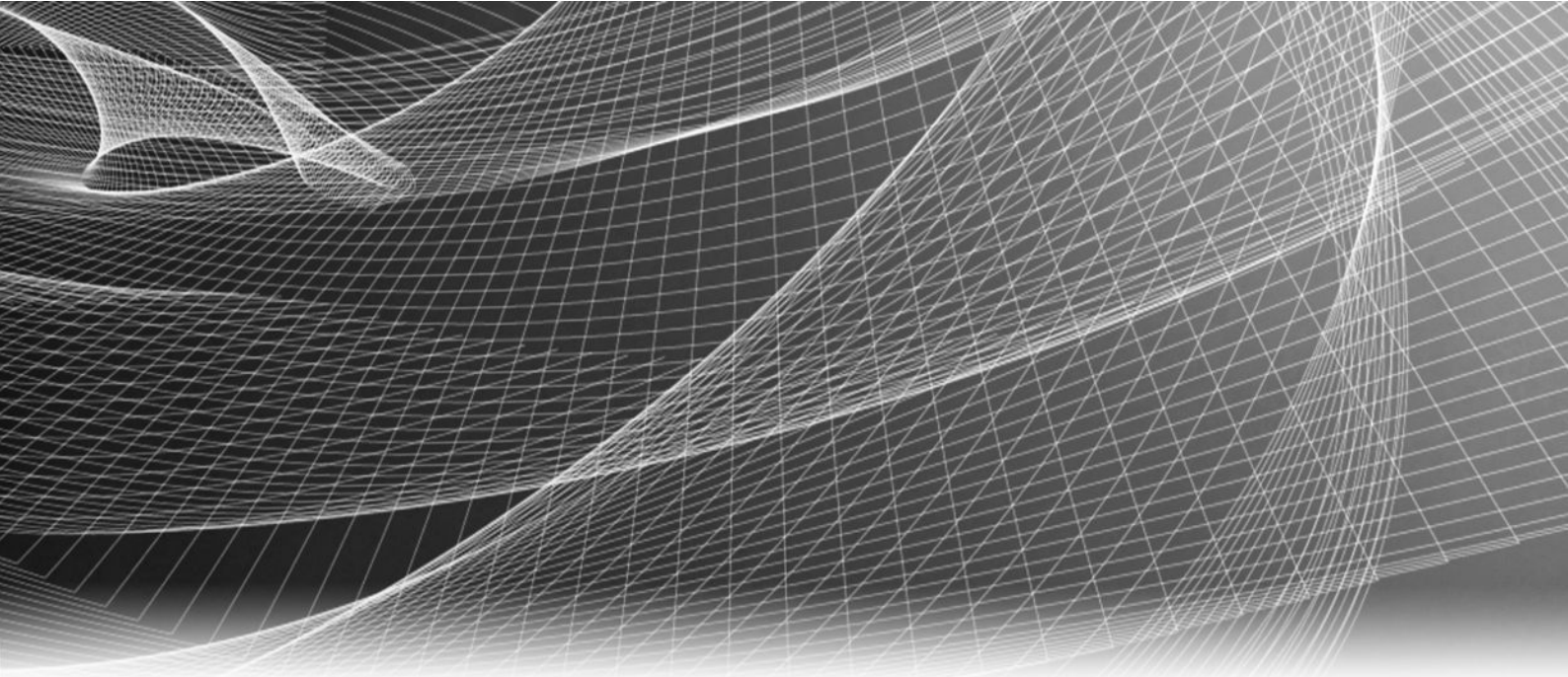




EMC[®] NCM Reporting SolutionPack

Version 9.2.1

Installation and Configuration Guide

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CHAPTER 1

EMC NCM Reporting SolutionPack Installation Overview

This chapter includes the following topics:

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- ◆ [Adding licenses](#).....6
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- ◆ [Setting the collector heap memory size](#)..... 7

Installation setup overview

Use EMC® Watch4net® and the EMC® NCM Reporting SolutionPack to display reports that provide insights into your networks and systems.

Use these guidelines to prepare your environment for the installation of the EMC NCM Reporting SolutionPack.

Preparation tasks	Where to find information
Verify that the prerequisite software is installed in your environment	<i>EMC Smarts Network Configuration Manager Support Matrix</i>
Install and run the Network Configuration Manager servers	<i>EMC Smarts Network Configuration Manager Installation Guide</i>
Install Watch4net 6.2u2 or higher to obtain the latest EMC NCM Reporting SolutionPack software.	<i>EMC Watch4net Installation Guide</i> Obtaining the Watch4net version on page 7
Add the EMC NCM Reporting SolutionPack license to Watch4net	Adding licenses on page 6
Check that the Watch4net network configuration has the minimum requirements to run reports	• Setting the collector heap memory size on page 7 • Hardware requirements for running reports on page 8

To install the EMC NCM Reporting SolutionPack in Watch4net, use this procedure: [Installing the EMC NCM Reporting SolutionPack on page 12](#).

To view the EMC NCM Reporting SolutionPack reports, use this procedure: [Viewing NCM Network Reports on page 13](#).

Adding licenses

You can add a new license file or update an existing one on your Watch4net server. A license file enables a SolutionPack to display its views in Watch4net.

Before you begin

- ◆ Download the required license file for the SolutionPack from EMC Online Support.

Procedure

1. Log in to Watch4net.

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

2. Click **Administration**.
3. In the **Centralized Management** pane, select **Licenses**.
4. In the Physical Overview tree, select **Licenses Management**.
5. In the **Licenses Listing** pane, click **Upload**.
6. In the **License Upload** dialog box, browse to your license file. Click **OK**.

Licenses in a .zip file are extracted and appear in the **Licenses Listing** pane.

7. When **License Upload Complete** appears, click **OK**, then click **Continue**.

After you finish

Restart the Tomcat service.

Starting the Tomcat service from the command line

After managing license files in Watch4net, start Tomcat.

Before you begin

- ◆ Before starting Watch4net services, ensure the library search path is correct on the server hosting Watch4net. This requirement applies to the libstdc package on Solaris and the libaio package on Linux.

Procedure

- ◆ Type the command for your operating system from the `bin` directory of the Watch4net installation:

Operating system	Command
UNIX	<code>./manage-modules.sh service start tomcat</code>
Windows	<code>manage-modules.cmd service start tomcat</code>

Results

* Starting 'tomcat Default'... [OK]

Obtaining the Watch4net version

Use the ? icon at any time to obtain the Watch4net version or to verify the version after an installation or an update.

Procedure

1. Log in to Watch4net.
2. Click the ? icon in the upper right corner to view the current Watch4net version.

Setting the collector heap memory size

Each network configuration requires a specific collector heap memory size to run the Watch4net reports.

Before you begin

To determine the collector heap memory size for a network, see [Hardware requirements for running reports on page 8](#).

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 EMC NCM Reporting SolutionPack reports in Watch4net.

This table lists the minimum requirements for running Watch4net reports. For example, to run a report for a small network, the Watch4net server must have a 3Ghz dual CPU with 16GB RAM running on a 15K RPM disk.

Network size	W4net architecture type	W4net 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
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
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	50000	1,200,000	240	5.76	90	569	RAID 10 15K RPM for OS and	900	14GB

Network size	W4net architecture type	W4net 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
		15K RPM disk plus SSD for BE/DB							W4net plus multiple SSD disks for BE/DB		
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

CHAPTER 2

EMC NCM Reporting SolutionPack Installation and Configuration

This chapter includes the following topics:

- ◆ [Installing the EMC NCM Reporting SolutionPack](#) 12
- ◆ [Configuring the Watch4net user process limits for Linux.....](#) 13
- ◆ [Viewing NCM Network Reports.....](#) 13
- ◆ [Viewing configuration change reports with Report Advisor and Watch4net.....](#) 14
- ◆ [Changing the data collection polling period for a SolutionPack.....](#) 14
- ◆ [Troubleshooting a broken connection between NCM and Watch4net.....](#) 15

Installing the EMC NCM Reporting SolutionPack

To view data from Network Configuration Manager, install the EMC NCM Reporting SolutionPack in Watch4net. (This SolutionPack name appears as **EMC Network Configuration Manager SolutionPack** in the **Browse and Install SolutionPacks** screen.)

Before you begin

- ◆ The EMC Smarts Network Configuration Manager is installed and running.
- ◆ You have root login credentials for the Network Configuration Manager.
- ◆ The EMC NCM Reporting SolutionPack license is uploaded to Watch4net.
- ◆ Watch4net base software has been updated to 6.2u2 or higher.

Procedure

1. Log in to Watch4net 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 SolutionPack** 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 Watch4netserver that will host the data collector in the **Data collection** list box.
 - c. Select the Watch4net 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), RA (Report Advisor server), or distributed (Device server) NCM deployments.
10. To collect information from the NCM database:
 - a. Type the NCM database IP address or hostname.
 - b. Type the NCM database port number or accept the default port 5435 .
 - c. Type the name to identify the NCM database in Watch4net in the **NCM instance name** field or accept the default name.
 - d. 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. Type the IP address or hostname on which the Report Advisor is running in the **Server configuration** pane.
This enables you to run the configuration change reports in Watch4net.
14. Select **Install** to install the SolutionPack.

After you finish

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

Verifying the SolutionPack version number

You can verify that you updated or installed the correct version number of a SolutionPack in Centralized Management.

Procedure

1. Log in to Watch4net with administrative privileges.
2. Browse to **Administration** > **Centralized Management** > **Packages Management**.
3. Click the **SolutionPacks** node on the left panel to list the installed SolutionPacks with their version numbers.

Configuring the Watch4net user process limits for Linux

Increase the user process limits for the Watch4net user account to a maximum of 65534. This modification enables Watch4net services to open 65534 files and 65534 processes when needed.

Before you begin

- ◆ A login with root privileges.
- ◆ Watch4net installed on a server running Red Hat Enterprise Linux 6, CentOS Linux 6, or SUSE Linux Enterprise Server (SLES) 11.
- ◆ The name specified for the Watch4net user account during the Watch4net installation.

Procedure

1. Open the `/etc/security/limits.conf` file.
2. Add the following lines for the Watch4net user.

In this example, the user is `apg`.

```
apg    hard    nofile   65534
apg    soft    nofile   65534
apg    hard    nproc    65534
apg    soft    nproc    65534
```

3. Save the file.
4. Type the following commands from the `bin` directory of the installation to restart the services:

```
./manage-modules.sh service stop all
./manage-modules.sh service start all
```

5. Type the following command to verify the changes:

```
su apg -c 'ulimit -n -u'
```

Viewing NCM Network Reports

View the Network Reports for each NCM instance from Watch4net.

Before you begin

Install the EMC NCM Reporting SolutionPack.

Procedure

1. Point your web browser to `http://[serverIP:port]/APG`.
An example default URL is `http://localhost:58080/APG`.
2. On the login screen, enter your Watch4net username and password, and click **Sign In**.
3. View Network Reports for each NCM instance by selecting **SolutionPacks > EMC NCM Reporting > Network Reports > Network Reports per NCM instance**.

Viewing configuration change reports with Report Advisor and Watch4net

Log in to NCM Report Advisor from Watch4net to view the NCM configuration change reports.

Before you begin

Install the EMC NCM Reporting SolutionPack.

Procedure

1. Point your web browser to `http://[serverIP:port]/APG`.
An example default URL is `http://localhost:58080/APG`.
2. On the login screen, enter your Watch4net username and password, and click **Sign In**.
3. Access NCM Reports by selecting **SolutionPacks > EMC NCM Reporting**.
4. Select **SolutionPacks > EMC NCM Reporting > NCM Report Advisor Integration > NCM Report Advisor**.
5. Log in to EMC Smarts Network Configuration Manager with your NCM administrator login credentials.
6. Select **Reports > Reporting > Change** to view reports showing differences due to configuration changes.

Changing the data collection polling period for a SolutionPack

You can change the polling period used by the data collector by reconfiguring SolutionPack settings.

Procedure

1. Log in to Watch4net and select **Administration > Centralized Management**.
2. Select **SolutionPacks** in the tree.
3. Select the SolutionPack that you want to reconfigure in the **Installed SolutionPacks** screen.
4. Click the **Pencil** icon next to the instance for each SolutionPackBlock.
5. In the **SolutionPack Reconfiguration** screen for each collector block, change the polling period and click **Reconfigure**.

Troubleshooting a broken connection between NCM and Watch4net

You can analyze the NCM SolutionPack logs in Watch4net to troubleshoot a broken connection.

Procedure

1. Log in to the Watch4net server.
2. Go to the `/opt/APG/Collecting/Collector-Manager/`
`<ncm_instance_name>/logs` directory to view the logs.

The `/opt/APG/` directory is the Watch4net installation directory.

For example, to view the logs for the `emc-ncm-linbgp079` instance, go to `/opt/APG/Collecting/Collector-Manager/emc-ncm-linbgp079/logs/`

CHAPTER 3

Uninstallation Procedures

This chapter includes the following topics:

- ◆ [Uninstalling a SolutionPack](#).....18

Uninstalling a SolutionPack

If you no longer want to view the reports of a certain SolutionPack, you can uninstall that SolutionPack from the Watch4net server.

Procedure

1. Log in to Watch4net as an administrator and select **Administration**.
2. Select **Centralized Management** in the Administration tree.
3. Select **SolutionPacks** in the tree.
4. Select the SolutionPack that you want to uninstall in the **Installed SolutionPacks** screen.
5. In the **Properties** area, click **Trashcan** icon for each instance of the SolutionPackBlock and click **Remove**.