



# ExtremeCloud™ IQ Site Engine Configuration and Requirements

2/2024  
24.02.10  
PN: 9038401-00  
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## Configuration and Requirements

### Security and Vulnerability Testing

Security is something that is taken seriously by Extreme Networks. Our commitment to achieving and maintaining a strong security stance for our products enables our customers to have confidence in networking, software, and management infrastructure provided by the company.

The Software Quality Assurance team at Extreme Networks scans every ExtremeCloud IQ Site Engine release using the current versions of multiple anti-virus solutions, updated to include the latest virus signatures.

Additionally, all Extreme Networks products undergo rigorous security testing with best-of-breed industry standard scanners. Further, all product binary images are scanned with sophisticated anti-virus solutions for evidence of viruses and malware before the images are uploaded to customer-facing portals. Whenever issues are discovered by these scanners and anti-virus solutions, a well-defined triage process is engaged for remediation or mitigation of such findings. This enables Extreme Networks to engineer solutions that heighten the security of our products, and new releases are made available as necessary in order to address any discovered security vulnerabilities. This has several additional benefits in terms of helping customers maintain networks that are compliant under various regulatory or industry standards such as HIPAA, SoX, and PCI.

Extreme Networks also monitors industry security information data sources, such as CERT, the full-disclosure mailing list, and various authoritative CVE announcements for vulnerabilities that could potentially apply to our products. When such a vulnerability is found, we follow a process by which high severity vulnerabilities (such as the ShellShock bug in the bash shell from late 2014) are prioritized over lower severity vulnerabilities. The severity itself is derived from the Common Vulnerability Scoring System (CVSS) score which provides the most widely accepted measure for vulnerability severity. For applicable vulnerabilities, we provide feedback to CERT to keep them updated on the status of our findings.

Further, for many of our products that are based on a Linux engine image – ExtremeCloud IQ Site Engine and ExtremeControl, for example – we harden the engines by ensuring that we do not start unnecessary services and we do not install unnecessary software. In addition, we apply security updates from the upstream Linux distribution.

Taken together, the security of Extreme Networks products is maintained and verified. For all inquiries about our security processes, contact [Global Technical Assistance Center \(GTAC\)](#).

### Installation Information

For complete installation instructions, refer to [ExtremeCloud IQ - Site Engine Suite Installation](#).

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

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## Important Installation Considerations

### 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.

ExtremeCloud IQ Site Engine version 24.02.10 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.

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**NOTE:** ExtremeCloud IQ Site Engine Version 24.02.10 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.

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From Version (currently running)	To Version (next step in upgrade path)
ExtremeCloud IQ Site Engine <b>23.4.12, 23.7.x, 23.11.x</b>	ExtremeCloud IQ Site Engine <b>24.02</b>

From Version (currently running)	To Version (next step in upgrade path)
ExtremeCloud IQ Site Engine <b>21.x, 22.x, 23.2.x 23.4.10, 23.4.11</b>	ExtremeCloud IQ Site Engine <b>23.4.12</b>
Extreme Management Center version <b>8.5.7</b>	ExtremeCloud IQ Site Engine <b>24.02</b>
Extreme Management Center version <b>8.2.x to 8.5.6</b>	Extreme Management Center <b>8.5.7</b>
Extreme Management Center version <b>8.0.x to 8.1.x</b>	Extreme Management Center <b>8.3.3.11</b>
NetSight version <b>7.1.4.1</b>	Extreme Management Center <b>8.3.3.11</b>
NetSight version <b>7.x</b>	NetSight <b>7.1.4.1</b>
NetSight version <b>6.3.0.186</b>	NetSight <b>7.1.4.1</b>
NetSight version <b>6.x</b>	NetSight <b>6.3.0.186</b>

**IMPORTANT:**

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

If you use LDAPS with a Fully Qualified Domain Name (FQDN) in the URL to authorize a user to the OneView, then ExtremeCloud IQ Site Engine presents the Server Certificate (located in **Administration > Certificates > Server Certificate Information**) to the LDAPS server. If the LDAPS server presents a certificate that does not match the LDAPS URL, then the certificate is rejected with the error "Certificate Unknown".

The best practice is to use a trusted certificate if the LDAPS URL is defined with FQDN, otherwise the LDAPS server might not accept the LDAPS connection. The alternative option is to use an IP address in the LDAPS URL instead of FQDN.

## Important Upgrade Considerations

- If your network is using ExtremeAnalytics or ExtremeControl engines, or another add-on feature, you must first perform the ExtremeCloud IQ Site Engine upgrade to version 24.02.10 and then upgrade the feature.
- 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 24.02.10, ensure the DNS server IP address is correctly configured.
- When upgrading to ExtremeCloud IQ Site Engine version 24.02.10, 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/nserver.cfg` file.

For example:

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

## License Renewal

Upgrading to ExtremeCloud IQ Site Engine version 24.02.10 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 24.02.10, 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 24.02.10 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 24.02.10:

### No domain specified

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

## Access Control Version 8.0 and newer

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

To enable 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

## Firewall Considerations

To configure your firewall, see [Ports List](#).

## Supported MIBs

The following directory contains the IETF and Private Enterprise MIBs supported by ExtremeCloud IQ Site Engine applications:

```
<install_directory>\appdata\System\mibs directory
```

Navigate to the directory and open the .index file to view an index of the supported MIBs.

Additional MIB Support information is available at [www.extremenetworks.com/support/policies](http://www.extremenetworks.com/support/policies).

## ExtremeCloud IQ Site Engine Ports

### ExtremeCloud IQ Site Engine Inbound Communication (Local Ports)

Type	Port	Description	Purpose
TCP	20	FTP Data	Device software and configuration upload/download
TCP	21	FTP Control	Device software and configuration upload/download
TCP	22	SSH	Shell access Device software and configuration upload/download
TCP	8080	HTTP	Web browser access to ExtremeCloud IQ Site Engine user interface (redirects to port 8443) Communication with ExtremeControl and ExtremeAnalytics
TCP	8443	HTTPS	Web browser access to ExtremeCloud IQ Site Engine user interface Northbound Interface (NBI) ExtremeControl, ExtremeAnalytics, and Fabric Manager communication ZTP+ (cloud connector) communication
TCP	8444	HTTPS	ExtremeControl engine communication
TCP	8445	HTTPS	ExtremeControl Assessment communication
TCP	20504	ExtremeWireless Protocol	ExtremeWireless Controller communication
TCP	20505	ExtremeWireless Protocol	ExtremeWireless Controller communication

**ExtremeCloud IQ Site Engine Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
UDP	69	TFTP	Device software and configuration upload/download
UDP	123	NTP	
UDP	161	SNMP	SNMP agent (if enabled)
			Reception of SNMP traps from all managed devices Reception of SNMP traps from ExtremeControl and ExtremeAnalytics engines, Guest & IoT Manager, Fabric Manager, ExtremeWireless Controller, and Virtual Sensors.
UDP	162	SNMP Traps	
UDP	514	Syslog	Reception of syslog messages from monitored devices
UDP	2055	NetFlow	Default NetFlow collector

**ExtremeCloud IQ Site Engine Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
			CLI access to managed devices Shell access to ExtremeControl and ExtremeAnalytics engines, Guest & IoT Manager, Fabric Manager, and ExtremeWireless controllers
TCP	22	SSH	
TCP	23	Telnet	If used for CLI communication in lieu of SSH
			Communication with SMTP server (port is configurable, most common values: 25, 465, and 587)
TCP	25	SMTP	
TCP	49	TACACS+	Required when using TACACS+ for user authentication
			Internet for ExtremeControl Assessment Agent updates ( <a href="https://extremenetworks.com">extremenetworks.com</a> )
TCP	80	HTTP	Virtual sensor communication
TCP	389	LDAP	Required when using LDAP for user authentication
			Allows ExtremeCloud IQ Site Engine to connect to <a href="https://extremenetworks.com">ExtremeCloud IQ</a> ExtremeAnalytics Fingerprint updates (services.enterasys.com)
			Required when using Microsoft Entra ID (formerly Azure AD), Intune Compliance Module, or OpenID integration.
TCP	443	HTTPS	
			Connect modules can be configured to communicate with third party solutions. The destination is defined in the Connect modules.
TCP	443	Connect	
			Required when automatic access tokens update is enabled in Administration > Options > SMTP Email.
TCP	443	OAuth	

**ExtremeCloud IQ Site Engine Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
TCP	636	LDAPs	Required when using LDAP for user authentication
TCP	8080	HTTP	ExtremeControl and ExtremeAnalytics engine communication
TCP	8443	HTTPS	ExtremeControl, ExtremeAnalytics, Guest & IoT Manager, Fabric Manager, and Virtual Sensor communication
TCP	8444	HTTPS	ExtremeControl engine communication
TCP	20506	ExtremeWireless Protocol	ExtremeWireless Controller communication
UDP	53	DNS	Domain Name Server
UDP	123	NTP	Network Time Protocol
UDP	161	SNMP	SNMP Management of all managed devices SNMP Management of ExtremeControl and ExtremeAnalytics engines, Guest & IoT Manager, Fabric Manager, ExtremeWireless Controller, and Virtual Sensors.
UDP	162	SNMP Trap	Send SNMP traps to external trap receivers
UDP	514	Syslog	Send syslog messages to external syslog receivers
UDP	1812	RADIUS authentication	Required when using RADIUS for user authentication

**ExtremeCloud IQ Site Engine Outbound Internet Connections (not mandatory in air gap deployment)**

Type	Port	Description	Purpose
			Allows ExtremeCloud IQ Site Engine to connect to ExtremeCloud IQ (*.extremecloudiq.com - Check the specifics for your RDC. Login to <b>ExtremeCloud IQ &gt; About ExtremeCloud IQ &gt; Firewall Configuration Guide</b> )
TCP	443	HTTPS	ExtremeAnalytics Fingerprint updates (services.enterasys.com)
TCP	80	HTTP	ExtremeControl Assessment Agent download (extremenetworks.com)

## ExtremeControl Ports

**ExtremeControl Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
TCP	22	SSH	Shell access Device software and configuration upload/download
TCP	80	HTTP	Captive Portal listening



**ExtremeControl Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
TCP	443	HTTPS	Captive Portal listening
TCP	8080	HTTP	ExtremeControl web browser access (redirects to port 8443)
			ExtremeCloud IQ Site Engine communication
			Communication between multiple ExtremeControl engines
			From every end-system subnet subject to ExtremeControl assessment agent in order to support agent mobility
TCP	8443	HTTPS	ExtremeControl web browser access
			ExtremeCloud IQ Site Engine communication
			Communication between multiple ExtremeControl engines
			From every end-system subnet subject to ExtremeControl assessment agent in order to support agent mobility
TCP	8444	HTTPS	ExtremeControl web browser access (redirects to port 8443)
			ExtremeCloud IQ Site Engine communication
			Communication between multiple ExtremeControl engines
TCP	8445	HTTPS	ExtremeControl Assessment communication
UDP	123	NTP	Network Time Protocol
UDP	161	SNMP	SNMP agent managed by ExtremeCloud IQ Site Engine
UDP	1812	RADIUS authentication	ExtremeControl RADIUS server
UDP	1813	RADIUS accounting	ExtremeControl RADIUS server
Connect			Distributed IPS module can be configured to receive information from third party solutions. Source (Protocol and Port and IP) is defined in the Distributed IPS module.

**ExtremeControl Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
TCP	22	SSH	Configuration of devices running VOSS/Fabric Engine (if ssh is configured in the CLI profile)
TCP	23	Telnet	Configuration of devices running VOSS/Fabric Engine (if telnet is configured in the CLI profile)
TCP	135	RPC	Remote Procedure Calls to Active Directory
TCP	389	LDAP	User-based network authentication and directory services
TCP	80/443	HTTPS	Certificate verification by CRL or OCSP
TCP	443	HTTPS	Required when using Microsoft Entra ID (formerly Azure AD), or OpenID integration.

**ExtremeControl Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
TCP	445	DCERPC	Distributed Computing Environment/Remote Procedure Calls
TCP	636	LDAP	User-based network authentication and directory services
TCP	8080	HTTP	ExtremeCloud IQ Site Engine communication Communication between multiple ExtremeControl engines
TCP	8443	HTTPS	ExtremeCloud IQ Site Engine communication Communication between multiple ExtremeControl engines
TCP	8444	HTTPS	ExtremeCloud IQ Site Engine communication Communication between multiple ExtremeControl engines
UDP/TCP	88	Kerberos	Kerberos Protocol
UDP	123	NTP	Network Time Protocol
UDP	161	SNMP	Communication to authenticators
UDP	162	SNMP Trap	SNMP traps sent to ExtremeCloud IQ Site Engine
UDP	389	CLDAP	Winbind discovery
UDP	1700	RADIUS CoA	ExtremeControl RADIUS server to authenticators
UDP	1812	RADIUS authentication	Proxy authorization to remote RADIUS Server
UDP	1813	RADIUS accounting	Proxy accounting to remote RADIUS Server
UDP	3799	RADIUS CoA	ExtremeControl RADIUS server to authenticators

## ExtremeAnalytics Ports

**ExtremeAnalytics Inbound IP Protocols**

Type	Protocol	Description	Purpose
IP	47	GRE	Mirror Traffic for CoreFlow, Virtual Sensor, Wireless Controller, and App Telemetry application identification.

**ExtremeAnalytics Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
TCP	22	SSH	Shell access
TCP	8080	HTTP	ExtremeCloud IQ Site Engine communication

**ExtremeAnalytics Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
TCP	8443	HTTPS	ExtremeCloud IQ Site Engine communication
UDP	123	NTP	Network Time Protocol
UDP	161	SNMP	SNMP agent managed by ExtremeCloud IQ Site Engine
UDP	2055	NetFlow	NetFlow Collector
UDP	2058	IPFIX	VMWare NSX IPFIX collector
UDP	2075	IPFIX	IPFIX collector
UDP	2095	NetFlow	ExtremeWireless NetFlow collector
UDP	4739	IPFIX	ExtremeXOS/Switch Engine IPFIX collector, VTAP IPFIX collector from Virtual Sensor
UDP	6343	SFlow	SFlow for ExtremeAnalytics Application Telemetry

**ExtremeAnalytics Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
TCP	80	HTTP	Virtual Sensor configuration
TCP	443	HTTPS	Virtual Sensor configuration
TCP	8080	HTTP	ExtremeCloud IQ Site Engine communication
TCP	8443	HTTPS	ExtremeCloud IQ Site Engine communication
UDP	123	NTP	
UDP	162	SNMP Trap	SNMP traps sent to ExtremeCloud IQ Site Engine
UDP		IPFIX	Flow export. Destination and port is defined in the configuration of the Analytics Engine

## FabricManager Ports

**Fabric Manager Outbound Communication (Remote Ports)**

Type	Port	Description	Purpose
UDP	161	SNMP	Communicating with the devices
TCP	22	SSH	Communication between ExtremeCloud IQ - Site Engine and FM for SSH
TCP	8443	HTTP	Communication between ExtremeCloud IQ - Site Engine and FM for REST & ZTP+

**Fabric Manager Inbound Communication (Local Ports)**

Type	Port	Description	Purpose
TCP	22	SSH	Communication between ExtremeCloud IQ - Site Engine and FM for SSH

## Ephemeral Ports

The port range 32768 to 61000 is reserved for dynamically allocated port numbers used by most TCP and UDP based protocols, such as TFTP and FTP.