



**EMC ControlCenter
5.2 Service Pack 4
Schedule Discovery Utility**

Technical Notes

**P/N 300-002-968
Rev A01**

January 2006

These technical notes contain supplemental information about EMC ControlCenter 5.2 Service Pack 4 Schedule Discovery Utility. The following sections provide information for installing and using the Schedule Discovery Utility.

- ◆ Schedule Discovery Utility..... 2
- ◆ Installing the Schedule Discovery Utility 3
- ◆ Running the Schedule Discovery Utility..... 6

Schedule Discovery Utility

The Schedule Discovery Utility generates a report of recommended times to schedule when discovery of the Host Agents for AIX (MAR), HP-UX (MHR), Linux, Solaris (MSR), and Windows (MNR), and the Common Mapping Agent (EGZ) should take place to avoid performance issues. Processing too many discovery policies at the same time causes performance issues for the ECC Server. This version of the scheduling utility works for ControlCenter 5.2.

The report generated by this utility helps you decide how to configure the Discovery data collection policies (DCPs) for the various agents. A DCP is a formal set of statements used to manage the data collected by ControlCenter agents. The policies specify the data to collect and the schedules for collection.

This utility suggests new collection schedules. Once you run the utility, set the new DCPs as follows:

Detailed instructions for setting the DCPs are provided in the EMC ControlCenter® Console online Help as well as in the *EMC ControlCenter Administration/User Guide*.

- ◆ Manually input the new schedules.
- ◆ Ensure that the schedules are both defined and applied to the agent in question.
- ◆ Check that any existing schedules that are set to *Apply this policy to all applicable hosts* have this attribute turned off, so that only the new schedules are used.

Installing the Schedule Discovery Utility

Use the information in this section to install and validate the schedule discovery utility.

Prerequisites

Prior to installation and execution of the Schedule Discovery Utility, ensure:

- ◆ The EMC® ControlCenter Server is installed and running.
- ◆ You have registered EMC ControlCenter at <http://powerlink.emc.com>.

This utility also requires `java.exe` to be available and configured in your path. No preinstallation checking is required, as you can complete this configuration after installation if necessary.

The procedures in this section assume that WinZip is installed on the ECC Server host.

Procedure for Installation

To install the Schedule Discovery Utility:

1. On the ECC Server machine, log in to the EMC Powerlink™ site at <http://powerlink.emc.com>, and access the software download section.
2. Locate and click **EMC ControlCenter 5.2 Schedule Discovery Utility** (zip file).
3. When prompted, select **Save** and save the zip file to the Desktop.
4. On the Desktop, right-click the zip file and select **Extract to**.
5. In the **Extract** dialog box, browse for folder `<ECC_INSTALL_ROOT>\tools\utils`, where `<ECC_INSTALL_ROOT>` stands for the directory in which the ECC Server is installed.
6. Extract the following files from the zip file to:
`<ECC_INSTALL_ROOT>\tools\utils`

- Four class files:
 - ScheduleUtility\$AgentInfo.class
 - ScheduleUtility\$BinHolder.class
 - ScheduleUtility\$Interval.class
 - ScheduleUtility.class
- One property file: ScheduleUtility.properties
- One batch file: ScheduleUtility.bat

Validating Installation

Validate the installation to ensure that both your environment and the utility are properly configured to run.

To validate installation:

1. Open the DOS prompt on the ECC Server host.
2. Change directories to `C:\<ECC_INSTALL_ROOT>\Tools\utils\` where `<ECC_INSTALL_ROOT>` is the location where EMC ControlCenter is installed.
3. Enter the following command:

```
ScheduleUtility
```

Messages and Corrective Actions

The following messages may occur when first running the schedule utility, normally in the case of minor configuration issues. Use the actions described to complete the configuration and then run the utility again.

Table 1 Messages and Corrective Actions During Installation Validation

Message	Reason	Action
java is not an internal or external command	java.exe is not in your path.	The ControlCenter installation places a copy of java.exe in this location: <ECC_INSTALL_ROOT>\tools\JRE\Nt\1.4.2\bin You must add this location to your path by editing the "path" system variable in your environment. See your Windows documentation for information on how to edit environment variables.
java.lang.OutOfMemory	The default memory allocation of the utility is not sufficient for the amount of data being processed.	Edit the ScheduleUtility.bat file, and find the line that begins: java -Xmx160m -classpath Change the 160 to a higher number. We suggest increments of 32 (192, 224, 256, and so forth) until the utility runs.
java.lang.NoClassDefFoundError	The system does not have the necessary jar files, available only on systems that have the ECC Server installed and running.	If the ECC Server is installed but not running, start it and retry. If the ECC Server is not installed, install and run the utility on the machine where the ECC Server is installed.

Running the Schedule Discovery Utility

To run the Schedule Discovery utility:

1. Open the DOS prompt on the ECC Server host.
2. Change directories to `C:\<ECC_INSTALL_ROOT>\Tools\utils\` where `<ECC_INSTALL_ROOT>` is the ControlCenter location.
3. Enter a command and parameters as shown Table 2.

Table 2 **Commands and Descriptions**

Command	Description
ScheduleUtility	Creates a scheduled Discovery report. If you do not follow the command with parameters, it will create a report for 12:00 A.M. to 5:00 A.M. by default.
-interval or -i for short	Specifies a time interval available for scheduling. For example, the following command: <pre>>ScheduleUtility -i 200 400</pre> runs a report that recommends how to schedule discoveries between 2:00 A.M. and 4:00 A.M. You can add multiple intervals. If you are entering more than three intervals, you must add quotation marks. For example: <pre>>ScheduleUtility "-i 0 100 -i 100 200 -i 200 400 -i 400 500"</pre> runs a report that recommends how to schedule discoveries between 12:00 A.M. and 1:00 A.M., 1:00 A.M. and 2:00 A.M., 2:00 A.M. and 4:00 A.M., and 4:00 A.M. to 5:00 A.M. Be aware of the following when entering the <i>interval</i> parameter: • The first parameter is the start of the interval and the second parameter is the end. • The start time must be earlier than the end time. • Times must be in 24-hour format. Both 0 and 2400 are recognized as midnight. However, the start time of an interval must be smaller than the stop time. So, the interval representing midnight to 3:00 A.M. should be written as <code>-interval 0 300</code>. The form <code>-interval 2400 300</code> will be rejected as an error. • As many intervals as desired may be given on the command line. If no intervals are given, then one interval from midnight to 5:00 A.M. will be used. • The total time of all intervals may not exceed five hours. • DOS limits command-line parameters to nine. To enter more than nine parameters (as you would if you must enter more than three intervals), put the parameters in quotation marks (refer to sample above). • The utility does not recognize intervals that cross midnight. If you want to have an interval that goes from 11:00 P.M. to 3:00 A.M., specify it as two intervals like this: <code>-interval 2300 2400 -interval 0 300</code>. • The utility does not recognize overlapping intervals. • Intervals are rounded to the nearest hour. So, <code>-interval 333 547</code> would result in an interval from 4:00 A.M. to 6:00 A.M. • The utility does not check for zero-length intervals caused by rounding.

4. Enter the number associated with the configuration that best describes your configuration:
 - 1 for a single-host configuration: store, server, DB on a dual 1.0 GHz
 - 2 for a distributed configuration: one external store; server, DB on a dual 1.0 GHz
 - 3 for a distributed configuration: two external stores; server, DB on a dual 1.0 GHz
 - 4 for a single-host configuration: store, server, DB on a dual 2.4 GHz
 - 5 for a distributed configuration: one external store; server, DB on a dual 2.4 GHz
 - 6 for a distributed configuration: two external stores; server, DB on a dual 2.4 GHz
 - 7 for a distributed configuration: three external stores; server DB on a dual 2.4 GHz

Refer to the *EMC ControlCenter 5.2 Planning and Installation Guide, Volume 1* for more information.

5. Enter the hostname in the installation tree under
`\ecc_inf\data>:`

This is the name of the host directory in the installation tree.

After entering the hostname, the report is created in the `tools\utils` directory. The report is a text file named *Schedule* followed by a unique numerical identifier, for example: `Schedule0123456789.txt`.

6. Open the report in a text viewer and review and evaluate the recommendations (refer to *Report Contents* on page 8).
7. Create or modify the Discovery data collection policies to reflect the recommendations.

Many ControlCenter data collection policies are enabled by default. After you create a new DCP definition based on the scheduling tool's recommendations, be sure to check to ensure that the objects aren't already assigned a default policy of the same kind. If they are, then remove the assignments in the default policy definition to avoid duplication.

Creating or modifying the Discovery data collection policy may take several steps. For example, if the report recommended running three Host Agents for Window's Discovery policy at 2:00 A.M.:

- a. Create one Discovery data collection policy for the three Host Agents for Windows.
- b. Create a new schedule in the **Actions** tab that specifies the discovery time recommended in the report, which in this example would be 2:00 A.M.
- c. In the **Assign to** tab, ensure that *Apply this policy to all applicable hosts* is disabled and select only the hosts that will discover at the time defined in the schedule.
- d. Enable, save, and close the data collection policy.

The utility puts some trace output into a file, `utility_trace.txt`, as it is running and it will write some error messages to `error.txt`. Check both files for error messages if the utility fails to run. If the utility terminates without producing a schedule, examine this file for error messages. The most common error is incorrectly entering the hostname in step 5 on page 7.

Report Contents

The generated report is divided into scheduling interval sections. Within each section appears a suggested list of agents to schedule similar to the following example:

Schedule for Host Agent DCPs

Contents of interval 1: 11:00 PM -- 12:00 AM

Schedule the following agents starting at 11:00 PM:

Agent name: agentname_MNR002

Host: hostname

Number of volumes: 2 Number of devices: 52 Number of file systems: 2

Expected report time (sec): 103

Agent name: agentname_MSR002

Host: hostname

Number of volumes: 0 Number of devices: 3 Number of file systems: 4

Expected report time (sec): 34

Contents of interval 2: 12:00 AM -- 3:00 AM

The information shown in Table 3 is given for each agent.

Table 3 Agent Information in Report

Report Field	Description
Agent name	The name of the agent including the ControlCenter internal designation for the agents: • MAR: Host Agent for AIX • MHR: Host Agent for HP-UX • MLR: Host Agent for Linux • MSR: Host Agent for Solaris • MNR: Host Agent for Windows • EGZ: Common Mapping Agent
Host	The name of the host on which the agent is running.
Number of volumes, Number of Devices, Number of file systems	Resources associated with the agent.
Expected report time	An estimate of the time it takes for the agent to make a report about its associated resources. The expected time is an estimate based on heuristics applied to the resources associated with each agent. The utility attempts to keep the sum of the expected completion times within each interval less than the length of the interval.

Related Documentation

Related topics you can find in the ControlCenter online Help files:

- ◆ Defining data collection policies
- ◆ Creating a schedule for an alert or data collection policy
- ◆ Discovery data collection policy

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