

# Installation best practices for Data Protector SharePoint Granular Recovery Extension

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Technical white paper

## Table of contents

Abstract.....	2
Introduction.....	2
Installation .....	3
Prerequisites .....	3
Installation.....	6
Installation procedure Data Protector 6.11 .....	6
Installation procedure Data Protector 6.2 .....	6
Configuration .....	8
Tips and Tricks .....	9
Check farm solution.....	9
No internet access .....	9
Browser Settings .....	10
Adding a new Web Application.....	11
Restore directory on SQL.....	13
Restarting IIS .....	13
Restarting SharePoint timer service .....	14
FAST Search specific – Configure SharePoint Search Engine.....	15
Cleanup .....	16
Farm Solution .....	16
Recovery Web Application .....	16
Recovery database.....	17
GRE binaries .....	18
Acronyms .....	20
For more information.....	21



## Abstract

The purpose of this document is to describe the necessary steps to install Data Protector SharePoint Granular Recovery Extension and provide help in order to avoid any pitfalls.

This document will not replace the *HP Data Protector Granular Recovery Extension User Guide for Microsoft SharePoint Server*; it is an add-on to the provided documentation.

You should consult the user guide before installing Data Protector SharePoint Granular Recovery Extension.

This document is valid for HP Data Protector 6.11 and HP Data Protector 6.2; differences between the installation processes of these two versions are described in this whitepaper.

## Introduction

The benefits of the HP Data Protector Granular Recovery Extension are the following:

- **Recovery granularity:**  
The smallest object that you can restore with the backup solution is a Microsoft SQL Server database (content database), which may contain data of multiple web sites. In contrast, the smallest object that you can recover with HP Data Protector Granular Recovery Extension is an individual web site item, for example: a Calendar item, a Calendar, a Tasks item, a Team Discussion item, a document, a shared document, a folder, a list, a library, an announcement, a form, a reporting template, an object's meta data, and a document workflow.
- **Integration into Microsoft SharePoint Server Central Administration:**  
Granular Recovery Extension is fully integrated into the Microsoft SharePoint Server Central Administration. This empowers Site Collection Administrators to perform recovery of single items independently or with minimal interference of backup administrators.
- **Recovery of multiple sites:**  
Accidental deletion of a site is no longer an issue, even if you cannot use the recycle bin to recover your site. Granular Recovery Extension can recover an entire site with multiple subsites.
- **Ease of search:**  
The Granular Recovery Extension advanced and quick search helps you find the item you need to recover. This search system checks object's metadata, enabling you to filter your search by document type, author, date and so on. Objects are displayed in object tree browser.
- **Recovery to different locations:**  
The Granular Recovery Extension enables recovery to different destinations, for example you can recover your objects to different sites, different farms, and to filesystem.

# Installation

## Prerequisites

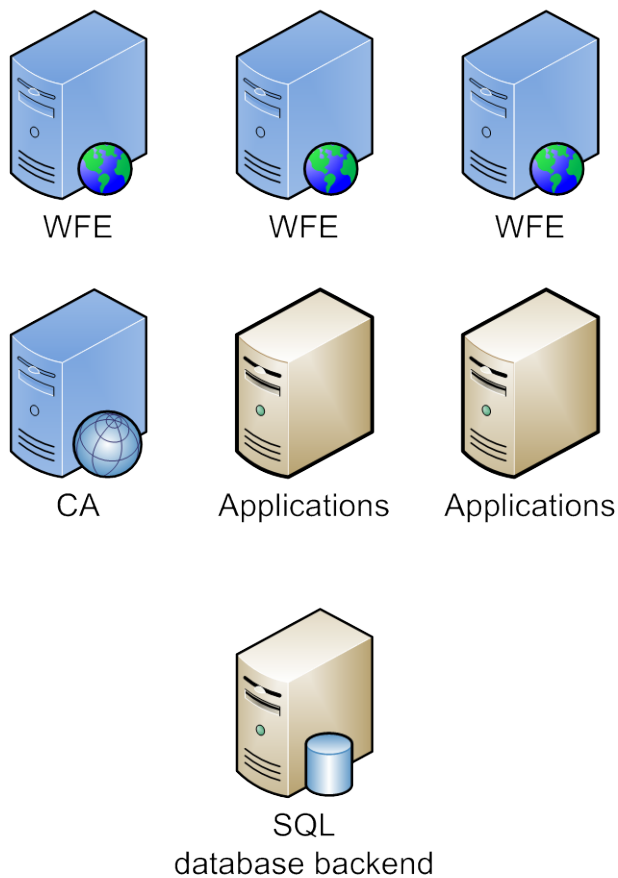
Following Microsoft SQL Server packages and Data Protector component need to be installed on each WFE (SharePoint Web Front-End) and CA (SharePoint Central Administration) systems (see blue colored systems in diagram):

- Microsoft SQL Server Native Client
- Microsoft Core XML Services (MSXML) 6.0
- Microsoft SQL Server 2008 Management Objects Collection
- HP Data Protector User Interface

All these packages must be installed irrespective of the installed SQL Server version on the SharePoint database backend system.

**Figure 1:** SharePoint example farm

### SharePoint farm



Make sure all listed prerequisites are installed before you continue with the Granular Recovery Extension installation.

Microsoft prerequisites (all part of the SQL Feature Pack) can be downloaded at following URL:  
<http://www.microsoft.com/downloads/en/default.aspx>

To be sure that prerequisites are installed on all required systems (all WFE and CA systems) a checklist is very helpful.

A checklist of the example environment pictured in above diagram would look like this:

Components needed on each WFE and CA	Installed ?			
	CA	WFE 1	WFE 2	WFE 3
<b>Microsoft SQL Server Native Client</b>				
<b>Microsoft Core XML Services (MSXML) 6.0</b>				
<b>Microsoft SQL Server 2008 Management Objects Collection</b>				
<b>HP Data Protector User Interface</b>				

The prerequisites can be checked with help of Windows tools such as “Programs and Features” and “Windows Explorer”.

**How to check prerequisites on a Windows 2008 R2 system:**

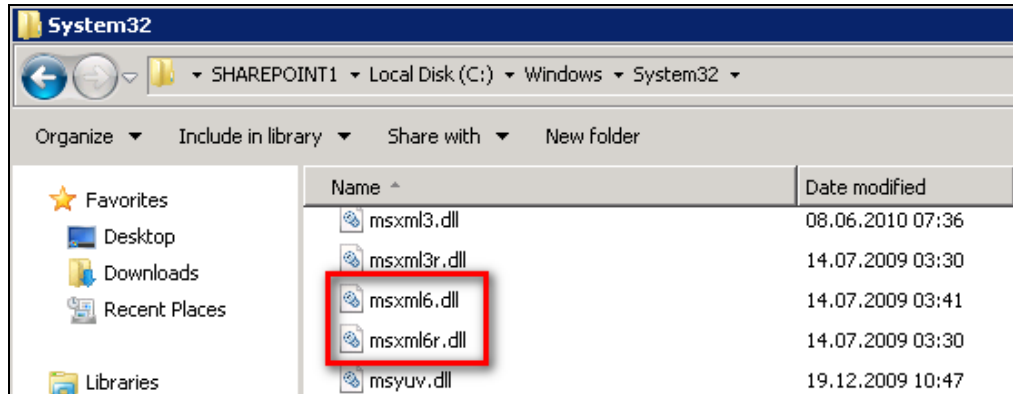
- SQL Server Native Client and SQL Server 2008 Management Objects Collection (SMO) can be checked in Control Panel > Programs and Features

**Figure 2:** Programs and Features

Name	Publisher	Install...	Size	Version
ADO.NET Data Services v1.5 CTP2	Microsoft Corporation	07.12.2010		1.5
Adobe Reader 9.4.0	Adobe Systems Incorporated	17.02.2011	143 MB	9.4.0
HP Data Protector A.06.11	Hewlett-Packard	28.01.2011		06.11.0724
Microsoft Chart Controls for Microsoft .NET Framework 3.5	Microsoft Corporation	07.12.2010	6,92 MB	3.5.0.0
Microsoft Filter Pack 2.0	Microsoft Corporation	07.12.2010	6,76 MB	14.0.4763.1000
Microsoft Server Speech Platform Runtime (x64)	Microsoft Corporation	07.12.2010	5,38 MB	10.2.7300.97
Microsoft Server Speech Recognition Language - TELE (en-US)	Microsoft Corporation	07.12.2010	29,6 MB	10.1.7200.5
Microsoft SharePoint Server 2010	Microsoft Corporation	28.02.2011		14.0.4763.1000
Microsoft SQL Server 2005 Analysis Services ADOMD.NET	Microsoft Corporation	28.02.2011	1,78 MB	9.00.1399.06
Microsoft SQL Server 2008 Analysis Services ADOMD.NET	Microsoft Corporation	07.12.2010	1,76 MB	10.1.2531.0
Microsoft SQL Server 2008 R2 Management Objects (x64)	Microsoft Corporation	07.12.2010	19,7 MB	10.50.1600.1
Microsoft SQL Server 2008 R2 Native Client	Microsoft Corporation	07.12.2010	6,06 MB	10.50.1600.1
Microsoft SQL Server System CLR Types (x64)	Microsoft Corporation	07.12.2010	846 KB	10.50.1600.1
Microsoft Sync Framework Runtime v1.0 (x64)	Microsoft Corporation	07.12.2010	802 KB	1.0.1215.0
Microsoft Sync Services for ADO.NET v2.0 (x64)	Microsoft Corporation	07.12.2010	532 KB	2.0.1215.0
SQL 2008 R2 Reporting Services SharePoint 2010 Add-in	Microsoft Corporation	07.12.2010	15,7 MB	10.50.1600.1

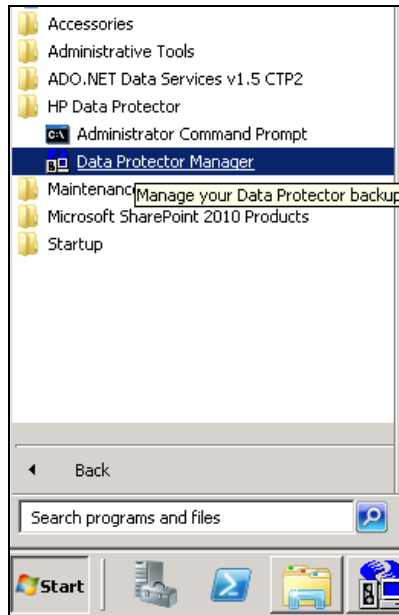
- XML version 6 installation can be verified by checking the corresponding DLLs in directory C:\Windows\System32

**Figure 3:** XML version 6 DLLs



- Data Protector User Interface can be started via Windows start menu

**Figure 4:** SharePoint example farm



## Installation

The Data Protector Granular Recovery Extension for Microsoft SharePoint Server must be installed on the Microsoft SharePoint Server Central Administration system.

### **Note:**

- Ensure that Data Protector components that are needed to back up Microsoft SharePoint Server data are also installed in the Microsoft SharePoint Server environment.
- You can install the Granular Recovery Extension only on systems with Microsoft SharePoint Server installed. Otherwise, the installation will not succeed.

## Installation procedure Data Protector 6.11

In a Data Protector 6.11 environment, the only installation option is to run a local installation.

1. Login to the SharePoint Central Administration (CA) system in your SharePoint farm using a farm administrator account.
2. Start a Command Prompt window with administrator user permissions (right-click Command Prompt and select Run as Administrator).
3. Change to the directory where the GRE installation binaries are located and run `grm_install`.

**Note:** If you are installing a Data Protector SharePoint GRE patch (e.g. DPWIN\_00482, DPWIN\_00510) you need to run the patch executable first in order to extract the patch files, after this go on with the above description.

4. Once the installation is complete, the following message is displayed in the Command Prompt window:  
`Operation completed successfully.  
Timer job successfully created.  
Done.`

## Installation procedure Data Protector 6.2

In a Data Protector 6.2 environment installation can be performed either via local or remote standard Data Protector installation methods.

## Local Installation

When installing the component locally by using standard Data Protector local installation (see Installation Guide), the Data Protector installation wizard will display the MS SharePoint GRE options dialog box. Specify the Farm Administrator user name and password.

Figure 5: Local Installation

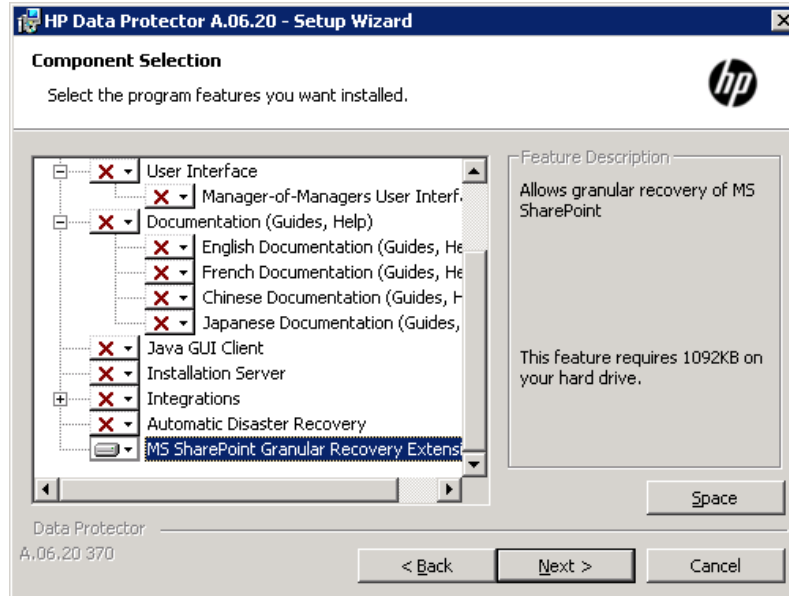
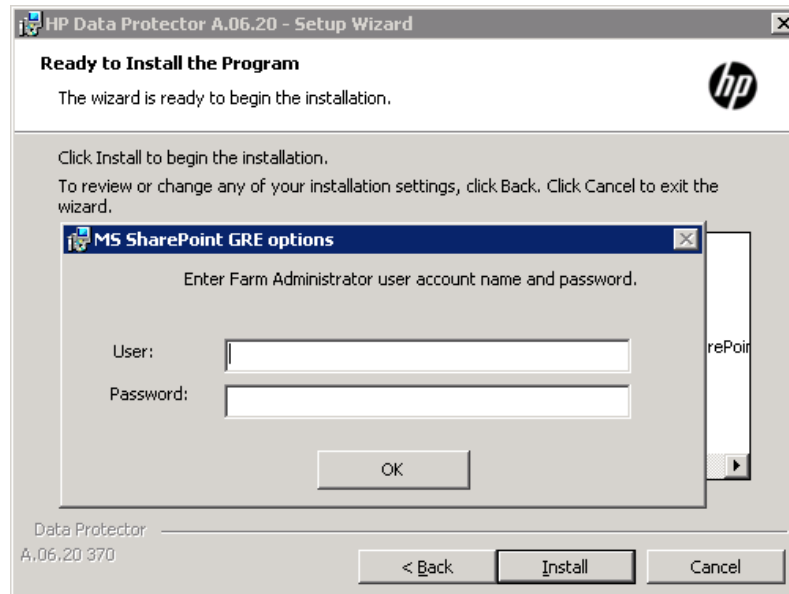


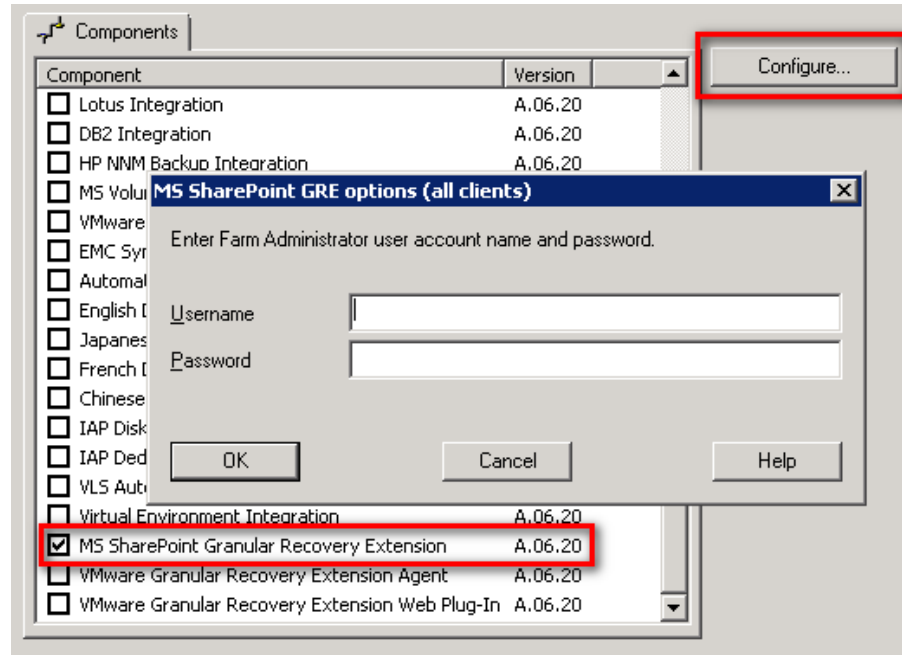
Figure 6: Local Installation – Enter Farm Administrator credentials



## Remote Installation

To install the component remotely, choose `Client` context in Data Protector GUI, choose to add a component and select the `MS SharePoint Granular Recovery Extension`, click `Configure` and specify the Farm Administrator user name and password in the `MS SharePoint GRE options` dialog box.

**Figure 7:** Remote Installation – Enter Farm Administrator credentials



## Configuration

Configuration steps of Data Protector Granular Recovery Extension for SharePoint are described in detail in *HP Data Protector Granular Recovery Extension User Guide for Microsoft SharePoint Server*, see the user guide for the required configuration steps.



## Tips and Tricks

The following section provides tips and tricks in order to get the Granular Recovery Extension for SharePoint to work.

**Please note:** Not all of these tips are applicable to every Microsoft SharePoint environment.

### Check farm solution

Data Protector Granular Recovery Extension for SharePoint is installed as a farm solution into the SharePoint farm. The farm solution package is named: `moss_gre_20** .wsp`  
After installation of GRE the farm solution should be deployed successful. This can be checked in Central Administration.

#### Microsoft SharePoint Server 2010:

Central Admin Page > System Settings > Manage Farm Solutions  
> `moss_gre_2010.wsp`

#### Microsoft Office SharePoint Server 2007:

Central Admin Page > Operations > Solution management > `moss_gre_2007.wsp`

**Figure 8:** Successful deployed farm solution

Name:	moss_gre_2010.wsp
Type:	Core Solution
Contains Web Application Resource:	Yes
Contains Global Assembly:	Yes
Contains Code Access Security Policy:	No
Deployment Server Type:	Front-end Web server
Deployment Status:	Deployed
Deployed To:	http://vmw38116/; http://vmw38116:38000/
Last Operation Result:	The solution was successfully deployed.
Last Operation Details:	VMW38116 : http://vmw38116:38000/ : The solution was successfully deployed. VMW38116 : http://vmw38116/ : The solution was successfully deployed.
Last Operation Time:	3/9/2011 3:49 PM

### No internet access

If your SharePoint environment doesn't have any internet access or a slow internet connection, the HP Data Protector Granular Recovery Extension signature verification will fail or timeout, and the "Import from Backup" will hang.

To disable the signature verification, locate the files `cliproxy.exe` and `HP.Sharepoint.GranularRecovery.CLI.exe` in the Microsoft SharePoint Server BIN folder.

By default, the path of the BIN folder is for Microsoft SharePoint Server 2010:  
`C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\BIN`

In the BIN folder, create two new configuration files `cliproxy.exe.config` and `HP.Sharepoint.GranularRecovery.CLI.exe.config` with the following content:

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
<runtime>
<generatePublisherEvidence enabled="false"/>
</runtime>
</configuration>
```

# Browser Settings

## Pop Up blocker

At the time of recovery, while changing the default settings (e.g. recovery location) the recovery wizard pops up a dialog box to enter the new location. In order to see this popup any popup blocker software in your browser must be disabled.

Figure 9: Recovery Location configuration

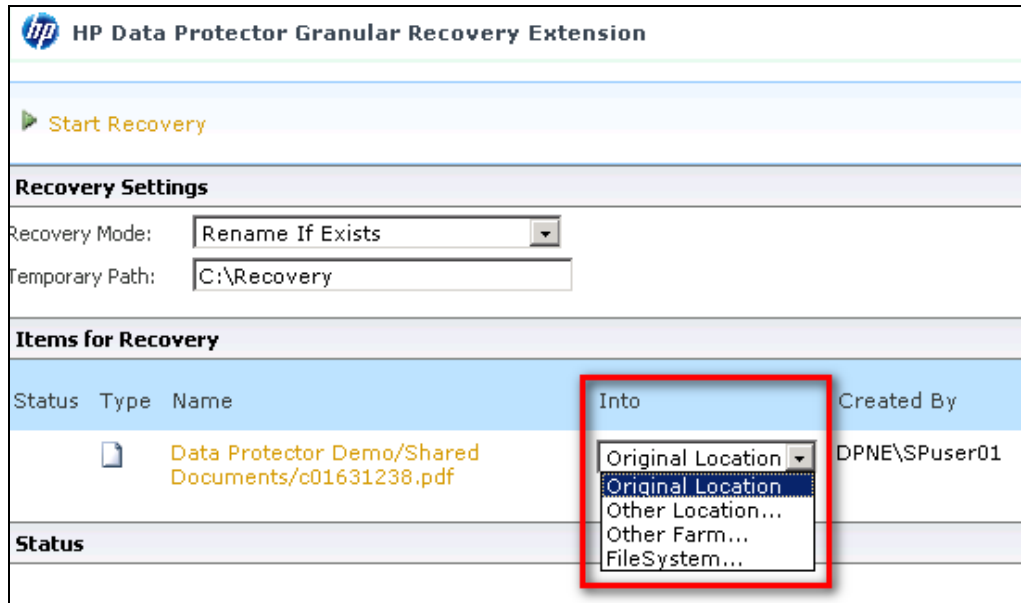
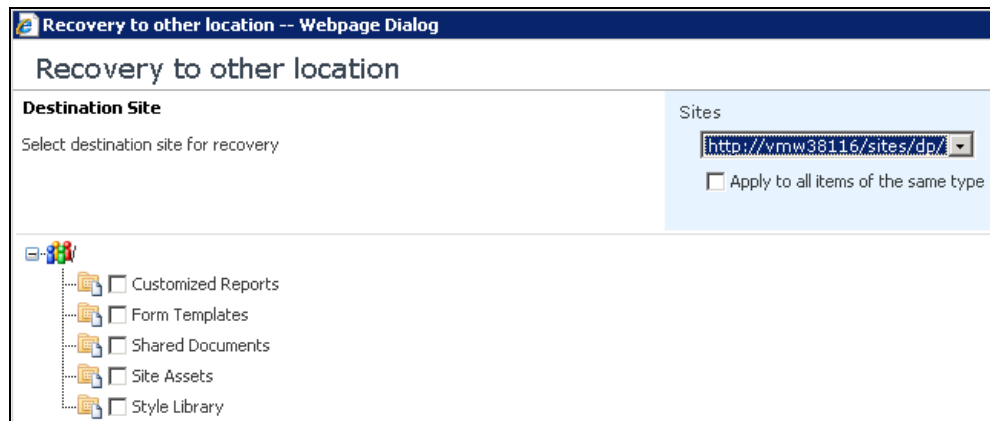


Figure 10: Dialog box (pop up)

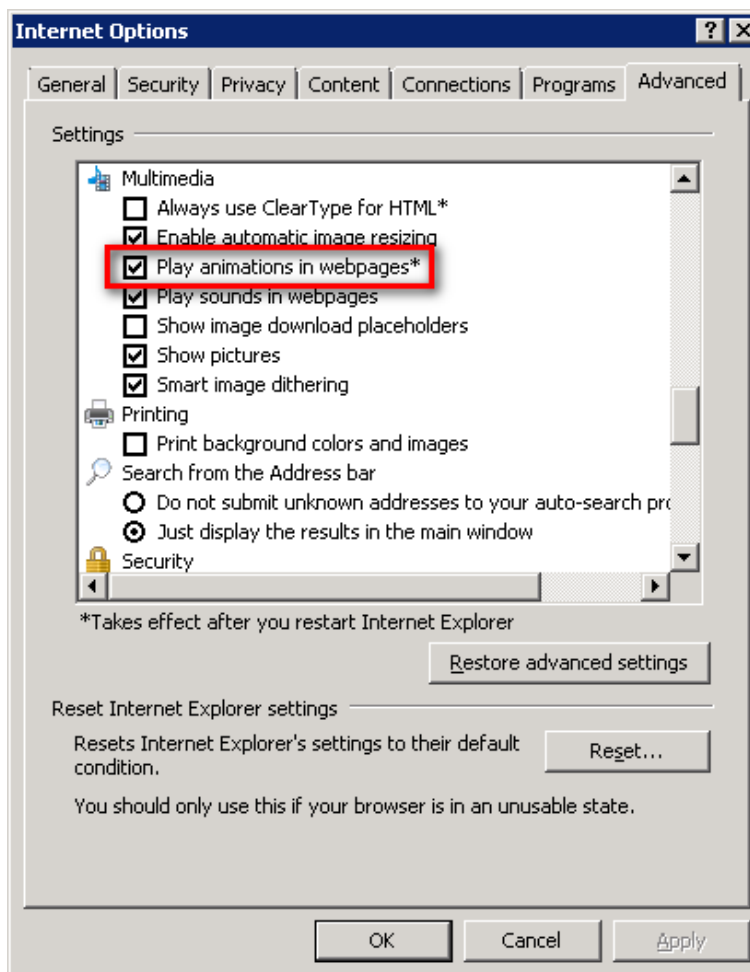


## Animations

In order to see the animated status bar on the Import Job Status page, you need to make sure that animations in your browser are being displayed.

In Internet Explorer version 8 you can find the settings in Tools>Internet Options>Advanced>Multimedia>Play animations in webpages

Figure 11: Internet Options – Advanced



## Adding a new Web Application

If you are adding a new web application or if you are adding a new WFE after you have already successfully installed Data Protector GRE, you need to re-activate (deactivate and activate) the farm feature HP Data Protector Granular Recovery Extension. If you don't do so you will run into problems when Site Collection Administrator wants to access the GRE wizard.

In order to re-activate the Data Protector GRE farm feature for all web applications open SharePoint Central Administration:

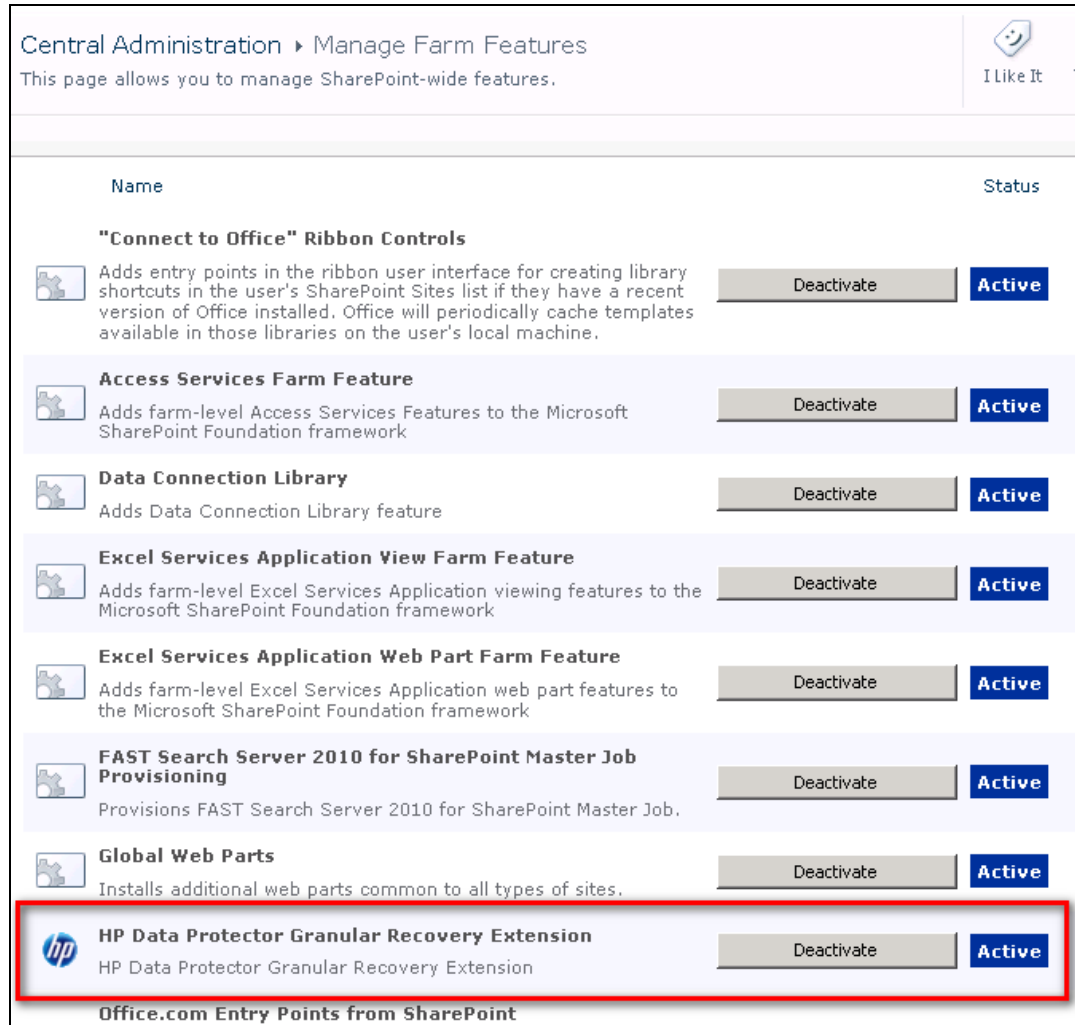
Microsoft Office SharePoint Server 2007:

On the Operations Tab, under Global Configuration, select Manage Farm Features.

Microsoft SharePoint Server 2010:

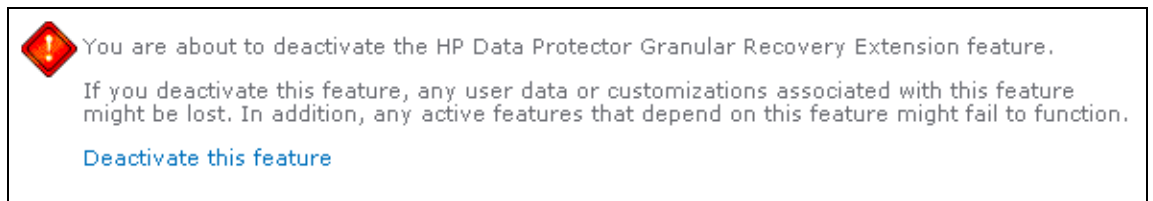
Under System Settings, select Manage Farm Features.

Figure 12: Farm Features



Click the Deactivate button by HP Data Protector Granular Recovery Extension. The Warning page is displayed, click the Deactivate this feature link.

Figure 13: Warning page



After performing, this go back to Manage Farm Features, and click Activate next to the HP Data Protector Granular Recovery Extension entry.

## Restore directory on SQL

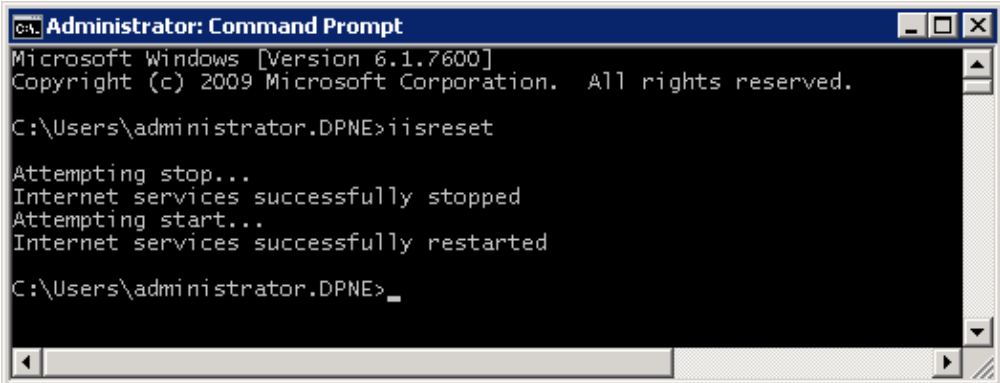
If you are using Data Protector SQL backups (Method: SQLVDI) as restore source and running into problems at “Import from Backup” time, double-check if the restore directory (C:\Restore) has been created on the SQL system.

If not, just create the folder and restart with your “Import from Backup” in the Data Protector Granular Recovery for SharePoint plugin.

## Restarting IIS

If you are troubleshooting or experiencing problems which may be caused by IIS, you may need to restart (`iisreset`) IIS on all SharePoint clients (WFE and CA).

Figure 14: `iisreset`



```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\administrator.DPNE>iisreset

Attempting stop...
Internet services successfully stopped
Attempting start...
Internet services successfully restarted

C:\Users\administrator.DPNE>_
```

**Note:** Watch out when restarting IIS in a production environment. The web server will be unavailable for a short amount of time. Contact your SharePoint administrator for this action.

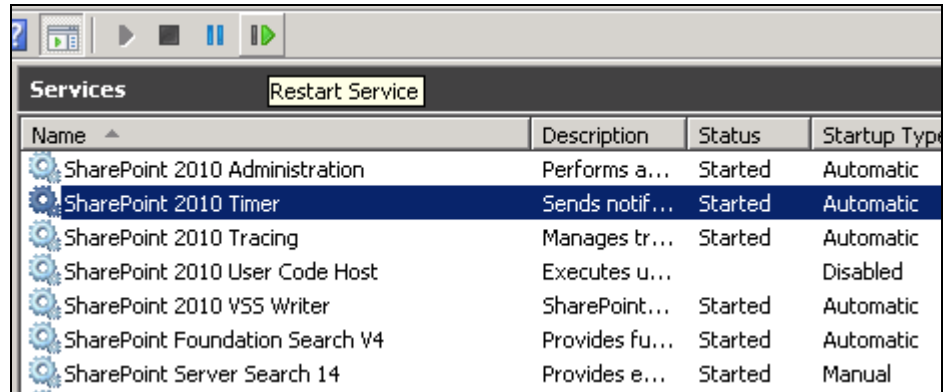
See more details on IIS here:

<http://technet.microsoft.com/en-us/library/cc758159.aspx>

## Restarting SharePoint timer service

If you are troubleshooting and need to be sure that SharePoint timer jobs are running and starting successful (e.g. any timer job related tasks are executed), you may need to restart the SharePoint timer service on all SharePoint hosts.

**Figure 15:** Restart Timer Service



**Note:** Watch out when restarting SharePoint timer service in a production environment. Contact your SharePoint administrator for this action.

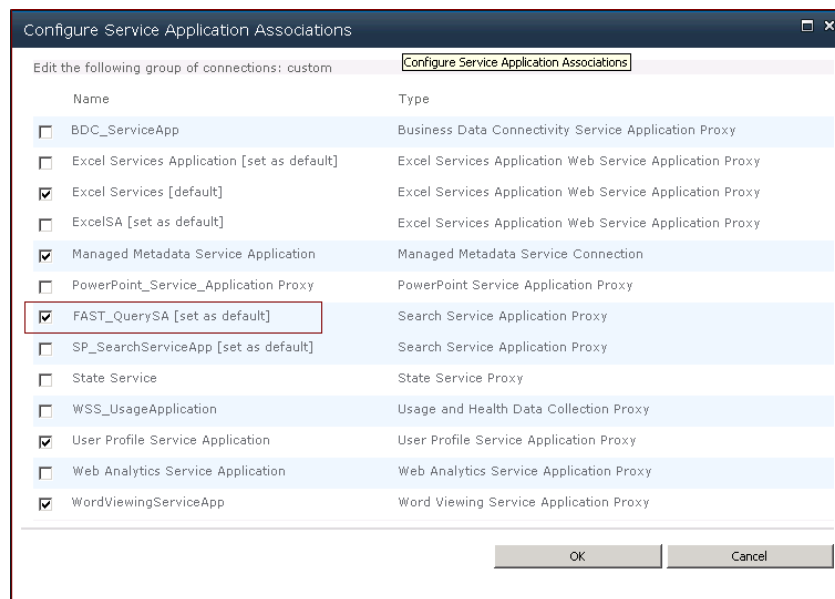
## FAST Search specific – Configure SharePoint Search Engine

If FAST Search 2010 is used in a SharePoint environment, it is recommended to use only the FAST search query SSA as default. No issues are known for Data Protector if the SP SSA is still used as default, but MS recommends using only the FAST search query SSA as default:

<http://technet.microsoft.com/en-us/library/ff381251.aspx>

- On SharePoint Server 2010, on the Central Administration Home page, select *Application Management*.
- Under *Service Applications*, click *Configure service application associations*.
- Click the *Application Proxy Group* that you want to change, typically *default*.
- Make sure that the Query SSA (for example FAST Query SSA) is the default and only selected *Search Service Application Proxy*, and then click *OK*.
- Verify that the correct Query SSA is associated with the web application.

**Figure 16:** Configure Service Application Associations



## Cleanup

You might need a manual cleanup of Data Protector SharePoint GRE installation components if a new installation or an upgrade of GRE fails. The following steps guide you through the manual cleanup procedure.

**Note:**

- Make sure that no GRE restore/recovery sessions are running.
- If you've already completed an "Import from Backup" job and a database has been imported in Granular Recovery Cache, it is recommended to remove (with SQL tools) the imported database first before removing SharePoint GRE.

## Farm Solution

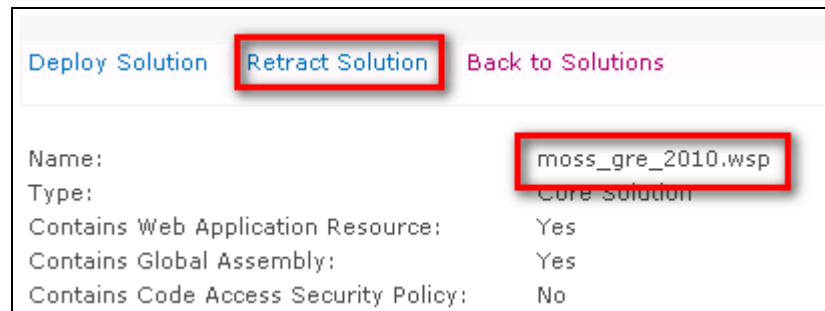
Check if the Granular Recovery Extension solution are still listed in the SharePoint Central Admin Page:

Microsoft SharePoint Server 2010:

Central Admin Page > System Settings > Manage Farm Solutions

If the file `moss_gre_2010.wsp` exists, select it and click Retract Solution.

**Figure 16:** Retract farm solution



Microsoft Office SharePoint Server 2007:

Central Admin Page > Operations > Solution management

If the file `moss_gre_2007.wsp` exists, select it and click Retract Solution.

## Recovery Web Application

Check if Recovery Web Application is still present after uninstall of SharePoint GRE:

Microsoft SharePoint Server 2010:

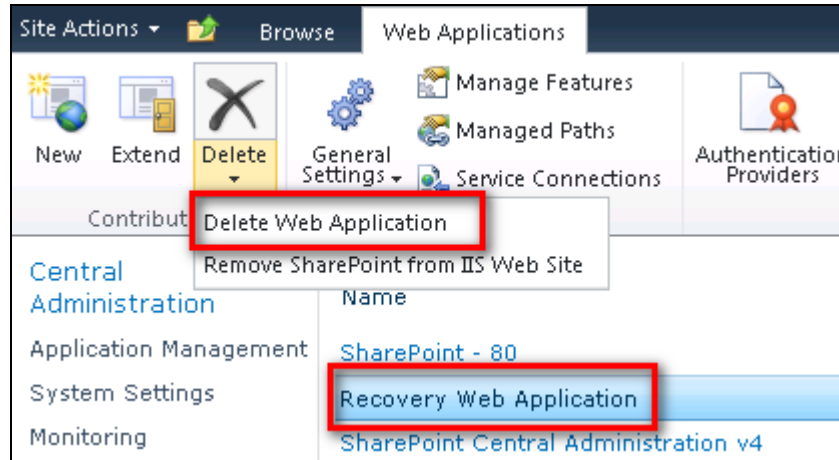
Central Admin Page > Application management > Manage Web Applications

If the extension is listed, remove it manually:

1. Select it and click Delete.
2. Select Yes for Delete content databases.
3. Select Yes for Delete IIS web sites.
4. Click Delete.



**Figure 17:** Delete "Recovery Web Application"



Microsoft Office SharePoint Server 2007:

Central Admin Page > Application Management > Web Application list

If the extension is listed, remove it manually:

1. Select Recovery Web Application > Delete Web Application
2. Select Yes for Delete content databases
3. Select Yes for Delete IIS web sites
4. Click Delete

**Note:**

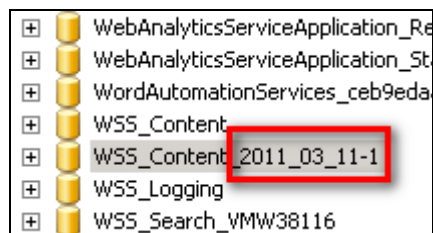
After removing the Recovery Web Application check if on all WFE systems the corresponding IIS web application and virtual directory (port 38000) are removed.

## Recovery database

Check for the Recovery Web Application database on the SQL database server.

If present, remove it with help of SQL tools. You can identify the database due to the postfix "Data Protector session ID".

**Figure 18:** Recovery Web Application database with session ID postfix



## GRE binaries

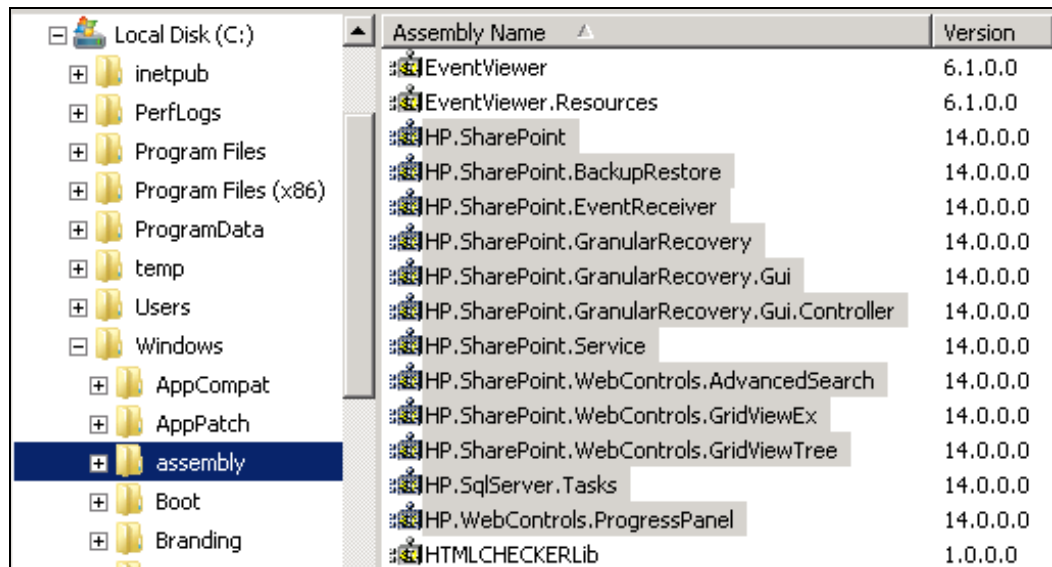
Check the following directories on all WFE and CA systems in your SharePoint farm and make sure that all Data Protector SharePoint GRE binaries are successful removed.

**Note:** Manual deletion of GRE binaries should only be performed if a new installation fails after an earlier uninstall. This is not the prescribed way to uninstall SharePoint GRE.

### Global Assembly Cache

For each SharePoint client (WFE and CA), check if any HP.\* assemblies are left in C:\Windows\assembly.

Figure 19: Popup



Remove any existing HP.\* assemblies manually. Right-click the assembly and select Uninstall.

### SharePoint home directory

<SharePoint home directory> is the following:

Microsoft SharePoint Server 2010: C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14

Microsoft Office SharePoint Server 2007: C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12

In SharePoint home directory check the following directories for files and subdirectories:

<SharePoint home directory>\BIN

For each SharePoint client (WFE and CA) check if the following files

- cliproxy.exe
- CommandLine.dll
- HP.SharePoint.GranularRecovery.CLI.exe

are located in the BIN directory, if so delete them manually.

<SharePoint home directory>\Resources

For each SharePoint client (WFE and CA) check if the following files

- GranularRecovery\*.resx

are located in the Resources directory, if so delete them manually.

<SharePoint home directory>

For each SharePoint client (WFE and CA) check if the following subdirectories are removed

- \LOGS\GranularRecovery
- \TEMPLATE\LAYOUTS\GranularRecovery
- \TEMPLATE\IMAGES\GranularRecovery
- \TEMPLATE\FEATURES\GranularRecovery

### **Inetpub directory**

For each SharePoint client (WFE and CA) check if the following files

C:\inetpub\wwwroot\wss\VirtualDirectories\<port>\App\_GlobalResources\GranularRecovery\*.resx

are removed.

## Troubleshooting

For more troubleshooting hints please see the *HP Data Protector Granular Recovery Extension User Guide for Microsoft SharePoint Server*.

## Acronyms

CA	SharePoint Central Administration
WFE	SharePoint Web Front-End
GRE	Granular Recovery Extension (in this document always SharePoint Granular Recovery Extension)
IIS	Internet Information Services
SMO	SQL Management Objects
XML	Extensible Markup Language
DLL	Dynamic Link Library
MS	Microsoft
MOSS 2007	Microsoft Office SharePoint Server 2007
SPS 2010	SharePoint Server 2010

## For more information

For further information see also *HP Data Protector Granular Recovery Extension User Guide for Microsoft SharePoint Server* and *HP Data Protector Installation Guide*.

To read more about Data Protector, go to [www.hp.com/go/dataprotector](http://www.hp.com/go/dataprotector)

Microsoft SQL Feature Pack download: <http://www.microsoft.com/downloads/en/default.aspx>

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