expiry timeout from 15 minutes of no screen activity.

From Version (currently running)	To Version (next step in upgrade path)
ExtremeCloud IQ - Site Engine **23.4.12**	ExtremeCloud IQ - Site Engine **23.7**
ExtremeCloud IQ - Site Engine **21.x, 22,x, 23.2,x 23.4,10, 23.4.11**	ExtremeCloud IQ - Site Engine **23.4.12**
Extreme Management Center version **8.5.7**	ExtremeCloud IQ - Site Engine **23.7**
Extreme Management Center version **8.2.x to 8.5.6**	Extreme Management Center **8.5.7**
Extreme Management Center version **8.0.x to 8.1.x**	Extreme Management Center **8.3.3.11**
NetSight version **7.1.4.1**	Extreme Management Center **8.3.3.11**
NetSight version **7.x**	NetSight **7.1.4.1**
NetSight version **6.3.0.186**	NetSight **7.1.4.1**
NetSight version **6.x**	NetSight **6.3.0.186**

IMPORTANT:

A backup (**Administration > Backup/Restore**) of the database must be performed prior to the upgrade and saved to a safe location.

During the installation (if upgrading using the user interface installer), you have the option to backup additional user files by selecting a checkbox on the Previous Installation Detected screen. This option lets you backup user files such as Inventory Manager archive files not automatically backed up during the install because the backup could take several minutes.

Important Upgrade Considerations

- If your network is using ExtremeAnalytics or ExtremeControl engines, Fabric Manager, or another add-on feature, you must first perform the ExtremeCloud IQ - Site Engine upgrade to version 23.07.10 and then upgrade the feature.
- Fabric Manager version 22.09.13.5 is compatible with ExtremeCloud IQ - Site Engine version 23.7. If you are running a previous version of Fabric Manager, upgrade your deployment to Fabric Manager 22.09.13.5 for use with ExtremeCloud IQ - Site Engine version 23.7.

- To upgrade Traffic Sensor from version 21.x, a fresh installation is recommended. If the fresh installation cannot be used, then please check Knowledge Base for a special procedure.

- If the online upgrade fails due to an Internet connectivity issue, fix the connectivity issue and rerun the upgrade.

IMPORTANT:	When performing an upgrade, be sure to back up the database prior to performing the upgrade, and save it to a safe location. Use the **Administration** > Backup/Restore tab to perform the backup.

- When upgrading the ExtremeCloud IQ - Site Engine server, ExtremeAnalyticsengine, or ExtremeControlengine to version 23.07.10, ensure the DNS server IP address is correctly configured.

- When upgrading to ExtremeCloud IQ - Site Engine version 23.07.10, if you adjusted the ExtremeCloud IQ - Site Engine memory settings and want them to be saved on upgrade, a flag (`-DcustomMemory`) needs to be added to the `/usr/local/Extreme_ Networks/NetSight/services/nsserver.cfg` file.

  For example:
  `-Xms12g -Xmx24g -XX:HeapDumpPath=../../nsdump.hprof - XX:+HeapDumpOnOutOfMemoryError -XX:MetaspaceSize=128m -DcustomMemory`

- EAP-TLS certificates created with SHA1 certificates are no longer supported in ExtremeCloud IQ - Site Engine version 23.07.10 and later. A stronger algorithm is required.

License Renewal

Upgrading to ExtremeCloud IQ - Site Engine version 23.07.10 requires you to transition from perpetual to subscription-based license model. Existing NMS licenses do not provide access to ExtremeCloud IQ - Site Engine. If your perpetual licenses were not transitioned to subscription-based licenses, contact your Extreme Networks Representative for assistance.

Free Space Consideration

When upgrading to ExtremeCloud IQ - Site Engine version 23.07.10, a minimum of 15 GB of free disk space is required on the ExtremeCloud IQ - Site Engine server

To increase the amount of free disk space on the ExtremeCloud IQ - Site Engine server, perform the following:

- Decrease the number of ExtremeCloud IQ - Site Engine backups (by default, saved in the `/usr/local/Extreme_Networks/NetSight/backup` directory).

- Decrease the Data Persistence settings (**Administration** > **Options** > **Access Control** > **Data Persistence**).

- Remove unnecessary archives (**Network** > **Archives**).

- Delete the files in the `<installation directory>/NetSight/.installer` directory.

Site Discover Consideration

Discovering devices via the **Site** tab using a **Range**, **Subnet**, or **Seed** discover might not successfully add all expected devices. To correct the issue, increase the **Length of SNMP Timeout** value on the **Administration** > **Options** > **Site** tab in the Discover First SNMP Request section.

ExtremeAnalytics Upgrade Information

Enabling or disabling the disk flow export feature might cause enforce operations to time out. Enforcing again resolves the issue.

When you delete an ExtremeXOS/Switch Engine device that is configured as a flow source via the Flow Sources table of the **Analytics** > **Configuration** > **Engines** > **Configuration** tab from the Devices list on the **Network** > **Devices** tab, an error message is generated in the `server.log`. The message does not warn you that the device is in use as a flow source. Adding the device back in the Devices list on the **Network** > **Devices** tab or removing the device from the Flow Source table fixes the issue.

The Flow Sources table on the **Analytics** > **Configuration** > *engine* > **Configuration** tab may take a few minutes to load.

ExtremeControl Version 8.0 and later

Beginning in version 8.0, ExtremeControl may fail to join Active Directory when accessing as a **Standard Domain User with Descendant Computer Objects ("Reset password" permissions only)** group member.

To allow this functionality, add the following permissions:

- Reset Password
- Validated write to DNS host name
- Validated write to service principal
- Read and write account restrictions
- Read and write DNS host name attributes
- Write servicePrincipalName

Other Upgrade Information

Immediately after you install version 23.07.10 on the ExtremeControlengine, the date and time does not properly synchronize and the following error message displays:

```
WARNING: Unable to synchronize to a NTP server. The time might not be
correctly set on this device.
```

Ignore the error message and the date and time automatically synchronize after a short delay.

Additionally, the following message might display during the ExtremeControl upgrade to version 23.07.10:

No domain specified

To stop domain-specific `winbindd` process, run `/etc/init.d/winbindd stop` *{example-domain.com}*

Fabric Configuration Information

Certificate

Fabric Manager might be unavailable via ExtremeCloud IQ - Site Engine after upgrading if the certificate is missing in ExtremeCloud IQ - Site Engine Trust store.

To ensure Fabric Manager is available, enter the Fabric Manager certificate in the ExtremeCloud IQ - Site Engine Trust store using **Generate Certificate** option. See [Add Fabric Manager Certificate](#) for the certificate procedure.

Authentication Key

When you provision authentication keys for Fabric Attach, the key cannot be read back for security reasons. When the key is read from the device, it always shows "****". For this reason, it might seem that there is a configuration mismatch when one does not exist.

Service Configuration Change

If you change a configured service via the **Configure Device** window that references one of the following, and then enforce those changes to the device, the configuration on the device might change unexpectedly:

- MLT
- SMLT
- Port-specific settings to a port belonging to an MLT or SMLT

To prevent this merge, change rows in the **Enforce Preview** window where MLT or SMLT are in use from **Current** to **Desired**.

To correct the issue after enforcement, modify the service on the device via the CLI.

CLIP Addresses

Using the CLIP Addresses table in the Configure Device window, you can enter addresses in both IPv4 and IPv6 formats. However, ExtremeCloud IQ - Site Engine version 23.07.10 only supports applying a single address (either IPv4 or IPv6) to a Loopback Interface.

Gateway Address Configuration Change

In versions of ExtremeCloud IQ - Site Engine prior to 23.07.10, the Default Gateway IP Address is configured as part of the VLAN. In 23.07.10, the Default Gateway IP Address is configured as part of the VRF.

When enforcing VRFs to a device after upgrading to version 23.07.10, merge any **Default Gateway IP Addresses** from the device into the configuration of ExtremeCloud IQ - Site Engine to prevent incorrect configuration of the device.

Upgrading VSP-8600

When upgrading from Extreme Management Center version 8.2 to version 8.3. manually reload previously discovered VSP-8600 devices to gain access to Fabric Connect features.

Removing Fabric Connect Configuration

Removing a device's Fabric Connect configuration by setting the **Topology Definition** to **<None>** may fail if the device has Logical Interfaces assigned to ISIS.

Password Configuration

Fabric Manager fails to onboard in ExtremeCloud IQ - Site Engine if the root password includes an ampersand (&) character. Additionally, if the Administration > Inventory Manager > SCP tab contains a password that includes an ampersand (&) in ExtremeCloud IQ - Site Engine, the Fabric Manager firmware does not download successfully.

Ensure you use a password without an ampersand (&) character.

VRF Configuration

VOSS/Fabric Engine SNMP performance is adversely affected as the number of VRF configurations increases. This issue can be resolved by upgrading toVOSS/Fabric Engine release 8.1.1 or later or VSP-8600 series version 6.3.3 or later.

Device Configuration Information

VDX Device Configuration

To properly discover interfaces and links for VDX devices in ExtremeCloud IQ - Site Engine, enable `three-tuple-if` on the device.

NOTE:

To enable `three-tuple-if` on the device in ExtremeCloud IQ - Site Engine:

1. Access the **Network** > **Devices** tab.
2. Right-click on the device in the Devices table.
3. Select **Tasks** > **Config** > **VDX Config Basic Support**.

Additionally, for ExtremeCloud IQ - Site Engine to display VCS fabric , the NOS version must be 7.2.0a or later.

Rediscover VDX devices after upgrading to ExtremeCloud IQ - Site Engine.

VOSS/Fabric Engine Device Configuration

Topology links from VOSS/Fabric Engine devices to other VOSS/Fabric Engine or ERS devices might not display in a topology map (or might display inconsistently). To ensure topology map links display correctly, verify that the VOSS/Fabric Engine device is configured to publish its management IP address in the autotopology (SONMP) data.

Ensure that the output of `show sys setting` command shows:

```
autotopology : on
ForceTopologyIpFlag : true
clipId-topology-ip : 0
```

If the output values displayed are different, configure the VOSS/Fabric Engine device to publish management IP address in SONMP data by executing the following CLI commands:

```
(config)# autotopology
(config)# sys force-topology-ip-flag enable
(config)# default sys clipId-topology-ip
```

The **Status** of LAG links in maps will start working after the next polling following an upgrade to ExtremeCloud IQ - Site Engine. You can initiate the polling of a device by performing a refresh/rediscovery of the device.

ERS Device Configuration

ERS devices might automatically change VLAN configurations you define in ExtremeCloud IQ - Site Engine. To disable this, change the `vlan configcontrol` setting for ERS devices you add to ExtremeCloud IQ - Site Engine by entering the following in the device command line:

```
CLI commands
enable
config term
vlan configcontrol flexible
```

Additionally, configure all VLANs on the port for an ERS device with the same tag status (tagged or untagged). If enforcing to an ERS device on which a port has at least one VLAN as tagged, ExtremeCloud IQ - Site Engine adds all untagged VLANs to the tagged VLAN list and clears the untagged VLAN list.

Creating an archive for ERS devices using the **Network** > **Archives** tab does not complete successfully if Menu mode (cmd-interface menu) is used instead of CLI mode (cmd-interface cli). See How To Set Default Management Interface To Either Menu or CLI Mode to create the archive.

SLX Device Configuration

When creating a ZTP+ Configuration for an SLX 9240 on which firmware version 18s.01.01 or 18s.01.02 is installed, the ZTP+ process fails if the **Administration Profile** value uses SSH or Telnet CLI credentials. ExtremeCloud IQ - Site Engine indicates that the SSH or CLI profile is not supported by the device.

To create a ZTP+ configuration for an SLX 9240:

1. Create a new Device Profile with the **CLI Credential** set to **< No Access >**.

   > **NOTE:**   The SLX ZTP+ Connector does NOT support configuring CLI credentials on the device.

2. Create the ZTP+ Configuration and select the new **Device Profile** you created in Step 1 as the **Administration Profile**.

3. After the ZTP+ process successfully completes and the device is added to ExtremeCloud IQ - Site Engine, select a **Device Profile** that uses the correct CLI credentials for the SLX device in the **Administration Profile**.

ExtremeXOS Device Configuration

ExtremeXOS/Switch Engine devices on which firmware version 30.3.1.6 is installed do not download and install new firmware versions successfully via the ZTP+ process. To correct the issue, access the **Network** > **Firmware** tab in ExtremeCloud IQ - Site Engine, select the ExtremeXOS device you are updating via ZTP+, and change the **Version** field in the Details right-panel from **builds/xos_30.3/30.3.1.6** to **30.3.1.6**.

Firmware Upgrade Configuration Information

ExtremeCloud IQ - Site Engine supports firmware downloads and uploads to devices using TFTP, FTP, SCP, and SFTP. However, before firmware images can be downloaded or uploaded from the server, ExtremeCloud IQ - Site Engine needs the root path or directory for each of the protocols. The following default root paths for each protocol are configurable from the **Administration** > **Options** > **Inventory Manager** tab:

Protocol Root Path:

- TFTP: /tftpboot/firmware/images/
- FTP: /tftpboot/firmware/images/
- SCP: /root/firmware/images/
- SFTP: /root/firmware/images/

To upload firmware images that are 2 GB or less to the server, use the ExtremeCloud IQ - Site Engine**Network** > **Firmware** tab. For files larger than 2 GB, use a third-party client (such as SCP, WinSCP, or FTP).

For example, to use SCP to upload a firmware image to the SCP root path on the server, enter the following:

- `scp <LOCAL_FIRMWARE_PATH> root@<ExtremeCloud IQ – Site Engine_SERVER_ IP>:/root/firmware/images`

- Where:

  - *<ExtremeCloud IQ - Site Engine_SERVER_IP>*= IP Address to ExtremeCloud IQ - Site Engine Server

  - *<LOCAL_FIRMWARE_PATH>*= fully qualified path to a firmware image on the client machine

Wireless Manager Upgrade Information

A High Availability pair cannot be added as a flow source if the WLAN(s) selected are not in common with both wireless controllers.

Server and Client System Requirements

IMPORTANT:	Wireless event collection is disabled by default in version 23.07.10 due to the increase in disk space usage required. To enable event collection, select **Enable Event CollectionEvent Analyze**. Then select**Administration** > **Options** > Event Analyzer. Internet Explorer is not supported in ExtremeCloud IQ - Site Engine version 23.07.10.

ExtremeCloud IQ - Site Engine Server Requirements

Manufacturer	Operating System
Linux	Red Hat Enterprise Linux WS and ES v6 and v7 Ubuntu 20.04
VMware® (ExtremeCloud IQ - Site Engine Virtual Engine)	VMware ESXi™ 6.0 server VMware ESXi™ 6.5 server VMware ESXi™ 6.7 server VMware ESXi™ 7.0 server vSphere (client only)™
Microsoft® Hyper-V (ExtremeCloud IQ - Site Engine Virtual Engine)	Windows® Server 2012 R2 Windows® Server 2016

These are the operating system requirements for the ExtremeCloud IQ - Site Engine server.

ExtremeCloud IQ - Site Engine Client Requirements

These are the operating system requirements for remote ExtremeCloud IQ - Site Engine client machines.

Manufacturer	Operating System
Windows (qualified on the English version of the operating systems)	Windows® 10 and 11

Manufacturer	Operating System
Linux	Red Hat Enterprise Linux WS and ES v6 and v7 Ubuntu 20.04
Mac OS X®	Monterey

ExtremeCloud IQ - Site Engine Server and Client Hardware Requirements

These are the hardware requirements for the ExtremeCloud IQ - Site Engine server and ExtremeCloud IQ - Site Engine client machines.

NOTES: ExtremeControl and ExtremeAnalytics are not supported on Small ExtremeCloud IQ - Site Engine servers.

ExtremeCloud IQ - Site Engine Server Requirements

	Small	Medium	Enterprise	Large Enterprise
Total CPUs	1	2	2	2
Total CPU Cores	8	16	24	24
Memory	16 GB	32 GB	64 GB	64 GB
Disk Size	240 GB	480 GB	960 GB	1.92 TB
IOPS	200	200	10,000	10,000

Recommended scale based on server configuration:

	Small	Medium	Enterprise	Large Enterprise
Maximum APs	250	2,500	25,000	25,000
Maximum Wireless MUs	2,500	25,000	100,000	100,000
Maximum Managed Devices	100	1,000	10,000 air gap 8,000 connected	10,000 air gap 8,000 connected
ExtremeControl End-Systems	N/A	50,000	200,000	200,000
Statistics Retention (Days)	90	180	180	360
ExtremeAnalytics	No	Yes	Yes	Yes
MU Events	No	Yes	Yes	Yes

IMPORTANT: For optimal performance the CPU and Memory needs to reserved in the ESX Client and the virtual machine needs to be deployed using Thick Disk provisioning.

ExtremeCloud IQ - Site Engine Client Requirements

	Requirements
CPU Speed	3.0 GHz Dual Core Processor
Memory	8 GB (4 GB for 32-bit OS)
Disk Size	300 MB (User's home directory requires 50 MB for file storage)

	Requirements
Java Runtime Environment (JRE) (Oracle Java only)	Version 8
Browser[1] (Enable JavaScript and Cookies)	Microsoft Edge Mozilla Firefox Google Chrome

[1]Browsers set to a zoom ratio of less than 100% might not display ExtremeCloud IQ - Site Engine properly (for example, missing borders around windows). Setting your browser to a zoom ratio of 100% corrects this issue.

Virtual Engine Requirements

The ExtremeCloud IQ - Site Engine, ExtremeControl, and ExtremeAnalytics virtual engines must be deployed on a VMWare or Hyper-V server with a disk format of VHDX.

- The VMWare ExtremeCloud IQ - Site Engine virtual engines are packaged in the .OVA file format (defined by VMware).

- The Hyper-V ExtremeCloud IQ - Site Engine virtual engines are packaged in the .ZIP file format.

IMPORTANT:	For ESX and Hyper-V servers configured with AMD processors, the ExtremeExtremeAnalytics virtual engine requires AMD processors with at least Bulldozer based Opterons.

ExtremeCloud IQ - Site Engine Virtual Engine Requirements

Specifications	Small	Medium	Enterprise
Total CPU Cores	8	16	24
Memory	16 GB	32 GB	64 GB
Disk Size	240 GB	480 GB	960 GB
IOPS	200	200	10,000

Recommended scale based on server configuration:			
Maximum APs	250	2,500	25,000
Maximum Wireless MUs	2,500	25,000	100,000
Maximum Managed Devices	100	1,000	10,000 air gap 8,000 connected
ExtremeControl End-Systems	N/A	50,000	200,000
Statistics Retention (Days)	90	180	180
ExtremeAnalytics	No	Yes	Yes
MU Events	No	Yes	Yes

IMPORTANT:	For optimal performance the CPU and Memory needs to reserved in the ESX Client and the virtual machine needs to be deployed using Thick Disk provisioning.

ExtremeControl Virtual Engine Requirements

Specifications	Small	Medium	Enterprise	Large Enterprise
Total CPU Cores	8	16	16	20
Memory	12 GB	16 GB	32 GB	48 GB
Disk Size	40 GB	120 GB	120 GB	120 GB
IOPS	200	200	200	200

Recommended scale based on server configuration:				
ExtremeControl End-Systems	3,000	6,000	9,000/12,000[1]	12,000/24,000[2]
Authentication	Yes	Yes	Yes	Yes
Captive Portal	No	Yes	Yes/No[1]	Yes/No[2]
Assessment	No	Yes	No	No

[1] The Enterprise ExtremeControlengine configuration supports two different scale options:

- Up to 9,000 end-systems if your network uses Captive Portal functionality.
- Up to 12,000 end-systems if your network does not use Captive Portal functionality.

[2] The Large Enterprise ExtremeControlengine configuration supports two different scale options:

- Up to 12,000 end-systems if your network uses Captive Portal functionality.
- Up to 24,000 end-systems if your network does not use Captive Portal functionality.

IMPORTANT:	For optimal performance the CPU and Memory needs to reserved in the ESX Client and the virtual machine needs to be deployed using Thick Disk provisioning.

ExtremeAnalytics Virtual Engine Requirements

Specifications	Small	Medium	Enterprise
Total CPU Cores	8	16	16
Memory	12 GB	32 GB	64 GB
Disk Size	40 GB	480 GB	960 GB
IOPS	200	10,000	10,000

Recommended scale based on server configuration:			
Flows Per Minute	250,000	500,000	750,000
End-Systems	10,000	20,000	30,000

IMPORTANT:	The ESXi free license supports a maximum of 8 CPU cores, and the medium and enterprise ExtremeAnalytics virtual engine installations require 16 CPU cores. Sixteen CPU cores are only available by purchasing a permanent license. To use the ExtremeAnalytics virtual engine with an ESXi free license, adjust the number of CPU cores to 8.
	To reduce the possibility of impaired functionality, ensure at least 4 GB of swap space is available for flow storage on the ExtremeAnalytics virtual engine. To verify the amount of available RAM on your Linux system, use the `free` command

Fabric Manager Requirements

Specifications	Requirements
Total CPU Cores	4
Memory	9 GB
Memory allocated to Java:	
-Xms	4 GB
-Xmx	6 GB
Disk Size	60 GB

ExtremeControl Agent OS Requirements

The table below outlines the supported operating systems for end-systems connecting to the network through an ExtremeControl deployment that is implementing agent-based assessment. Additionally, the end-system must support the operating system disk space and memory requirements as provided by Microsoft® and Apple®.

Manufacturer	Operating System	Operating System Disk Space	Available/Real Memory
Windows[1]	Windows Vista Windows XP Windows 2008 Windows 2003 Windows 7 Windows 8 Windows 8.1 Windows 10	80 MB	40 MB (80 MB with Service Agent)
Mac OS X	Catalina Tiger Snow Leopard Lion Mountain Lion Mavericks Yosemite El Capitan Sierra	10 MB	120 MB

[1]Certain assessment tests require the Windows Action Center (previously known as Windows Security Center), which is supported on Windows XP SP2+, Windows Vista, and Windows 7, Windows 8, and Windows 8.1 operating systems.

ExtremeControl Agent support for Antivirus or Firewall products includes, but is not limited to, the following families of products:

- McAfee
- Norton
- Kaspersky
- Trend Micro
- Sophos

ExtremeControl Agent operating system support for the above products includes the latest Windows or Mac OS X versions currently available at the time of product release. The ExtremeControl Agent running on MAC Operating Systems requires Java Runtime Environment (JRE) support. Some features of various products might not be supported. For additional information on specific issues, see Known Restrictions and Limitations.

ExtremeControl Supported End-System Browsers

The following table outlines the supported desktop and mobile end-system browsers connecting to the network through the Mobile Captive Portal of Extreme NetworksExtremeControl.

Medium	Browser
Desktop	Microsoft Edge Microsoft Internet Explorer Mozilla Firefox Google Chrome
Mobile	Internet Explorer Mobile Microsoft Edge Microsoft Windows 10 Touch Screen Native (Surface Tablet) iOS Native Android Chrome Android Native Dolphin Opera

NOTES: A native browser indicates the default, system-installed browser. Although this might be Chrome (Android), this also includes the default, system-controlled browser used for a device's Captive Network Detection for a device. Typically, this is a non-configurable option for Wi-Fi Captive Network Detection, but default Android, Microsoft and iOS devices are tested for compatibility with the Mobile Captive Portal.

A mobile device can access the standard (non-mobile) version of the Captive Portal using any desktop-supported browsers available on a mobile device.

For other browsers, the Mobile Captive Portal requires the browser on the mobile device to be compatible with Webkit or Sencha Touch.

To confirm compatibility with Webkit or Sencha Touch, open `http://<ExtremeControlEngine IP>/mobile_screen_preview` using your mobile web browser.

- If the browser is compatible, the page displays properly.

- If the browser is not compatible with the Mobile Captive Portal, the following error displays:

ExtremeControl Engine Version Requirements

For complete information on ExtremeControl engine version requirements, see Important Upgrade Information.

ExtremeControl VPN Integration Requirements

VPN concentrators are supported for use in ExtremeControl VPN deployment scenarios.

- Supported Functionality: Authentication and Authorization (policy enforcement)
  Cisco ASA
  Enterasys XSR

- Supported Functionality: Authentication
  Juniper SA (requires an S-Series Stand Alone (SSA) system in order to provide access control)

NOTE: For all ExtremeControl VPN Deployment scenarios, an S-Series Stand Alone (SSA) system is required to change authorization levels beyond the initial authorization, such as when using assessment.

ExtremeControl SMS Gateway Requirements

The following SMS Gateways have been tested for interoperability with ExtremeControl:

- Clickatell

- Mobile Pronto

ExtremeControl SMS Text Messaging Requirements

The following mobile service providers are supported by default for SMS text messaging in an ExtremeControl deployment. Additional service providers can be added:

AT&T	Sprint PCS
Alltel	SunCom

Bell Mobility (Canada)	T-Mobile
Cingular	US Cellular
Metro PCS	Verizon
Rogers (Canada)	Virgin Mobile (US and Canada)

ExtremeAnalytics Requirements

To use an ExtremeSwitching X440-G2 switch as an Application Telemetry source for ExtremeAnalytics, install firmware version `22.4.1.4-patch2-5` or higher.

Ekahau Maps Requirements

ExtremeCloud IQ - Site Engine supports importing Ekahau version 8.x maps in .ZIP format.

Guest and IoT Manager Requirements

Guest and IoT Manager Server OS Requirements

These are the operating system requirements for Guest and IoT Manager server:

Manufacturer	Operating System
VMware® (ExtremeCloud IQ - Site Engine Virtual Engine)	VMware ESXi™ 5.5 server VMware ESXi™ 6.0 server VMware ESXi™ 6.5 server vSphere (client only)™

Guest and IoT Manager Outlook Add-in Client Requirements

These are the requirements for the Client Machines, which need to run Guest and IoT Manager Outlook Add-in.

Manufacturer	Operating System
Windows[1]	Windows 7 Windows 10
Mac OS X	Sierra High Sierra Mojave

[1]Microsoft® Outlook® 2016 is needed on Windows/Mac clients for the add-in to operate.

Guest and IoT Manager Virtual Engine Requirements

The VMWare Guest and IoT Manager virtual engines are packaged in the .OVA file format (defined by VMware) and needs an x86, 64-bit capable environment

Specifications	Minimum	Recommended
Total CPU Cores	2	4
Memory	2 GB	4 GB

Specifications	Minimum	Recommended
Disk Size	80 GB	80 GB
Interfaces	1 Physical NIC	3 Physical NICs

Guest and IoT Manager Supported Browsers

The following table outlines the supported desktop and mobile browsers that can be used to launch Guest and IoT Manager Admin and Provisioner Web Application:

Medium	Browser	Version
Desktop	Microsoft Internet Explorer	11 and later
	Mozilla Firefox	63 and later
	Google Chrome	65 and later
	Microsoft Edge	42 and later
	Safari	12 and later
Mobile[1]	iOS Native	9 and later
	Android Chrome	65 and later
	US Browser	11.5 and later
	Opera	40 and later
	Firefox	63 and later

[1]Mobile Browsers are supported only for the Guest Self-Service Provisioning flow.

NOTES:	• A mobile device can access the Guest and IoT Manager Application by using any desktop-supported browsers available on a mobile device. Before login, make sure to select the **Desktop site** option in the browser options.
	• Browsers set to a zoom ratio of less than 100% might not display Guest and IoT Manager Application properly (for example, missing borders around windows). Setting your browser to a zoom ratio of 100% corrects this issue.
	• Guest and IoT Manager Application is best viewed in 1920 x 1080 resolution or higher. Lower resolutions might result in improper layouts in some cases.
	• If you are using self-signed certificates, they must be added in the Trusted Root Certificate store on the client machine or you might observe issues in the "print" use cases. This is only applicable for Microsoft Edge and Microsoft Internet Explorer browsers.