



# Security, Internet Access, and Communication Ports

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The following topics provide information on system security, internet access, and communication ports:

- [Security Requirements, on page 1](#)
- [Cisco Clouds, on page 1](#)
- [Internet Access Requirements, on page 2](#)
- [Communication Port Requirements, on page 4](#)

## Security Requirements

To safeguard the Firepower Management Center, you should install it on a protected internal network. Although the FMC is configured to have only the necessary services and ports available, you must make sure that attacks cannot reach it (or any managed devices) from outside the firewall.

If the FMC and its managed devices reside on the same network, you can connect the management interfaces on the devices to the same protected internal network as the FMC. This allows you to securely control the devices from the FMC. You can also configure multiple management interfaces to allow the FMC to manage and isolate traffic from devices on other networks.

Regardless of how you deploy your appliances, inter-appliance communication is encrypted. However, you must still take steps to ensure that communications between appliances cannot be interrupted, blocked, or tampered with; for example, with a distributed denial of service (DDoS) or man-in-the-middle attack.

## Cisco Clouds

The FMC communicates with resources in the Cisco cloud for the following features:

- **Advanced Malware Protection**

The public cloud is configured by default; to make changes, see *Change AMP Options* in the [Firepower Management Center Device Configuration Guide](#).

- **URL filtering**

For more information, see the *URL filtering* chapter in the [Firepower Management Center Device Configuration Guide](#).

- **Integration with Security Analytics and Logging (SaaS)**

See [Remote Data Storage in Cisco Secure Cloud Analytics](#).

- **Integration with SecureX and Cisco Threat Response**

For details, see the integration documents linked from:

- [Integrate with Cisco SecureX](#)
- [Event Analysis with Cisco Threat Response](#)

- **The proactive support feature**

For information, see [Configure Cisco Support Diagnostics Enrollment](#).

- **Cisco Success Network**

For more information, see [Configure Cisco Success Network Enrollment](#).

## Internet Access Requirements

By default, the system is configured to connect to the internet on ports 443/tcp (HTTPS) and 80/tcp (HTTP). If you do not want your appliances to have direct access to the internet, you can configure a proxy server. For many features, your location can determine which resources the system can access.

In most cases, it is the FMC that accesses the internet. Both FMCs in a high availability pair should have internet access. Depending on the feature, sometimes both peers access the internet, and sometimes only the active peer does.

Sometimes, managed devices also access the internet. For example, if your malware protection configuration uses dynamic analysis, managed devices submit files directly to the Secure Malware Analytics cloud. Or, you may synchronize a device to an external NTP server.

Additionally, unless you disable web analytics tracking, your browser may contact Google web analytics servers to provide non-personally-identifiable usage data to Cisco.

**Table 1: Internet Access Requirements**

Feature	Reason	FMC High Availability	Resource
AMP for Networks	Malware cloud lookups.	Both peers perform lookups.	<a href="#">See Required Server Addresses for Proper Cisco Secure Endpoint &amp; Malware Analytics Operations</a> .
	Download signature updates for file preclassification and local malware analysis.	Active peer downloads, syncs to standby.	updates.vrt.sourcefire.com amp.updates.vrt.sourcefire.com
	Submit files for dynamic analysis (managed devices). Query for dynamic analysis results (FMC).	Both peers query for dynamic analysis reports.	fmc.api.threatgrid.com fmc.api.threatgrid.eu

Feature	Reason	FMC High Availability	Resource
AMP for Endpoints	<p>Receive malware events detected by AMP for Endpoints from the AMP cloud.</p> <p>Display malware events detected by the system in AMP for Endpoints.</p> <p>Use centralized file Block and Allow lists created in AMP for Endpoints to override dispositions from the AMP cloud.</p>	<p>Both peers receive events.</p> <p>You must also configure the cloud connection on both peers (configuration is not synced).</p>	<p>See <a href="#">Required Server Addresses for Proper Cisco Secure Endpoint &amp; Malware Analytics Operations</a>.</p>
Security intelligence	Download security intelligence feeds.	Active peer downloads, syncs to standby.	intelligence.sourcefire.com
URL filtering	<p>Download URL category and reputation data.</p> <p>Manually query (look up) URL category and reputation data.</p> <p>Query for uncategorized URLs.</p>	Active peer downloads, syncs to standby.	<p>URLs:</p> <ul style="list-style-type: none"> <li>• regsvc.sco.cisco.com</li> <li>• est.sco.cisco.com</li> <li>• updates-talos.sco.cisco.com</li> <li>• updates.ironport.com</li> </ul> <p>IPv4 blocks:</p> <ul style="list-style-type: none"> <li>• 146.112.62.0/24</li> <li>• 146.112.63.0/24</li> <li>• 146.112.255.0/24</li> <li>• 146.112.59.0/24</li> </ul> <p>IPv6 blocks:</p> <ul style="list-style-type: none"> <li>• 2a04:e4c7:ffff::/48</li> <li>• 2a04:e4c7:fffe::/48</li> </ul>
Cisco Smart Licensing	Communicate with the Cisco Smart Software Manager.	Active peer communicates.	tools.cisco.com:443 www.cisco.com
Cisco Success Network	Transmit usage information and statistics.	Active peer communicates.	api-sse.cisco.com:8989 dex.sse.itd.cisco.com dex.eu.sse.itd.cisco.com
Cisco Support Diagnostics	Accepts authorized requests and transmits usage information and statistics.	Active peer communicates.	api-sse.cisco.com:8989

Feature	Reason	FMC High Availability	Resource
System updates	Download updates <i>directly</i> from Cisco to the FMC: <ul style="list-style-type: none"> <li>• System software</li> <li>• Intrusion rules</li> <li>• Vulnerability database (VDB)</li> <li>• Geolocation database (GeoDB)</li> </ul>	Update intrusion rules, the VDB, and the GeoDB on the active peer, which then syncs to the standby.  Upgrade the system software independently on each peer.	cisco.com sourcefire.com
Cisco Threat Response integration	See the appropriate <a href="#">integration guide</a> .		
Time synchronization	Synchronize time in your deployment.  Not supported with a proxy server.	Any appliance using an external NTP server must have internet access.	0.sourcefire.pool.ntp.org 1.sourcefire.pool.ntp.org 2.sourcefire.pool.ntp.org 3.sourcefire.pool.ntp.org
RSS feeds	Display the Cisco Threat Research Blog on the dashboard.	Any appliance displaying RSS feeds must have internet access.	blog.talosintelligence.com blogs.cisco.com feeds.feedburner.com
Whois	Request whois information for an external host.  Not supported with a proxy server.	Any appliance requesting whois information must have internet access.	The whois client tries to guess the right server to query. If it cannot guess, it uses: <ul style="list-style-type: none"> <li>• NIC handles: whois.networksolutions.com</li> <li>• IPv4 addresses and network names: whois.arin.net</li> </ul>

## Communication Port Requirements

The FMC communicates with managed devices using a two-way, SSL-encrypted communication channel on port 8305/tcp. This port *must* remain open for basic communication.

Other ports allow secure management, as well as access to external resources required by specific features. In general, feature-related ports remain closed until you enable or configure the associated feature. Do *not* change or close an open port until you understand how this action will affect your deployment.

Table 2: Communication Port Requirements

Port	Protocol/Feature	Platforms	Direction	Details
22/tcp	SSH	FMC FTD	Inbound	Secure remote connections to the appliance.
53/tcp 53/udp	DNS		Outbound	DNS
67/udp 68/udp	DHCP		Outbound	DHCP
123/udp	NTP		Outbound	Synchronize time.
161/udp	SNMP	FMC FTD	Inbound	Allow access to MIBs via SNMP polling.
162/udp	SNMP		Outbound	Send SNMP alerts to a remote trap server.
389/tcp 636/tcp	LDAP		Outbound	Communicate with an LDAP server for external authentication.  Obtain metadata for detected LDAP users (FMC only).  Configurable.
443/tcp	HTTPS	FMC	Inbound	Access the web interface.
443/tcp	Remote access VPN (SSL/IPSec)	FTD	Inbound	Allow secure VPN connections to your network from remote users.
500/udp 4500/udp	Remote access VPN (IKEv2)	FTD	Inbound	Allow secure VPN connections to your network from remote users.
443/tcp	HTTPS	FMC FTD	Inbound	Communicate with integrated and third-party products using the Firepower REST API, including Cisco Terminal Services (TS) Agent.
443/tcp	HTTPS		Outbound	Send and receive data from the internet.  For details, see <a href="#">Internet Access Requirements, on page 2</a> .
443	HTTPS	FMC	both	Integrate with AMP for Endpoints
514/udp	Syslog (alerts)		Outbound	Send alerts to a remote syslog server.
623/udp	SOL/LOM	FMC	Inbound	Lights-Out Management (LOM) using a Serial Over LAN (SOL) connection.

Port	Protocol/Feature	Platforms	Direction	Details
885/tcp	Captive portal	FTD	Inbound	Communicate with a captive portal identity source.
1500/tcp 2000/tcp	Database access	FMC	Inbound	Allow read-only access to the event database by a third-party client.
1812/udp 1813/udp	RADIUS		Outbound	Communicate with a RADIUS server for external authentication and accounting. Configurable.
8302/tcp	eStreamer	FMC	Inbound	Communicate with an eStreamer client.
8305/tcp	Appliance communications		Both	Securely communicate between appliances in a deployment.  Configurable. If you change this port, you must change it for <i>all</i> appliances in the deployment. We recommend you keep the default.
8307/tcp	Host input client	FMC	Inbound	Communicate with a host input client.
8989/tcp	Cisco Support Diagnostics		Both	Accepts authorized requests and transmits usage information and statistics.

**Related Topics**

[Add an LDAP External Authentication Object for the FMC](#)

[Add a RADIUS External Authentication Object for FMC](#)