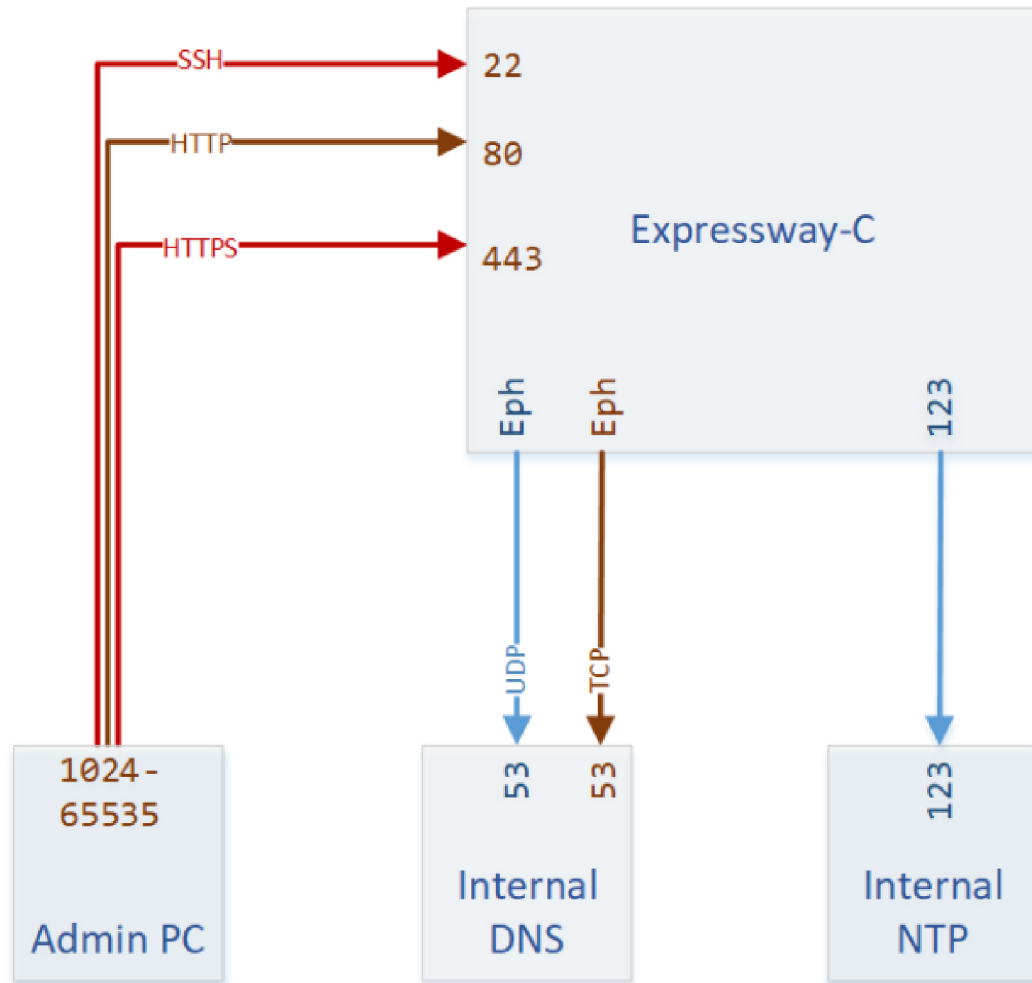




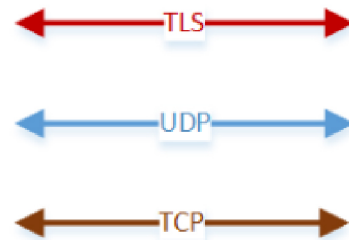
Basic Networking Connections

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Basic Networking - Expressway



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Networking Port Reference - Expressway

Table 1: Basic Networking Ports for Expressway-C

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
Administrator SSH	Admin PCs	1024-65535	TCP	Expressway-C	22 or 5022 ¹
Administrator HTTP*	Admin PCs	1024-65535	TCP	Expressway-C	80
Administrator HTTPS	Admin PCs	1024-65535	TCP	Expressway-C	443
Name resolution (DNS)	Expressway-C	30000-35999	UDP & TCP §	Internal name server	53
Time synchronization (NTP)	Expressway-C	123	UDP	Internal time server	123

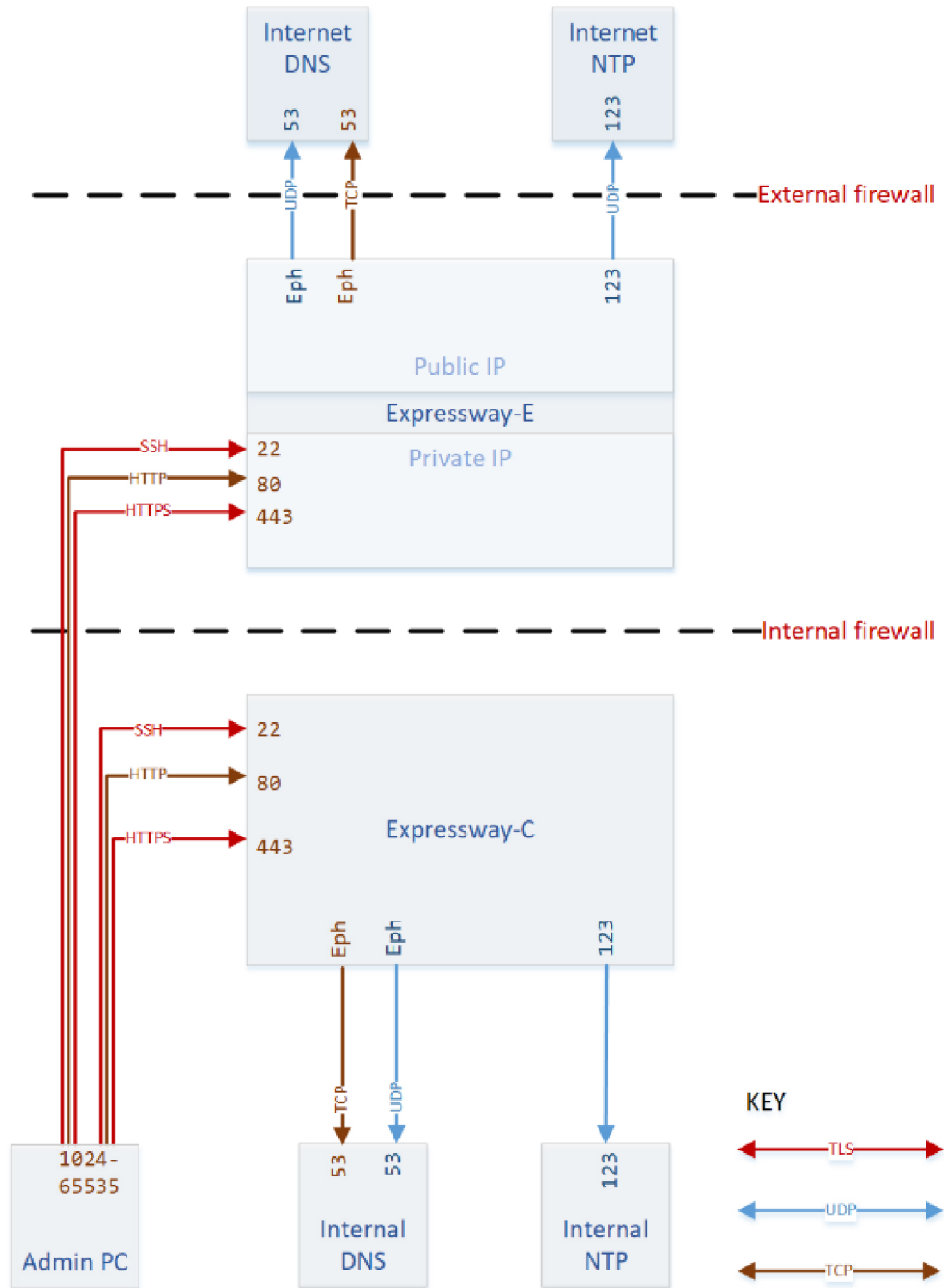
* Expressway redirects HTTP to HTTPS by default. You don't need to open the HTTP port, but you can allow HTTP for convenience and redirect to HTTPS.

§ Expressway will attempt DNS resolution over TCP if the response is too large.



Note ¹Port 22 is configured as the Administrator SSH port on Expressway Appliances. The Expressway Virtual Machine can be deployed on port 22 or 5022 when the VM is deployed.

Basic Networking - Traversal Pair



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Networking Port Reference - Expressway Traversal Pair

Table 2: Basic Networking Ports for Expressway-C

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
Administrator SSH	Admin PCs	1024-65535	TCP		22 or 5022 ¹
Administrator HTTP*	Admin PCs	1024-65535	TCP	Expressway-C	80
Administrator HTTPS	Admin PCs	1024-65535	TCP	Expressway-C	443
Name resolution (DNS)	Expressway-C	30000-35999	UDP & TCP §	Internal name server	53
Time synchronization (NTP)	Expressway-C	123	UDP	Internal time server	123

* Expressway redirects HTTP to HTTPS by default. You don't need to open the HTTP port, but you can allow HTTP for convenience and redirect to HTTPS.

§ Expressway will attempt DNS resolution over TCP if the response is too large.



Note ¹Port 22 is configured as the Administrator SSH port on Expressway Appliances. The Expressway Virtual Machine can be deployed on port 22 or 5022 when the VM is deployed.

Table 3: Basic Networking Ports for Expressway-E

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
Administrator SSH	Admin PCs	1024-65535	TCP	Expressway-E private IP	22 or 5022 ¹
Administrator HTTP	Admin PCs	1024-65535	TCP	Expressway-E private IP	80
Administrator HTTPS	Admin PCs	1024-65535	TLS	Expressway-E private IP	443
Internal name resolution (DNS)*	Expressway-E private IP	30000-35999	UDP & TCP	Internal name server	53

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
External name resolution (DNS)	Expressway-E public IP	30000-35999	UDP & TCP	External name server	53
Internal time synchronization (NTP)*	Expressway-E private IP	123	UDP	Internal time server	123
External time synchronization (NTP)	Expressway-E public IP	123	UDP	External time server	123

* You may prefer to connect Expressway-E to external DNS and NTP. You do not need both.



Note ¹Port 22 is configured as the Administrator SSH port on Expressway Appliances. The Expressway Virtual Machine can be deployed on port 22 or 5022 when the VM is deployed.

Networking Port Reference - Smart Licensing



Note Expressway requires a connection to the Smart License server, and the port requirements vary based on the smart license transport setting. The details are listed in the table.

Table 4: Connections from Expressway-E to the Cloud

Purpose	Src. IP	Src. Ports	Protocol	Dest. IP	Dest. Ports
Smart Licensing requests originating from Expressway-E	Expressway-E	Ephemeral (30000- 35999)	TLS	https://smartreceiver.cisco.com/licservice/license	443
Smart License Direct	Expressway	1024-65535	TLS	smartreceiver.cisco.com	443
Smart License on-prem CSSM	Expressway	1024-65535	TLS	User configured On-prem CSSM IP/FQDN	443
Smart License Proxy	Expressway	1024-65535	TLS	User configured proxy server IP/FQDN	user configured proxy server port

Networking Port Reference - Email Notification Service

You can configure Simple Mail Transfer Protocol (SMTP) server for implicit or explicit connections. This is the difference between the two connection types:

- **Explicit mode** — The client connects to the SMTP server first. Later the server **explicitly requests switching on TLS/SSL encryption**. The default ports are 25 and 587.
- **Implicit mode** — The client connects to the SMTP server. Soon after establishing the channel, the server switches on TLS/SSL encryption **implicitly**. The default TCP port is 465.

