



Hitachi HiCommand® Backup Services Manager®

Master Backup Server Agent Installation Guide for NetBackup

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Version 6.5

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1. Introduction

This document provides detailed step-by-step instructions for the installation of the Hitachi HiCommand® Backup Services Manager Agent on a Veritas Master Backup Server. This install guide is valid for HBSM Portal version 6.5 onward.

This document assumes either:

1. The HBSM Portal has already been successfully installed in your enterprise, and that the reader of this document is aware of the password for the HBSM admin user (e.g. admin@yourdomain.com). This is referred to as an *IN-HOUSE* installation. Or,
2. The HBSM Portal hosted by Hitachi Data Systems or a third party service provider will serve as your portal. This option typically applies only to evaluation or hosted customers and is referred to as a *HOSTED* installation.

Separate instructions are provided as necessary for Windows and UNIX.

If at any time during the install you encounter a problem, or if you simply want to verify a step or have a question about the installation, please contact the HDS Technical Support Center which will be happy to assist you:

Technical Support Center Contact Information

Phone:

Nth & Latin America 1-800-348-4357

Europe +(44)-175-361-8000

Asia Pacific (call USA GCC) +(1) 858-547-4765

Email: hdshbsmsupport@hds.com

2. Pre-installation Setup

This section contains the instructions to prepare your system for the Agent installation.

2.1. NetBackup Command Line Interface (CLI)

The StorageConsole Agent makes use of the NetBackup CLI to gather information to send to the Portal. One of the key commands used is *bpdjobs*. This command should execute fairly quickly, but on some systems that's not always the case. Please check that the following command executes in 20 seconds or less on your system:

```
bpdjobs -report -all_columns > output.txt
```

If this command takes more than 20 seconds, you can still proceed with the installation, but you should contact the HDS Technical Support Center for information on how to investigate and resolve any potential underlying issue with your NetBackup environment that is causing this command a long time to execute.

The remaining steps only apply if you are performing an IN-HOUSE Installation. In the case where Hitachi Data Systems or a third party service provider will be hosting your portal (HOSTED installation) e.g. for a product evaluation, skip the rest of this section and contact your hosting organization's representative to configure the hosted portal for your Master Server agent(s).

2.2. Add the Portal IP Address to Local Hosts File

Adding the HBSM Portal IP Address to the local hosts file on the Master Backup Server (or on another available client with web browsing capabilities) will make it possible to view the portal application in a browser and perform key steps of the agent installation process.

NOTE: you should only edit the local hosts file in the event that a DNS entry hasn't already been set up in your enterprise to resolve both <http://hbsmportal.yourdomain.com> and <http://hbsmagent.yourdomain.com> to the HBSM Portal IP address.

2.2.1. Login to your master server, then:

2.2.2. On a UNIX Server:

2.2.2.1. `edit /etc/hosts`

2.2.2.2. add entries for hbsmportal.yourdomain.com and hbsmagent.yourdomain.com (both resolving to the ip address of the HBSM Portal server)

2.2.3. On a Windows Server:

2.2.3.1. `edit C:\WINNT\System32\drivers\etc\hosts`

2.2.3.2. add entries for hbsmportal.yourdomain.com and hbsmagent.yourdomain.com

2.3. Add the Master Backup Server to HBSM

Before you install the agent on the master backup server, you must configure an entry for the server in the HBSM Portal by following the steps outlined below.

2.3.1. Make sure you have the following required master backup server information handy to complete the addition:

- IP Address
- Internal Name
- External Name
- Make
- Model
- Operating System

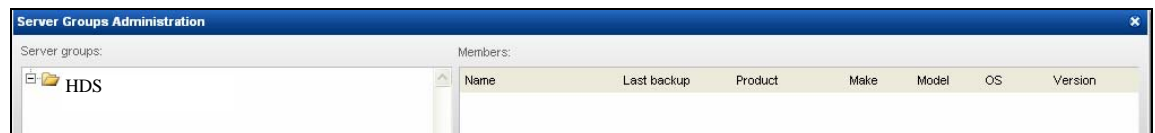
2.3.2. Open a browser window and point it to your instance of HBSM Portal (e.g. <http://hbsmportal.yourdomain.com>).

2.3.3. Login as the admin user (e.g. admin@yourdomain.com). (The password for this user is the one you specified during the installation of the HBSM Portal, in Section 4, subsection “*Setup HBSM Super User*”.)

2.3.4. In the Portal toolbar at the top of the window, select:

Admin → Server Groups

The Server Groups Administration window displays.



- 2.3.5. Click on the first server group folder (The default group name when the portal is first installed is HDS).

***Note:** If a server group hierarchy has already been established in the application, you should drilldown to the server group to which you would like the master backup server to belong, although we strongly recommend adding master servers to the top level HDS folder (ID = 100000).

- 2.3.6. In the Server Groups Administration window, under the Members pane, click *Add*.
- 2.3.7. You will see the Server Administration window:

Name	Value
Continent	[Dropdown]
TestAttr1	[Dropdown]

- 2.3.8. Enter values for all of the *required* fields (denoted by an *) in the Server Administration window and click *OK*. Be sure to specify a server type of “Veritas Master Server.” The fields External Name, Make, and Model are not used by the application for anything other than informational display purposes .

IMPORTANT NOTE: The Internal Name must be identical to that used by NetBackup. If your Master Server belongs to a cluster, you should use the cluster name and then use this same name when setting the CLUSTER_NAME parameter during the Agent install. See section 10.1.4.13 below for more details on the CLUSTER_NAME parameter.

- 2.3.9. The server will be added to the server group. The Server Group Screen will load in the content pane, and the master backup server should now be included in the list of servers belonging to the group.

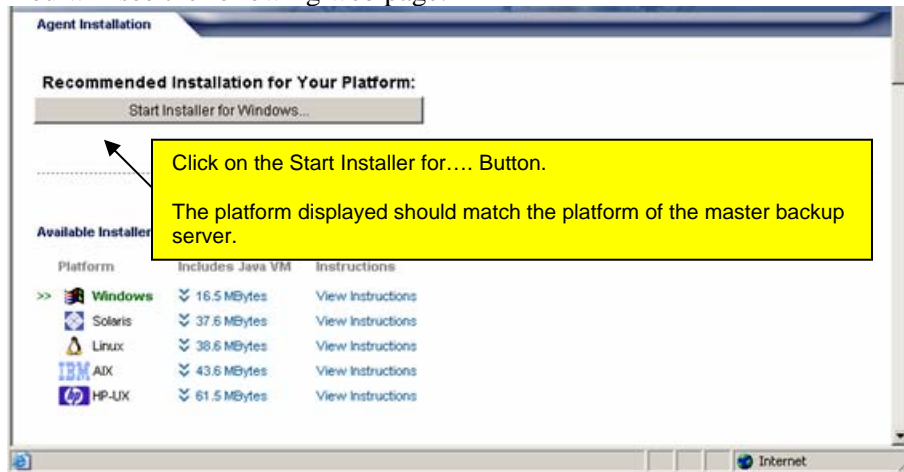
3. Install the HBSM Agent

- 3.1. This section will lead you through the instructions to install the HBSM Agent on the NetBackup Master Backup Server. The particular sequence of instructions you follow will depend on your environment. Most installs will occur from the Agent Installation CD. However, if you are installing remotely, or your HBSM Portal system is being HOSTED, you may need to download the Agent software via the Internet.
- 3.2. In addition to the GUI version, the installer also supports a console (command line) interface for UNIX systems which don't have X-Windows installed. You will be directed to the console interface section if appropriate.
- 3.3. **Installation from the Hitachi HiCommand® Backup Services Manager Agent CD**
 - 3.3.1. Installation should be performed as user root, or as an Administrator user on Windows.
 - 3.3.2. Note the Platform/OS of the master backup server on which you want to install the Agent
 - 3.3.3. Mount the Hitachi HiCommand® Backup Services Manager Agent CD
 - 3.3.4. On Windows:
 - 3.3.4.1. The installer should load automatically. If not, navigate to the file `CD_DRIVE/install.htm` and open it in a browser.
 - 3.3.4.2. Proceed to step 3.6.1 of the GUI Installation Instructions below.
 - 3.3.5. On UNIX: If the master server has X-Windows
 - 3.3.5.1. Open the file `CD_DRIVE/install.htm` in a browser
 - 3.3.5.2. Proceed to step 3.6.1 of the GUI Installation Instructions below.
 - 3.3.6. On UNIX: If the master server *does not have* X-Windows
 - 3.3.6.1. Copy the file `CD_DRIVE/InstData/{OS}/VM/aptareagentinstall.bin` to a temporary directory on the master server
 - 3.3.6.2. Proceed to the Console Installation Instructions in section 3.7 below.
- 3.4. **Installation via the Internet**

Follow these instructions if you don't have a CD and you are installing on a master backup server which has internet access and a web browser installed. If your master server does not have internet access, or no web browser access (e.g. doesn't have X-Windows) proceed to instructions in section 3.5 below.

 - 3.4.1. Start the web browser on the master backup server.
 - 3.4.2. Point the browser to the agent installer web page:
`http://my.backupervicesmanager.com/agent/install.htm`

3.4.3. You will see the following web page:



3.4.4. Click on the *Start Installer for <Platform>...* button.

3.4.5. Proceed to step 3.6.1 of the GUI Installation Instructions below.

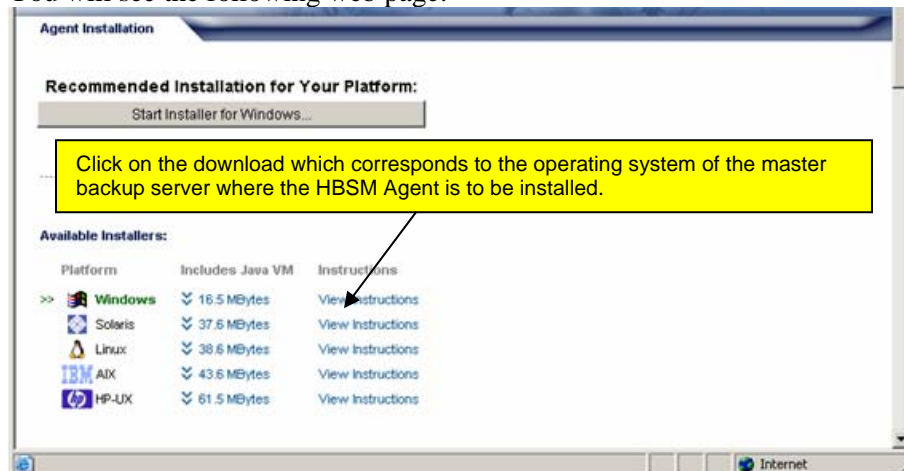
3.5. **Installation via the internet (where internet access is not available from master backup server)**

3.5.1. Note the Platform/OS of the master backup server you want to install the HBSM Agent on.

3.5.2. Open a browser on a client with web access (you will download the installer to this client, and then FTP it to the master backup server).

3.5.3. Point the browser to the agent installer web page:
<http://my.backupservicesmanager.com/agent/install.htm>

3.5.4. You will see the following web page:



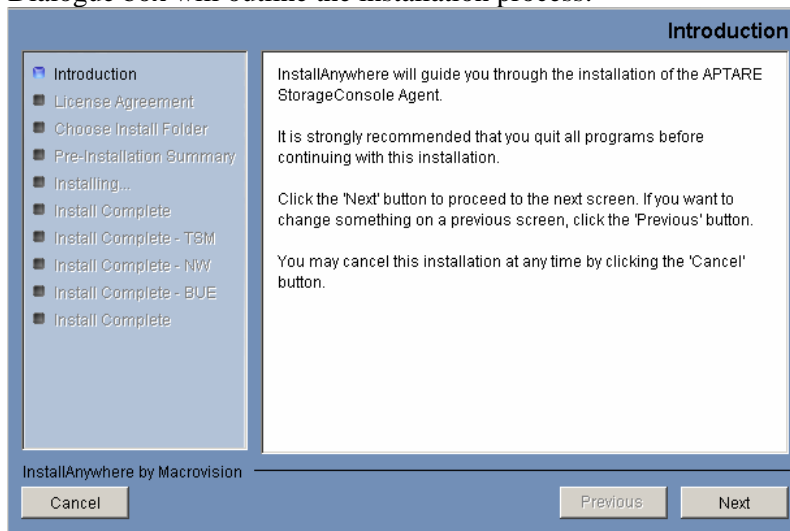
3.5.5. Click on the download which corresponds to the platform of the master backup server.

3.5.6. At the prompt, save the Agent Installer to a directory on the client.

- 3.5.7. FTP the Agent Installer to the master backup server where the Agent is to be installed.
- 3.5.8. Go to the master backup server and run the Agent Installer
- 3.5.8.1. On Windows:
Execute `aptareagentinstall.exe`
Proceed to step 3.6.1 of the GUI Installation Instructions below
- 3.5.8.2. On UNIX: If the master server has X-Windows
`chmod +x aptareagentinstall.bin`
`sh ./aptareagentinstall.bin -i swing`
Proceed to step 3.6.1 of the GUI Installation Instructions below.
- 3.5.8.3. On UNIX: If the master server *does not have* X-Windows
Proceed to the Console Installation Instructions in section 3.7 below.

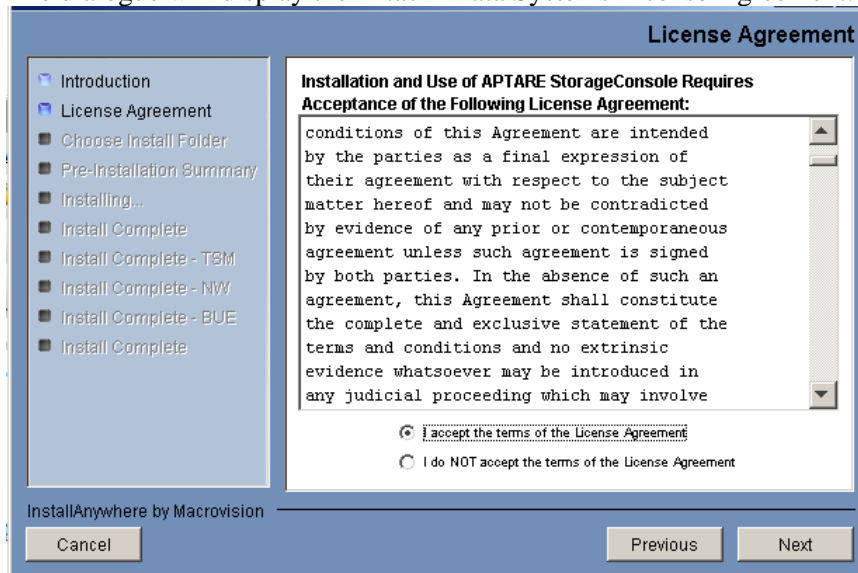
3.6. GUI Installation Instructions

- 3.6.1. Install Anywhere will prepare to install the Agent Software. An Introduction Dialogue box will outline the installation process:



- 3.6.2. Review the installation process and click the *Next* button

3.6.3. The dialogue will display the Hitachi Data Systems License Agreement:

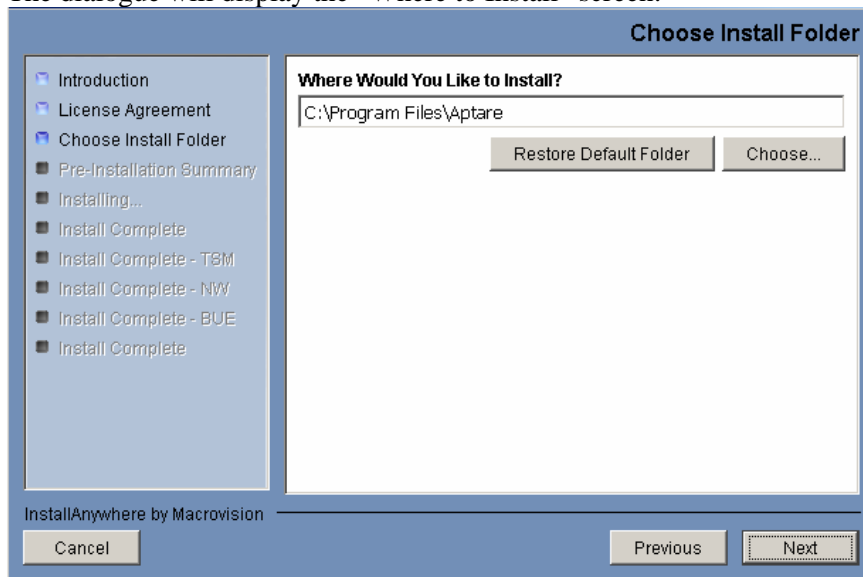


3.6.4. Read the agreement

3.6.5. Click on the "I accept the terms of the License Agreement" radio button

3.6.6. Click the *Next* button

3.6.7. The dialogue will display the "Where to Install" screen:



3.6.8. Specify the directory where you would like to install the Agent software.

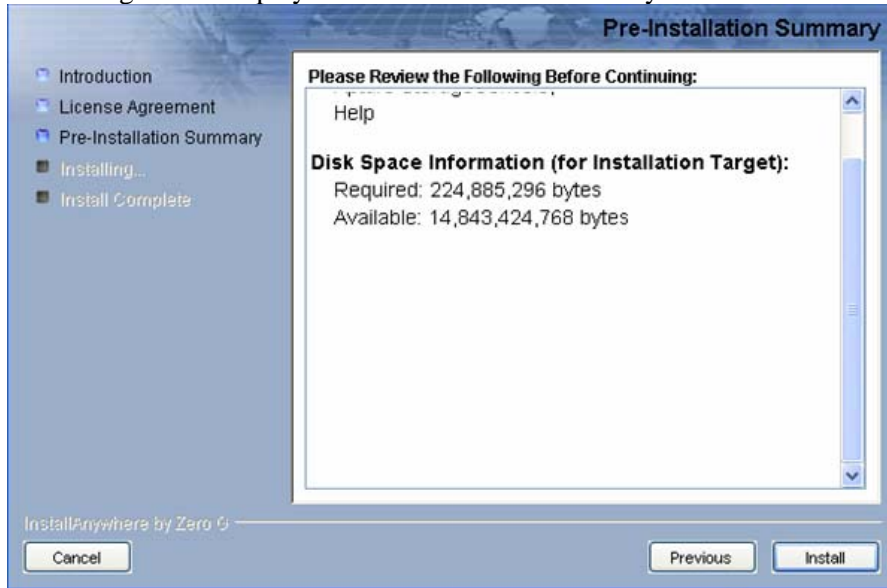
Default for Windows: C:\Program Files\Aptare

Default for UNIX: /opt/aptare

Note: Accepting the default paths is recommended

3.6.9. Click the *Next* button.

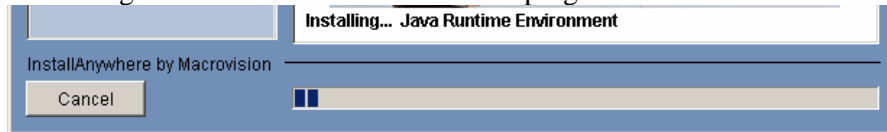
3.6.10. The dialogue will display the Pre-Installation Summary:



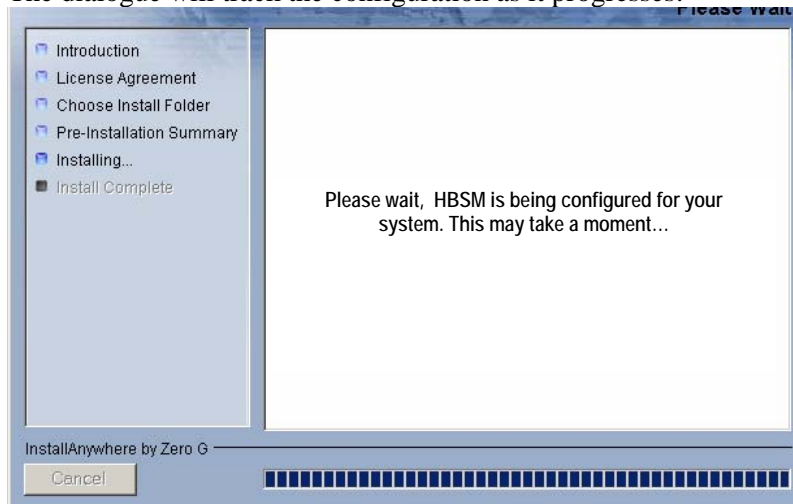
3.6.11. Review the summary.

3.6.12. Click the *Install* button.

3.6.13. The dialogue will track the installation as it progresses:



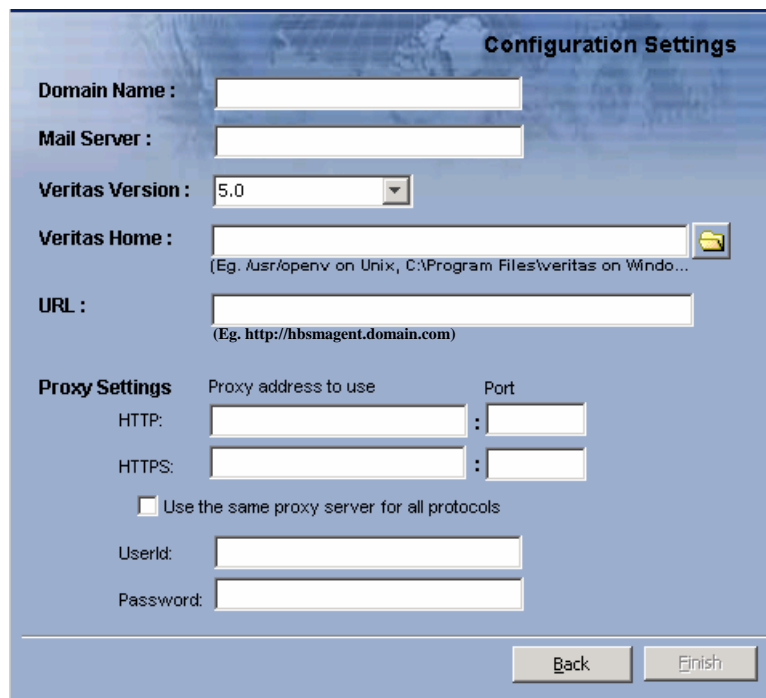
3.6.14. The dialogue will track the configuration as it progresses:



3.6.15. When prompted to select the Backup Product, select VERITAS NetBackup:



3.6.16. The following dialog captures the configuration settings for your particular environment as explained below.

The image shows a screenshot of the 'Configuration Settings' dialog box. The title bar reads 'Configuration Settings'. The dialog contains several input fields: 'Domain Name', 'Mail Server', 'Veritas Version' (a dropdown menu showing '5.0'), 'Veritas Home' (with a folder icon and a hint '(Eg. /usr/opensv on Unix, C:\Program Files\veritas on Windo...)'), 'URL' (with a hint '(Eg. http://hbsmagent.domain.com)'), 'Proxy Settings' (with sub-fields for 'Proxy address to use' and 'Port' for both 'HTTP:' and 'HTTPS:'), a checkbox 'Use the same proxy server for all protocols', 'UserId:', and 'Password:'. At the bottom right, there are 'Back' and 'Finish' buttons.

3.6.17. Fill out the configuration fields:

- 3.6.17.1. **Domain Name** - The domain identifies the top level of your server group hierarchy. The name was supplied during the installation process. All newly discovered servers are added to the root server group associated with this domain. If you are a Managed Services Provider, each of your customers will have a unique domain with its own server group hierarchy.
- 3.6.17.2. **Mail Server** - The mail server that will be used by your enterprise to send sustainment emails in the event that the Agent encounters problems sending data to the portal (example entry: *smtp.yourdomain.com*)
- 3.6.17.3. **Veritas Version** - The version of NetBackup which is running on the master backup server. Note - if you are running version 5.1, select 5.0 from the drop down list
- 3.6.17.4. **Veritas Home** - the directory where Veritas products are installed on the master backup server (example entry: */usr/opensv* on UNIX, *C:\Program Files\Veritas* on Windows)

- 3.6.17.5. **URL** – this URL resolves to the IP address of the Portal Server and is used by the Agent to transmit the backup reporting data to the Portal server. For an *IN-HOUSE* installation, this URL will be of the format:

`http://hbsmagent.yourdomain.com`

For a *HOSTED* installation, where Hitachi Data Systems or a third party service provider is hosting your portal, enter the URL that was provided to you. If the hosting provider is using SSL, you will have to enter `https://` for the `http` prefix.

- 3.6.17.6. **Proxy Settings** - if your enterprise uses Firewall/Proxy to control outgoing and incoming network communications, enter the IP Address of the Firewall/Proxy Server as well as the Port Number. If a Firewall/Proxy is not used, leave these fields blank.

Check the “use the same proxy server for all protocols” if you use the same server for both HTTP and HTTPS. If not you can enter different values for each protocol

If your enterprise uses an Authentication Firewall/Proxy, enter the User ID and Password In the fields provided. Otherwise, leave those fields blank.

- 3.6.18. Click the *Finish* button. The following dialog will be displayed indicating that the installer has completed the install.



- 3.6.19. Click the *Done* button.
- 3.6.20. The GUI Installer is now complete. Continue to section 4 to perform the final steps of the install.

3.7. Console Installation Instructions

Follow these instructions when installing on a UNIX master server which does not have X-Windows. The Installer will guide you through the sequence of steps to install and configure the agent. If at any time you need to go back a step, simply type ‘back’ at the prompt.

Note the HBSM Agent installer does not support console based installation for the Windows operating system.

- 3.7.1. From your telnet session cd to the location where the aptareagentinstall.bin file has been saved.

```
chmod +x aptareagentinstall.bin
sh ./aptareagentinstall.bin -i console
```

- 3.7.2. Install Anywhere will prepare to install the Agent Software. An Introduction page will outline the installation process:

```
=====
(created with InstallAnywhere by Macrovision)
-----
```

```
=====
Introduction
-----
```

InstallAnywhere will guide you through the installation of the HiCommand Backup Services Manager Agent.

It is strongly recommended that you quit all programs before continuing with this installation.

Respond to each prompt to proceed to the next step in the installation. If you want to change something on a previous step, type 'back'.

You may cancel this installation at any time by typing 'quit'.

PRESS <ENTER> TO CONTINUE:

- 3.7.3. The Hitachi Data Systems License Agreement will be displayed:

```
License Agreement
-----
```

Installation and use of HiCommand Backup Services Manager requires acceptance of the following License Agreement:

Hitachi Data Systems Software License Agreement

```
PLEASE READ THIS SOFTWARE LICENSE AGREEMENT CAREFULLY. BY
DOWNLOADING,
INSTALLING OR USING THE SOFTWARE YOU INDICATE ACCEPTANCE
OF AND AGREE TO THE
TERMS AND CONDITIONS OF THIS AGREEMENT...<etc.>
```

- 3.7.4. Read the agreement
3.7.5. Type “Y” to accept the agreement
3.7.6. The page will display the Where to Install screen:

```
Choose Install Folder
-----
```

Where would you like to install?

Default Install Folder: /opt/aptare

ENTER AN ABSOLUTE PATH, OR PRESS <ENTER> TO ACCEPT THE
DEFAULT

: /opt/aptare

INSTALL FOLDER IS: /opt/aptare
IS THIS CORRECT? (Y/N): y

3.7.7. The page will display the Pre-Installation Summary:

=====
Pre-Installation Summary

Please Review the Following Before Continuing:

Product Name:
HiCommand Backup Services Manager

Install Folder:
/opt/aptareagent

Link Folder:
/tmp/install.dir.30662/Do_Not_Install

Product Components:
HiCommand Backup Services Manager Agent,
Help

Java VM Installation Folder:
/opt/aptareagent/jre

Disk Space Information (for Installation Target):
Required: 136,083,162 bytes
Available: 3,786,149,888 bytes

PRESS <ENTER> TO CONTINUE:

3.7.8. The page will track the installation as it progresses:

=====
Installing...

[=====|=====|=====]
[-----|-----|-----]

3.7.9. The installer will prompt for the backup product that the Agent will be supporting.
Select Option 1 (default) for VERITAS NetBackup.

Enter Backup Product
(Choose the Backup Product for which you want to install
the Agent/DataCollector.)
(Required Field)

- >1- VERITAS NetBackup
- 2- IBM Tivoli Storage Manager
- 3- EMC LEGATO NetWorker
- 4- VERITAS Backup Exec
- 5- HP Data Protector
- 6- Hitachi Storage Arrays
- 7- EMC Storage Arrays
- 8- Host Resources

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO
ACCEPT THE DEFAULT:

: 1

- 3.7.10. The installer will prompt for the **Domain Name** - the ID of the HBSM server group that the master backup server has been assigned to. Refer to step 2.3.6 above.

Enter Domain Name:
(Required Field)

Domain Name (DEFAULT:): Hitachi Data Systems

- 3.7.11. The installer will prompt for the **Mail Server** - the mail server that will be used by your enterprise to send sustainment emails in the event that the Agent encounters problems sending data to the portal (example entry: *smtp.yourdomain.com*)

Enter SMTP Server
(Required Field)

SMTP Server Host Name (DEFAULT:
localhost):mail.mydomain.com

- 3.7.12. The installer will prompt for the **Veritas Version** - the version of Veritas NetBackup which is running on the master backup server

Enter Veritas NetBackup Version
(Required Field)

- 1- Veritas NetBackup 3.4
- 2- Veritas NetBackup 4.5
- >3- Veritas NetBackup 5.0
- 4- Veritas NetBackup 6.0
- 5- Veritas NetBackup 6.5

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO
ACCEPT THE DEFAULT:

: 3

- 3.7.13. The installer will prompt for the **Veritas Home** - the directory where Veritas products are installed on the master backup server (example entry: */usr/opensv* on UNIX, *C:\Program Files\Veritas* on Windows)

Enter Veritas Home
(Required Field)

Veritas Home (Default: /usr/opensv):

- 3.7.14. The installer will prompt for the URL. This URL resolves to the IP address of the Portal Server and is used by the Agent to transmit the backup reporting data to the Portal server. For an *IN-HOUSE* installation, this URL will be of the format:

`http://hbsmagent.yourdomain.com`

For a *HOSTED* installation, where Hitachi Data Systems or a third-party service provider is hosting your portal, enter the URL that was provided to you. If the hosting provider is using SSL, you will have to enter `https://` for the `http` prefix.

```
Enter URL
(Required Field)
Enter the URL the agent will use to transmit backup data
to the Portal server (e.g. http://hbsmagent.domain.com)
For a HOSTED installation, where Hitachi Data Systems or a
third party service provider is hosting your portal, enter
the URL that was provided to you.
```

```
URL (DEFAULT: ): http://hbsmagent.domain.com
```

- 3.7.15. **Connection Settings** - if your enterprise uses Firewall/Proxy to control outgoing and incoming network communications, type "Y"

```
Connection Settings
```

```
Use Proxies (Y/N) (DEFAULT: N): y
```

- 3.7.16. The following pages will be displayed only if you choose "Y" in the above step. Enter the IP Address of the Firewall/Proxy Server as well as the Port Number. If you do not use a proxy server in your enterprise, but you typed in "Y", you may hit ENTER to leave the entry blank.

```
Configuration Settings - 7
```

```
-----
```

```
Enter HTTP Proxy IP Address
(Please leave field empty if there is no Proxy/Firewall)
```

```
HTTP Proxy IP Address (DEFAULT: ): 172.30.10.1
```

```
=====
```

```
Configuration Settings - 8
```

```
-----
```

```
Enter HTTP Proxy Port
(Please leave field empty if there is no Proxy/Firewall)
```

```
HTTP Proxy Port (DEFAULT: ): 80
```

```
=====
```

```
Configuration Settings - 9
```

```
-----
```

```
Enter HTTPs Proxy IP Address
```


(Please leave field empty if there is no Proxy/Firewall)

HTTPs Proxy IP Address (DEFAULT:): 172.30.10.1

=====
Configuration Settings - 10

Enter HTTPs Proxy Port
(Please leave field empty if there is no Proxy/Firewall)

HTTPs Proxy Port (DEFAULT:): 80

- 3.7.17. The following pages will be displayed only if you chose “Y” in step 3.7.15. If your enterprise uses an Authentication Firewall/Proxy, enter the User ID and Password In the fields provided. Otherwise, leave those fields blank.

Configuration Settings - 11

Enter Proxy UserId
(Please leave field empty if there is no Proxy/Firewall)

Proxy UserId (DEFAULT:):

=====
Configuration Settings - 11

Enter Proxy Password
(Please leave field empty if there is no Proxy/Firewall)

Proxy Password:

- 3.7.18. The installer will perform a post-install validation:

The installer will now configure and validate the installation.
This may take a few minutes.

PRESS <ENTER> TO CONTINUE:

=====
Installation Complete

Congratulations! the HiCommand Backup Services Manager Agent for Veritas NetBackup has been successfully installed to: /opt/aptare

- 3.7.19. Press ENTER to exit the installer.
3.7.20. Continue to section 4 to complete the install.

4. Update the agent reload file on the Portal

- 4.1. On the **Portal** system, edit the file `/opt/aptare/datarcvrconf/reload.conf` and insert a new line for the newly configured master server as follows (where `<master_server_name>` is the Internal name assigned in step 2.3.7.

```
<master_server_name>=<date><time>
```

Where `<date><time>` can be for example in `YYYYMMDDHHMM` or `MMDDYYYYHHMM` format (or other format of your choice).

For Example: `mastersrvr1=200502041658`

5. Validating the HBSM Agent Installation

- 5.1. If the test results of any of the following steps do not match the appropriate output outlined below, please refer to Appendix C - Troubleshooting at the end of this document.

The following directions assume that the agent files have been installed in their default location for Windows (`C:\Program Files\Aptare`) or UNIX (`/opt/aptare`).

If you have installed the files in a different directory, please make the necessary path translations as you follow these validation instructions.

NOTE: running some of these commands can take up to several minutes depending on the size of your enterprise.

- 5.2. **Windows:** open a command prompt

UNIX: open a telnet session logged in as root to the master backup server

- 5.3. **Windows:**

in the command prompt - type `cd C:\Program Files\Aptare\mbs\bin <enter>`

UNIX:

in the telnet session type `cd /opt/aptare/mbs/bin <enter>`

- 5.4. **Windows:** in the command prompt - type `checkinstall.bat <enter>`

UNIX: in the telnet session type `./checkinstall.sh <enter>`

- 5.5. Check for output similar to the following (note that output may vary somewhat depending on your operating system and the installation selections you made):

5.5.1. **Windows:**

```
C:\Program Files\Aptare\mbs\bin> "C:\Program
Files\Aptare\jre\bin\java.exe" -DAPTARE_HOME="C:\Program
Files\Aptare" -cp "C:\Program Files\Aptare"\lib\mail.jar;"C:\Program
Files\Aptare"\lib\activation.jar;"C:\Program
Files\Aptare"\lib\xercesImpl.jar;"C:\Program
Files\Aptare"\lib\sax.jar;"C:\Program Files\Aptare"\lib\jax-
qname.jar;"C:\Program Files\Aptare"\lib\jaxp-api.jar;"C:\Program
Files\Aptare"\lib\dom.jar;"C:\Program Files\Aptare"\lib\jaxb-
api.jar;"C:\Program Files\Aptare"\lib\jaxb-ri.jar;"C:\Program
Files\Aptare"\lib\jaxb-xjc.jar;"C:\Program Files\Aptare"\lib\jaxb-
libs.jar;"C:\Program Files\Aptare"\lib\aptare.jar;"C:\Program
Files\Aptare"\lib\log4j-1.2.7.jar;"C:\Program
Files\Aptare"\lib\xerces.jar;"C:\Program Files\Aptare"\mbs\lib
com.storage.mbs.core.PostInstallChecker "C:\Program
```

```
Files\Aptare"/mbs/conf/crontab.properties
The Java version is --> 1.4.2_04-b05
Is Java Version JRE 1.4 compatible --> true
Crontab. Is Java Version JRE 1.4 compatible --> true
SystemConfig. File Name is C:\Program
Files\AptareAgentInstall\mbs\conf\bnrtriggerconfig.xml
Attempting to contact URL -->
http://hbsmagent.yourdomain/servlet/util - SUCCESS
Validating Server Group Setup - SUCCESS
Validating Job -->
240|com.storage.mbs.core.InventoryDetailsGenerator -
SUCCESS_PERSISTING_INVENTORYDETAILS
Validating Job --> 240|com.storage.mbs.core.TapeDetailsGenerator -
SUCCESS_PERSISTING_TAPEDETAILS
Validating Job --> 10|com.storage.mbs.core.TapeStatusGenerator -
SUCCESS_PERSISTING_TAPESTATUS
Validating Job -->
240|com.storage.mbs.core.StorageUnitDetailsGenerator -
SUCCESS_PERSISTING_STORAGEUNITDETAILS
Validating Job --> 60|com.storage.mbs.core.SmartUpdater -
SUCCESS_SMART_UPDATER
Validating Job --> 1440|com.storage.mbs.core.PolicyGenerator -
SUCCESS_PERSISTING_POLICIES
Validating Job --> 10|com.storage.mbs.core.JobDetailsGenerator -
SUCCESS_PERSISTING_JOBDETAILS
Validating Job --> 10|com.storage.mbs.core.BackupGenMonitor -
SUCCESS_BACKUP_GEN_MONITOR
```

Installation of the HiCommand Backup Services Manager Agent has been successfully validated.

5.5.2. UNIX:

```
The Java version is --> 1.4.2-b28
Is Java Version JRE 1.5 compatible --> true
Crontab. Is Java Version JRE 1.5 compatible --> true
SystemConfig. File Name is
/opt/aptare/mbs/conf/bnrtriggerconfig.xml
Attempting to contact URL -->
http://hbsmagent.yourdomain/servlet/util - SUCCESS
Validating Server Group Setup - SUCCESS
Validating Job -->
240|com.storage.mbs.core.InventoryDetailsGenerator -
SUCCESS_PERSISTING_INVENTORYDETAILS
Validating Job --> 240|com.storage.mbs.core.TapeDetailsGenerator -
SUCCESS_PERSISTING_TAPEDETAILS
Validating Job --> 10|com.storage.mbs.core.TapeStatusGenerator -
SUCCESS_PERSISTING_TAPESTATUS
Validating Job -->
240|com.storage.mbs.core.StorageUnitDetailsGenerator -
SUCCESS_PERSISTING_STORAGEUNITDETAILS
Validating Job --> 60|com.storage.mbs.core.SmartUpdater -
SUCCESS_SMART_UPDATER
Validating Job --> 1440|com.storage.mbs.core.PolicyGenerator -
SUCCESS_PERSISTING_POLICIES
Validating Job --> 5|com.storage.mbs.core.JobDetailsGenerator -
SUCCESS_PERSISTING_JOBDETAILS
```

```
Validating Job --> 5|com.storage.mbs.core.BackupGenMonitor -  
SUCCESS_BACKUP_GEN_MONITOR
```

Installation of the HiCommand Backup Services Manager Agent has been successfully validated.

5.5.3. If the output in the above steps contain the word “FAILED”, then refer to Appendix C - Troubleshooting or contact the HDS Technical Support Center and have the file <install_dir>/mbs/logs/crontab.log file ready for review.

5.5.4. Below is the sample output of an unsuccessful installation / configuration:

```
The Java version is --> 1.4.2_04-b05  
Is Java Version JRE 1.5 compatible --> true  
Crontab. Is Java Version JRE 1.5 compatible --> true  
SystemConfig. File Name is C:\Program  
Files\Aptare\mbs\conf\bnrtriggerconfig.xml  
Attempting to contact URL -->  
http://hbsmagent.storageconsole.com/servlet/util - FAILED  
Validating Server Group Setup - FAILED!!!  
    Could not establish Master Server --> Server Group Relationship  
    Please verify if server HAWK has been  
    setup for Server Group Id: 100000
```

There was a problem validating one or more components of HBSM.
Please mail the file C:\Program
Files\Aptare\mbs\logs\crontab.logs to support.

6. Start up the agent

6.1. The installer configures the HBSM agents to start automatically on system reboot, but does not actually start them upon completion of the install. The followings steps will allow you to start the services manually for the first time:

6.2. **Windows:**

6.2.1. On a Windows master backup server, the installer configures the agent processes as Services. To view the HBSM Agent Status:

6.2.1.1. click on Start > Settings > Control Panel

6.2.1.2. Click on Administrative Tools

6.2.1.3. Click on Services

6.2.1.4. The Microsoft Services Dialogue will be displayed. It should include entries for “Aptare Agent” and “Aptare Event Agent”. Start these services if they are not running.

6.3. **UNIX:**

6.3.1. On a UNIX master backup server, the installer will automatically copy the agent “start” and “stop” scripts to an appropriate directory based on the vendor Operating System. To start the agent on the respective platforms use the following command:

OS	Command
Linux / Solaris	/etc/init.d/aptare_agent start
AIX	/etc/aptare_agent start

HP-UX /sbin/init.d/aptare_agent start

7. Perform a Test Backup

- 7.1. Start the NetBackup Administration Console on the master backup server where the HBSM Agent has been installed.
- 7.2. Perform a manual backup of a client (a small backup will suffice)
- 7.3. Wait a few minutes after the backup has completed
- 7.4. The file `<install_dir>/mbs/logs/generator.log` should contain the following:
Got output from Servlet --> SUCCESS_PERSISTING_EVENT
- 7.5. Open a browser window and point the browser to the URL for the HBSM Portal
- 7.6. In the Global Navigator open the Report folder by clicking on it
- 7.7. Open the Administration Reports folder by clicking on it
- 7.8. Click on the Backup and Restore Events Report
- 7.9. In the Backup and Restore Events Report Designer, choose “By Client” as the Report Scope option.
- 7.10. Then follow the directions in the popup dialogues to include the client(s) which were backed up in step 7.2 above.
- 7.11. Click the View Report button
- 7.12. The resulting report should have a backup for each client(s) that was backed up as a result of step 7.2 above.
- 7.13. The installation is now complete.

8. Uninstalling the Agent - UNIX

8.1. Login to the backup management server as root

8.2. Stop the HBSM Agent

OS	Command
Linux / Solaris	<code>/etc/init.d/aptare_agent stop</code>
AIX	<code>/etc/aptare_agent stop</code>
HP-UX	<code>/sbin/init.d/aptare_agent stop</code>

8.3. Delete the aptare_agent files:

OS	Command
UNIX	<code>find /etc -name aptare_agent -print xargs rm</code>
HP-UX	<code>find /sbin -name aptare_agent -print xargs rm</code>

8.4. Open the file `$NETBACKUP_HOME/bin/backup_exit_notify` in a text editor, and delete the lines added by the HBSM Agent installer (e.g.):

```
#Command for APTARE StorageConsole Event Trigger  
echo `date` - $1 $2 $3 $4 $5 $6 >> /opt/aptare/mbs/logs/backups.lst
```

8.5. Similarly, open the file `$NETBACKUP_HOME/bin/userreq_notify` in a text editor, and delete the lines added by the HBSM Agent installer (e.g.):

```
#Following two lines are for APTARE StorageConsole Restore Trigger  
CURRTIME=`date`  
/opt/aptare/mbs/bin/restoretrigger.sh "$2" "$CURRTIME" &
```

8.6. Delete the HBSM Agent directory structure (default installation path is `/opt/aptare`):

```
rm -rf /opt/aptare/installlogs /opt/aptare/jre /opt/aptare/lib  
/opt/aptare/mbs /opt/aptare/UninstallerData
```

9. Uninstalling the Agent - Windows

9.1. Login to the backup management server. (User should have Administrator privileges)

9.2. Stop the agent services (see section 6.2.1 above for help with navigating to the services).

9.3. Run the batch file `uninstallservice.bat`. The default location for this file is `C:\Program Files\Aptare\mbs\bin`, although this may vary depending on the Agent target directory you selected during install.

9.4. Click on “Uninstall HiCommand Backup Services Manager Agent” in “Start Menu/Programs/HiCommand Backup Services Manager Agent”

9.5. Follow the prompts on the Un-install screens.

9.6. Open the file `%NETBACKUP_HOME%\bin\backup_exit_notify.cmd` in a text editor, and delete the lines added by the HBSM Agent installer (e.g.):

```
@REM Command for APTARE StorageConsole Event Trigger  
@for /F "tokens=1*" %%p in ('date /T') do @set APTDATE=%%p %%q  
@for /F "tokens=1*" %%p in ('time /T') do @set APTTIMESTAMP=%%p%%q
```

```
@set APTDATE=%APTDATE%%APTTIMESTAMP%
@echo %APTDATE% - %1 %2 %3 %4 %5 %6 >> "C:\Program
Files\aptare\mbs\logs\backups.lst"
```

- 9.7. Similarly, open the file %NETBACKUP_HOME%\bin\userreq_notify.cmd in a text editor, and delete the lines added by the HBSM Agent installer (e.g.):

```
@REM Command for APTARE StorageConsole Restore Trigger
@for /F "tokens=1*" %%p in ('date /T') do @set DATE=%%p %%q
@for /F %%p in ('time /T') do @set DATE=%DATE% %%p
@if "%1" == "restore" @START CALL "C:\Program
Files\Aptare\mbs\bin\restoretrigger.bat" "%2" "%DATE%
```

- 9.8. The uninstaller may not delete the entire Agent directory structure – sometimes new files created after the install along with their parent directories are not removed. You may need to remove the root install folder (default C:\Program Files\Aptare) and its subfolders manually after the uninstaller completes.

10. Appendix A - HBSM Configuration Files

- 10.1. During the installation process, the following configuration files are created and placed in `<install_dir>/mbs/conf`:

bnrtriggerconfig.xml
backupsystem.properties
crontab.properties

10.1.1. bnrtriggerconfig.xml Parameter Definitions:

- 10.1.1.1. Server Group ID - the HBSM assigned server group ID number that is used internally to identify the top level server group for a given enterprise within the portal.
 - 10.1.1.2. ERROR_RETRY – the overarching error retry count for the agent attempting to send data to the portal before the failure condition is met. (minimum value must be > 0, no maximum)
 - 10.1.1.3. DBERROR_RETRY – the database error retry count for the agent attempting to send data to the portal before the failure condition is met. (minimum value must be > 0, no maximum)
 - 10.1.1.4. CYCLE_WAIT_TIME – defines the number of minutes the agent will sleep between attempting to send data to the portal after encountering an error.
 - 10.1.1.5. DATA_RECEIVER – the URL link to the datareceiver servlet
 - 10.1.1.6. JOB_QUEUE – the URL link to the jobqueue servlet
 - 10.1.1.7. BACKUP_MANAGER_DRIVER – a fully qualified proprietary HBSM Class name which should not be modified
 - 10.1.1.8. MAIL_HOST_ADDR – the IP Address of the enterprise mail server
 - 10.1.1.9. FROM_MAILID – the email address from whom Sustainment Emails will be sent – default is support@yourdomain.com
 - 10.1.1.10. SUSTAINMENT_MAILID – the comma delimited list of email addresses to which Sustainment Emails will be sent. Default is “agent_alert@aptare.com”
- 10.1.2. Once the number of error retry attempts has been reached, a sustainment email will be sent to the recipients defined in the SUSTAINMENT_MAILID property.
- 10.1.3. The following is pertinent code contained in the bnrtriggerconfig.xml file:

```
<?xml version="1.0" encoding="UTF-8"?>
<SystemProperties>
<dataRcvr>
<ServerGroupId>100000</ServerGroupId>
<ERROR_RETRY>6</ERROR_RETRY>
<DBERROR_RETRY>6</DBERROR_RETRY>
<CYCLE_WAIT_TIME>5</CYCLE_WAIT_TIME>
<DATA_RECEIVER>https://hbsmagent.storageconsole.com/servlet/datareceiver</DATA_RECEIVER>
<JOB_QUEUE>https://hbsmagent.storageconsole.com/servlet/jobqueue</JOB_QUEUE>
<BACKUP_MANAGER_DRIVER>com.storage.backupProd.netBackup45.NetBackup45Driver</BACKUP_MANAGER_DRIVER>
</dataRcvr>
<mail>
<MAIL_HOST_ADDR>10.0.0.3</MAIL_HOST_ADDR>
<FROM_MAILID>Julie.brown@xyzcorp.com</FROM_MAILID>
```



```
<SUSTAINMENT_MAILID>Julie.brown@xyzcorp.com,tom@xyzcorp.com
</SUSTAINMENT_MAILID>
</mail>
</SystemProperties>
```

10.1.4. backupsystem.properties Parameter Definitions:

- 10.1.4.1. BACKUP_SW_HOME – the absolute path to the directory where Veritas NetBackup is installed on the management server.
- 10.1.4.2. BACKUP_SW_VLMGR_HOME – the absolute path to the directory where the Veritas NetBackup Volume Manager is located on the management server
- 10.1.4.3. BACKUP_SW_JOBSDB_HOME – the absolute path to the Veritas NetBackup Jobs DB home directory. This parameter should only be set if running in a Windows clustered environment.
- 10.1.4.4. HTTP_PROXY – the IP Address of the enterprise proxy server
- 10.1.4.5. HTTP_PROXY_PORT – the HTTP Proxy Port # on enterprise proxy server
- 10.1.4.6. HTTPS_PROXY – the IP Address of the enterprise proxy server
- 10.1.4.7. HTTPS_PROXY_PORT – the HTTP Proxy Port # on enterprise proxy server
- 10.1.4.8. HTTPS_AUTH – the encrypted user ID and password for the proxy server
- 10.1.4.9. BACKUP_HOURS – the # of hours in the past that Agent will check for backup events (default: 12, acceptable range: 0 – unlimited). After the agent has been installed and running for a few days, change this value to at least the duration of your longest backup.
- 10.1.4.10. BACKUP_RECOVERY_HOURS – Number of hours the event agent will go back to check for unprocessed backup records in backups.lst.
- 10.1.4.11. USE_TAPE_FILE – an optional parameter which is used by the Tape Details child agent to redirect the output of the NetBackup command "vmquery" to a temporary file cache instead of using the main memory. Enabling this parameter enhances performance of the child agent (possible values: Y or N)
- 10.1.4.12. EXCLUDE_SERVERS – a pipe delimited list of backup client names which need to be excluded when processing the event status and tape details child agents. Possible reasons for adding a backup client to this list would be: backup client is down for maintenance, backup client is inaccessible because it is situated behind a firewall. Running the child agent processes against backup clients for which the above conditions exist will greatly compromise the performance of the agent.
- 10.1.4.13. CLUSTER_NAME – Set this to the server cluster name if the agent is being installed on a clustered environment. Be certain to use this name when you configure the management server in the Portal GUI (see section 2.3 above).

10.1.5. The following is pertinent code contained in the backupsystem.properties file:

```
#Path to the Backup Software home (no trailing "/")
BACKUP_SW_HOME=/usr/opensv/netbackup
BACKUP_SW_VOLMGR_HOME=/usr/opensv/volmgr

HTTP_PROXY=
HTTP_PROXY_PORT=
HTTPS_PROXY=
HTTPS_PROXY_PORT=
PROXY_AUTH=$PROXY_AUTH$
```

```
BACKUP_HOURS=12  
USE_TAPE_FILE=Y  
EXCLUDE_SERVERS=
```

- 10.1.6. `crontab.properties` contains the list of processes that will be started and the interval, in minutes, between successive invocations of the process. Here is an example of the `crontab.properties` file:

```
5 | com.storage.mbs.core.RestoreJobScheduler  
240 | com.storage.mbs.core.InventoryDetailsGenerator  
240 | com.storage.mbs.core.TapeDetailsGenerator  
5 | com.storage.mbs.core.TapeStatusGenerator  
240 | com.storage.mbs.core.StorageUnitDetailsGenerator  
60 | com.storage.mbs.core.SmartUpdater  
10 | com.storage.mbs.core.JobDetailsGenerator  
1440 | com.storage.mbs.core.PolicyGenerator  
20 | com.aptare.mbs.Discoverer.MediaDiscoverer  
60 | com.storage.mbs.core.MessageLogListGenerator
```

- 10.1.7. The format of each line is:
<Sleep Time>|<Process To Execute>

- 10.1.8. `crontab.properties` Parameter Definitions:

- 10.1.8.1. Restore Job Scheduler - This process is executed, by default, every 5 minutes. It contacts the HBSM Portal server and retrieves a list of all the restore jobs that need to be executed by the Master Backup Server
- 10.1.8.2. Inventory Details - This process is executed, by default, every 4 hours (i.e. 240 minutes). It gathers a list of all the tape libraries known to the Master Backup Server and the drives associated with the libraries. It also determines the number of tape media slots that are available for each of the tape libraries.
- 10.1.8.3. Tape Details Inventory - This process is executed, by default, every 4 hours (240 minutes). It gathers a list of all tape media and the statistics associated with the media (such as creation and assigned date) and sends this data to the HBSM Portal for insertion into the portal database. Tapes that are imported or new tapes provided to media pools would first be recognized and captured by this process.
- 10.1.8.4. Tape Drive Status - This process runs, by default, every 5 minutes. It determines the current state of each tape drive associated with each VERITAS media server. A list of the media servers is obtained by executing the command “`bpstulist`”. This information is used by the Tape Library and Drive Utilization report.
- 10.1.8.5. Storage Unit Inventory - This process runs, by default, every 4 hours. It gathers a list of the current settings and parameters for every storage unit known by the Master Backup Server.
- 10.1.8.6. Smart Updater - The HBSM Agent has a built-in mechanism to automatically update itself upon identification of a new version of the Java class files on the Portal. The Smart Updater runs every 60 minutes (default) to determine if there is a newer version of itself. If there is a newer version, the Agent downloads a new copy of the file “`aptare.jar`” and restarts itself.
- 10.1.8.7. Job Details - The HBSM Agent can collect VERITAS NetBackup job information. The agent compares the contents of the file `$VERITAS_HOME/netbackup/db/jobs/jobid` with the last completed job details sent to the Portal. If they differ, the Agent runs the command `bpdbjobs` and sends a status update for open or changed jobs to the Portal. This feature allows us to

display, in real-time, the running, queued, and completed jobs that are reported in the NetBackup activity monitor

- 10.1.8.8. Policy Generator – This process runs, by default, every 24 hours. The HBSM Agent can collect VERITAS NetBackup policies and their related schedules, clients, and includes ensuring that the HBSM database is always current.
- 10.1.8.9. Media Discoverer – This process runs by default every 20 minutes, probing media servers via SNMP for the physical attributes (capacity, free space etc.) of configured disk Storage Units. The Media Discovery process is driven by a set of configurable policies that reside in the StorageConsole database. When the process wakes up, it will download these policies and determine what discovery work, if any, needs to be performed.
- 10.1.8.10. MessageLogListGenerator – This process gathers data pertaining to Backup Event life cycle and Tapes used for Restores.

11. Appendix B - Modified Veritas NetBackup Files

- 11.1. The following Veritas NetBackup Files are modified during the HBSM Agent Software Installation process:

- 11.1.1. **Windows:**

- %VERITAS_HOME\NetBackup\bin\backup_exit_notify.cmd

- The following 5 lines were inserted just before the line “:EndMain”:

- ```
@REM Command for APTARE StorageConsole Event Trigger
@for /F "tokens=1*" %%p in ('date /T') do @set APTDATE=%%p %%q
@for /F "tokens=1*" %%p in ('time /T') do @set APTTIMESTAMP=%%p%%q
@set APTDATE=%APTDATE%%APTTIMESTAMP%
@echo %APTDATE% - %1 %2 %3 %4 %5 %6 >> "C:\Program
Files\aptare\mbs\logs\backups.lst"
```

- 11.1.2. %VERITAS\_HOME\NetBackup\bin\userreq\_notify.cmd

- The following 4 lines were inserted just before the line “:EndMain”:

- ```
@REM Command for APTARE StorageConsole Restore Trigger
@for /F "tokens=1*" %%p in ('date /T') do @set DATE=%%p %%q
@for /F %%p in ('time /T') do @set DATE=%DATE% %%p
@if "%1" == "restore" @START CALL "C:\Program
Files\Aptare\mbs\bin\restoretrigger.bat" "%2" "%DATE%"
```

- 11.1.3. **UNIX:**

- \$VERITAS_HOME/netbackup/bin/backup_exit_notify

- The following 2 lines were inserted just before the line “exit 0” at the end of the file:

- ```
#Command for APTARE StorageConsole Event Trigger
echo `date` - $1 $2 $3 $4 $5 $6 >> /opt/aptare/mbs/logs/backups.lst
```

- 11.1.4. \$VERITAS\_HOME/netbackup/bin/userreq\_notify

- These lines were inserted in the RESTORE branch of the case statement in the file:

- ```
#Following two lines are for APTARE StorageConsole Restore Trigger
CURRTIME=`date`
/opt/aptare/mbs/bin/restoretrigger.sh "$2" "$CURRTIME" &
```

12. Appendix C - Troubleshooting

If the post-installation validation failed, this is often due to some simple configuration issues that can be fairly easily resolved. This section guides the installer through identification and correction of the issue. If the issue cannot be resolved by following the steps in this section, please contact the HDS Technical Support Center. Be sure to include the log files that were generated during the install.

12.1. Validate the agent configuration file.

The agent configuration file contains key information captured during the install process. If the information was entered incorrectly, this may be the cause of the failure. Key configuration parameters are validated below:

12.1.1. Edit the configuration file:

Windows:

Edit "C:\Program Files\Aptare\mbs\conf\bnrtriggerconfig.xml"

UNIX:

Edit "/opt/aptare/mbs/conf/bnrtriggerconfig.xml"

12.1.2. Verify the values of the parameters <DATA_RECEIVER> and <JOB_QUEUE>. These parameters should have a prefix of:

http://hbsmagent.yourdomain.com	for IN-HOUSE install (with appropriate value for <i>yourdomain</i>)
http://hbsmagent.hds.com	for HITACHI DATA SYSTEMS HOSTED install
http://hbsmagent.domain.com	for third party HOSTED install (with appropriate value for <i>domain.com</i> .)

If these pre-fix values are incorrect, please update them, restart the agent services as per instructions in section 6, and re-run the installation verification utility as described in section 5 above.

12.1.3. Verify the values of the parameters <ServerGroupId>. For IN-HOUSE installs, this parameter needs to match the GroupId noted in section 2.3.6. For HOSTED installs, this value will have been provided to you by your hosting vendor representative. Also, verify that a server entry was created on the Portal that corresponds to the master server on which the agent is being installed.

If the ServerGroupId was incorrect, please update it, restart the agent services as per instructions in section 6, and re-run the installation verification utility as described in section 5 above.

12.1.4. Verify the Master Server has access to the Portal server. e.g. you may want to try and ping the URL <http://hbsmagent.yourdomain.com>. If you do not get a response, check the connectivity path and verify the URL has been correctly setup in DNS or in the local hosts file to resolve to the HBSM Portal server.