

HP Discovery and Dependency Mapping Inventory

For the Windows® operating system

Software Version: 9.30

Scanner Scheduler Guide

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Software version: 9.30 / February 2011

This document provides an overview of the new Scanner Scheduler feature in Discovery and Dependency Mapping Inventory (DDM Inventory) version 9.30. It contains important information not included in the manuals or in the online help.

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Introduction

The most convenient way of running the inventory scanners in DDM Inventory is in the Enterprise Mode via agents or by using agentless capabilities. In this scenario, the scanner deployment and execution is driven by the DDM Inventory server and can be executed based on configured schedules. For the Enterprise Mode to work properly, the DDM Inventory server must be able to connect to the managed devices directly in order to establish communications either with the DDM Inventory agent or operating system services (such as SSH on UNIX and Windows RPC) for agentless scanning.

Unfortunately, direct network connectivity may not always be possible because of the segmentation of the network; for example, when using Network Address Translation (NAT) or because of firewalls that partition the network.

The Scanner Scheduler is a standalone component in DDM Inventory that allows for more flexible scanner deployment scenarios in the Manual Deployment mode. It implements the scanner scheduling capabilities in cases where the DDM Inventory server is not able to connect to the device directly. In this case, the scanner scheduling happens locally on the managed computer itself, rather than being driven from the DDM Inventory server itself. The Scanner Scheduler can be used on its own or in combination with a chain of the DDM Inventory Store and Forward servers that facilitates the transfer of the scan files through multiple firewalls.

The Scanner Scheduler runs as a service (Windows) or as a detached process (UNIX) on a client computer and, according to its configuration parameters, periodically runs the DDM Inventory Scanner. The Scanner has the ability to save the scan file off-site to a remote location, which is most likely to be a Store and Forward server or the DDM Inventory server itself. The Scanner Scheduler can also periodically update its configuration by retrieving a new version of the configuration located in its config.ini file from a remote location. The Scanner Scheduler supports the same platforms as the DDM Inventory Scanner.

Installation

Windows (x86)

The Scanner Scheduler is packaged as an MSI file on Windows x86. The MSI is named **HP DDM Inventory Scanner Scheduler (x86) 9.30.000.xxxx.msi**. You can install the Scanner Scheduler by double-clicking the MSI file and following the installation wizard. The installation is very similar to the DDM Inventory agent installer. By default, the program is installed in the following location:

<ProgramFiles>\Hewlett-Packard\DDMI\9.30\Scanner Scheduler

Table 1 – Windows installation

File name	Comment
ScannerScheduler.exe	The executable file of the Scanner Scheduler service
config.ini	The configuration parameters of the Scanner Scheduler
curl.exe	The executable file to retrieve a new configuration file
libeay32.dll	OpenSSL DLL to enable Curl to work over HTTPS
libssl32.dll	OpenSSL DLL to enable Curl to work over HTTPS
curl-ca-bundle.crt	Root CA certificates to enable Curl to work over HTTPS

The Windows service is registered with the following parameters:

Table 2 – Windows service parameters

Service attribute	Value
Service Name	ovedScannerScheduler
Display Name	HP DDMI Scanner Scheduler
Startup Type	Automatic

Silent installation is also possible. This can be invoked by typing the following on a command line:

```
msiexec /quiet /I "HP DDM Inventory Scanner Scheduler (x86) 9.30.000.xxxx.msi"
```

If extensive debug MSI logging is required, it can be enabled by adding the following command line option to msiexec:

```
/L*v <FullPathToLogFile>
```

This is useful for troubleshooting the installation.

The installer UI does not allow the default installation directory to be changed. If the product needs to be installed onto an alternative location, this can be specified in the INSTALLDIR MSI property as follows:

```
msiexec /quiet /I "HP DDM Inventory Scanner Scheduler (x86) 9.30.000.xxxx.msi"  
INSTALLDIR=C:\ScannerScheduler
```

UNIX/Mac OS X

The Scanner Scheduler package is provided as a compressed tarball archive named **hp-ddm-inventory-scanner-scheduler-`<platform>`-9.30.000.`<buildnumber>`.tar.Z**. The content of this archive is as follows:

Table 3 – UNIX/Mac OS X installation

File name	Comment
bin/scansched	The executable file of the Scanner Scheduler service
bin/config.ini	The configuration parameters of the Scanner Scheduler
bin/curl	The executable file to retrieve a new configuration file
bin/curl-ca-bundle.crt	Root CA certificates to enable Curl to work over HTTPS

To install the Scanner Scheduler, perform the following steps:

1. Select and then create an installation directory on a local file system that is only accessible by the root.
2. Extract the content of the Scanner Scheduler tar.Z file to that directory.
3. Run the following commands:
 - a. `cd <installdir>`
 - b. `compress -d <packagename> tar.Z`
 - c. `tar -xf <packagename>.tar`
4. The Scanner Scheduler should be run as root in order to be able to execute scanners with root privileges.
5. The Scanner Scheduler can be launched as part of the UNIX start up scripts as follows:

```
nohup <installdir>/bin/scanshed&
```

Uninstallation

Windows (x86)

The Scanner Scheduler can be uninstalled manually by finding the entry "HP DDM Inventory Scanner Scheduler (x86) 9.30.000.xxxx" in Add/Remove Programs (Windows XP/Windows Server 2003) or Programs and Features (Windows Vista/Windows Server 2008/Windows Server 2008 R2/Windows 7) in Control Panel and clicking the **Remove** or **Uninstall** button. This can also be done from the command line as follows:

```
msiexec /X "HP DDM Inventory Scanner Scheduler (x86) 9.30.000.xxxx.msi"
```

For a silent uninstall, add the /quiet switch to the msiexec command line.

UNIX/Mac OS X

To uninstall the Scanner Scheduler on UNIX/Mac OS X, perform the following steps:

1. Kill the scansched process.
2. Remove the relevant parts that launch the Scanner Scheduler from the system startup scripts.
3. Delete the Scanner Scheduler installation directory as follows:

```
rm -rf <installdir>
```

How It Works

1. On startup, the Scanner Scheduler reads the configuration parameters from the config.ini file.
2. The Scanner Scheduler then attempts to run the scanner according to the [Scan] section of the config.ini file.
3. The Scanner Scheduler attempts to retrieve a new configuration file according to configuration parameters specified in the [DownloadConfig] section of the config.ini file. Curl is used for this purpose, and should be instructed to save the new configuration into the file named config.tmp.
4. Once the download is complete, the Scanner Scheduler attempts to load the configuration from this file. If the file is found to be valid, the original config.ini will be replaced with the newly downloaded config.tmp file and the new scheduling parameters will take effect.

Configuration Options

The configuration below is the printout of the config.ini file.

```
.....  
; File: config.ini  
;  
; This file is used by the Scanner Scheduler service to schedule when the scanner  
; is to be run, and when a new schedule is to be downloaded.  
.....  
.....  
; Scanner schedule  
.....  
[Scan]  
Monday=00:00-23:59  
Tuesday=00:00-23:59  
Wednesday=00:00-23:59  
Thursday=00:00-23:59  
Friday=00:00-23:59  
Saturday=00:00-23:59  
Sunday=00:00-23:59  
FrequencyHours=0  
RandomDelayMinutes=60  
CommandLine=scan  
.....  
; Download schedule  
.....  
[DownloadConfig]  
Monday=00:00-23:59  
Tuesday=00:00-23:59  
Wednesday=00:00-23:59  
Thursday=00:00-23:59  
Friday=00:00-23:59  
Saturday=00:00-23:59  
Sunday=00:00-23:59  
FrequencyHours=0  
CommandLine=curl http://localhost/ --output config.tmp
```

Table 4 – Config.ini keys

INI Key Name	Description
Monday Tuesday Wednesday Thursday Friday Saturday Sunday	For each day of the week, you can modify the range of hours during which scheduling is allowed (by using a 24-hour clock). In the default schedules, the operation is always allowed. Multiple time intervals can be specified. In such cases, they have to be separated by commas; for example: 10:00-12:00,14:00-18:00
FrequencyHours	This key needs to be set to a valid number of hours for how frequently the scheduled event is to take place. For example, to use a weekly interval for inventory collection or configuration download, set the value

	to 168. The default configuration has both schedules disabled, as the scheduling frequency is set to 0.
RandomDelayMinutes	This key can be used to specify a random delay to be added to the Scanner start time. For example, if the Scanner is supposed to be run at 9 a.m. and the random delay is 60 minutes, it will actually run at a random point in time between 9 a.m. and 10 a.m. This allows you to spread the load so that not all scanners run at the same time (and save the results at the same time). If this setting is 0, no random delay will be added when running the Scanner.
CommandLine	This entry needs to be populated with a valid command line to run the scheduled program. In the [Scan] section, it should specify the command line to run the DDM Inventory Scanner. The Scanner is not supplied together with the Scanner Scheduler. It needs to be installed and/or deployed separately; for example, by packaging it as a HP Client Automation or HP Server Automation package. By default, if no path is specified, the command line assumes that the Scanner is located in the same directory as the Scanner Scheduler executable itself (i.e. the installation directory of the Scanner Scheduler). If the Scanner is located in another directory, the full path to the Scanner needs to be specified on the command line. In the [DownloadConfig] section, this key specifies the command line to run the program that will fetch the new Scanner Scheduler configuration file. For convenience, DDM Inventory is supplied with the popular Curl open source program that can retrieve files using FTP, HTTP and HTTPS. Update the URL to where the new schedule can be found.

By default, both schedules (for running the scanner and downloading the new configuration) are disabled, so the Scanner Scheduler will be running, but not doing anything. In order for the Scanner Scheduler to start scheduling new events, the config.ini file needs to be modified (or an updated version deployed, for example, as a HP Client Automation or HP Server Automation package). At the very least, the FrequencyHours and CommandLine keys must be changed.

Logging

As the Scanner Scheduler has no UI, any troubleshooting or status information is available in its log file. The log file is called ScannerScheduler.log. The Scanner Scheduler stores the log file in the same directory that the DDM Inventory scanners store their scan files.

- Windows: <AppDataForAllUsers>\Peregrine\Discovery. By default, this directory is:
 - Windows XP/Windows Server 2003/Windows Server 2003 R2: **C:\Documents and Settings\All Users\Application Data\Peregrine\Discovery**
 - Windows Vista/Windows 7/Windows Server 2008/Windows Server 2008 R2: **C:\ProgramData\Peregrine\Discovery**
- UNIX/Mac OS X: **\$HOME/.discagnt directory**