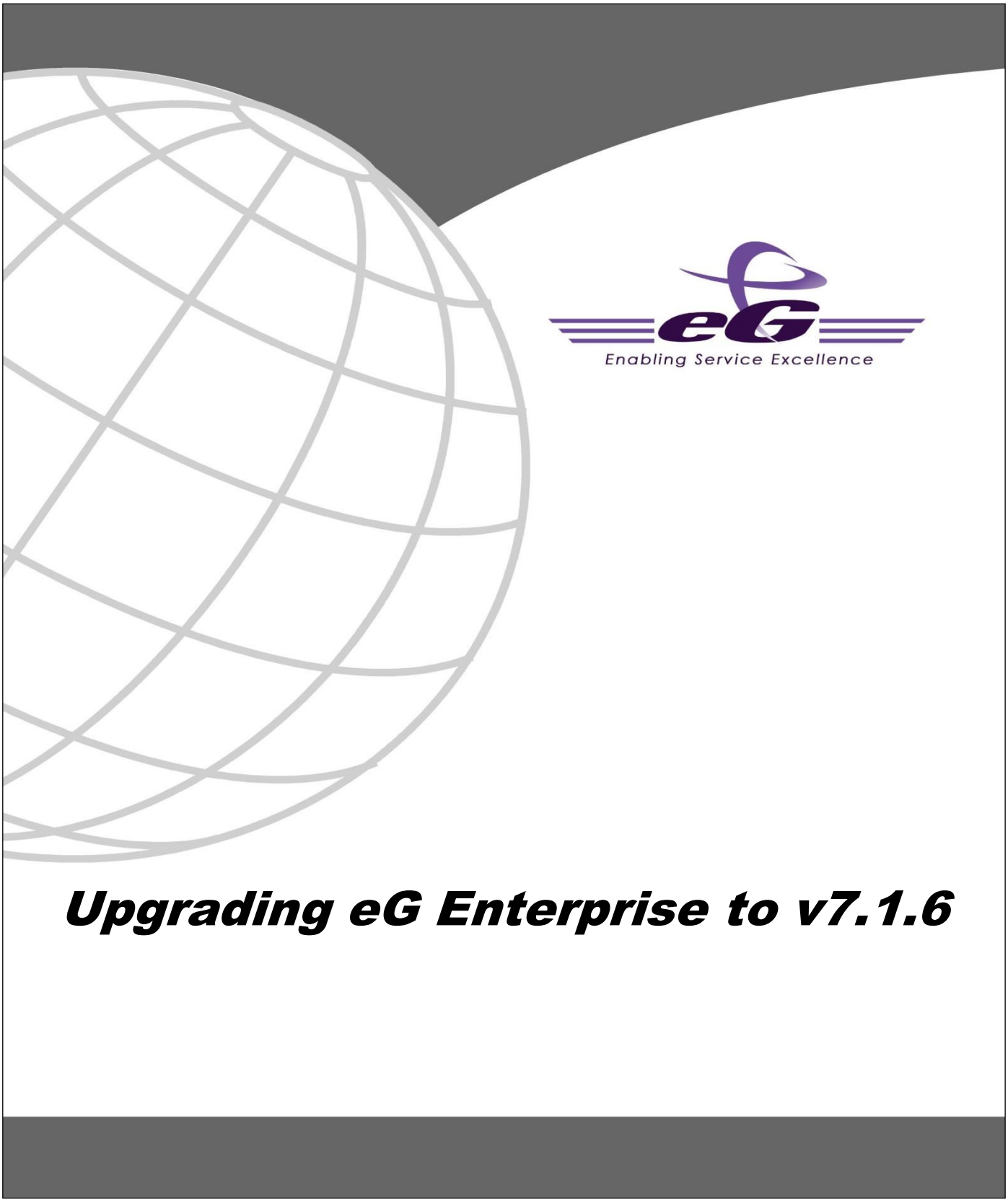

Upgrading eG Enterprise to v7.1.6

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Upgrading eG Enterprise to v7.1.6

Upgrades to the eG manager add new features and enhancements to the eG manager. From time to time, eG Innovations provides its existing customers who are covered under the eG Annual Software Maintenance (EASM) program with upgrades to the latest released version of the eG Enterprise Real-time monitoring and Proactive Infrastructure Triage solution. If you are not covered by EASM, please contact sales@eginnovations.com for details on how you can sign up for this program.

This document provides you with the guidelines for upgrading the eG Enterprise suite from version 7.14 to v7.1.6.

Version 7.1.6 is a minor release of eG Enterprise. While this release predominantly has bug fixes and scalability improvements, a few new capabilities have also been added. For a comprehensive list of enhancements and bug fixes that are part of this release, refer to the *Release Notes for eG Enterprise v7.1.6* document.

If the eG manager that is in use in your environment is of a version lower than eG 7.1.4, please contact support@eginnovations.com to obtain a prior upgrade.

The broad steps towards upgrading the manager to version 7.1.6 are as follows:

- Take a backup of the eG Enterprise Suite
- Ensure that the pre-requisites for the upgrade are fulfilled
- Upgrade the eG manager
- Upgrade the eG agents

The sections that follow will discuss each of these steps in great detail.

1.1 Taking a Backup of the eG Enterprise Suite

Prior to performing an upgrade, it is recommended that you take a backup of the eG Enterprise suite (the eG manager and external agent), so that you can always revert to it. The backup and restore procedures vary according to the operating system of the eG manager.

In case of Windows environments, a minimal backup for upgrade purposes should include the following:

- A backup of the eG install directory
- A backup of the eG database

Kindly refer to Chapter 7 of the *eG Installation Guide* for taking a backup of the eG directory and database. An elaborate restoration procedure is also provided here.

1.2 Pre-requisites for Upgrading the eG Manager

Before upgrading the eG manager to v7.1.6, make sure that the eG manager being upgraded is of version 7.1.4.

1.3 Upgrading the eG Manager on Linux

1. To begin the manager upgrade, first, connect to the URL: http://www.eginnovations.com/eval716/Upgrade_to_716/
2. Click on the **Manager** folder within. In this folder, you will find sub-folders named after each operating system that is supported by the eG manager. Every operating system-specific folder will contain the upgrade package for upgrading the eG manager on that operating system.
3. If you click on the **Linux** directory, the following files will be listed:

   eG_Patch.sh script file

   eG_Patch.zip
4. For the purpose of upgrading, the eG manager to v7.1.6, you need to download all the files mentioned above to a convenient location on the eG manager host.
5. From the command prompt, switch to the directory into which the upgrade files have been copied, and then, change the format of the **eG_Patch.sh** script file into a Unix-compatible format. To achieve this, issue the following command:

   dos2unix eG_Patch.sh
6. Next, grant **execute** permissions for the script file **eG_Patch.sh** using the following command:

   chmod +x eG_Patch.sh
7. Also, provide the user permission to execute the **eG_Patch.zip** using the following command:

   chown <eG Installed User>:<Group Name> eG_Patch.zip

   For example, **chown john:egurkha eGPatch.zip**
8. Then, proceed to execute the file **eG_Patch.sh** using the following command:

   ./eG_Patch.sh -<option>, where <option> can be any one of the following:

   u - to upgrade the eG manager

   r - to revert to the previous version of the manager

   c - to commit the manager upgrade changes

An eG install user alone should execute the upgrade.

9. If you do not specify the parameter **-<option>**, the following message will appear, prompting you to provide any one of the above-mentioned parameters:

```
Usage : ./eG_Patch.sh OPTION
•  u ..... Upgrade the eG Manager
•  r ..... Revert the eG Manager to its previous version
•  c ..... Confirm and Commit upgrade changes and enable agent auto-upgrade
```

10. To trigger the manager upgrade process, provide the following command:

    ./eG_Patch.sh -u

    If the user executing the script is **not** the eG install user, then you will receive the following message immediately upon execution, and will not be permitted to proceed with the upgradation:

```
Please login as '<eG install user>' and run this script!
**************************************************************************
```

11. Upon execution, the command will perform the following processing:

```
WELCOME TO UPGRADE PROCESS
==========================

*********************************************************
 Upgrade process might take several minutes to complete.
 PLEASE DO NOT INTERRUPT THIS PROCESS.
*********************************************************

Extracting the files required for Upgrade...


Starting upgrade of the eG Manager ...
Stopping the eG Manager...
***********************************
The eGMon service stopped..
***********************************
*****************************************
The eGurkhaTomcat service stopped...
*****************************************
*************************************************
The eG Manager has been successfully stopped.
*************************************************
Backup of the eG Manager started ...
Backup of the eG Manager completed
Upgrading the eG Manager configuration ...
Upgrading necessary Config files...
updated manifest
eG Manager configuration was upgraded successfully !...
```

12. If the manager upgrade completes successfully, you will view the following messages:

```
*****************************************************************
The eG Manager upgrade has been completed successfully!!!
Execute the command C:\eGurkha\lib\start_manager to start the eG Manager.
*****************************************************************


*****************************************************************
You should index the eG database to optimize its performance after the manager
upgrade. To do this, follow the steps below:
1. Stop the eG manager.
2. Run the UpgradingIndex.bat command from the C:\eGurkha\bin\ folder
```

```
**********************************************************************
```

13. After successful upgrade, it is recommended that you index the eG database to optimize its performance. The detailed steps for this are available in the Database Optimizations section of this document.

14. Then, start the manager using the **/opt/egurkha/bin/start_manager** command.

Note

- After starting the manager, clear the browser history of the browser that you would be using to connect to the eG management console. Before clearing the history, make sure that you configure the cleanup process to remove all the browsing and download histories, cookies and plugins, and cached images and files, from the beginning of time. Figure 1 indicates how this configuration is to be performed on a Chrome browser.

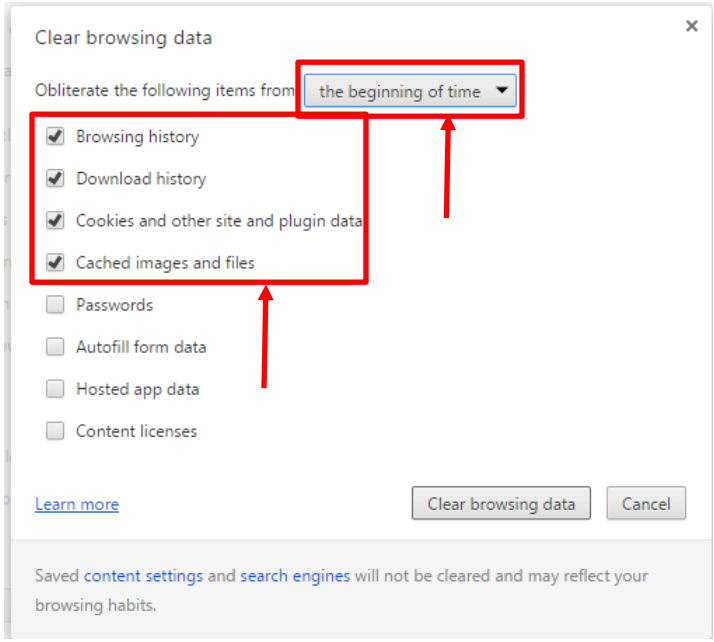

Figure 1: Configuring the browser history cleanup

- Log into the admin interface of the eG manager and verify whether all the basic configurations (such as segment topologies defined, servers managed/added, sites configured etc., in the previous version) are intact.
- Do not perform any further configurations using the eG administrative interface before committing the manager upgrade.
- Do not use any of the new features in v7.1.6 before committing the upgrade.

15. If for some reason you want to revert to the previous version of the manager after the upgrade, then use the command **/eG_Patch.sh –r**. If reverting is successful, the following message will appear:

```
Reverting the eG Manager to its original configuration.

**************************************************
```

```
Revert process might take several minutes to complete.
PLEASE DO NOT INTERRUPT THIS PROCESS.
*****************************************************

Stopping the eG Manager ...
************************************
The eGMon service stopped..
************************************

****************************************
The eGurkhaTomcat service stopped...
****************************************
********************************************
The eG Manager has been successfully stopped.
********************************************
*****************************************************************
Successfully reverted the eG Manager to the previous version!
Please execute the command C:\egurkha\lib\start_manager
and C:\egurkha\lib\start_agent to start the eG Manager and eG Agent.
*****************************************************************
```

16. On the other hand, if you want to proceed with the upgrade, commit the changes made to the eG manager, by executing the command:**./eG_Patch.sh –c**.
17. Upon successful completion of the commit, the following message will appear:

```
*****************************************************************
Successfully committed the eG Manager upgrade to version 7.1.6!
```

It is not possible to revert the eG manager, once the manager upgrade is committed.

1.4 Upgrading the eG Manager on Windows

To upgrade the eG manager on Windows, do the following:

1. Go to the URL: http://www.eginnovations.com/eval716/Upgrade_to_716/
2. Click on the **Manager** folder within. In this folder, you will find sub-folders named after each operating system that is supported by the eG manager. Every operating system-specific folder will contain the upgrade package for upgrading the eG manager on that operating system. For instance, the contents of the **Windows2008** folder will enable you to upgrade an eG manager on a Windows 2008 server.

   Each of these Windows folders will contain the following files:

   - The batch file **eG_Patch.bat**
   - The zip file eG_Patch.zip

3. For the purpose of upgrading the eG manager to v7.1.6, download the aforesaid files from the corresponding

Windows folder to a convenient location on your local disk (say, **c:\tmp**):

4. The agent upgrade procedure begins only after the eG manager is upgraded successfully and the changes are committed. Even while the agent upgrade is in progress, the old (i.e., agents of a previous version) eG agents in the target environment, will continue to report measurement data to the upgraded eG manager.

5. Then proceed to execute the upgrade batch file **eG_Patch.bat** using the following command from the command prompt:

   eG_Patch.bat

6. The program will request you to choose from the following options:

```
WELCOME TO eG UPGRADE

========================

Enter Your Option :

A - Apply  R - Revert  C - Commit E - Exit] ?
```

   A - to apply the upgrade patch

   R - to revert to the previous version of the manager

   C - to commit the manager upgrade changes and to initiate the agent upgrading process

   E – to exit the upgrade menu.

   To trigger the manager upgrade process, enter **A**.

7. Upon execution, the following messages will appear:

```
WELCOME TO UPGRADE PROCESS
==========================

*********************************************************
 Upgrade process might take several minutes to complete.
 PLEASE DO NOT INTERRUPT THIS PROCESS.
*********************************************************

Extracting the files required for Upgrade...


Starting upgrade of the eG Manager ...
Stopping the eG Manager...
**********************************
The eGMon service stopped..
**********************************
****************************************
The eGurkhaTomcat service stopped...
****************************************
**********************************************
The eG Manager has been successfully stopped.
**********************************************
Backup of the eG Manager started ...
Backup of the eG Manager completed
Upgrading the eG Manager configuration ...
Upgrading necessary Config files...
updated manifest
eG Manager configuration was upgraded successfully !...
```

8. When the manager upgrade completes successfully, you will view the following message:

```
*****************************************************************
```

```
The eG Manager upgrade has been completed successfully!!!
Execute the command C:\eGurkha\lib\start_manager to start the eG Manager.
*****************************************************************


*****************************************************************
You should index the eG database to optimize its performance after the manager
upgrade. To do this, follow the steps below:
1. Stop the eG manager.
2. Run the UpgradingIndex.bat command from the C:\eGurkha\bin\ folder
*****************************************************************
```

9. If upgrade succeeds, copy the v7.1.6 license to the **<EG_INSTALL_DIR>\bin** directory as indicated by the message above.
10. After successful upgrade, it is recommended that you index the eG database to optimize its performance. The detailed steps for this are available in the Database Optimizations section of this document.
11. Then, start the manager using the menu sequence, eG Monitoring Suite -> eG Manager -> Start Manager.

- After starting the manager, clear the browser history of the browser that you would be using to connect to the eG management console. Before clearing the history, make sure that you configure the cleanup process to remove all the browsing and download histories, cookies and plugins, and cached images and files, from the beginning of time. Figure 2 indicates how this configuration is to be performed on a Chrome browser.

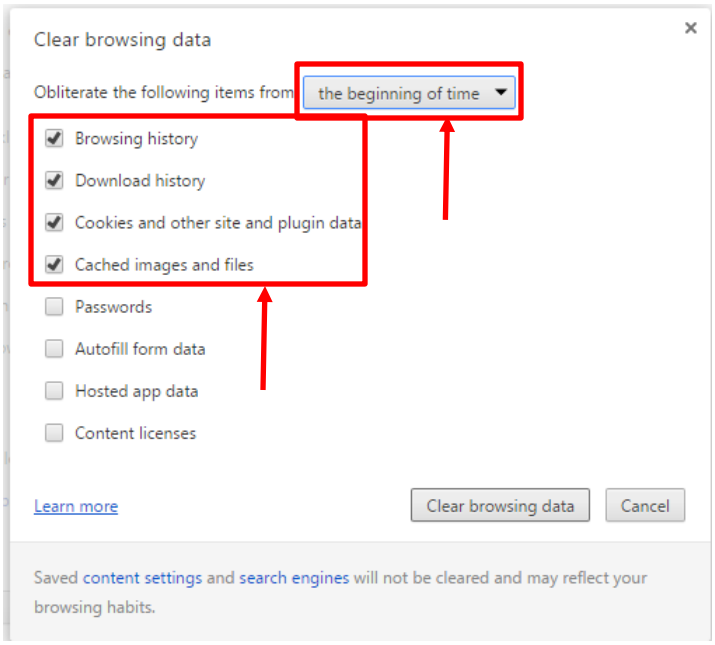

Figure 2: Configuring the browser history cleanup

Note

- Log into the admin interface of the eG manager and verify whether all the basic configurations (such as segment topologies defined, servers managed/added, sites configured etc., in the previous version) are intact.
- Do not perform any further configurations using the eG administrative interface before committing the manager upgrade.
- Do not use any of the new features in v7.1.6 before committing the upgrade.

12. If for some reason you want to revert to the previous version of the manager after the upgrade, then execute the command **eG_Patch.bat** once again, but this time select the **R** option.

- If the web server is being monitored on the eG manager host, then, stop the web server **before initiating the revert operation**.
- Make sure that all files and folders that are open on the eG manager host and all operations that you may have started on the host are closed/stopped before attempting the revert.

13. If reverting is successful, the following message will appear:

```
WELCOME TO REVERT OPERATION
===========================

Reverting the eG Manager to its original configuration.

*************************************************
Revert process might take several minutes to complete.
PLEASE DO NOT INTERRUPT THIS PROCESS.
*************************************************

Stopping the eG Manager ...
***********************************
The eGMon service stopped..
***********************************

****************************************
The eGurkhaTomcat service stopped...
****************************************
*********************************************
The eG Manager has been successfully stopped.
*********************************************
*****************************************************************
Successfully reverted the eG Manager to the previous version!
Please execute the command C:\egurkha\lib\start_manager
and C:\egurkha\lib\start_agent to start the eG Manager and eG Agent.
*****************************************************************
```

Sometimes, during a revert operation on Windows, you may find that the command prompt hangs, passively waiting for user inputs. In such cases, do the following to resume the revert operation:

- Open the **<EG_INSTALL_DIR>\manager\logs\upgrade_event** file.
- Scan the file for the following entry:

```
Does D:\egurkha\bin specify a file name or directory name on the
target (F=file,D=directory)?
```

- If you find it, then close the file, return to the command prompt, and type **D** therein. The revert operation will then continue without a glitch.

14. On the other hand, if you want to proceed with the upgrade, commit the changes made to the eG manager, by executing the **eG_Patch.bat** command yet again, and selecting the option **C**.

15. Upon successful completion of the commit, the following message will appear:

```
WELCOME TO COMMIT OPERATION
===========================


Committing the eG Manager Upgrade Changes ....

Stopping the eG Manager...
**********************************
The eGMon service stopped..
**********************************
****************************************
The eGurkhaTomcat service stopped...
****************************************
************************************************
The eG Manager has been successfully stopped.
************************************************
Committing the eG Database...

****************************************
 Successfully Committed the eG Manager Upgrade.
```

It is not possible to revert the eG manager, once the manager upgrade is committed.

1.5 Troubleshooting the Manager Upgrade

If the manager upgrade fails, then check the **<EG_INSTALL_DIR>\manager\logs\upgrade_event** file (on Windows; on Linux, this will be the **/opt/egurkha/manager/logs/upgrade_event** file) for any errors during the upgrade. Also, check the **<EG_INSTALL_DIR>\tmp\logging** file (on Windows; on Linux, this will be the **/opt/egurkha/tmp/logging** file) or error messages.

For any further clarifications, mail support@eginnovations.com enclosing the above-mentioned files.

1.6 Upgrading the eG Agents

Soon after committing the manager upgrade, do the following:

1. Login to the eG manager host.

2. Go to the URL: http://www.eginnovations.com/eval716/Upgrade_to_716/Agent/

3. The agent upgrade patch for each operating system will be available therein. The table below lists the patch files and the operating systems they apply to:

OS	Agent Upgrade Pack
AIX	ega_aix_716_1I.zip
HPUX	ega_hpx_716_1I.zip
Linux	ega_lin_716_1I.zip
Solaris	ega_sol_716_1I.zip
Win2008	ega_win2008_716_1I.zip
Win2012	ega_win2012_716_1I.zip
Win2016	ega_win2016_716_1I.zip
Win2019	ega_win2019_716_1I.zip

4. Download each of the zip files present here to the corresponding OS-specific folders that exist within the **<EG_MANAGER_INSTALL_DIR>\manager\config\tests** directory.

When the eG agents check the manager for the existence of upgrade patches, they will automatically download the patch files and install them.

If you want to enable this capability for specific agents only, first login to the eG manager's administrative interface as user *admin* with password admin. Then, select the **Settings** option from the **Upgrade** menu in the **Agents** tile.

Figure 3 to Figure 7 depict how the auto upgrade capability is enabled for an agent. Using these pages administrators can perform the following tasks:

- Enable the auto upgrade capability for specific agents or all of them, as required
- Specify the frequency with which the agents will check the manager for upgrades
- Select the agent that needs to be upgraded immediately

This page (see Figure 3) appears when the **Settings** option of the **Upgrade** menu in the **Agents** tile is clicked.

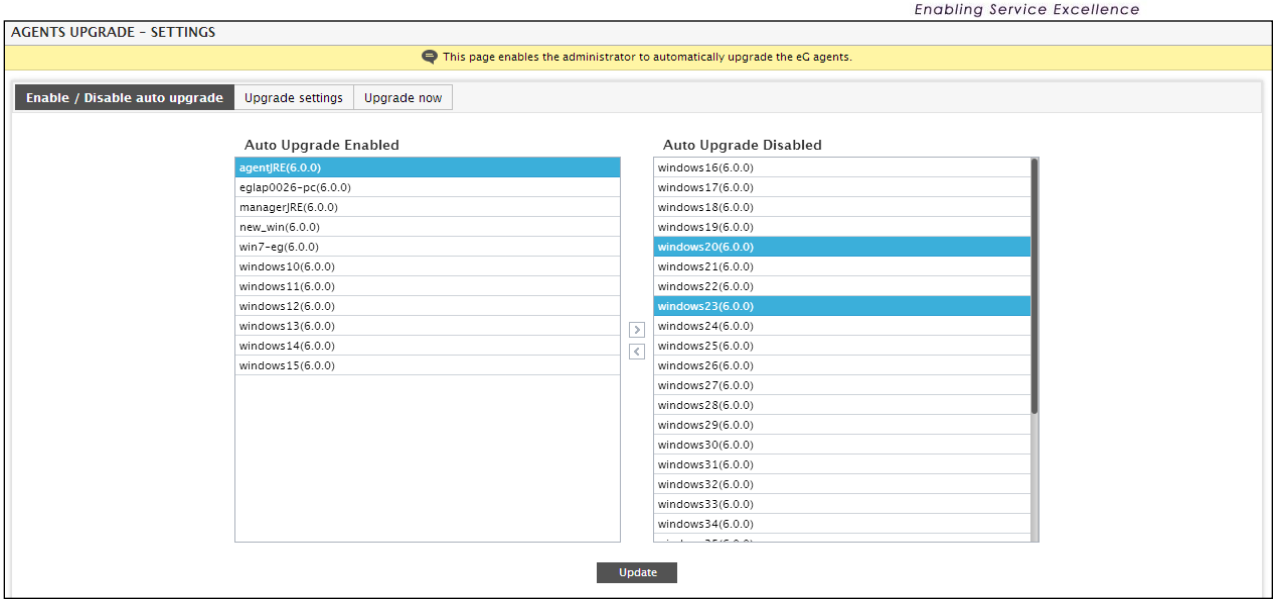

Figure 3: Selecting the agent for which the auto upgrading capability is to be enabled

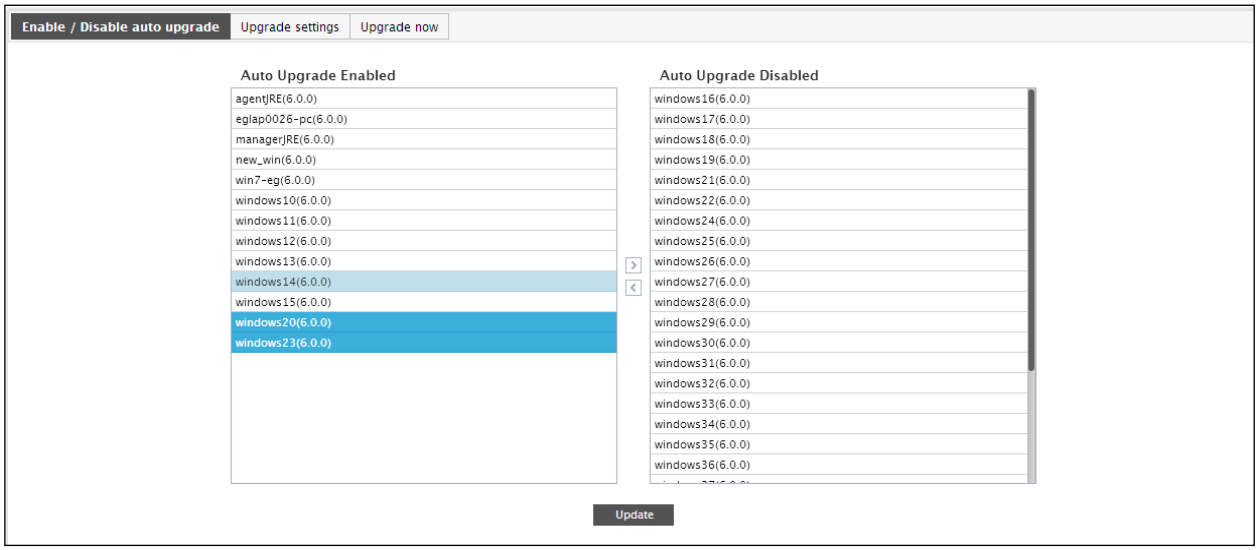

Figure 4: Enabling the auto upgrading capability for an agent

To enable the auto upgrade capability for specific agents, do the following:

1. From the **Auto Upgrade Disabled** list in the **Enable/Disable auto upgrade** tab page (see Figure 3), select the agent(s) for which the auto upgrade capability is to be enabled.
2. Then, click the **<** button to transfer the selection to the **Auto Upgrade Enabled** list (see Figure 4).
3. To disable this capability later, select the agent(s) from the **Auto Upgrade Enabled** list, click the **>** button, and transfer the selection back to the **Auto Upgrade Disabled** list.

To specify the frequency with which the agent should check the manager for upgrades, do the following:

1. Click on the **Upgrade settings** tab page as depicted by Figure 5.

2. Then, from the **How often agents should check for auto upgrade package** list box (see Figure 5), select the time interval at which the agents (for which auto upgrade has been enabled) need to check the manager for upgrades.

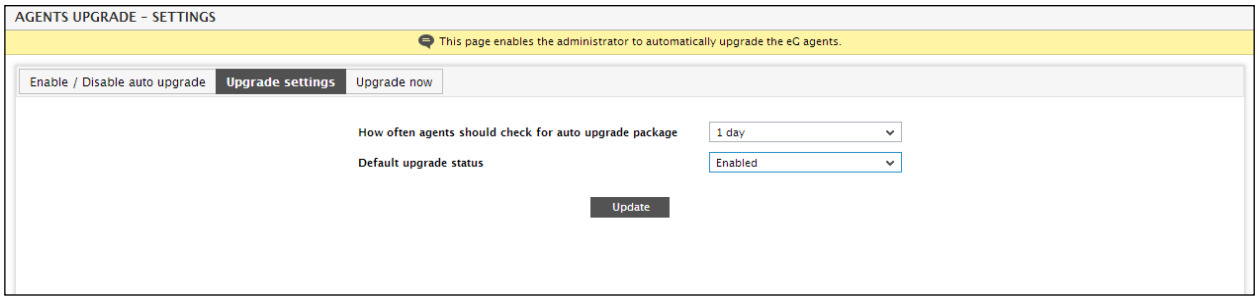

Figure 5: Specifying the upgrade interval

3. By selecting the **Enabled** or **Disabled** option from the **Default upgrade status** list box, administrators can indicate whether auto upgrade is, by default, enabled/disabled for new agents to the eG Enterprise system (see Figure 5).
4. Finally, click the **Update** button (see Figure 5).

To upgrade agents within the next 15 minutes, do the following:

1. Click on the **Upgrade now** tab page as shown by Figure 6.
2. All the agents for which auto-upgrade has been enabled will then appear in the **Auto Upgradeable Agents** list in Figure 6.
3. From this list, select the agents which need to be auto-upgraded within the next 15 minutes, and click the **<** button (see Figure 6).

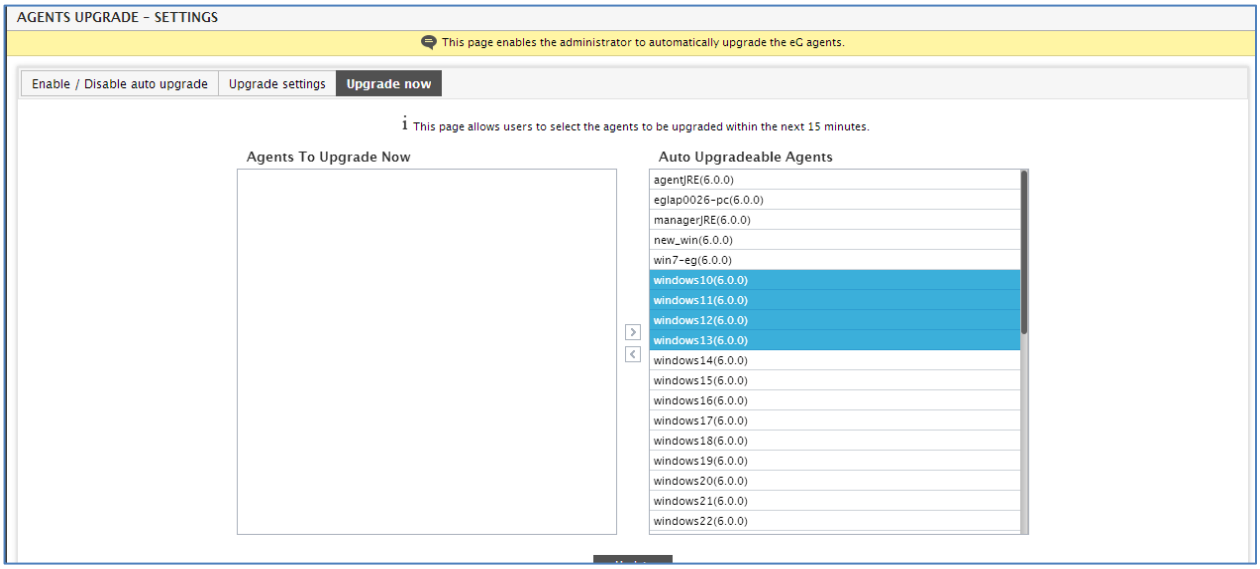

Figure 6: Selecting the agents to be upgraded now

4. The selected agent will then be transferred to the **Agents To Upgrade Now** list (see Figure 7).

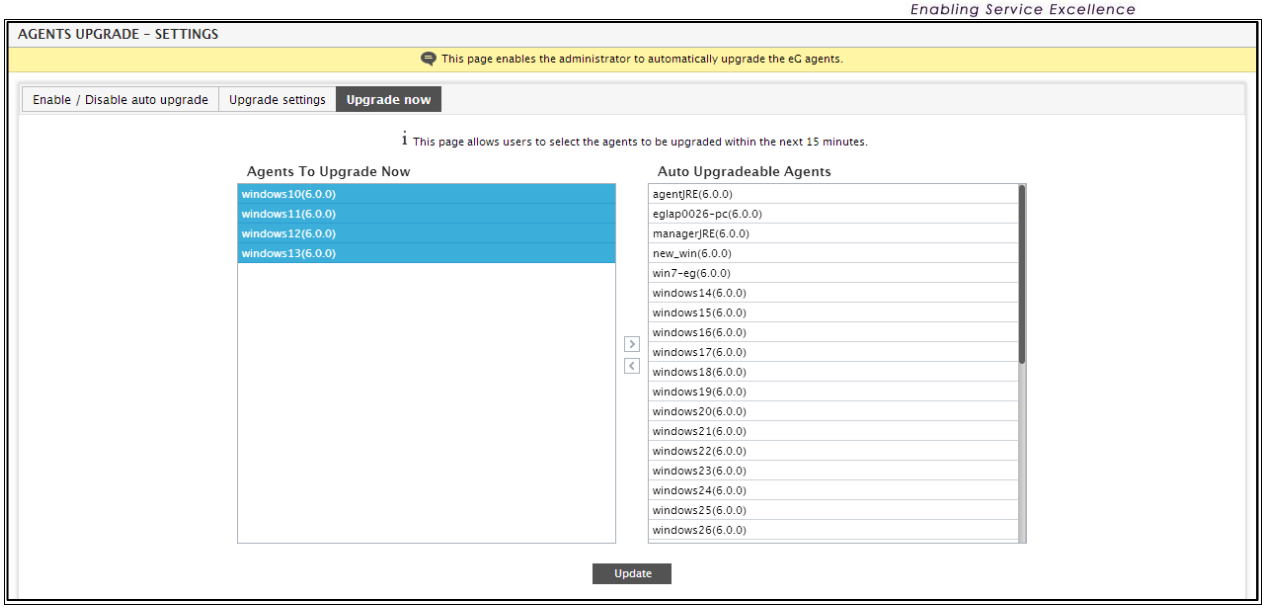

Figure 7: The agents for which Upgrade Now has been enabled

5. To disable the **Upgrade Now** capability later, you can select the agents from the **Agents To Upgrade Now** list and click the **>** button.

- The **Upgrade now** capability can be enabled for a maximum of 10 agents, simultaneously, to minimize the impact on the eG manager.
- Only the agents that are currently running can receive the upgrade package from the manager.
- After agent upgrade completes, ensure that the **Auto Upgrade** capability is disabled for all the eG agents. This needs to be done to ensure that the eG agents do not periodically check the manager for upgrade patches, thereby consuming considerable resources.

1.7 Determining the Status of the eG Agents

The eG manager is able to determine and report the operational status of all the eG agents in the target environment. The sections that follow will discuss how to view this status information.

If you select the **Agent Status** option from the **Agents** tile, you will be lead to Figure 8, which will provide status information for agents based on the agent types.

To obtain the status of the eG agents of a particular type, the administrator has to first select the type of agent (whether basic, premium, external, or remote) from the **Agent type** list box.

The IP address / host names of the agents of the selected type will then be displayed. A symbol against each agent indicates that the agent has been deployed. A symbol appears against each agent implying that the agent has not been deployed. While the symbol indicates that the agent is running currently, the **Status** column indicates that the eG agent is not running.

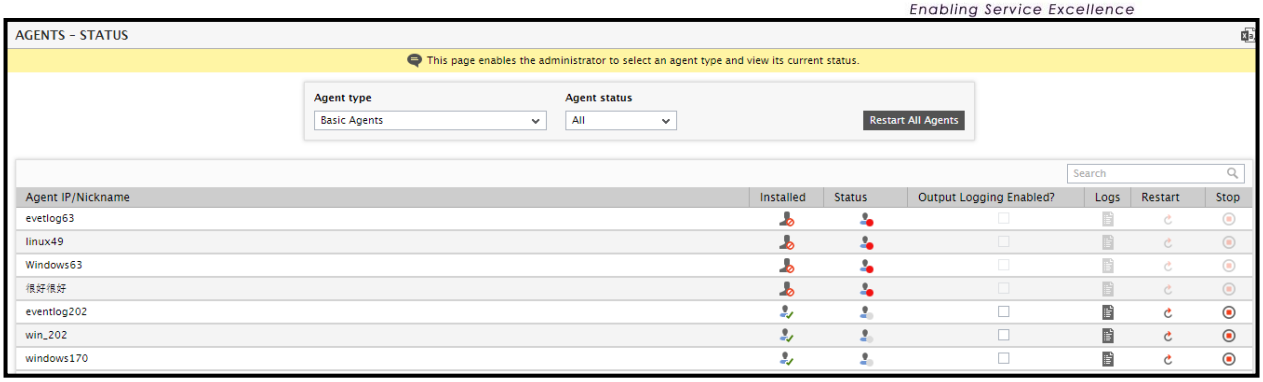

Figure 8: Status information for agents

Also, using the **Search** text box, you can find out the status of a particular agent. To know the status of a particular agent, just specify the IP address / host name of that agent in the **Search** text box, and then click the 'magnifying glass' icon next to it. The status of the specified agent will then appear. If the exact IP address / host name of the agent is not known, then a string or a character that features in the IP / host name of the agent can be provided in this text box (see Figure 9). Multiple search conditions can be specified as a comma-separated list.

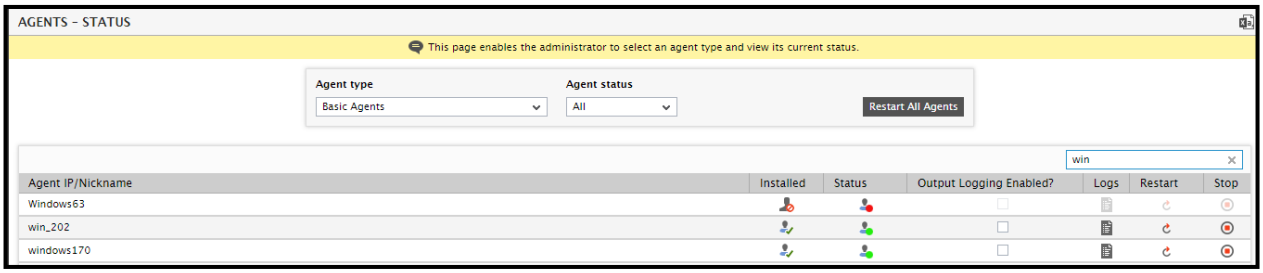

Figure 9: Searching for agent status

To know the agents that are currently in a particular state, simply select an **Agent status** (which can be Running/Not Running/All). The default selection here is *All*.

You can even remotely initiate an agent-restart, by simply clicking on the **Restart** icon that corresponds to an agent. To restart all agents, click on the **Restart All Agents** button in Figure 9. Doing so immediately sends out restart requests to all the agents that are currently running and reporting metrics to the eG manager. If an agent is not running currently, then the eG Enterprise system sends out the restart request soon after that agent starts running.

If an administrator needs to be alerted upon login, about agents that are not reporting measures to the manager, then do the following:

1. Open the **eg_services.ini** file in the **<EG_HOME_DIR>/manager/config** directory.
2. In the **[MISC_ARGS]** section, set the **AlertAgentsNotRunning** flag to **Yes** (default is **No**).
3. Once this is done, the next time the administrator logs into the admin interface, a message listing the agents that are not running will be displayed.

An eG agent can be configured to run specific tests once a day or once every few hours. You can configure the eG manager to exclude tests that are infrequently run when it determines whether an agent is running or not. To do this, modify the value of **NotReportingCutoffFactor** in the **[MISC_ARGS]** section of the **eg_services.ini** file. By default, tests running with measure period of greater than 20 minutes are not considered by the eG manager for determining if an agent is running or not.

Also, by default, output logging is disabled for th, e eG agents configured in an environment. The eG Enterprise system allows you to enable output and error logging for a specific agent from the eG administrative interface itself, thereby saving you the trouble of running the **debugon.bat** file to achieve the same. When output logging is enabled, an **agentout.log** file is created in the **<EG_INSTALL_DIR>\agent\logs** directory to which details of the tests run and measures reported by that agent to the manager are recorded. To enable output logging for an agent, set the **Output Logging Enabled?** flag for that agent to **ON**. When you attempt to enable output logging, a message box shown by Figure 10 will appear, requesting your confirmation to enable output logging for that agent.

Figure 10: A message box requesting your confirmation to enable output logging

Click on the **OK** button in the message box to enable output logging or the **Cancel** button to disable it. You can then click on the **LOGS** icon that corresponds to an agent in to view both error logs and output logs related to that agent. Clicking on the **LOGS** icon corresponding to that agent will lead you to Figure 11, where the contents of the **error_log** of the corresponding agent can be viewed by default.

If you have turned on output logging for an eG agent using the **AGENTS – STATUS** page, then you should not turn off output logging for that eG agent by manually running the **debugon.bat** file. Likewise, if you have turned on output logging for an eG agent by running the **debugon.bat** file, then you should not turn it off using the **AGENTS – STATUS** page.

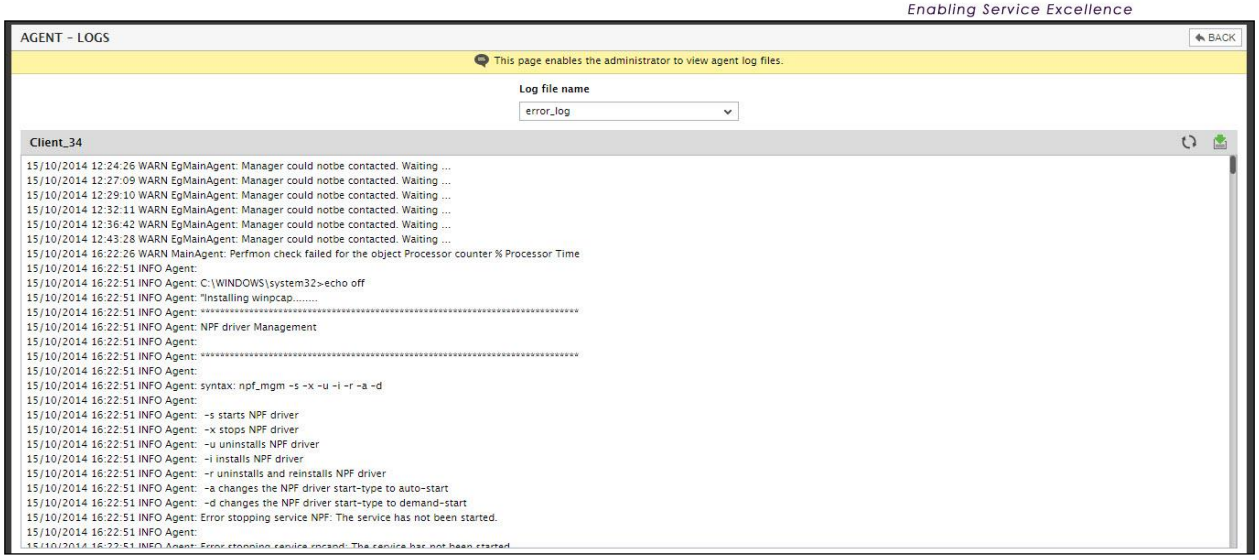

Figure 11: Viewing the error_log of an agent

You can pick any log file from the **Log file name** list to view its contents (see Figure 12).

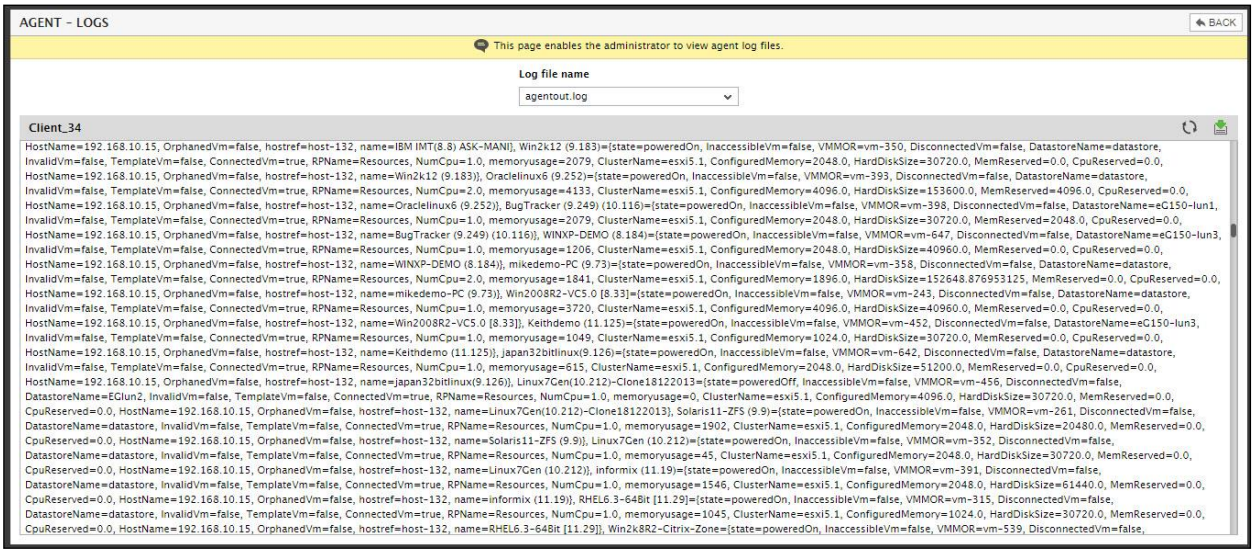

Figure 12: Viewing a different log file

At any given point in time, you can click the **Refresh** button at the right, top corner of the area where the log file contents are displayed to refresh the contents of the log file. This way, you can make sure that the log file you are viewing is up to date.

You can also click on the **Download** button next to the **Refresh** button to download the chosen log file.

Clicking on an agent displayed in Figure 9 will lead the users to an **Agent Information** page (see Figure 13), which provides some agent-related information. This includes:

- The **Agent IP/Nickname**
- An indicator as to whether the auto upgrade capability has been **Enabled** for that agent, or **Disabled**
- The ID of the last upgraded package (if any) (if no upgrading has occurred, then this will be 'None")

- The date and time at which the agent was last upgraded
- The **HostName** of the agent
- The operating system on which the agent is executing
- The current version of the agent
- The date and time at which the agent last updated the manager with configuration changes
- A **Reset** button
- A **Restart Agent** button

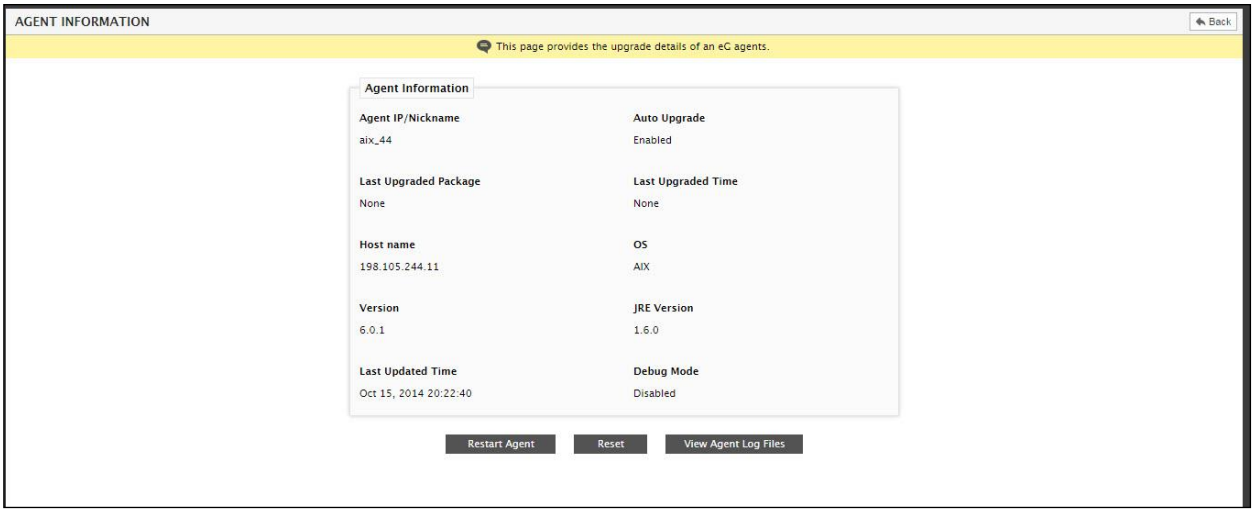

Figure 13: A page displaying the upgrade information of an agent

Once an agent is upgraded, information regarding the upgraded package will be registered with the manager. Figure 13 provides that information. Now, the next time the agent requests for an upgrade, the manager checks whether any newer upgrades are available. If any such upgrade is found, it sends the same to the agent. If for some reason the information pertaining to the last upgrade has to be cleared from the agent's upgrade history, then click on the **Reset** button. This ensures that the details of the last upgrade are lost, and helps the agent download the last upgrade once again from the manager. To restart the agent, click on the **Restart Agent** button in Figure 13. To view agent logs, click on the **View Agent Log Files** button in Figure 13.

Moreover, if the **Agent type** chosen from Figure 14 is **External Agents** or **Remote Agents**, then you will also be able to view the count of hosts assigned (if any) to each external/remote agent. For this, you will have to click on the '+' button that pre-fixes an agent (see Figure 14). Beneath the assigned host count, you can see that Figure 14 also reveals which specific hosts have been assigned to that agent. From a single glance therefore, you can precisely identify the external/remote agents that are been actively utilized, and those that are not.

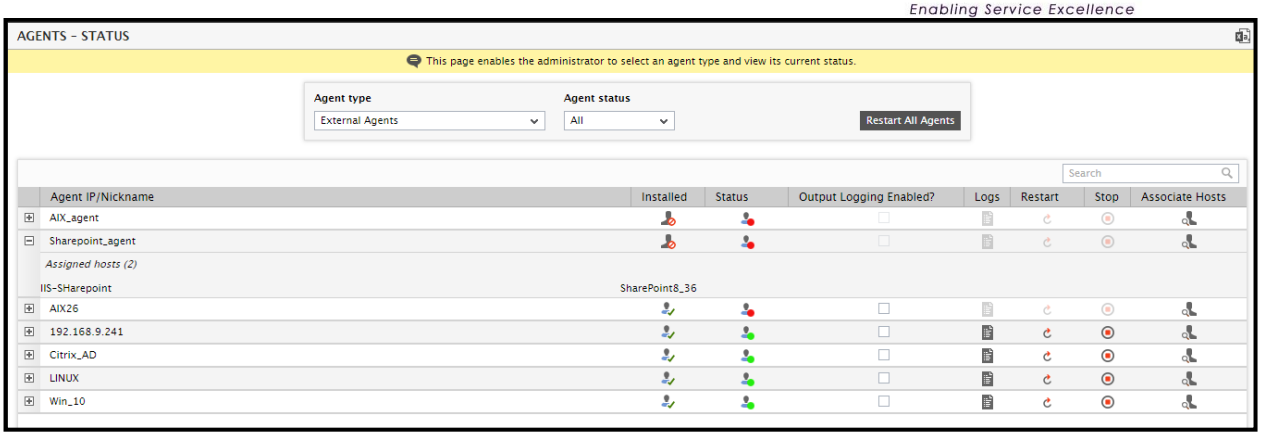

Figure 14: Viewing the status of external agents

To add more hosts to an external/remote agent, click on the button corresponding to an agent in Figure 14. This will open Figure 15, using which you can assign more hosts to the agent or disassociate existing hosts from it.

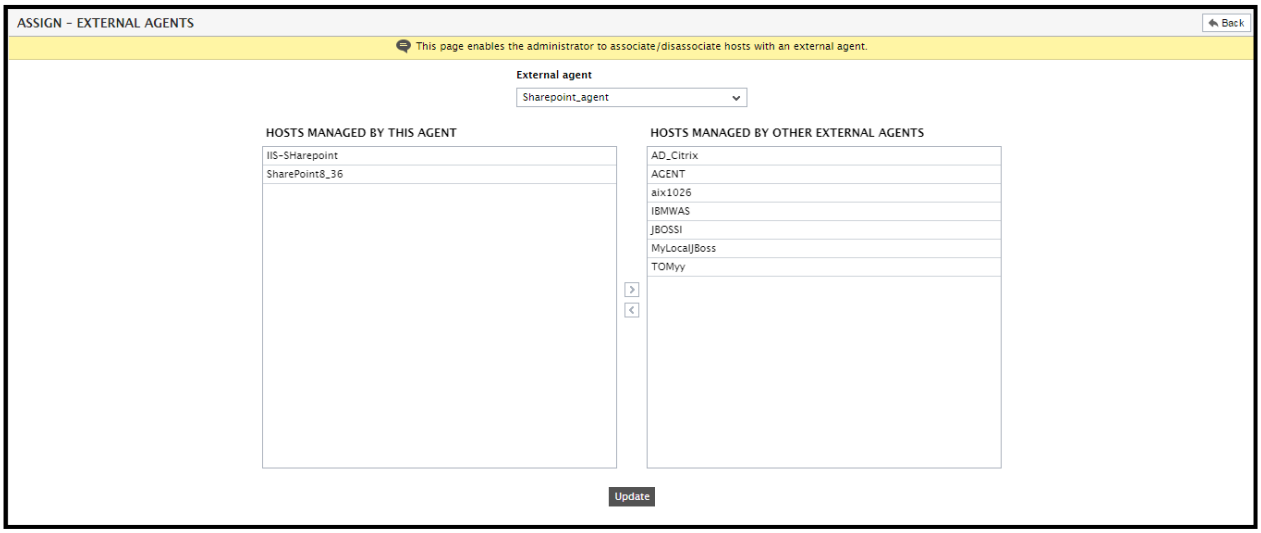

Figure 15: Associating/Disassociating hosts from an external agent

1.8 Viewing the Upgrade Status

Clicking on the **Status** option in the **Upgrade** menu of the **Agents** tile will open Figure 16 that reveals the following information indicating the upgrade status of every agent reporting to a manager:

- The IP/hostname of the agent
- The unique package id of the last upgraded package of the agent
- The time of upgrade
- Whether upgrade is currently disabled or enabled for the agent
- The operating system on which the agent executes
- The current version of the agent
- The version of JRE used by the agent

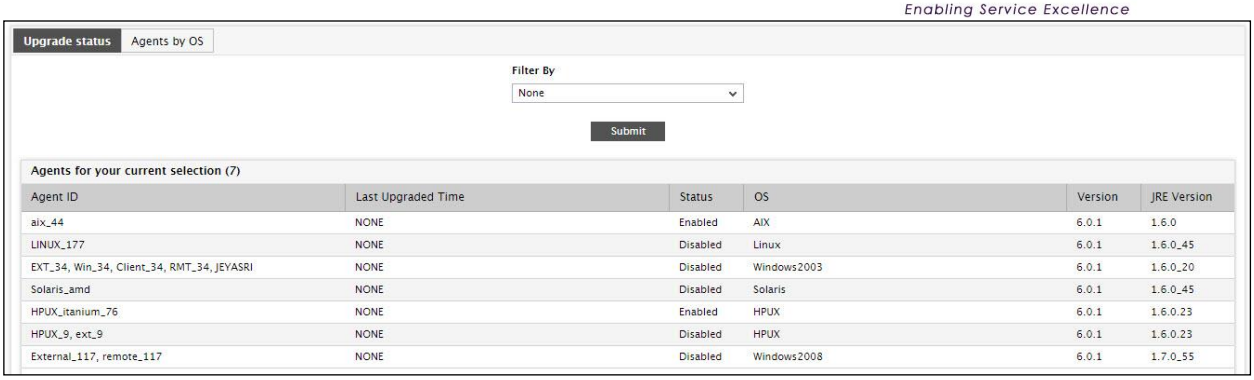

Figure 16: Viewing the upgrade status of all agents

To view the upgrade status selectively, choose a **Filter By** option. By default, **None** (see Figure 16) will be selected in this list box. Besides this, the list box offers the following filtering options:

- To view the upgrade information pertaining to agents of a particular version (see Figure 17), select the **Version** option from the Filter By list box. From the **Filter Criteria** list box that appears next, select a particular version number, and finally, click the **Submit** button.

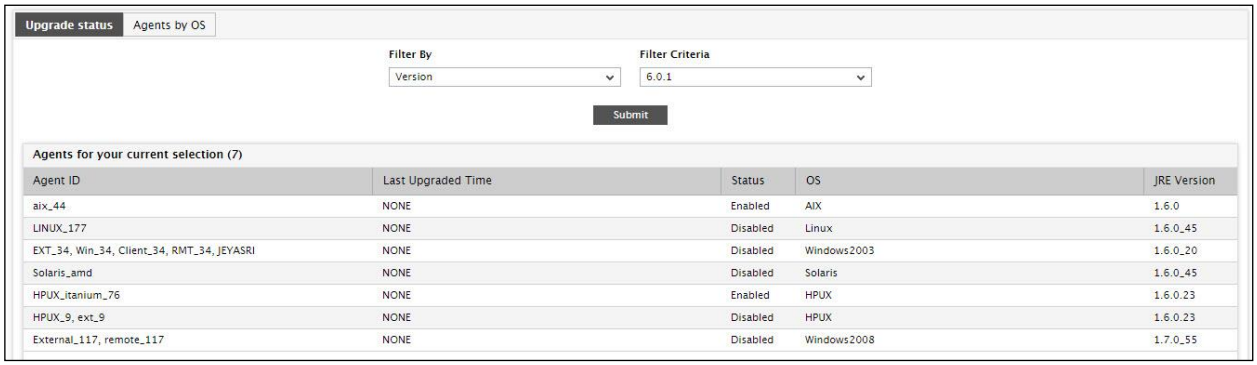

Figure 17: Viewing the upgrade status of agents of a specific version

- To view the upgrade information of agents executing on a specific operating system (see Figure 18), select the **Operating system** option from the Filter By list box. From the **Filter Criteria** list box that appears next, select a particular operating system, and finally, click the **Submit** button.

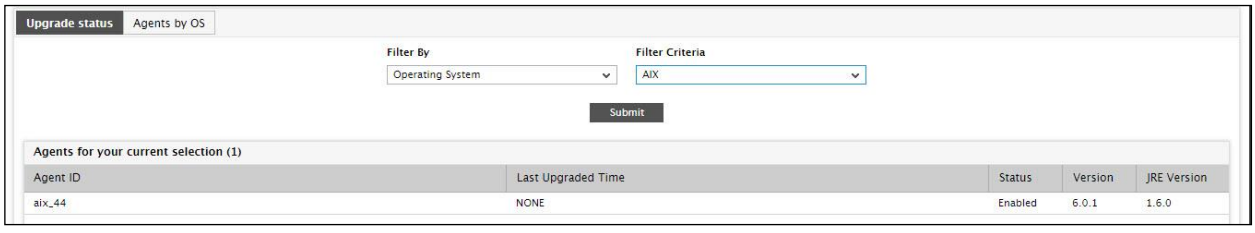

Figure 18: Viewing the upgrade status of agents executing on a particular operating system

- To view the agent upgrade status based on the upgrade setting (i.e. whether enabled/disabled) (see Figure 19), select the **Upgrade setting** option from the **Filter By** list box. From the **Filter Criteria** list box that appears next, select either **Enabled** or **Disabled**, and finally, click the **Submit** button.

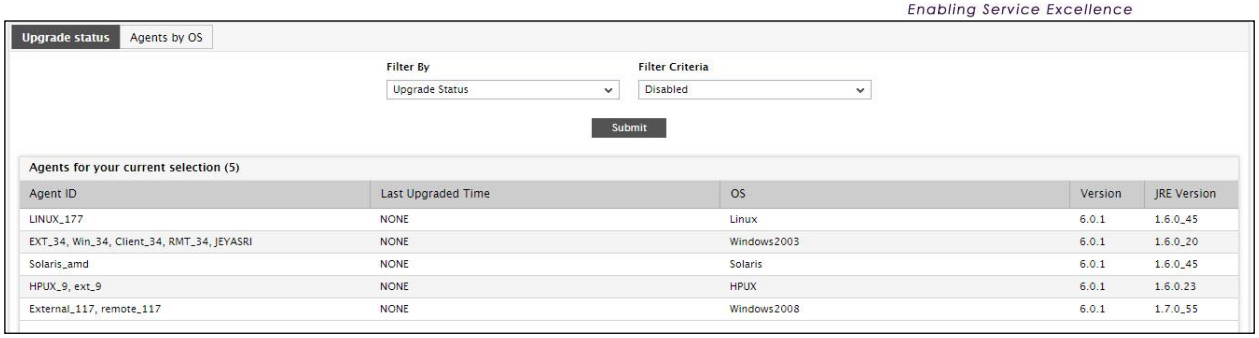

Figure 19: Viewing the upgrade status of agents with a specific upgrade setting

- To view the agent upgrade status based on the JRE version, select the **JRE version** option from the **Filter By** list box (see Figure 20). From the **Filter Criteria** list box that appears next, select the JRE version to search for, and click the **Submit** button.

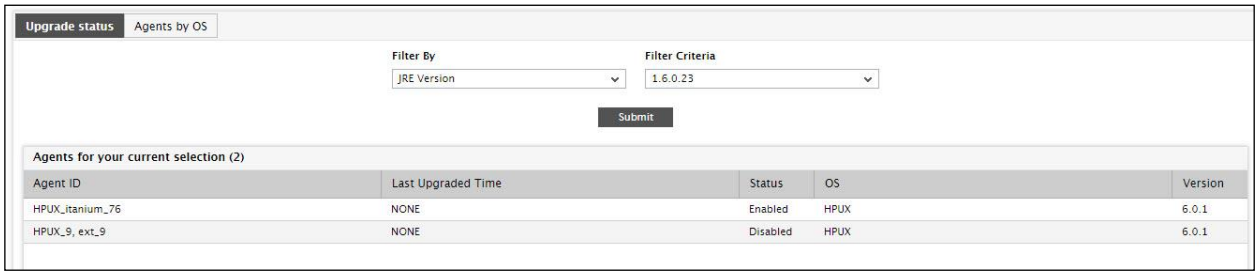

Figure 20: Viewing the upgrade status of agents with a specific JRE version

If you click on the **Agent by OS** tab page in Figure 20 you will also view a brief summary of the number of agents executing on every OS (see Figure 21).

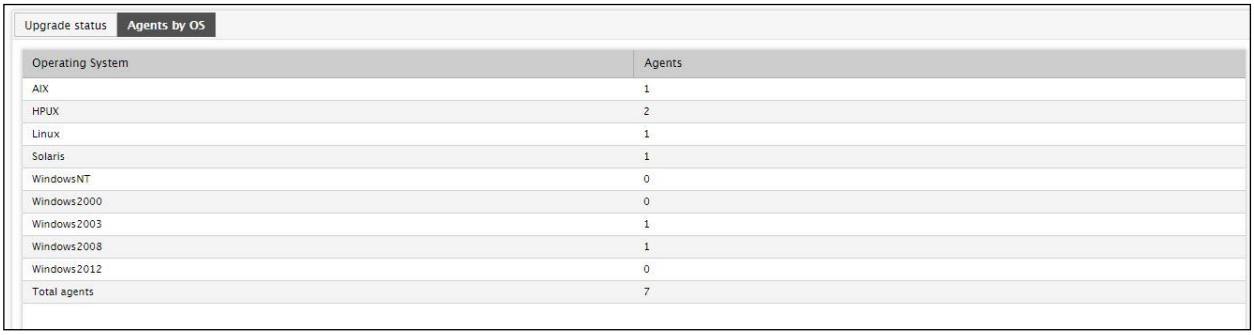

Figure 21: Agent summary by OS

1.9 Advanced Search Options

In environments comprising of a large number of components, it is often very difficult for administrators to remember which agent manages each of the monitored components, and whether upgrade/upgrade now has been enabled for those agents or not. eG Enterprise therefore, provides a single interface using which administrators can search for and view details of agents based on a given component name, component type, and/or IP address(es). In addition, this interface permits the display of agents based on upgrade status (i.e., whether auto-upgrade/Upgrade now has been enabled/not), and allows administrators to instantly enable/disable upgrade for one/more of the listed agents.

To access this user interface, select the **Advanced Search** menu option from the **Upgrade** menu in the **Agents** tile.

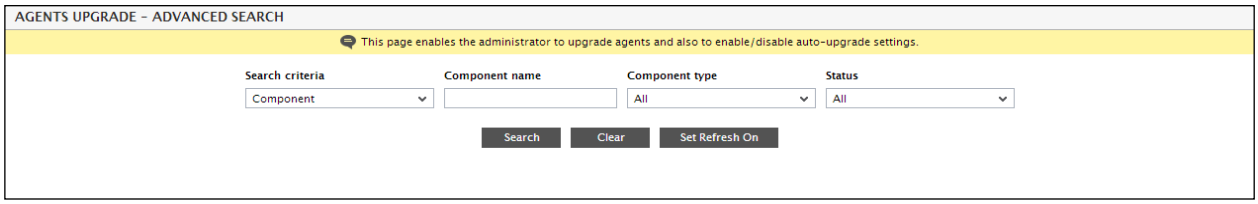

Figure 22: The ADVANCED SEARCH page displaying the filter criteria

Figure 22 appears next.

1. First, pick a **Search criteria**.
2. If you want to view the details of agents monitoring specific components, select **Component** from **Search criteria** and specify a search string in the **Component name** text box.
3. Then, click the **Search** button Figure 23. The result set that appears (see Figure 23) displays the details of agents that are monitoring those components which have names that embed the specified string.

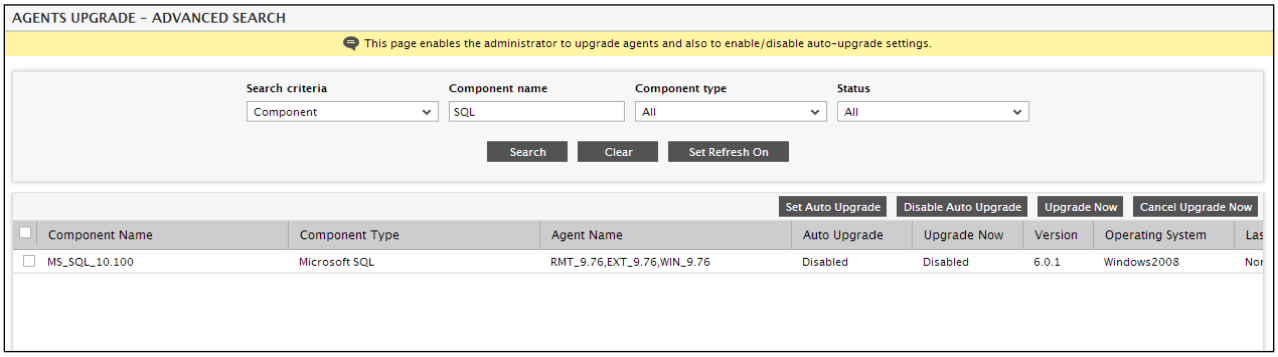

Figure 23: Searching based on Component name

4. In the same way, to view the details of all the agents that are monitoring components of a particular type, specify the **Component type**, and click the **Search** button to retrieve the results (see Figure 24).

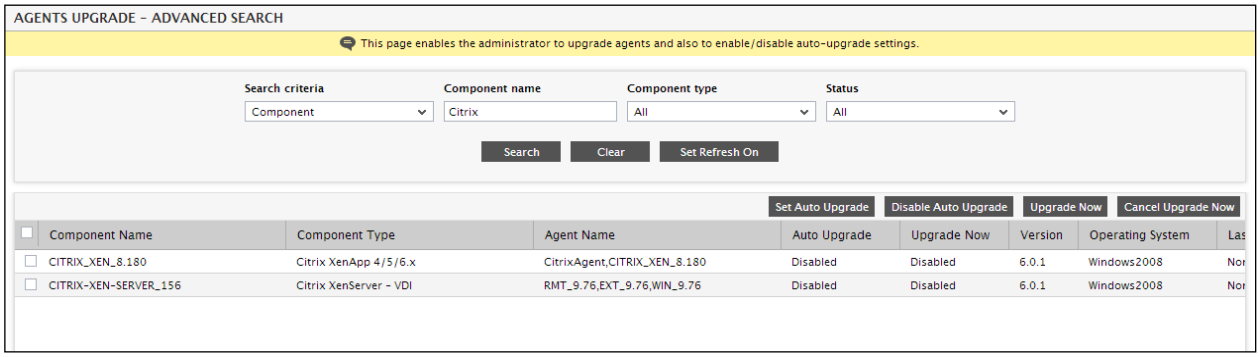

Figure 24: Searching based on Component type

5. Similarly, you can also view the details of agents of a particular status, by selecting the desired option from the **Status** list. You can thus choose to view information pertaining to agents for which auto upgrade is disabled/enabled, or upgrade now is disabled/enabled (see Figure 25).

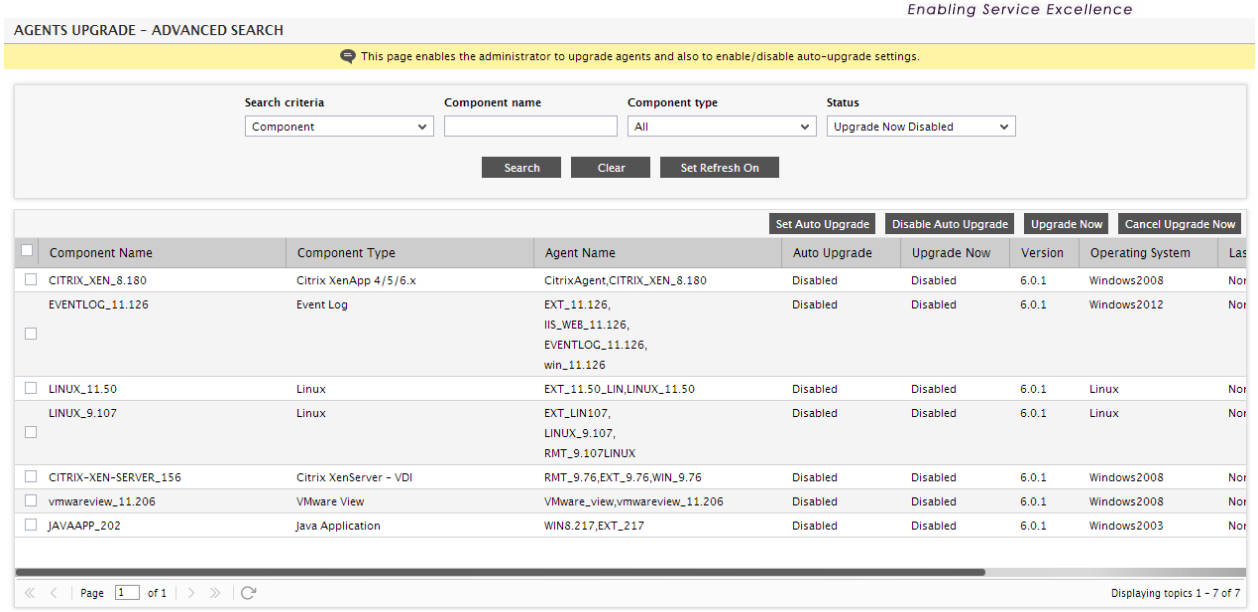

Figure 25: Searching based on Status

6. Alternatively, a combination of search criteria can also be specified as indicated by Figure 26.

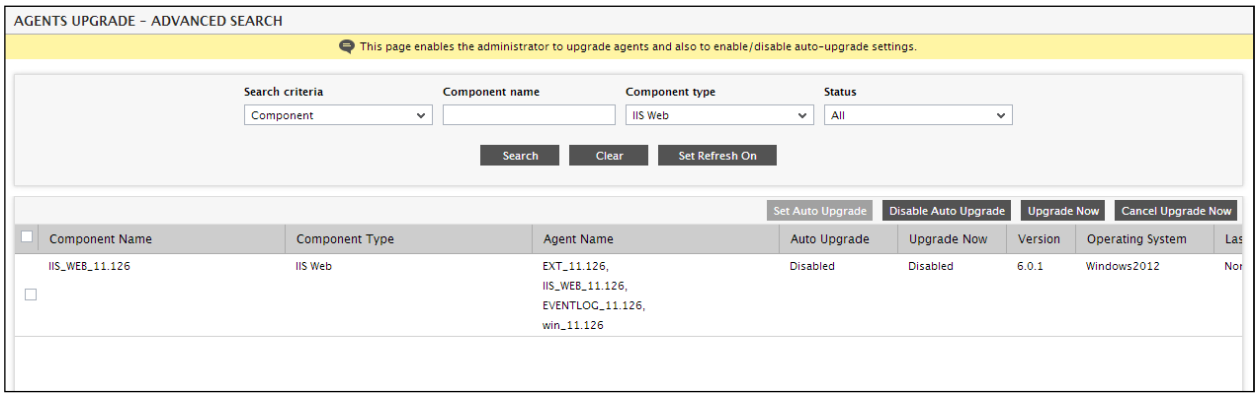

Figure 26: Searching based on Component Type and Status

7. Also, instead of filtering your agent-view on the basis of a specific component name, type, or agent status, you can simply provide an IP address or range of IP addresses for which agent information is required. Clicking on the **Search** button then, will display the details of all agents with host/nick names that are associated with the given IP address(es) (see Figure 27 and Figure 28).

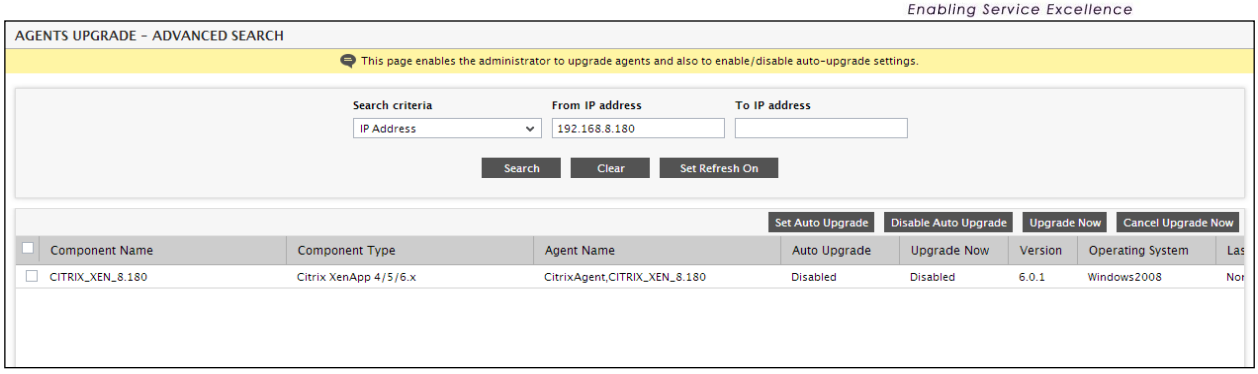

Figure 27: Searching based on a single IP address

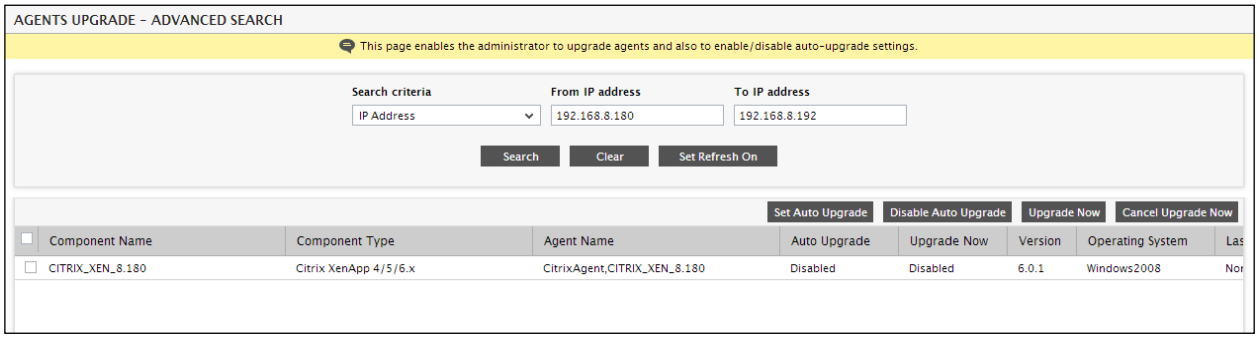

Figure 28: Searching based on a range of IP addresses

8. However, regardless of the search criteria specified, the following information is typically retrieved and displayed in the **ADVANCED SEARCH** page:
   - **Component Name**
   - **Component Type**
   - **Agent Name** - All the nick names that map to the IP address of the displayed **Component Name**
   - Whether **Auto Upgrade** and **Upgrade Now** have been enabled for the agent or not
   - The current **Version** of the eG agent
   - The **Operating System** on which the eG agent functions
   - The ID of the **Last Upgraded Package**
   - **Last Upgraded Time** - The time at which the agent was last upgraded

9. By default, the agent information displayed is sorted in the descending order of the contents of the **Component type** column. This is indicated by a down-arrow mark adjacent to the column-heading **Component type** (see Figure 29). To sort the agent details in the ascending order of the component types, click on the **Component type** column heading. Also, you can, if you so desire, sort the agent details on any other column, by clicking on the corresponding column heading. The up-arrow mark will then move to that column (see Figure 30).

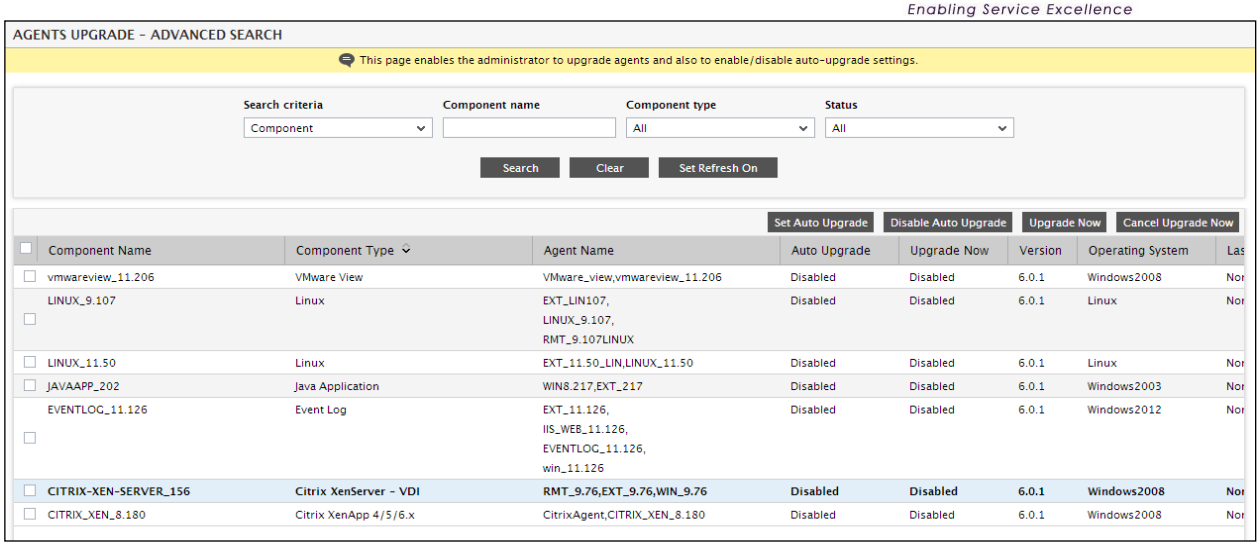

Figure 29: Sorting in the descending order of component types

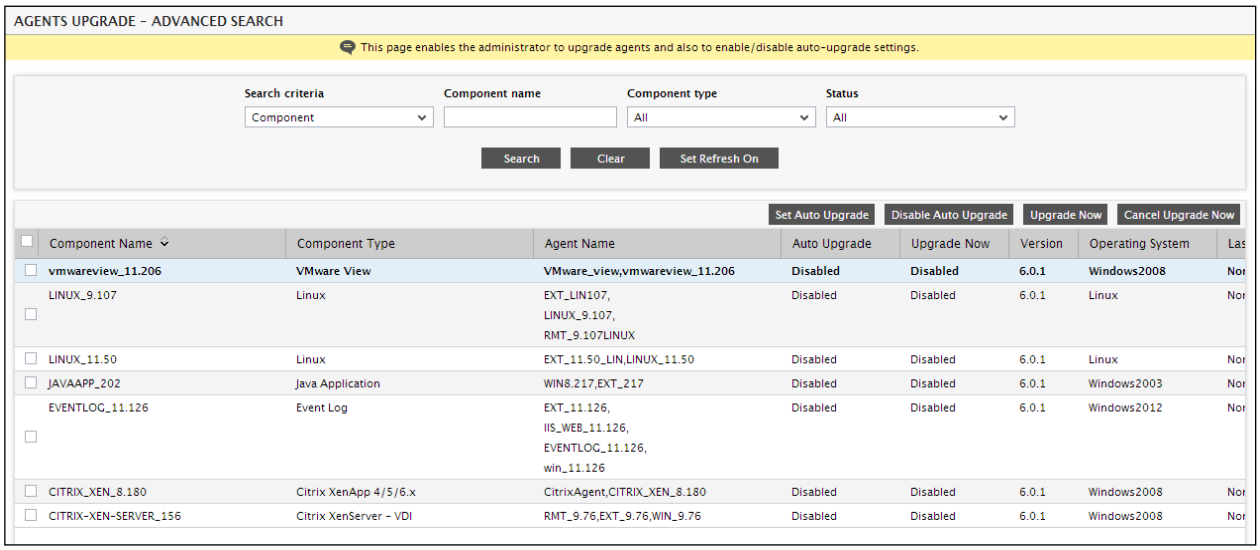

Figure 30: Changing the sort by column

10. At any point in time, you can clear the displayed information by clicking on the **Clear** button in Figure 30.
11. As stated earlier, the **ADVANCED SEARCH** page not only provides agent information, but also allows you to enable/disable auto-upgrade or the 'upgrade now' capabilities of the agents. To enable the auto-upgrade capability of multiple eG agents simultaneously, click on the check boxes that prefix every row of information (in the **ADVANCED SEARCH** page) related to these agents as depicted by Figure 31, and click the **Set Auto Upgrade** button.

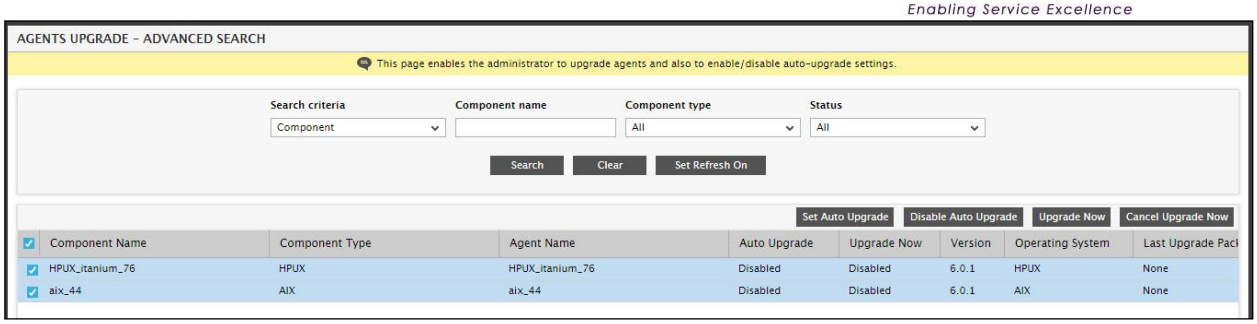

Figure 31: Selecting the agents for which auto-upgrade is to be enabled

12. If the auto-upgrade capability was enabled successfully for the chosen agents, then the **Auto Upgrade** column of Figure 32 that appears next, will indicate the same.

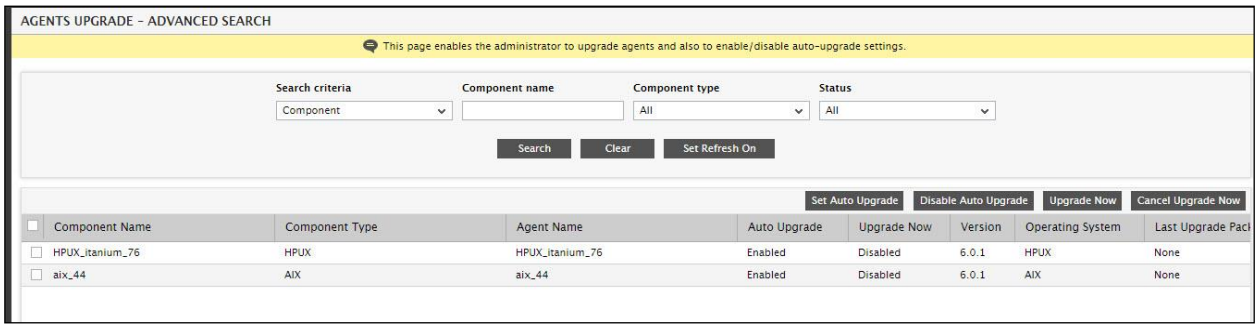

Figure 32: Enabling the Auto Upgrade capability

13. Similarly, to disable the auto-upgrade capability, select the check boxes prefixing the corresponding agent details, and click the **Disable Auto Upgrade** button. The **Auto Upgrade** column will then indicate whether the auto-upgrade capability of those agents was successfully disabled or not.

14. Likewise, you can enable/disable the 'Upgrade now' capability of agents by first selecting the check boxes corresponding to the agent information, and clicking the **Upgrade Now** or **Cancel Upgrade Now** buttons (as the case may be). Figure 33 and Figure 34 indicate the procedure for upgrading a few chosen agents, now (i.e., within the next 15 minutes).

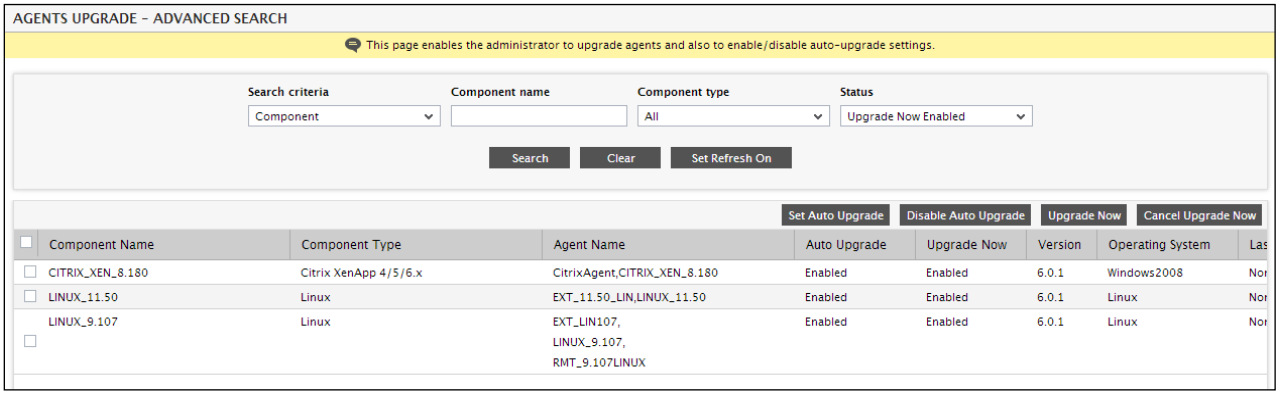

Figure 33: Selecting the agents to be upgraded now

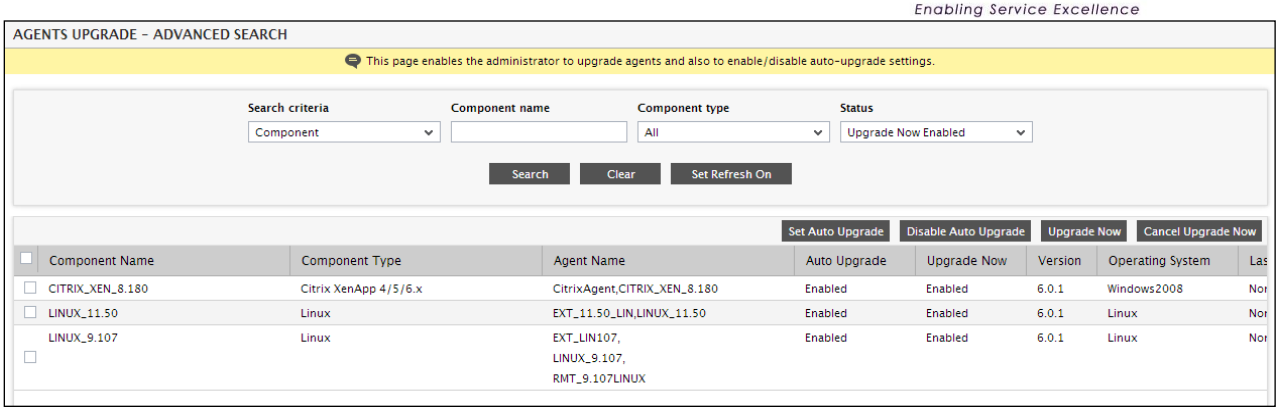

Figure 34: Upgrading the agents within the next 15 minutes

15. By default, the **ADVANCED SEARCH** page does not refresh automatically. Clicking on the **Set Refresh On** button in Figure 35 allows the page to automatically refresh according to a pre-configured refresh period, and also enables administrators to track how long it would be before the next reload occurs (see Figure 35).

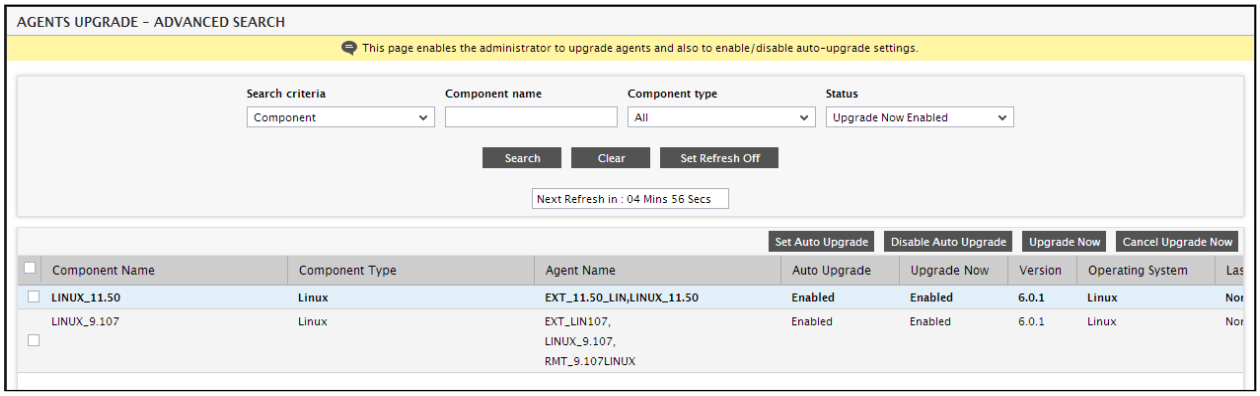

Figure 35: Setting refresh on and tracking time to refresh

Once the **Set Refresh On** button is clicked, the **ADVANCED SEARCH** page refreshes every 5 minutes (i.e., 300 seconds), by default. You can however, modify the refresh period by editing the **eg_ui.ini** file in the **<EG_INSTALL_DIR>\manager\config** directory. The **AutoUpgrade** parameter in the **[REFRESH]** section of this file is set to 300 (seconds) by default. If need be, this default setting can be overridden. To disable the automatic refresh capability of this page, click on the **Set Refresh Off** button in Figure 35.

1.10 Troubleshooting the Agent Upgrade

If the agent auto-upgrade fails, then do the following:

- Check whether the eGAgentmon service is running. The auto-upgrade is performed only by this service. If the agentmon service has been disabled/stopped, the agent auto-upgrade will not happen. Therefore, start this service to initiate the auto-upgrade.
- Take care to commit the manager upgrade (i.e., run the command **eGupgrade.sh –c** in Unix environments, and **eGupgrade.bat** for Windows environments). If not, the agent upgrade will not start.

1.11 Upgrading the eG VM Agent

To upgrade the eG VM Agent, follow the steps below:

1. Login to the eG manager host and create a folder named **VmAgent** in the **<EG_INSTALL_DIR>\manager\config\tests** directory (on Windows; on Unix, this will be **opt/egurkha/manager/config/tests**).
2. Connect to the URL: http://www.eginnovations.com/eval716/Upgrade_to_716/VMAgent/ - and download the **egvm_win_716_1l.zip** file therein to any location on the manager host.
3. Next, copy the **egvm_win_716_1l.zip** file to the **VmAgent** folder you created in step 1.
4. The next time the eG VM Agent contacts the eG manager, it will check the contents of the **VmAgent** folder, and if any upgrade packs are found in the folder, it will automatically download the pack and upgrade.

If the eG VM Agent upgrade fails, check the **<EGVMAGENT_INSTALL_DIR>\logs\VmAutoUpgradelog.log** file for errors and probable reasons for those errors.

1.11.1 Troubleshooting the eG VM Agent Upgrade

If the eG VM Agent upgrade fails, check the **<EGVMAGENT_INSTALL_DIR>\logs\VmAutoUpgradelog.log** file for errors and probable reasons for those errors.

1.12 How to Upgrade a Redundant Setup?

To upgrade a redundant setup, follow the steps given below:

1. If required, run the backup routine discussed in Section 1.1 separately for each of the managers and their respective databases.
2. With the secondary managers running, first upgrade the primary manager. The upgrade procedure is the same as that which is discussed in Section 1.2.
3. Once upgrading is complete, stop the secondary managers, and then start the primary manager.
4. Finally, upgrade the secondary managers and then start them.
5. Once the managers are started, make sure that the agent upgrade packs are copied to both the managers in the cluster as described in Section 1.6.

Step 5 needs to be followed whether/not you have agents reporting to the secondary manager.

6. The eG agents download the upgrade package from the eG manager to which they report. The agent upgrade procedure is the same as that which is discussed in Section 1.6.
7. The primary manager and the secondary managers need to be up and running for the agent upgrade to function without a glitch.

Both the managers in a redundant setup should be of the same version.

1.13 Database Optimizations

Subsequent to upgrading the eG manager and agents, you can, if you so desire, proceed to enhance the performance of the eG database by indexing the database. To do so, follow the steps given below:

1. On a Windows manager, execute the **ExecuteIndexes.bat** command from the **<EG_INSTALL_DIR>\bin** directory. The syntax of this command is as follows:

   ExecuteIndexes.bat <Online/Offline>

2. On a Unix manager, execute the **ExecuteIndexes.sh** command from the **/opt/egurkha/bin** directory. The syntax of this command is as follows:

   ExecuteIndexes.sh <Online/Offline>

   If you want to create the indexes when the eG manager is operational, then your command on a Windows manager will be: **ExecuteIndexes.bat online**, and your command on Unix will be: **ExecuteIndexes.sh online**.

3. In the **online** mode, only the secondary indexes will be recreated, as the primary indexes will be in use.

4. If you want to create the indexes when the eG manager is not running, then, first stop the eG manager, then issue the **ExecuteIndexes.bat offline** command on a Windows manager or the **ExecuteIndexes.sh offline** on a Unix manager.

5. In the **offline** mode, both the secondary and primary indexes in the eG database will be recreated.

If you choose to recreate indexes **offline**, but do not stop the eG manager prior to this, then only the secondary indexes will be recreated by the **ExecuteIndexes** command.

6. Upon the successful creation of indexes, the following message will appear:

```
Database Indexes has been Successfully Created.
```

1.14 Upgrade FAQ

Given below are a list of frequently asked questions pertaining to the agent and manager upgrade procedures, and their corresponding answers. Refer to this list, whenever in doubt.

a. I have added custom tests and components to my eG Enterprise deployment. Will I need to apply these once again I upgrade?

No. This will not be necessary, as upgrade does not affect the configurations performed in the original version.

b. Will I lose existing historical data when I upgrade the eG Enterprise manager and agents?

No, you will not.

c. Say, I do not have permission to upgrade some agents. Can I continue to run the agents in an older version and have them report to the upgraded eG manager?

Yes, this is possible. However, new tests and new measures added in the latest version will not be available to the old agents.

d. I have created custom reports and favorites. Will I have to create these once I upgrade the eG manager?

If the relevant report options have not been removed in the latest version, then the custom reports and favorites will remain.

e. After the upgrade of the eG Manager, if I need to install agents, should I deploy agents for the newer version?

In order to take advantage of the extended monitoring capabilities, it is recommended that you use an agent that matches in version with the manager. However, this is not mandatory. At the same time, note that new tests and new measures added in the latest version will not be available to the old agents.