This document provides information about the EMC® Secure Remote Support (ESRS) feature for VNXe®. Topics include:

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Overview

The EMC® Secure Remote Support (ESRS) feature provides your authorized EMC service provider with remote access capabilities to your VNXe® system using a secure and encrypted tunnel. For outbound access, the VNXe management IP network must allow outbound HTTPS traffic. The secure tunnel that ESRS establishes between the VNXe device and authorized systems on the EMC network can also be used to transfer files out to the VNXe system or transfer files back to EMC’s network.

Audience

This technical note is intended for the administrator responsible for configuring and managing the ESRS feature on the VNXe.

Requirements

The ESRS feature requires the following:

- VNXe operating environment (OE) version 3.0 or later.
- At least one DNS server must be configured on your VNXe.
- Unrestricted access to *.emc.com over the Internet using HTTPS (for non-proxy environments).
- EMC online support Full Access account (requires specific credentials associated with the site ID, which is associated with the system serial number).

The following requirements are dependent on your ESRS implementation:

- If your ESRS implementation will include a proxy server to connect to the Internet, you must indicate this when you configure the ESRS feature.
- If your ESRS implementation will include a Policy Manager for more control over remote access to your VNXe system, you must indicate this when you configure the ESRS feature.
- If your ESRS implementation will include a proxy server for your VNXe to connect to a Policy Manager, you must indicate this when you configure the ESRS feature.
**EMC Online Support Full Access account**

Configuring ESRS on a VNXe system requires an active Full Access account on the EMC Online Support website. This account associates specific credentials with a particular organization and email domain. When you configure ESRS on the VNXe system, you must specify these credentials (a user name password pair) to enable the ESRS communication channel for the system.

*Note: Support Full Access is only provided to customers that are EMC Supported (not supported by a Service Enabled Partner).*

**Creating an initial EMC Online Support account**

When you create an initial EMC Online Support account, your account may have limited “Lite Touch” privileges and may not be associated with a company profile. Unless your company has an established profile with EMC Online Support, the account is created with an email address, user name and password, but without company affiliation. When you create the account, you receive a confirmation email message containing a validation link. You can click the link, log into the EMC Online Support website, activate your account, and if established as a Lite Touch account, you can (optionally) request an upgrade to Full Access privileges.

*Note: Lite Touch account privileges are sufficient for registering and licensing VNXe systems. However, you cannot configure ESRS for a VNXe system based on an account that has only Lite Touch privileges (see Upgrading to Full Access privileges).*

**Upgrading to Full Access privileges**

If your EMC Online Support account is initially activated as a Lite Touch account, you can provide additional information in a request for Full Access privileges.

If your organization already has a company profile within the EMC Online Support website, you may be asked to select your site ID (location) from among those provided, upon which you will be associated to your company and will be able to configure ESRS on your VNXe system.
To request a new customer profile on the EMC Online Support web site, you must provide the following information:

<table>
<thead>
<tr>
<th>Required Information</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with EMC</td>
<td>Indicate whether your organization is a partner, supplier, or customer of EMC products.</td>
</tr>
<tr>
<td>Site ID (Location)</td>
<td>Choose an existing Site ID (if one has already been created for your organization) or select your organization from a database of organization profiles.</td>
</tr>
</tbody>
</table>

Note: The email address associated with the initial Lite Touch account becomes the business email domain associated with the new customer profile.

If you provided company information when validating your Lite Touch account, your request will be processed within 24-48 hours. At that time, you will receive a confirmation email confirming the account status change to Full Access privileges. The email contains a validation link that you click in order to log in and activate Full Access support privileges on the EMC Online Support system.

After you activate Full Access support privileges for your EMC Online Support, you can use the account credentials to configure EMC Secure Remote Support on VNXe systems associated with your organization.

**Operational Description**

The ESRS service provides an IP-based connection that enables EMC Support to receive error files and alerts from your VNXe system, and to perform remote troubleshooting resulting in a fast and efficient time to resolution.

Note: EMC strongly recommends that you enable the ESRS service to accelerate problem diagnosis, perform troubleshooting, and help speed time to resolution. If you do not enable ESRS, you may need to collect system information manually to assist EMC Support with troubleshooting and resolving problems with the VNXe system.

**ESRS Management**

You can manage ESRS using Unisphere® (both GUI and CLI). You can enable or disable the service, set up a proxy server or Policy Manager, or
both, and provide your Full Access support account credentials which are necessary for ESRS to work.

Figure 1 shows an example of a customer-side ESRS network topology:

![ESRS customer-side network topology example](image)

The VNXe itself does not implement any policies. If you require more control over remote access to your VNXe system, you can use a Policy Manager to set authorization permissions. The Policy Manager software component can be installed on a customer-supplied server. It controls remote access to your devices, maintains an audit log of remote connections, and supports file transfer operations. You can control by whom, what, and when access to your VNXe system occurs. For additional information about the Policy Manager, go to the EMC Online Support website (Support.EMC.com). After logging in, locate the applicable Support by Product page and search for the link to the specific ESRS product technical documentation.

ESRS is embedded into the VNXe as a managed service. The High Availability (HA) feature provides monitoring of ESRS and is responsible for failing it over from the primary storage processor (SP) to the backup SP should the primary SP fail. HA is responsible for
restarting ESRS if it fails. The VNXe operating environment (OE) is responsible for persisting the configuration and certificates needed for ESRS to work.

ESRS is supported in full service mode (both SPs are in service mode). If you have already enabled ESRS, the system functions as configured. If you have not enabled ESRS, you can temporarily enable it. In this latter situation, the configuration will not persist once your VNXe system has recovered to normal operation.

**ESRS Communication**

Access to a DNS server is required for the ESRS to work.

By default your ESRS will attempt to use a configured proxy server to communicate with EMC backend systems. If the proxy server is not available, the ESRS will attempt to bypass the proxy server and communicate directly to the EMC backend systems.

The ESRS service is the primary (default) method used by ConnectEMC to communicate with EMC backend systems. If ESRS is not enabled, ConnectEMC will automatically fallback to the secondary configuration and use the SMTP server, if configured.

**Configure ESRS**

**Prerequisites**

As a prerequisite for enabling ESRS on your VNXe system, you must have an existing EMC Online Support account with Full Access support credentials (see Upgrading to Full Access privileges). Your Full Access support credentials are associated with your site ID/location which is associated with your system’s serial number.

*Note:* It can take up to 48 hours for your initial account with full access support credentials to be activated.

**Enable ESRS**

In Unisphere, you can configure ESRS support for a VNXe system in several ways:

<table>
<thead>
<tr>
<th>Unisphere tool</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unisphere Configuration wizard</td>
<td>Wizard for configuring global VNXe system settings which runs when you first access the system with Unisphere.</td>
</tr>
<tr>
<td>Unisphere Post-upgrade wizard</td>
<td>Wizard available in VNXe OE version 3.0 or later for configuring</td>
</tr>
</tbody>
</table>
ESRS settings which runs immediately after upgrading VNXe operating environment software. This wizard is only available if ESRS was not enabled prior to the upgrade. ESRS persists when the system is upgraded.

**EMC Secure Remote Support page**
An ESRS settings page that you can access from Unisphere (Settings > More Configuration > EMC Secure Remote Support).

**Unisphere CLI**
Command line interface that includes commands you can run on a system through a prompt from a Microsoft Windows or UNIX/Linux host to configure ESRS settings.

To determine the status of the ESRS service, in Unisphere, go to **Settings > More configuration ... > EMC Secure Remote Support**. ESRS is enabled when a green check mark appears in the Enable ESRS check box.

When enabling ESRS on a VNXe system, you can configure the following settings:

<table>
<thead>
<tr>
<th>Required Information</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMC Support credentials</td>
<td>User name and password associated with an active EMC Online Support account with Full Access privileges. See <a href="#">EMC Online Support Full Access account</a>.</td>
</tr>
</tbody>
</table>
| Proxy server information (optional) | Proxy server information for the ESRS communication channel:  
• Protocol: Protocol used to communicate with a proxy server used for the ESRS communication channel. The default options are HTTP on port 3128 and SOCKS on port 1080.  
• Proxy server address: Network address and port number to associate with proxy server traffic.  
• Credentials: User name and password of an account used to access the proxy server system. |
| Policy manager information (optional) | Policy manager information for the ESRS communication channel:  
• Protocol: Protocol used to communicate with a policy manager system used for the ESRS communication channel.  
• Proxy server address: Network address and port number to associate with policy server traffic. |
| Policy manager proxy server information (optional) | When a policy manager is in use, proxy server used by the ESRS policy manager:  
• Protocol: Protocol used to communicate with a proxy server used by the policy manager.  
• Proxy server address: Network address and port number to associate with proxy server used by policy server.  
• Credentials: User name and password of an account used to access the proxy server used by the policy manager. |
Proxy Server

If the VNXe will use a proxy server to connect to the Internet, you must indicate this when you configure the ESRS. Click Show advanced on the EMC Secure Remote Support Options page and provide the following information for the proxy server:

- Protocol (HTTPS or SOCKS)
- Network name
- IP address
- Port number

If the proxy server requires authentication (SOCKS is supported only with authentication), you must also indicate this during the ESRS configuration and supply login credentials for the proxy server. You must supply both a username and password for authentication. If you install a proxy server on a non-standard port, you will need to enter a port number to use the proxy server. If the port is not specified, the system defaults to the appropriate standard port for the given proxy type.

Policy Manager

If the VNXe will use a Policy Manager to set authorization permissions, you must indicate this when you configure the ESRS. You must provide the following information for the Policy Manager:

- Protocol (HTTPS or SOCKS)
- Network name
- IP address
- Port number

If the Policy Manager will use a proxy server to connect to the VNXe, you must indicate this when you configure the ESRS. You must provide the following information for the Policy Manager’s proxy server:

- Protocol (HTTPS or SOCKS)
- Network name
- IP address
- Port number
If the Policy Manager’s proxy server requires authentication (SOCKS is supported only with authentication), you must also indicate this during the ESRS configuration and supply login credentials for the proxy server. You must supply both a username and password for authentication.

When installing a policy manager, you have the option to change the default port if you choose to use a non-secure transport. In this case, you will need to enter a port number for the policy manager proxy server. If you do not specify the port, then a default port is used. Default ports are 8443 for secure communication or 8090 if not secure.

**Upgrade ESRS**

The ESRS feature is packaged into the VNXe software image; therefore, upgrade of the ESRS device client or associated features will only be delivered as part of a full VNXe system software upgrade.

After a software upgrade, the Post-Upgrade Configuration Wizard (PUCW) appears the first time that you (must be a user with admin privileges) run the GUI. The PUCW allows you to configure the following settings:

- Support credentials
- ESRS settings

When you configure the Support Credentials, you will be prompted for credentials that will be used by both ESRS and support contract reporting.

When you configure the ESRS settings, you will be prompted to configure a portion of the ESRS settings.

If you opt to turn on ESRS, you will have the option to configure the following settings:

- Set a proxy server.
- Control of the protocol, HTTP or HTTPS
- Use of port

If you install a proxy server on a non-standard port, you will need to enter a port number to use the proxy server. If you do not specify the port, the system defaults to the appropriate standard port for the given
Troubleshooting

As part of an effort to continuously improve and enhance the performance and capabilities of its product lines, EMC periodically releases new versions of its hardware and software. Therefore, some functions described in this document may not be supported by all versions of the software or hardware currently in use. For the most up-to-date information on product features, refer to your product release notes.

If a product does not function properly or does not function as described in this document, contact your EMC representative.

**EMC Secure Remote Support (ESRS) service cannot be enabled.**

When the ESRS service cannot be enabled, review the following possible causes and actions you can take to resolve the problem.

### ESRS service cannot be enabled problem resolution.

<table>
<thead>
<tr>
<th>Probable cause</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>You may have provided invalid login credentials or you have not upgraded to a Support Full Access account. It can take up to 48 hours for your initial account with Full Access support credentials to be activated. See Upgrading to Full Access privileges.</td>
<td>Check to be sure that the credentials you have specified match the credentials that were used to register this VNXe device on EMC support website and that your account information has been upgraded to a Support Full Access account (registered user with access to the site where the installed VNXe resides). You can determine whether your credentials are valid by logging in to the EMC Support website (emc.com/vnxesupport). If you have not already registered your VNXe system, please register now. If you are still unable to access the website, send an email to <a href="mailto:support@emc.com">support@emc.com</a>.</td>
</tr>
</tbody>
</table>
| You may have provided valid login credentials but the credentials are not associated with your Site ID where the VNXe is located. A Site ID is created in EMC support systems for each location within your organization where EMC products have been installed. | Verify your Site ID numbers on the EMC Support website:  
1. Log in to the EMC Support website with your credentials.  
2. Click Service Center.  
3. On the Service Center page, below the Sites and Contracts area, click Administer a Site.  
4. Ensure that the site where the VNXe is installed is listed in the My Sites area.  
You can also search for a site and add it to the My Sites list. If none of the sites listed for your company match the location where your VNXe is installed, you can send an email to support@emc.com to request assistance with the creation of a new site. |
The EMC Secure Remote Support (ESRS) service had previously been enabled and operational but is now reported to be in a disconnected state.

When the ESRS service has stopped working or has become disconnected, or both, review the following possible causes and actions you can take to resolve the problem.

<table>
<thead>
<tr>
<th>Probable cause</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The resource failed to start. An internal software problem may have prevented the ESRS service from starting properly.</td>
<td>Disable ESRS and then try to enable ESRS again. If the problem persists, try rebooting the primary storage processor (SP).</td>
</tr>
</tbody>
</table>
| The Domain Name System (DNS) server is not running or does not exist.       | Do the following:  
1. Ensure that the DNS server set in Unisphere is entered properly.  
2. Enable SSH, log in as Service, and use the ping command to ensure that the VNXe system can ping the DNS server IP address.  
3. Use the Nslookup tool on one of the ESRS hostnames to ensure that the DNS server can properly resolve it. If it cannot, or the DNS server cannot be pinged, contact your network administrator. |
| A Policy Manager is configured but is not reachable.                         | Check that the Policy Manager is online. From Unisphere, go to Settings > More configuration > EMC Secure Remote Support and verify that the Policy Manager protocol, port, and network name/IP address settings are configured correctly. |
The ESRS connection is functional, but you cannot establish remote sessions. It is likely that the EMC Global Access Server (GAS) is not reachable. GAS servers are used for remote sessions only.

If the connection does not include a customer proxy server, try to telnet to GASSERVERIP on port 443; where GASSERVERIP is the address of the GAS server to which you want to test connectivity.

If the connection includes a customer proxy server, make sure the proxy server is reachable. Then, try to telnet to GASSERVERIP on port 443. You can also telnet to port 8443. This port is optional, but it supports a proprietary, direct protocol and is faster.

GAS addresses:
esrgweprd01.emc.com
esrgweprd02.emc.com
esrgweprd03.emc.com
esrghopr01.emc.com
esrghopr02.emc.com
esrghopr03.emc.com
esrgckprd01.emc.com
esrgckprd02.emc.com
esrgckprd03.emc.com
esrgscprd01.emc.com
esrgscprd02.emc.com
esrgscprd03.emc.com
esrgspprd01.emc.com
esrgspprd02.emc.com
esrgspprd03.emc.com

HTTPS connectivity is required for at least four of the GAS addresses. EMC recommends that all the GAS addresses listed above should be accessible for HTTPS connectivity.

References

- VNX technical module: VNXe Unisphere CLI User Guide

This document is part of the EMC VNXe documentation set, and is intended for EMC service personnel and/or advanced users who have experience working with a command line interface (CLI).