

SolutionPack for EMC Network Configuration Manager

Release number 1.2.1.0

Summary Sheet

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Overview

This article explains how to install and configure the SolutionPack for EMC Network Configuration Manager (NCM). This SolutionPack provides a wide spectrum of reports regarding NCM application servers and device servers. It enables you to quickly determine the inventory and assets, compliance, and all changes being made to any NCM application servers.

This article applies to Service Assurance Suite 9.3.

This SolutionPack is one of many provided with [Service Assurance Suite](#).

Technical specifications

SolutionPack version

- ◆ 1.2.1.0

Compatible EMC M&R version

- ◆ 6.3.x or higher

Compatible NCM versions

- ◆ NCM 9.3

Data collection method

- ◆ SQL Collector
- ◆ XML Collector
- ◆ Remote Shell Collector

Main reports

- ◆ Change Detail Report—requires `msa-user` login credentials to NCM EDAA (EMC Data Access API) to retrieve and view configuration differences from devices managed by NCM
- ◆ Device Change Report
- ◆ User Change Report
- ◆ PCI DSS 1.1
- ◆ PCI DSS 1.2
- ◆ PCI DSS 2.0
- ◆ DISA STIG 1.1
- ◆ Job Reporting—The Active Job List and Historical Job List nodes have been enhanced to have an Error Description column that displays errors associated with each job.
- ◆ Deployment Topology—provides information about different Application Servers . Each Application server node displays details about associated Database and Device Servers.
- ◆ Sites—Provides device-specific information for each site.
- ◆ Views—Provides different views of device-specific information.
- ◆ Certificate monitoring—This is a monitoring and alerting report showing expired certificates These certificates govern the communication between the Application

Server and Device Server and between the User Interface and Application Server. You must renew certificates before they expire or NCM will stop functioning.

Where to find the latest SolutionPack software

Install the latest core software update for your product suite. SolutionPacks distributed with core software have a 30-day free evaluation period. If you plan to use the software longer than 30 days, you must install a SolutionPack license before the trial period ends.

Prerequisites

These are the prerequisites for installing the SolutionPack:

- ◆ [Setting the IP address of the EMC M&R server on page 3](#)
- ◆ [Setting the collector heap memory size on page 3](#)

Setting the IP address of the EMC M&R server

After you install the Network Configuration Manager, you must configure the IP address of the EMC M&R server.

Procedure

- ◆ Follow these steps to set the IP address of the EMC M&R server:

Operating system	Steps
Linux	1. Open the <code><Product directory>/db/controlldb/data/pg_hba.conf</code> file for editing. 2. Add this line at the end of the <code>pg_hba.conf</code> file: <code>host all all <EMC M&R IP address>/32 md5</code> 3. Save and exit the <code>pg_hba.conf</code> file. 4. Type <code>service controlldb restart</code> to restart the controlldb service.
Windows	1. Open the <code><Product directory>/db/controlldb/data/pg_hba.conf</code> file for editing. 2. Add this line at the end of the <code>pg_hba.conf</code> file: <code>host all all <EMC M&R IP address>/32 md5</code> 3. Save and exit the <code>pg_hba.conf</code> file. 4. Navigate to Start > Administrative Tools > Services > NCM_Controlldb to restart the <code>controlldb</code> service.

Setting the collector heap memory size

For Linux servers, set the collector heap memory size to run the SolutionPack reports.

Before you begin

To determine the collector heap memory size for a network, see the section on *Hardware requirements for running reports*.

Procedure

1. Open the `/opt/APG/Collecting/Collector-Manager/<your_instance>/conf/unix-services.properties` file.
2. Set the collector heap memory value for the network.
3. Update the collector by running `/opt/APG/bin/ ./manage-modules service install <collector_instance>`.
4. When The service `<your_collector_instance>` is about to be stopped appears, type **yes**.
5. When Updating service `<your_collector_instance>`...
[updated] appears, restart the service by typing `/opt/APG/bin/ ./manage-module service restart <collector_instance>`.

Hardware requirements for running reports

Verify that your network configuration has the minimum requirements for running the SolutionPack reports.

This table lists the minimum requirements for running reports. For example, to run a report for a small network, the EMC M&R server must have a 3Ghz dual CPU with 16GB RAM running on a 15K RPM disk.

Network size	EMC M&R architecture type	EMC M&R server	Total devices	Raw metrics	Data growth (MB/ hour)	Data growth (GB/ hour)	Data storage (days)	Min disk space (GB)	Recom-mended disk config	Polling period (secs)	Collector heap memory
Small <1000 servers	Single server	3Ghz dual CPU 16GB RAM 15K RPM disk	1000	24,000	4.8	0.1152	90	61	RAID 10 15K RPM	900	3GB
Small to Medium <5000 devices	Single server	3Ghz dual CPU 16GB RAM 15K RPM disk	5000	120,000	24	0.576	90	102	RAID 10 15K RPM	900	4GB
Medium <15000 devices	Single server	3Ghz quad CPU 32GB RAM 15K RPM disk	15000	360,000	72	1.728	90	206	RAID 10 15K RPM	900	8GB
Medium to Large <25000 devices	Single server	3Ghz quad CPU 32GB RAM 15K RPM disk	25000	600,000	120	2.88	90	310	RAID 10 15K RPM	900	8GB

Network size	EMC M&R architecture type	EMC M&R server	Total devices	Raw metrics	Data growth (MB/hour)	Data growth (GB/hour)	Data storage (days)	Min disk space (GB)	Recommended disk config	Polling period (secs)	Collector heap memory
Large <35000 devices	Single server	3Ghz quad CPU 64GB RAM 15K RPM disk	35000	840,000	168	4.032	90	413	RAID 10 15K RPM	900	12GB
Very Large <50000	Single server	3Ghz quad CPU 64GB RAM 15K RPM disk plus SSD for BE/DB	50000	1,200,000	240	5.76	90	569	RAID 10 15K RPM for OS and W4net plus multiple SSD disks for BE/DB	900	14GB
Above 50K devices (multi-NCM)	Distributed (collectors and BE/DB)	Contact EMC Support	100000	2,400,000	480	11.52	90	1087	Contact EMC Support	Contact EMC Support	Contact EMC Support

Installing the SolutionPack for EMC Network Configuration Manager

To view data from Network Configuration Manager, install the SolutionPack for EMC Network Configuration Manager in the EMC M&R platform.

Before you begin

- ◆ Determine whether you need a SolutionPack license file by checking the feature names and expiration dates listed in **Centralized Management > License Management**. If not listed, obtain a license by completing a Support Request (SR) form, which is available on the EMC support website <http://support.emc.com>.
- ◆ Make sure the core modules, such as the Module-Manager, are up-to-date on all servers since not all module dependencies are validated during the SolutionPack installation. See the *EMC M&R (Watch4net) Installation and Configuration Guide* provides for more information.
- ◆ The Network Configuration Manager is installed and running.
- ◆ You have root login credentials for the Network Configuration Manager.
- ◆ The SolutionPack for EMC Network Configuration Manager license is uploaded to the EMC M&R platform.
- ◆ The EMC M&R platform is updated to 6.4 or higher.

Procedure

1. Log in to the EMC M&R server with root privileges.

For example, `http://Frontend-hostname:58080/APG`

2. Select **Administration**.
3. Select **Centralized Management** in the **Administration** tree.
4. Select **SOLUTIONPACK CENTER**.
5. Select the **EMC Network Configuration Manager** in the **Browse and Install SolutionPacks** screen.
6. Read the summary information and click **Install**.
7. Select the components to install.
 - a. Accept the default name, **emc-ncm**, in the **Instance name** field.
 - b. Select the EMC M&Rserver that will host the data collector in the **Data collection** list box.
 - c. Select the EMC M&R server to host the reports in the **Reports** list box.
 - d. Click **Next**.
8. Accept the default values for the **Data Collection** and **Alerting on Data Collection** panes.
9. Enter the server addresses and root credentials in the **Server Configuration** pane for combination (Combo server) or distributed (Device server) NCM deployments.
10. To collect information from the NCM database:
 - a. Type the fully qualified System IP address or host name, the root user account, and password.
 - b. Type the NCM System administrator user name (for example, `sysadmin`) and password.
 - c. Type the NCM database IP address or hostname.
 - d. Type the NCM database port number or accept the default port 5435 .
 - e. Type the name to identify the NCM database in EMC M&R in the **NCM instance name** field or accept the default name.
 - f. Type the NCM database password.
11. Set the polling interval for data collection in the **Configure Collector Advanced Settings** pane.
12. Click **Next** and select the gateway and the administration web-service instance or accept the default values.
13. Select **Install** to install the SolutionPack.

After you finish

Allow four to five polling cycles to pass before viewing reports.

Confirming report creation

After you install a SolutionPack, you can view its reports.

To view the reports:

Procedure

1. Go to **User Interface > Report Library**.
2. Click the SolutionPack to view its reports.

Results

It may take up to an hour to display all relevant information in these reports.

Troubleshooting

Report display problems

- ◆ [Changing the NCM EDAA password needed to access Change Details reports on page 7](#)
- ◆ [Troubleshooting Change Details report certificate errors in Chrome on page 7](#)
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- ◆ [Troubleshooting a broken connection between NCM and EMC M&R on page 10](#)

Changing the NCM EDAA password needed to access Change Details reports

Each user who wants to see the configuration changes in the NCM Change Details reports needs to log in to a separate URL with the NCM EDAA (EMC Data Access API) user name and password. Use this procedure to change the NCM EDAA password.

The Change Details reports contain the configuration differences and audit trails for devices managed by NCM. These reports require access to an external URL. The external web application is hosted on the NCM EDAA (also called MSA) tomcat server in your NCM deployment. The default user login is **msa-user**. The *EMC Smarts Network Configuration Manager Security Configuration Guide* provides default password information. To allow authentication to this application, a CAS authentication server is deployed along with ncm-msa service. When you try to access the web application URL, the UI prompts you for the username and password. To change the password:

Procedure

1. Run `[Product directory]/tools/password-change.pl`.
2. Choose `msa-user` and change the password.
3. Restart `vcmaster` service.

Troubleshooting Change Details report certificate errors in Chrome

A certificate error displays when connecting to the Change Details report from EMC M&R (Watch4net) in the SolutionPack for EMC Network Configuration Manager.

Procedure

1. Type the URL for the Change Details report in a separate tab (This is the login to the NCM EMC Data Access API (EDAA) and the default login is **msa-user**).

An SSL error message displays.

2. Click Proceed.
3. Launch the Change Details report from the SolutionPack navigation tree.

Troubleshooting Change Details report certificate errors in Firefox

A certificate error displays when connecting to the Change Details report from EMC M&R (Watch4net) in the SolutionPack for EMC Network Configuration Manager.

Before you begin

Use Firefox as the recommended browser for viewing reports in the EMC M&R (Watch4net) SolutionPack for EMC Network Configuration Manager.

Procedure

1. Type the URL for the Change Details report in a separate tab (This is the login to the NCM EMC Data Access API (EDAA) and the default login is **msa-user**).

A certificate error message displays.

2. Add the Change Details report exception to the Firefox browser.
3. Launch the Change Details report from the SolutionPack navigation tree.

Troubleshooting Change Details report certificate errors in Internet Explorer

A certificate error displays when connecting to the Change Details report from EMC M&R (Watch4net) in the SolutionPack for EMC Network Configuration Manager.

Note

Firefox is the recommended browser for viewing reports in the EMC M&R (Watch4net) SolutionPack. If the problems with Internet Explorer persist, try using a different browser.

Procedure

1. Type the URL for the Change Details report in a separate tab (This is the login to the NCM EMC Data Access API (EDAA) and the default login is **msa-user**).
2. Enable the browser to display blocked content.
3. Launch the Change Details report from the SolutionPack navigation tree.

What to do if data does not appear in any reports

Procedure

1. After the completion of at least three collection cycles, verify if data is populating into the reports. If there is still no data in the reports, continue to the next step.
2. Run the scheduled task to import data into reports. If there is still no data in the reports, continue to the next step.
3. To view the log files for errors, go to **Centralized Management** and click **Collecting > Collector-Manager::<instance name> > Log Files**.

Running a scheduled task to import data into reports

After you push a new configuration into a collector, a scheduled task runs and populates the reports with new data. You can manually run the scheduled task to import the data more quickly.

Before you begin

Allow at least three polling cycles to pass before manually running the scheduled task.

Procedure

1. Click **Administration**.
2. Click **Centralized Management**.
3. Expand **Scheduled Tasks**.
4. Click **Database**.
5. Select the **import-properties-Default** task.
6. Click **Run Now**.
7. Confirm success in running the task in the **Last Result** and **Last Result Time** columns.

What to do if data does not appear in some reports

Procedure

1. Run the scheduled task to import data into reports. If there is still no data in the reports, continue to step 2.
2. Search for the metric in the database.
3. To view the log files for errors, go to **Centralized Management** and click **Collecting > Collector-Manager::<instance name> > Log Files**.

Searching for metrics in the database

You can verify that a metric is being collected and used for reporting when you search and find the metric in the database.

Procedure

1. Go to the **Administration** page.
2. Under **Modules**, click **Management of Database Modules**.
3. On the **Metric Selection** page, create the filter, type the number of results, and select the properties to display for the metric.

For example, to list up to 100 results of the SignalWait Time metric with the properties of device and IP, type `name=='SignalWaitTime'` in the **Filter** field, **100** in the **Maximum results** field, and select device and IP for the **Properties to show**.

4. Click **Query**.

A list of the metric results appears. If nothing displays, the metric is not being collected.

Viewing collector errors in the Collector-Manager log files

Review the Collector-Manager log files to troubleshoot problems with data collection.

Procedure

1. Click **Administration**.
2. Click **Centralized Management**.
3. Expand **Collecting**.
4. Click the Collector-Manager for your collector instance.
Collector-Manager::<Collector-Manager instance> - <physical_host_ID>

5. Expand **Log Files** and click the **View File** icon to review the configuration error messages.

Troubleshooting a broken connection between NCM and EMC M&R

You can analyze the SolutionPack for EMC Network Configuration Manager logs in EMC M&R to troubleshoot a broken connection.

Procedure

1. Log in to the EMC M&R server.
2. Go to the `/opt/APG/Collecting/Collector-Manager/<ncm_instance_name>/logs` directory to view the log files.

For Linux, navigate to your emc-ncm instance and check the log files, `/opt/APG/Collecting/Collector-Manager/<emc-ncm-instance-name>/logs/collecting-0-0.log`

For Windows, navigate to `C:\Program Files\APG\Collecting\Collector-Manager\<emc-ncm-instance-name>\logs\collecting-0-0.log`

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