EMC²

EMC® Secure Remote Support
Release 2.28

Port Requirements

Rev 01

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This document contains supplemental information about the EMC Secure Remote Support (ESRS). It includes the following topics:

Note: Some ports used by the Gateway Client and devices may be registered for use by other parties, or may not be registered by EMC. EMC is addressing these registration issues. In the meantime, be aware that all ports listed for use by Gateway Client servers and devices will be in use by the EMC applications listed.

Communication between the Gateway Client and EMC

To enable communication between your Gateway Client and EMC, you must configure your external and/or firewalls to allow traffic over the specific ports as shown in Table 1 on page 4. These tables identify the installation site network firewall configuration open-port requirements for ESRS. The protocol/ports number and direction are identified relative to EMC Gateway Client servers and storage devices. Figure 1 on page 3 shows the communication paths.

Communication between the Gateway Client and Policy Manager

To enable communication between your Gateway Client and EMC, you must configure your internal firewalls to allow traffic over the specific ports as shown in Table 1 on page 4. These tables identify the installation site network firewall configuration open-port requirements for ESRS. The protocol/ports number and direction are identified relative to EMC Gateway Client servers and storage devices. Figure 1 on page 3 shows the communication paths.

Communication between the Gateway Client and devices

There are two connection requirements between the Gateway Client server and your managed devices:

The first is the communication between the Gateway Client and your managed devices for remote access connections. The Gateway Client secures remote access connections to your EMC® devices by using a session-based IP port-mapped solution.

The second communication requirement is between the Gateway Client and your managed devices for connect home messages. The Gateway Client brokers connect home file transfers from your managed devices that support callhome thru the ESRS Gateway Client, ensuring secure encryption, authorization, and auditing for those transfers.

To enable communication between your Gateway Client and your devices, you must configure your internal firewalls to allow traffic over the specific ports as shown in Table 1 on page 4 and Table 2 on page 6. These tables identify the installation site network firewall

configuration open-port requirements for ESRS IP. The
protocol/ports number and direction are identified relative to EMC
Gateway Client servers and storage devices.
shows the communication paths.

Note: See Primus emc238467, "What IP addresses are used by the EMC
Secure Remote Support IP Solution." You can access this Primus at
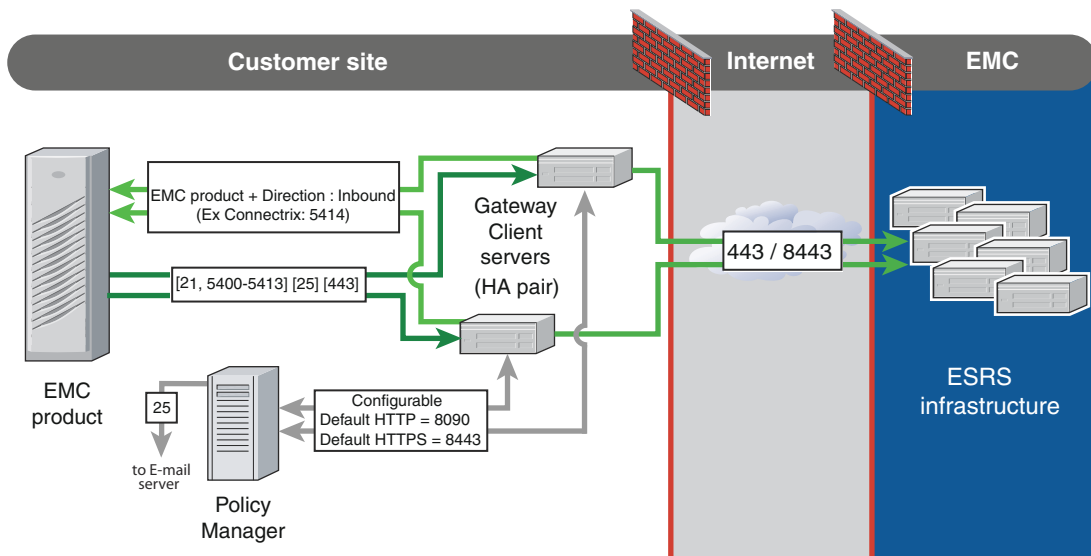support.emc.com.

Figure 1   Port diagram for generic EMC managed product

Port requirements for Gateway Client and Policy Manager servers

Table 1 on page 4 lists the port requirements for the Gateway Client and Policy Manager servers.

Table 1 **Port requirements for Gateway Client and Policy Manager servers**

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communication (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
Gateway Client	HTTPS 443	See Primus emc238467, "What IP addresses are used by the EMC Secure Remote Support IP Solution." You can access this Primus on support.emc.com.	Outbound	to EMC	Client service	Service notification, setup, all traffic except remote support	N/A
	HTTPS **443** and **8443**	See Primus emc238467, "What IP addresses are used by the EMC Secure Remote Support IP Solution." You can access this Primus on support.emc.com.	Outbound	to EMC Global Access Servers (GAS)	Client service	Remote support	N/A
	IMPORTANT: Port 8443 is not required for functionality, however without this port being opened, there will be a significant decrease in remote support performance, which will directly impact time to resolve issues on the end devices.						
	HTTPS **443**	Use of HTTPS for service notifications inbound is dependent on the version of ConnectEMC used by the managed device. Refer to product documentation.	Inbound	from **Managed device** (EMC product)	ESRSHTTP	Service notification from device	N/A
	Passive FTP ports: **21**, 5400–5413	During the ESRS-IP installer execution, the value for Passive Port Range in FTP is set to **21** and **5400** through **5413**. This range indicates the data channel ports available for response to PASV commands. See RFC 959 for passive FTP definition. These ports are used for passive mode FTP of call home messages as well as for the GWExt loading and output. GWExt uses HTTPS by default but can be configured to use FTP.			Windows-GW: Microsoft IIS FTP Linux-GW: vsftpd		
	SMTP **25**				Windows-GW: Microsoft IIS SMTP Linux-GW: postfix		
	IMPORTANT: When opening ports for devices in Table 2, also open the same ports on the **Gateway Client server**, identified as "Inbound from Gateway Client server"		Outbound	to **Managed device**	Client service	Remote support for device	N/A
	HTTP (configurable) Default = **8090**		Outbound	to Policy Manager	Client service	Policy query	N/A
	HTTPS 8443						
	HTTP 8118	To support ESRS Gateway proxy.	Inbound	To Gateway	Proxy client	Service eLicensing requests	N/A

Table 1   Port requirements for Gateway Client and Policy Manager servers

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communication (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
Policy Manager	HTTP (configurable) Default = **8090**		Inbound	from ESRS IP Clients (and customer browser)	Policy Manager service	Policy query (and policy management by customer)	N/A
	HTTPS 8443						
	SMTP 25		Outbound	to Customer email server		Action request	

Port requirements for devices

lists the port requirements for EMC devices.

Table 2   Port requirements for devices

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communi-cation (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
Atmos®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	NA
	Passive FTP						
	SMTP			to Gateway Client *or* to Customer SMTP server			
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional)
	443				SecureWebUI		Troubleshooting (frequent)
Avamar®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	NA
	Passive FTP						
	SMTP			to Gateway Client *or* to Customer SMTP server			
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional)
	8543				AVInstaller		Troubleshooting (frequent)
	80,443, 8778, 8779, 8580, 8543, 9443, 7778, 7779, 7780,7781, 8780, and 8781.				Enterprise Manager		
Celerra®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	**Note:** NAS code 5.5.30.x and earlier supports only FTP; NAS code 5.5.31.x supports both FTP and SMTP for callhome by using the Gateway Client.
	Passive FTP						
	SMTP						
	All of: **80**, **443**, and **8000**		Inbound	from Gateway Client	Celerra Manager (Web UI)	Remote support	Administration (occasional)
	22				CLI (via SSH)		Troubleshooting (frequent)
	23	This telnet port should be enabled **only** if SSH (port **22**) cannot be used.			Telnet		Troubleshooting (rare) Use *only* if CLI cannot be used
EMC Centera®	SMTP		Outbound	to Customer SMTP server	ConnectEMC	Service notification	N/A
	Both **3218** and **3682**			from Gateway Client	EMC Centera Viewer	Remote support	Diagnostics (frequent)
	22				CLI (via SSH)		Troubleshooting (frequent)

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communication (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
CLARiiON® and CLARiiON portion of EDL	HTTPS[a] Passive FTP[b] SMTP[c]	Service notification for CLARiiON and EDL is supported only on centrally managed devices via a management server. Distributed CLARiiON devices (including EDL) use Gateway Client or Customer email server (SMTP) for service notifications.	Outbound	to Gateway Client	ConnectEMC ConnectEMC, Navisphere® SP Agent	Service notification	N/A
	13456 22 (to run pling)		Inbound	from Gateway Client	KTCONS	Remote support	Troubleshooting (occasional)
	Both **80** and **443**, or optionally (depending on configuration), both **2162** and **2163**	For more information, refer to CLARiiON documentation.			Navisphere Manager; also allows Navisphere SecureCLI		Administration (frequent) Troubleshooting (frequent)
	9519				RemotelyAnywhere		
	5414				EMCRemote		
	All of: **6389**, **6390**, **6391**, and **6392**				Navisphere CLI		
	60020				Remote Diagnostic Agent		Diagnostics (occasional)
Navisphere Management Station	HTTPS[a] Passive FTP[b] SMTP[c]		Outbound	to Gateway Client	ConnectEMC ConnectEMC, Navisphere SP Agent	Service notification	N/A
Connectrix® *switch family*	HTTPS[a] Passive FTP[b] SMTP[c]		Outbound	to Gateway Client	ConnectEMC or DialEMC	Service notification	N/A
	5414		Inbound	from Gateway Client	EMCRemote	Remote support	Troubleshooting (frequent)
Customer Management Station	5414		Inbound	From Gateway Client	EMCRemote	Remote support	Troubleshooting (frequent)
	9519				Remotely-Anywhere		
	3389				RemoteDesktop		
	80, 443, 8443				WebHTTPHTTP		
	22				CLI (via SSH)		
Data Domain	HTTPS HTTP		Inbound	from Gateway Client	Enterprise Manager	Remote support	Administration (occasional) Troubleshooting (frequent)
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional) Troubleshooting (frequent)
	25		Outbound	to Customer SMTP server		Service notification	N/A
DL3D Engine	SMTP[c]		Outbound	to Customer SMTP server	CentOS	Service notification	N/A
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	443		Inbound		Secure Web UI		

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communi-cation (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
DLm	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	80, 443, 8000				Celerra Manager		
	80,443				DLmConsole		
EDL Engine (except DL3D)	HTTPS[a]	Service notification for EDL is supported only on centrally managed devices via a management server. Distributed CLARiiON devices (including EDL) use Gateway Client or Customer email server (SMTP) for service notifications.	Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	11576				EDL Mgt Console		
Greenplum Data Computing Appliance (DCA)®	HTTPS[a]		Outbound	to Customer SMTP server	ConnectEMC	Service notification	NA
	Passive FTP						
	SMTP						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional)
							Troubleshooting (frequent)
Invista® Element Manager	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
Invista CPCs	5414		Inbound	from Gateway Client	EMCRemote	Remote support	Troubleshooting (frequent)
	All of: **80**, **443**, **2162**, and **2163**				Invista Element Manager and InvistaSecCLI		
	5201				ClassicCLI		
Isilon®	HTTPS[a]	ESRS team highly recommends using CEC- HTTPS transport protocol as FTP and SMTP are plain text protocols.	Outbound	to Gateway Client	ConnectEMC	Service notification	NA
	Passive FTP						
	SMTP						
	Managed File Transfer (MFT) 8118	Within Isilon OneFS 7.1, the isi_gather_info script will send the Isilon log file back to EMC via MFT using port 8118 on the ESRS Gateway. All other Connect Homes will use ConnectEMC to send files to the Gateway using HTTPS, Passive FTP, or SMTP.			ISI-Gather Log Process	Configuration information	
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional)
	8080				WEBUI		Troubleshooting (frequent)
Recover-Point	SMTP[c]		Outbound	to Gateway Client		Service notification	N/A
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	80, 443, and 7225				RecoverPoint Management GUI		

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source -or- Destination	Application name	Communication (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
Switch–Brocade-B	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	23 **Note:** If managed by Connectrix Manager, use port 5414	This telnet port should be enabled *only* if SSH (port 22) cannot be used.			Telnet		Troubleshooting (rare) Use *only* if CLI cannot be used
Switch–Cisco	SMTP[c]		Outbound	to Customer SMTP server			N/A
	22	SSH must be enabled and configured.	Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	23	This telnet port should be enabled *only* if SSH (port 22) cannot be used.			Telnet		Troubleshooting (rare) Use *only* if CLI cannot be used
Symmetrix®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC or DialEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	9519		Inbound	from Gateway Client	RemotelyAnywhere	Remote support	Troubleshooting (frequent)
	5414				EMCRemote		
	All of: 1300, 1400, 4444, 5555, 7000, 23003, 23004, and 23005				SGBD/Swuch/ Chat Server/ Remote Browser/ InlineCS		Advanced troubleshooting (by EMC Symmetrix Engineering) (rare)
ViPR	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	443, 4443, 80				ViPR Management GUI (ViPRUI)		
VMAX® Cloud Edition (CE)	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	NA
	Passive FTP[b]						
	SMTP[c]						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	443, 8443, 22, 80, 903, 8080, 10080, 10443, 902				VClient		Administration (frequent)
	443				WebHostLogAccess (Primary)		
	443				WebHostAccess		
	9443, 443, 80				WebVClient		
	5480				vAppAccess (Primary)		

EMC product	TCP port *or* Protocol	Notes for port settings	Direction open	Source *-or-* Destination	Application name	Communi-cation (network traffic) type	*Performed by authorized EMC Global Services personnel: Support objective (frequency)*
VNX®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	13456		Inbound	from Gateway Client	KTCONS	Remote support	Troubleshooting (occasional)
	13456, 13457				RemoteKTrace		Administration (frequent)
							Troubleshooting (frequent)
	9519				Remotely-Anywhere		
	22				CLI (via SSH)		
	22				USM (VNX Control Station Device Client)		
	80, 443, 2162, 2163, 8000				Unisphere/USM/ Navisphere SecureCLI		
	6391,6392, 60020				Remote Diagnostic Agent		Diagnostics (occasional)
VNXe®	HTTPS[a]		Outbound	to Customer SMTP server	ConnectEMC	Service notification	NA
	Passive FTP						
	SMTP						
	22		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Administration (occasional)
	80 and 443				Unisphere		Troubleshooting (frequent)
VPLEX®	SMTP		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
					CLI (via SSH)		
	443		Inbound	from Gateway Client	Invista Element Manager	Remote support	Troubleshooting (frequent)
	22				CLI (via SSH)		Advanced troubleshooting (by EMC Symmetrix Engineering) (rare)
XtremIO®	HTTPS[a]		Outbound	to Gateway Client	ConnectEMC	Service notification	N/A
	Passive FTP[b]						
	SMTP[c]						
	22, 80		Inbound	from Gateway Client	CLI (via SSH)	Remote support	Troubleshooting (frequent)
	80, 443, 42502				XTREMIOGUI		

a. Use of HTTPS for service notifications is dependent on the version of ConnectEMC used by the managed device. Refer to product documentation. The default port for HTTPS is 443.

b. During the ESRS-IP Windows installer execution, the value for Passive Port Range in IIS FTP is set to 21 and 5400 through 5413. This range indicates the data channel ports available for response to PASV commands. See RFC 959 for passive FTP definition. These ports are used for passive mode FTP of call home messages as well as for the GWExt loading and output.

   During the ESRS-IP Linux installer execution, the installer autoconfigures FTP settings only if vsftpd is available on the system. The same port range as Windows will be set up in this case.

c. Port 25 needs to be open to the ESRS gateway server or Customers SMTP server, only from the Fabric Manager Server or ECC. The protocol SMTP is assigned the service port 25, used for Outbound Service Notification to Gateway Client or email server.

   Linux Gateway installation autoconfigures SMTP service only if postfix is available on the system.

Port requirements for devices