



# Dell EMC VMAX and PowerMax Family of Devices data collector

## Cloud Insights

Tony Lavoie  
February 20, 2020

This PDF was generated from [https://docs.netapp.com/us-en/cloudinsights/task\\_dc\\_emc\\_vmax\\_powermax.html](https://docs.netapp.com/us-en/cloudinsights/task_dc_emc_vmax_powermax.html) on May 06, 2020. Always check docs.netapp.com for the latest.

# Table of Contents

- Dell EMC VMAX and PowerMax Family of Devices data collector ..... 1
  - Requirements ..... 1
  - Terminology ..... 1
  - Configuration ..... 2
  - Advanced Configuration ..... 2
  - Troubleshooting ..... 4

# Dell EMC VMAX and PowerMax Family of Devices data collector

Cloud Insights discovers EMC VMAX and PowerMax storage arrays by using Solutions Enabler symcli commands in conjunction with an existing Solutions Enabler server in your environment. The existing Solutions Enabler server has connectivity to the VMAX/PowerMax storage array through access to gatekeeper volumes.

## Requirements

Before configuring this data collector, you should ensure that Cloud Insights has TCP connectivity to port 2707 on the existing Solutions Enabler server. Cloud Insights discovers all the Symmetrix arrays that are "Local" to this server, as seen in "symcfg list" output from that server.

- The EMC Solutions Enabler (CLI) with SMI-S provider application must be installed and the version must match or be earlier than the version running on the Solutions Enabler Server.
- A properly configured {installdir}\EMC\SYMAPI\config\netcnfg file is required. This file defines service names for Solutions Enabler servers, as well as the access method (SECURE / NOSECURE / ANY).
- If you require read/write latency at the storage node level, the SMI-S Provider must communicate with a running instance of the UNISPHERE for VMAX application.
- IP address of the managing Solutions Enabler server
- Administrator permissions on the Solutions Enabler (SE) Server
- Read-only user name and password to the SE software
- Solutions Enabler Server 6.5X requirements:
  - MI-S provider 3.3.1 for SMIS-S V1.2 installed
  - After install, run \Program Files\EMC\SYMCLI\bin>stordaemon start storsrvd
- The UNISPHERE for VMAX application must be running and collecting statistics for the EMC VMAX and PowerMax storage arrays that are managed by the SMI-S Provider installation
- Access validation: Verify that the SMI-S provider is running: telnet <se\_server> 5988

## Terminology

Cloud Insights acquires the following inventory information from the EMC VMAX/PowerMax data source. For each asset type acquired, the most common terminology used for this asset is shown. When viewing or troubleshooting this data collector, keep the following terminology in mind:

Vendor/Model Term	Cloud Insights Term
Disk	Disk
Disk Group	Disk Group
Storage	Array Storage
Director	Storage Node
Device Pool, Storage Resource Pool (SRP)	Storage Pool
Device TDev	Volume

Note: These are common terminology mappings only and might not represent every case for this data collector.

## Configuration

**Note:** If SMI-S user authentication is not enabled, the default values in the Cloud Insights data collector are ignored.

Field	Description
Service Name	Service name as specified in <i>netcnfg</i> file
Full path to CLI	Full path to the folder containing the Symmetrix CLI
SMI-S Host IP Address	IP address of the SMI-S host

## Advanced Configuration

Field	Description
Inventory Poll Interval (min)	Interval between inventory polls. The default is 40 minutes.
Choose 'Exclude' or 'Include' to specify a list	Specify whether to include or exclude the array list below when collecting data.
Inventory Filter Device List	Comma-separated list of device IDs to include or exclude

Field	Description
Connection Caching	<p>Choose connection caching method:</p> <p>* LOCAL means that the Cloud Insights Acquisition service is running on the Solutions Enabler server, which has Fibre Channel connectivity to the Symmetrix arrays you seek to discover, and has access to gatekeeper volumes. This might be seen in some Remote Acquisition Unit (RAU) configurations.</p> <p>* REMOTE_CACHED is the default and should be used in most cases. This uses the NETCNFG file settings to connect using IP to the Solutions Enabler server, which must have Fibre Channel connectivity to the Symmetrix arrays you seek to discover, and has access to Gatekeeper volumes.</p> <p>* In the event that REMOTE_CACHED options make CLI commands fail, use the REMOTE option. Keep in mind that it will slow down the acquisition process (possibly to hours or even days in extreme cases). The NETCNFG file settings are still used for an IP connection to the Solutions Enabler server that has Fibre Channel connectivity to the Symmetrix arrays being discovered.</p> <p><b>Note:</b> This setting does not change Cloud Insights behavior with respect to the arrays listed as REMOTE by the "symcfg list" output. Cloud Insights gathers data only on devices shown as LOCAL by this command.</p>
SMI-S Protocol	Protocol used to connect to the SMI-S provider. Also displays the default port used.
Override SMIS-Port	If blank, use the default port in the Connection Type field, otherwise enter the connection port to use
SMI-S User Name	User name for the SMI-S Provider Host
SMI-S Password	User name for the SMI-S Provider Host
Performance Polling Interval (sec)	Interval between performance polls (default 1000 seconds)

Field	Description
hoose 'Exclude' or 'Include' to specify a list	Specify whether to include or exclude the array list below when collecting performance data
Performance Filter Device List	Comma-separated list of device IDs to include or exclude

## Troubleshooting

Some things to try if you encounter problems with this data collector:

### Inventory

Problem:	Try this:
Error: The feature being requested is not currently licensed	Install the SYMAPI server license.
Error: No devices were found	Make sure Symmetrix devices are configured to be managed by the the Solutions Enabler server: - Run symcfg list -v to see the list of configured Symmetrix devices.
Error: A requested network service was not found in the service file	Make sure the Solutions Enabler Service Name is defined the netcnfg file for Solutions Enabler. This file is usually located under SYMAPI\config\ in the Solutions Enabler client installation.
Error: The remote client/server handshake failed	Check the most recent storsrvd.log* files on the Solutions Enabler host we are trying to discover.
Error: Common name in client certificate not valid	Edit the <i>hosts</i> file on the Solutions Enabler server so that the Acquisition Unit's hostname resolves to the IP address as reported in the storsrvd.log on the Solutions Enabler server.
Error: The function could not obtain memory	Make sure there is enough free memory available in the system to execute Solutions Enabler
Error: Solutions Enabler was unable to serve all data required.	Investigate the health status and load profile of Solutions Enabler

Problem:	Try this:
<p>Error:</p> <ul style="list-style-type: none"> <li>• The "symcfg list -tdev" CLI command may return incorrect data when collected with Solutions Enabler 7.x from a Solutions Enabler server 8.x.</li> <li>• The "symcfg list -srp" CLI command may return incorrect data when collected with Solutions Enabler 8.1.0 or earlier from a Solutions Enabler server 8.3 or later.</li> </ul>	<p>Be sure you are using the same Solutions Enabler major release</p>

Additional information may be found from the [Support](#) page or in the [Data Collector Support Matrix](#).

## Copyright Information

Copyright © 2020 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

## Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.