Microsoft

Microsoft® System Center

System Center 2012 Configuration Manager R2 - Disaster Recovery for Entire Hierarchy and Standalone Primary Site recovery scenarios

Author(s):
Rushi Faldu, Richard Kwon, Sameer Patil, Steven Hernandez, Iris Fang and Kevin Kasalonis

Contributor(s)/Reviewer(s):
Na Li, Jonathan Shi, Subhash Chouhan, and Randy Ivey

Version – v1.00

Released – September 2014

About Author(s)/Contributor(s)

Rushi Faldu – Senior Premier Field Engineer
Richard Kwon – Senior Premier Field Engineer
Sameer Patil – Consultant
Steven Hernandez – Premier Field Engineer
Iris Fang – Senior Premier Field Engineer
Kevin Kasalonis – Premier Field Engineer

Na Li – Senior SDE
Jonathan Shi – Senior SDE
Subhash Chouhan – SDET
Randy Ivey – Sr. Premier Field Engineer

Special thanks to Sangeetha Visweswaran (Principle Development Lead) and Jim Dempsey (Program Manager) for coordinating and providing resources to complete this white paper.

MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS DOCUMENT.

Table of Contents

TABLES

1 Overview

1.1 Introduction

Configuration Manager 2012 R2 disaster recovery is a complex process. It requires sufficient knowledge of the Configuration Manager Product & dependent components. This document describes the steps to recover a full Configuration Manager 2012 R2 hierarchy in case of disaster. This document also describes the steps to recovery either CAS or Primary sites as well as additional steps that Configuration Manager Administrators should follow in order to restore a Configuration Manager Hierarchy or Sites without data loss. This document also provides some helpful troubleshooting tips.

At a higher level, there are the following few steps described below to recover an **entire hierarchy** in the event of disaster. Please note that the steps are different for recovering an entire hierarchy and individual site servers such as CAS or Primary sites. Please refer to appropriate sections within this document to recover appropriate site servers. The approximate time noted below in each of the tasks may vary significantly as there are many factors involved when recovering an entire hierarchy so use this timing as an example ONLY.

1. **Collect CAS & Primary Site Information (~1 hour)** → In this step, collect & document all the necessary information required from the existing hierarchy. This task should be followed regularly whenever there are updates/changes at the site level so that it will save time at the time of disaster recovery.
2. **Backup Sites – CAS & Primary (~3 hrs.)** → This section describes backup options.
3. **Recover CAS Site (~3 to 48 hrs.)**→ This section provides the steps to recover the CAS Site server. Global data can be recovered within 3-4 hours but for site data it can take up to 48 hours.
4. **Recover Primary Site(s) (~3 to 48 hrs.)** → This section provides the steps to recover Primary Site servers. Global data can be recovered within 3-4 hours but for site data it can take up to 48 hours.
5. **Recover from supplemental backups (~2 hrs.)** → This section describes the steps to recover the additional components of Configuration Manager.

1.2 Intended Audience

This document is intended for administrators working on Configuration Manager 2012 R2 Site management and restoration activities.

1.3 Definitions and Acronyms

CAS – Central Administration Site – top level site in the hierarchy.

Site server - The server on which you install the Configuration Manager.

Site database server - The role assigned to the computer running a supported version of Microsoft SQL Server and hosting the Configuration Manager 2012 site database. You can use only Microsoft SQL Server, Standard or Enterprise Edition, to host the site database. SQL Server Express editions are not supported for hosting the site database.

Configuration Manager Console - Any computer running the Configuration Manager console.

SMS Provider computer - The Configuration Manager console does not access the database directly, but instead uses Windows Management Instrumentation (WMI) as an intermediary layer. The SMS Provider is the WMI Provider for Configuration Manager.

Component server - Any computer hosting a Configuration Manager 2012 site role that requires installing special Configuration Manager 2012 services.

Distribution point - A site system role that stores packages for clients to install as well as provides PXE Boot and Multicast services for OS Deployments.

Fallback status point - A site system role that gathers state messages from clients that cannot install properly, cannot assign to a Configuration Manager 2012 site, or cannot communicate securely with their assigned management point.

Management point - The site system role that serves as the primary point of contact between Configuration Manager 2012 clients and the Configuration Manager 2012 site server.

SQL Server Reporting Services - A site system role that hosts the SQL Reporting Services for customized reporting.

Software update point - A site system role assigned to a computer running Microsoft Windows Server Update Services (WSUS).

Site - A site is a functional area of support (i.e. Workstations or Servers) and encompasses all site systems and branch locations serviced within the functional area.

2 Planning for Disaster Recovery

Each Configuration Manager implementation is likely to be different. To be successful in recovering the environment, there are several key pieces of information that need to be noted. The tables below can be used as templates for data gathering.

Before moving forward, there are several questions that need to be considered.

- Are you using a Central Administration Site (or CAS)?
- How many primary sites do you have?
- Is SQL installed on the Site Server or hosted on a different server?
- What site roles are installed on the Site Server?
- Which site roles are hosted on different servers?
- Are there other services or applications hosted on the same server that holds Configuration Manager roles?

The answer to each of these questions will impact each decision that you need to make in regards to recovery. Different steps will need to be performed based on the environment. Having a hierarchy diagram may be useful in determining which servers are being used by Configuration Manager.

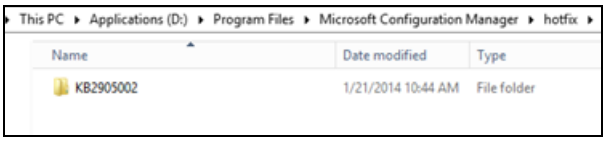
This information can be gathered by manually reviewing the Configuration Manager Site and associated servers. It should be done on a routine basis (i.e. twice a year) to ensure the information is up to date. If you have a large hierarchy, this can be a tedious task.

2.1 Collect CAS Site Information

2.1.1 CAS Site

Table 1: CAS Site

Setting	Value
Configuration Manager Version	System Center 2012 Configuration Manager R2
Build Version	7958
Server Name	FC-CAS.FOURTHCOFFEE.LOCAL
Site Code	MET
Domain Name	FOURTHCOFFEE.LOCAL
Operating System	Windows Server 2012 Standard (non R2) - Version 6.2 (Build 9200)
Additional Roles on CAS Site Server Hardware	Software Update Point
Remote Roles at CAS	Site Database Server (SQL) Reporting Service Point (SQL Server Reporting Services)

SQL Server Name	FC-CASSQL.FOURTHCOFFEE.LOCAL
Logical Partitions	C:
Configuration Manager Install Directory	C:\Program Files\Microsoft Configuration Manager\
WSUS installation path	C:\WSUS
Hotfixes Installed on CAS	Document all the hotfixes applied on Configuration Manager site servers. It will be required during Disaster Recovery. • Check the hotfix applied on Configuration Manager from the following folder: **%Program Files%\Microsoft Configuration Manager\Hotfix** 

2.1.2 CAS Site Database

Table 2: CAS Site Database Server

Setting	Value
SQL Server Name (Remote)	FC-CASSQL
Domain Name	FOURTHCOFFEE.LOCAL
Operating System	Windows Server 2012 Standard (non R2) - Version 6.2 (Build 9200)
SQL Server Version	SQL Server Enterprise 2012 Sp1 x64 - Version 11.0.3128.0
Database Name	CM_MET
Logical Partitions	C:
Hotfixes	Document all the hotfixes applied on SQL servers. It will be required during Disaster Recovery.

2.1.3 Reporting Service Point

Table 3: Reporting Service Point

Setting	Value
SQL Server Name (Remote)	FC-CASSQL

Domain Name	FOURTHCOFFEE.LOCAL
Operating System	Windows Server 2012 Standard (non R2) - Version 6.2 (Build 9200)
SQL Server Version	SQL Server Enterprise 2012 Sp1 x64 - Version 11.0.3128.0
Database Name	ReportServer ReportServerTemp
Logical Partitions	C:

Important: Please make sure that you have collected the accurate details from CAS Site server and SQL database server for the Operating System and SQL Server versions.

2.2 Collect Primary Site Information

2.2.1 Primary Site

Table 4: Primary Site

Setting	Value
Configuration Manager Version	System Center 2012 Configuration Manager R2
Build Version	7958
Server Name	FC-CM01.FOURTHCOFFEE.LOCAL
Site Code	FCH
Domain Name	FOURTHCOFFEE.LOCAL
Operating System	Windows Server 2012 Standard (non R2) - Version 6.2 (Build 9200)
Additional Roles on Primary Site Server Hardware	Management Point Distribution Point Software Update Point
Logical Partitions	C: D: E:
Configuration Manager Install Directory	D:\Program Files\Microsoft Configuration Manager\
WSUS installation path	D:\WSUS
Hotfixes	Document all the hotfixes applied on Configuration Manager site servers. It will be required during Disaster Recovery.

- Check the hotfix applied on Configuration Manager from the following folder:

%Program Files%\Microsoft Configuration Manager\Hotfix

2.2.2 Primary Site Database Server

Table 5: Primary Site Database Server

Setting	Value
SQL Server Name	FC-CM01.FOURTHCOFFEE.LOCAL
Site Code	CM_FCH
Domain Name	FOURTHCOFFEE.LOCAL
Operating System	Windows Server 2012 Standard (non R2) - Version 6.2 (Build 9200)
SQL Server Name	FC-CASSQL.FOURTHCOFFEE.LOCAL
Hotfixes	Document all the hotfixes applied on SQL servers. It will be required during Disaster Recovery.

2.3 Backup Configuration Manager Site

In System Center 2012 Configuration Manager, there are now 2 supported methods to create a backup. Administrators familiar with Configuration Manager 2007 should already be aware of the Site Maintenance Task that is used to backup the site. In addition to this method, Configuration Manager now also supports recovering from an SQL backup.

Each one of these backup methods have different configurations that need to be considered.

2.3.1 Site Maintenance Backup Task

- **To backup the CAS site server and database using "Backup Site Server" maintenance task**

1. Create a share (i.e. **Configuration Manager Backup**) on the server where the backup will be stored.

Important: Make sure that you save this backup on a different location and not on the local box. If using local drives then make sure you are archiving backup copy on a network location.

2. Add full access to the CAS/Primary site server and the CAS/Primary database server on **NTFS** and **share**.

3. In the Configuration Manager console on the CAS site server, click **Administration**.
4. In the **Administration** workspace, expand **Site Configuration**, and then click **Sites**.
5. Select the CAS/Primary site to enable the backup site server maintenance task.
6. On the **Home** tab, in the **Settings** group, click **Site Maintenance Tasks**.
7. Click **Backup Site Server** and then click **Edit**.
8. Select **Enable this task**, and then click **Set Paths** to specify the backup destination. You have the following options:
    - **Network path (UNC name) for site data and database**: Specifies that the backup files for the site and site database are stored in the specified UNC path. You must create the share before the backup task runs.
9. Configure an appropriate schedule for the site backup task as per your organization's backup policies.
10. Select whether to create an alert if the site backup task fails, click **OK**, and then click **OK**. When selected, Configuration Manager creates a critical alert for the backup failure that you can review in the **Alerts** node in the **Monitoring** workspace.
11. Verify **Smsbkup.log** file to make sure that there are no errors in backup.

Note - *AfterBackup.bat*

*After successfully backing up the site, the Backup Site Server task automatically attempts to run a file that is named **AfterBackup.bat**. You must manually create the AfterBackup.bat file in the <Configuration ManagerInstallationFolder>\Inboxes\Smsbkup. If an AfterBackup.bat file exists, and is stored in the correct folder, the file automatically runs after the backup task is completed. The AfterBackup.bat file lets you archive the backup snapshot at the end of every backup operation, and automatically performs other post-backup tasks that are not part of the Backup Site Server maintenance task. The AfterBackup.bat file integrates the archive and the backup operations, thereby ensuring that every new backup snapshot is archived. When the AfterBackup.bat file is not present, the backup task skips it without effect on the backup operation.*

2.3.2 SQL Backup

- **To back up a CAS site database from SQL Server Management Studio**

(The following steps are just for the reference purposes. You can automate the SQL backup for site server databases and Report server databases.)

1. After connecting to the appropriate instance of the Microsoft SQL Server Database Engine, in Object Explorer, click the server name to expand the server tree.
2. Expand **Databases**, and select **CM_XXX** database. (Where XXX is normally the Site Code.)
3. Right-click the **CM_XXX** database, point to **Tasks**, and then click **Back Up**. The **Back up Database** dialog box appears.

4. In the **Database** list box, verify the database name. You can optionally select a different database from the list.
5. In the Backup type list box, select **Full**.
6. Do not select **Copy Only Backup.**
7. For **Backup component**, click **Database**.
8. Either accept the default backup set name suggested in the **Name** text box, or enter a different name for the backup set.
9. Optionally, in the **Description** text box, enter a description of the backup set.
10. Specify when the backup set will expire as per your organization's SQL backup standards.

    Note – For Configuration Manager Databases**, default "**change tracking retention period" is 5 days.

11. Choose the type of backup destination by clicking **Disk**.
12. To view or select the advanced **options**, click Options in the Select a page pane.
13. Select an appropriate **Overwrite Media** option.
14. In the Reliability section, optionally check:
    - Verify backup when finished.

2.4 Supplemental Backups

This section describes supplemental backups, which are included in the Configuration Manager Maintenance task and must backup separately. You can restore SCCMContentLib, SMSPKG, SMSPKGSIG, WSUS and SCUP 2011 after recovering CAS and Primary sites in the hierarchy.

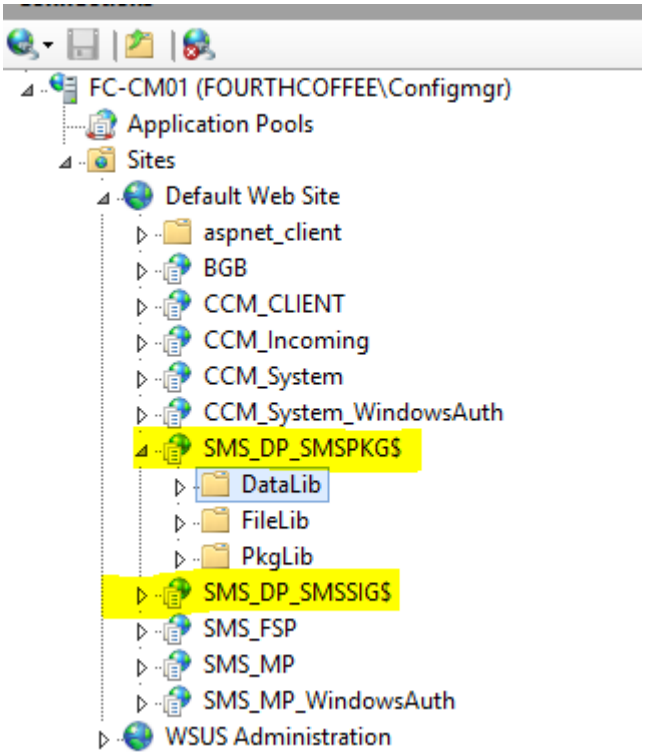
2.4.1 Content Library

Backup the following Content Library files on CAS and Primary sites as well as any remote Distribution Points.

- SCCMContentLib
- SMSPKG
- SMSPKGSIG
- SMSSIG$ (Does not exist on CAS)
- SMSPKG<most available drive space driveletter>$ (e.g. SMSPKGC$, SMSPKGD$, SMSPKGE$ etc.. – This folder does not exist on CAS)
- Any Package Source files exist on the server

Backup the following IIS virtual directories. Though you may not have to restore these directories, it is recommended and best practice to backup these below IIS directories:

- SMS_DP_SMSPKG$
- SMS_DP_SMSSIG$



Important: *If Windows server version is Windows 2012 with IIS v 8.00 then there is no GUI option to backup individual virtual directories. You can use* ***webdeploy*** *or* ***appcmd*** *utility to backup individual virtual directories and restore them.*

Additional details:

- The content library in Configuration Manager is the location where all the content files are stored for software updates, applications, operating system deployment, and so on.
- The content library is located on the site server and each distribution point.
- The **Backup Site Server** maintenance task does not backup the content library or the package source files.
- When a site server fails, the information about the content library files is restored to the site database, but you must restore the content library and package source files on the site server.
- **Content library**: The content library must be restored before you can redistribute content to distribution points. When you start content redistribution, Configuration Manager copies the files from the content library on the site server to the distribution points. The content library for the site server is in the **SCCMContentLib** folder, which is typically located on the drive with the most free disk space at the time that the site installed.
- **Package source files**: The package source files must be restored before you can update content on distribution points. When you start a content update, Configuration Manager copies new or modified files from the package source to the content library, which in turn copies the files to associated distribution points.

  You can run the following query in SQL Server to find the package source location for all packages and applications:

SELECT * FROM v_Package.

You can identify the package source site by looking at the first three characters of the package ID. For example, if package ID is CEN00001 then site code for the source site is CEN. While restoring package source files, those must be restored to the same location as that of the location before failure. Verify that you include both Content Library and Package Source locations in your file system backup for the site server.

2.4.2 SCUP 2011

- **Backup System Center Updates Publisher (SCUP) 2011 database**
  1. On the computer that runs Updates Publisher, browse the Updates Publisher 2012 database file (Scupdb.sdf)
     - %USERPROFILE%\AppData\Local\Microsoft\System Center Updates Publisher 2012\5.00.1727.0000\
     - There is a different database file for each user that runs Updates Publisher 2012
  2. Copy the database file to your backup destination

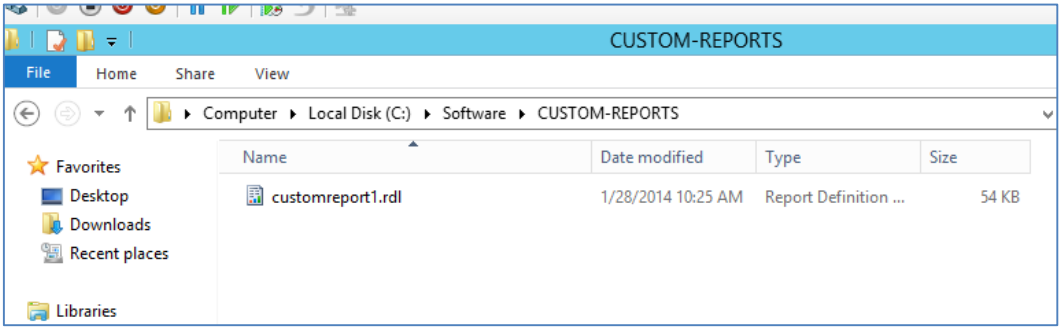
2.4.3 SQL Server Reporting Service (SSRS)

- **To backup encryption keys (Reporting Services Configuration Tool)**
  1. Start the Reporting Services Configuration tool, and then connect to the report server instance you want to configure.
  2. Click Encryption Keys, and then click Back Up.
  3. Type a strong password.
  4. Specify a file to contain the stored key. Reporting Services appends a .snk file extension to the file. Consider storing the file on a media so that it is separate from the report server.
  5. Click OK.

- **To backup the Configuration Files**

  Reporting Services uses configuration files to store application settings. You should backup the files when you first configure the server and after you deploy any custom extensions. Files to back up include:
  1. Rsreportserver.config - D:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services**ReportServer**
  2. Rssvrpolicy.config - D:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services**ReportServer**
  3. Rsmgrpolicy.config - D:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services**ReportManager**
  4. Reportingservicesservice.exe.config - D:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services**ReportServer\bin**
  5. Web.config for both the Report Server and Report Manager ASP.NET applications
  6. Machine.config for ASP.NET

- **To backup Data Files**
  Location of these files depends on what you choose while saving those reports. You can store those files to a specific location so that it will be easy to backup.
  1. Backup the files that you create and maintain in Report Designer and Model Designer. These include report definition (**.rdl**) files, report model (**.smdl**) files, shared data source (**.rds**) files, data view (**.dv**) files, data source (**.ds**) files, report server project (**.rptproj**) files, and report solution (**.sln**) files.
  2. Backup any script files (**.rss**) that you created for administration or deployment tasks.
  3. Verify that you have a backup copy of any **custom extensions** and **custom assemblies** you are using.



2.4.4 Windows Server Update Services (WSUS)

Backing up WSUS involves backing up the following,

1. The WSUS database (SUSDB), which contains,
   - Update metadata
   - WSUS server configuration information
   - Information about client computers, updates, and client interaction with updates
2. The folder where the update files are stored
   - If you are storing updates locally and not on Microsoft Update.
   - By default, update files are stored in the \WSUS\WSUSContent folder on the largest partition of your WSUS server.
3. The folder containing the WSUS repair path (by default, \WSUS\UpdateServicesPackage on the largest partition of your WSUS server).
   - The repair path is the location of any .msi files used to repair locally published packages.

This section will describe the step by step process of backing up SUSDB as well as WSUS folder.

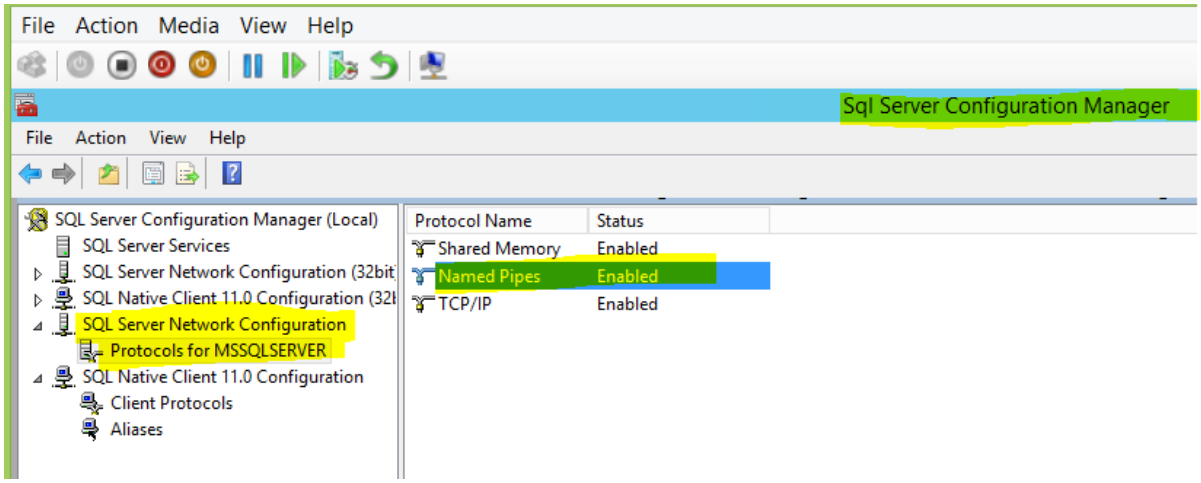
2.4.4.1 *SUSDB backup*

There are multiple ways to backup SUSDB. If you have installed SUSDB for using its own SQL database then it is a pretty straight forward way to backup and restore. However, most administrators use the Windows Internal Database (WID) for SUSDB. The default location of

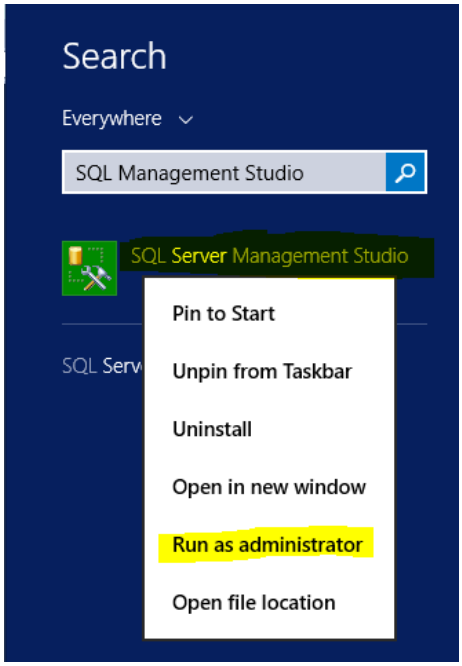
SUSDB.mdf and **SUSDB_log.ldf** files are under **C:\Windows\WID\Data** folder on Windows 2012 server.

You can use the following method to backup SUSDB, which is installed using Windows Internal Database:

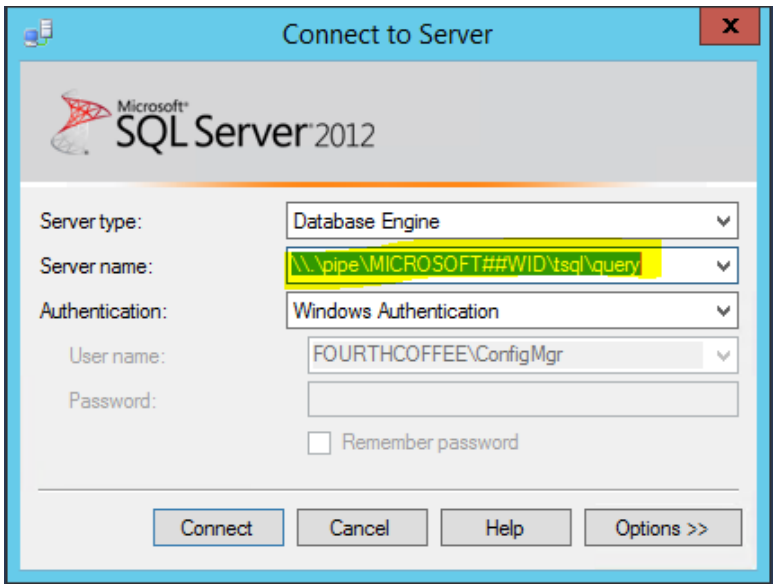
- If there is a SQL Server Management Studio installed on the box then make sure **Named Pipes** protocol is enabled
- To check if Named Pipes is enabled or not, connect to the SQL Server Configuration Manager and Browse to SQL Server Network Configuration → Protocols for MSSQLSERVER → Named Pipes and make sure it is set to Enabled. If not then enable it and restart SQL Server service.



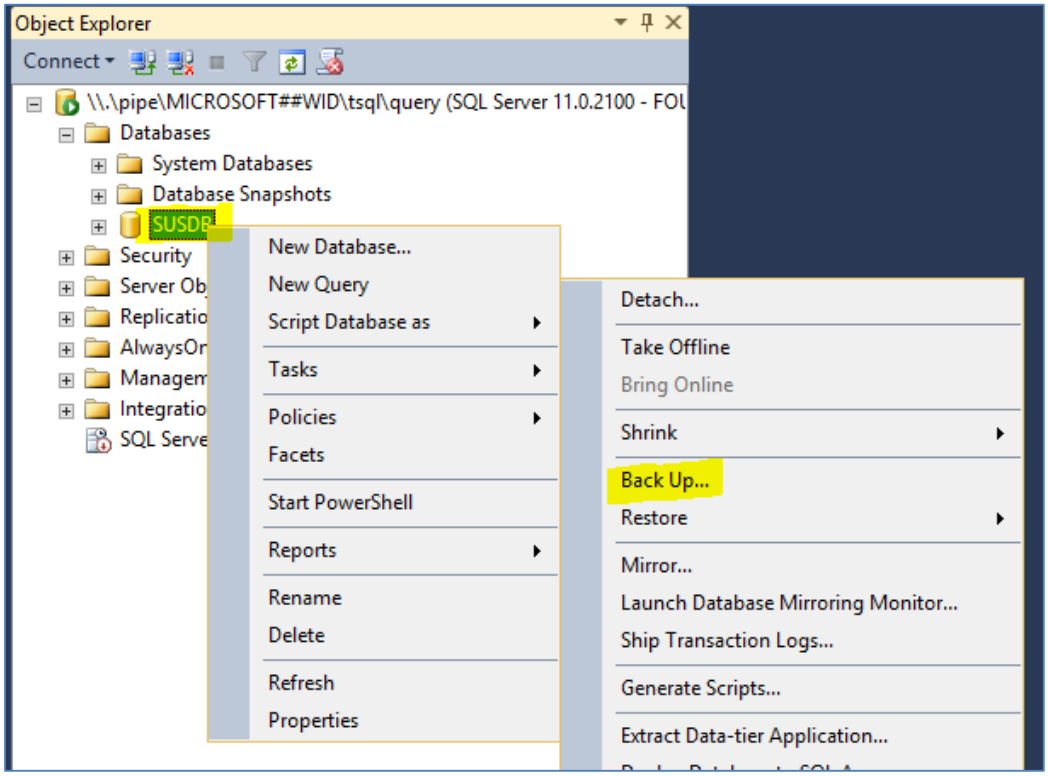
- Connect to SQL Management Studio using "Run As Administrator" option as shown below.



- Under Server name, enter \\.\pipe\MICROSOFT##WID\tsql\query if you are running Windows Server 2012 else enter \\.\pipe\MSSQL$MICROSOFT##SSEE\sql\query



- Once connected, browse to SUSDB and backup the database directly as shown in below screen.



OR you can use the following command line using **SQLCMD utility**:

- Create a .sql script using the following text (replace the C:\SOFTWARE\susdb.bak with appropriate path you want to backup SUSDB).

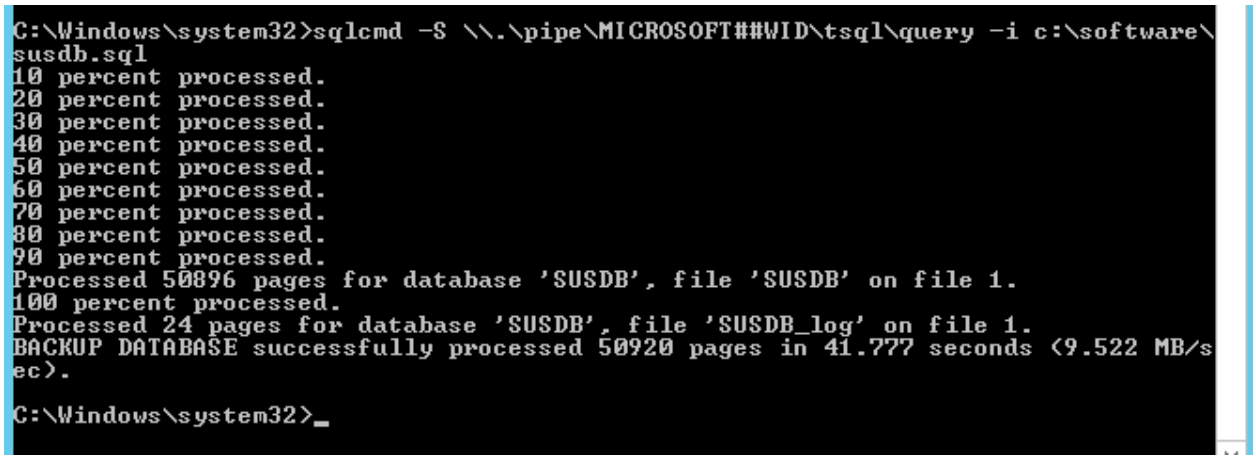
  BACKUP DATABASE [SUSDB] TO DISK = N'C:\SOFTWARE\susdb.bak' WITH NOFORMAT, NOINIT, NAME = N'SUSDB-Full Database Backup', SKIP, NOREWIND, NOUNLOAD, STATS = 10
  GO

- Save this script as susdb.sql and save it under C:\SOFTWARE\ and run the following at the Administrator command prompt if using Windows Server 2012:

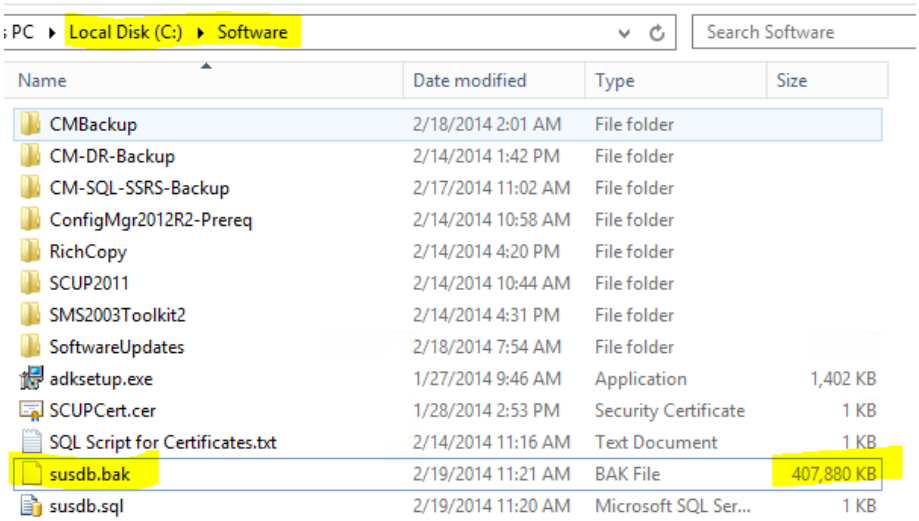
  sqlcmd -S \\.\pipe\MICROSOFT##WID\tsql\query -i C:\SOFTWARE\susdb.sql

- If using Windows server 2008 or 2008 R2 then run the following at the Admin command prompt:

  sqlcmd -S \\.\pipe\MSSQL$MICROSOFT##SSEE\sql\query -i C:\SOFTWARE\susdb.sql



- Review the folder C:\SOFTWARE to make sure **susdb.bak** file is created:



2.4.4.2 *WSUS folder backup*

To back up content and data

1. On your WSUS server, click **Start**, and then click **Run.**
2. In the **Open** box, type **%windir%\system32\ntbackup.exe**, and then click **OK**.
3. In the **Backup or Restore** Wizard, click **Next**.
4. Verify that **Back up files and settings** is selected, and then click **Next**.
5. Click **Let me choose what to back up**, and then click **Next**.
6. Under Items to back up, check the WSUS folder (typically **%systemdrive%\WSUS**), and then click **Next.**
7. Click the **Browse** button to choose a place to save your backup, type a name for the backup, and then click **Next**.
8. If you want to set additional specifications for your backup, including whether it will be an incremental backup, whether you want to verify the backup, set a recurring schedule for the backup, or other options, click **Advanced**, and then follow the instructions in the wizard.
9. When the wizard is finished, click **Finish.**
10. When the message appears that informs you that the backup is complete, click **Close**.

Additional references:

Backup and Restore WSUS Data: http://technet.microsoft.com/en-us/library/dd939904(WS.10).aspx

Backing Up Windows Server Update Services 3.0: http://technet.microsoft.com/en-us/library/cc720441(WS.10).aspx

2.4.5 Source Files – Applications, Software Updates

Use the standard backup process in your organization to backup the following folder/files including sub-folders/files.

- Application Installers Source Files (This includes common apps for OSD.)
- Operating System deployment related source files. (E.g. Images, drivers, scripts)
- Downloaded Software Updates source file
- Drive:\SCCMContentLib
- Drive:\SMSPKG
- Drive:\SMSPKGSIG
- Drive:\SMSPKGE$
- Drive:\SMSSIG$

3 Recover Standalone Primary Site and secondary sites

There are multiple ways to recover a primary site. Some recovery methods depend on what type of backup has been performed. The following are the available recovery options based on the type of backup performed. If there is no backup or SQL MDF/LDF files available for restore then you will have to reinstall the site server.

Site Maintenance Task Backup

- Recover this site using an existing backup and Recover the site database using the backup set at the following locations (Site Maintenance Task Backup)
- Recover this site using an existing backup and Skip database recovery (SQL was unaffected by the disaster)
- Reinstall this site server and Recover the site database using the backup set at the following location (Site Maintenance Task Backup)
- Manually reinstall the Primary Site and use the Recovery Wizard to restore the database

SQL Backup

- Reinstall this site server and use a site database that has been manually recovered (SQL Backup)

Site Maintenance Task and SQL Backup

- Recover this site using an existing backup and Use a site database that has been manually recovered (Combination Site Maintenance Task and SQL Backup Restore)

SQL Server Unaffected

- Reinstall this site server and Skip database recovery (SQL was unaffected by the disaster)

3.1 Prepare for primary site restore

Before recovering the site, there may be additional installations that need to be completed first. For example, the Primary site is hosting SQL and WSUS. The following items may need to be installed prior to starting the Primary Site Recovery:

- Remote Differential Compression
- BITS
- .NET Framework 3.5
- .NET Framework 4
- Windows Server Update Services (WSUS)
    - Using WID or SQL

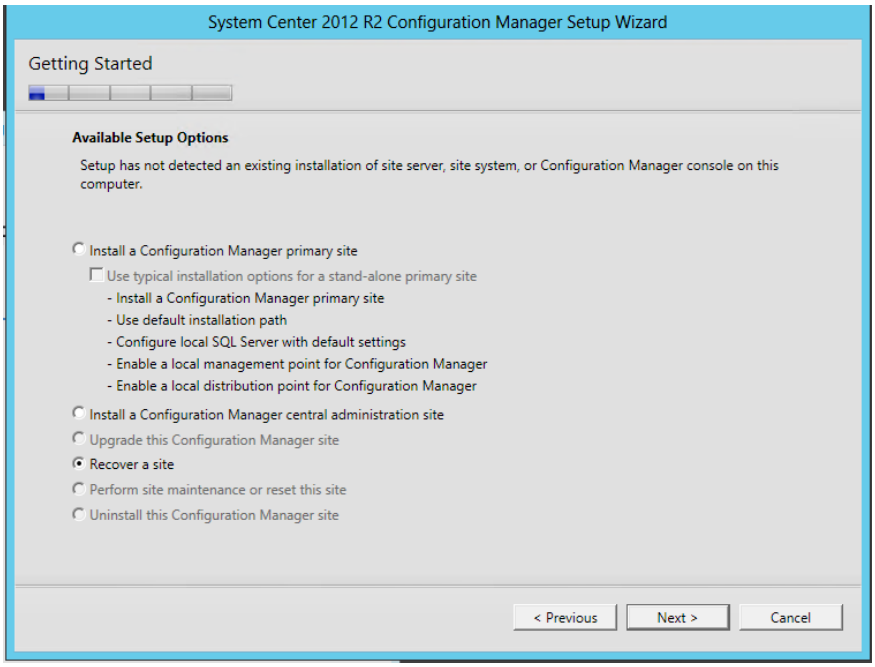
- Full Install or Admin Console/API Only
- SQL Server 2012 SP1 (or equivalent)

Chapter 6 contains examples of how you can automate the installation of these components.

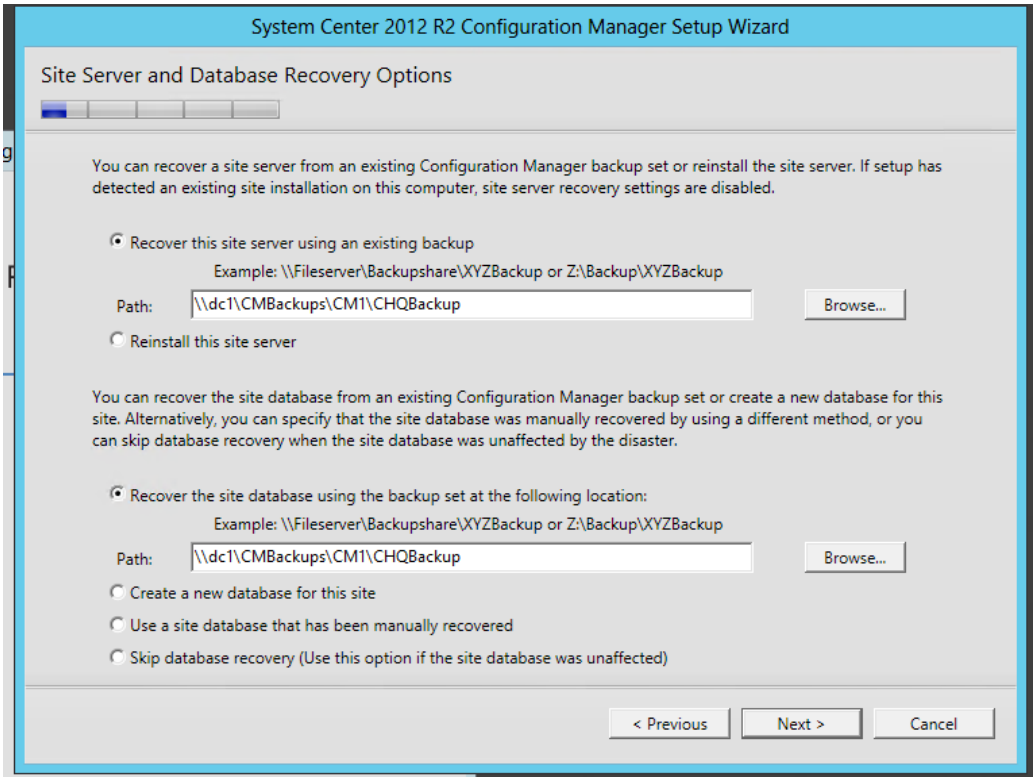
3.2 Recover this site using an existing backup and Recover the site database using the backup set at the following locations (Site Maintenance Task Backup)

In this scenario, SQL and WSUS are installed on the Primary Site. Both of these need to be installed prior to recovering the Primary Site.

1 Getting Started: Launch Setup from the installation Media and select "**Recover a Site**" and "Next"



2 Site Server and Database Recovery Options: Select "**Recover this site using an existing backup**" and Select "**Recover the site database from the backup set at the following location**". Provide the path for both with the location of your backup files and choose "next"

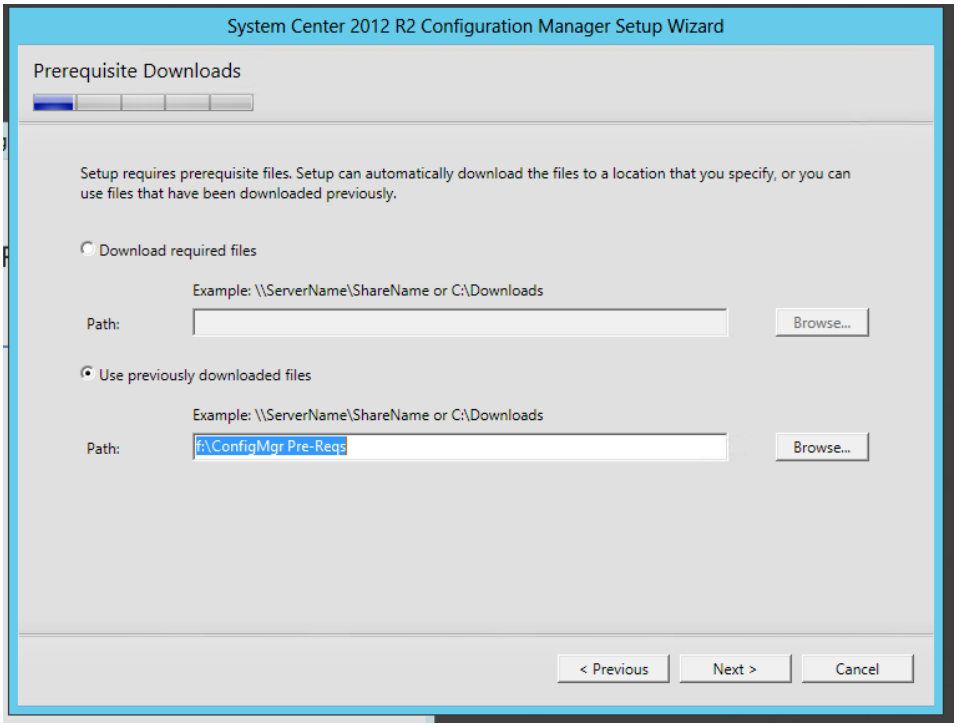


3 There is no CAS in this environment and thus no reference sites are needed. Click "next" to continue past the "Site Recovery Information" page.

4 Enter the Product Key

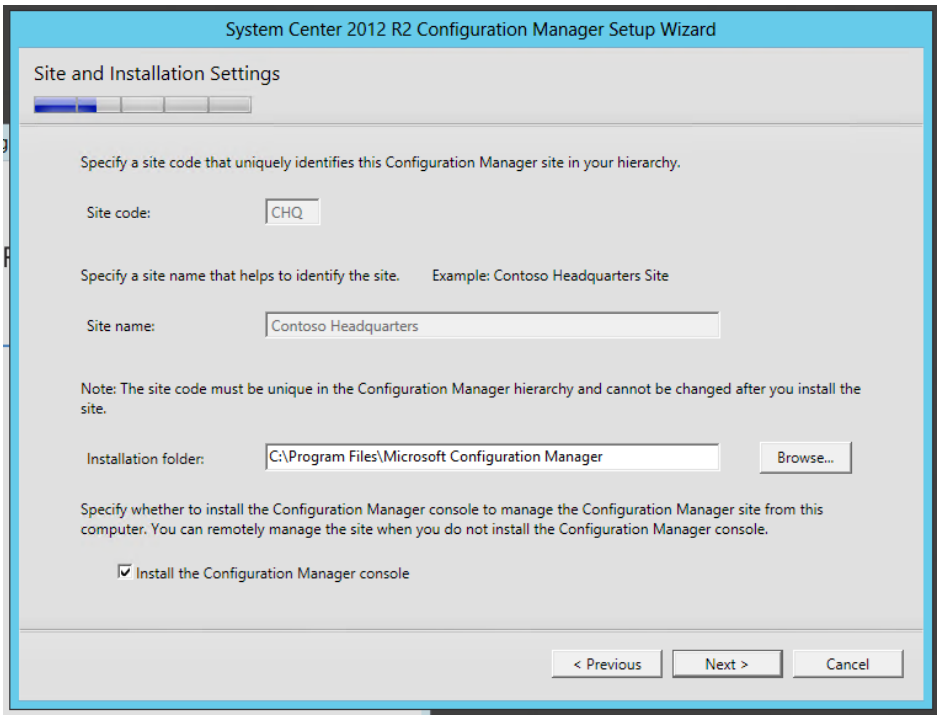
5 Read and Accept the license agreements to proceed

6 Prerequisite Downloads: Provide the path to the downloaded prerequisite files.

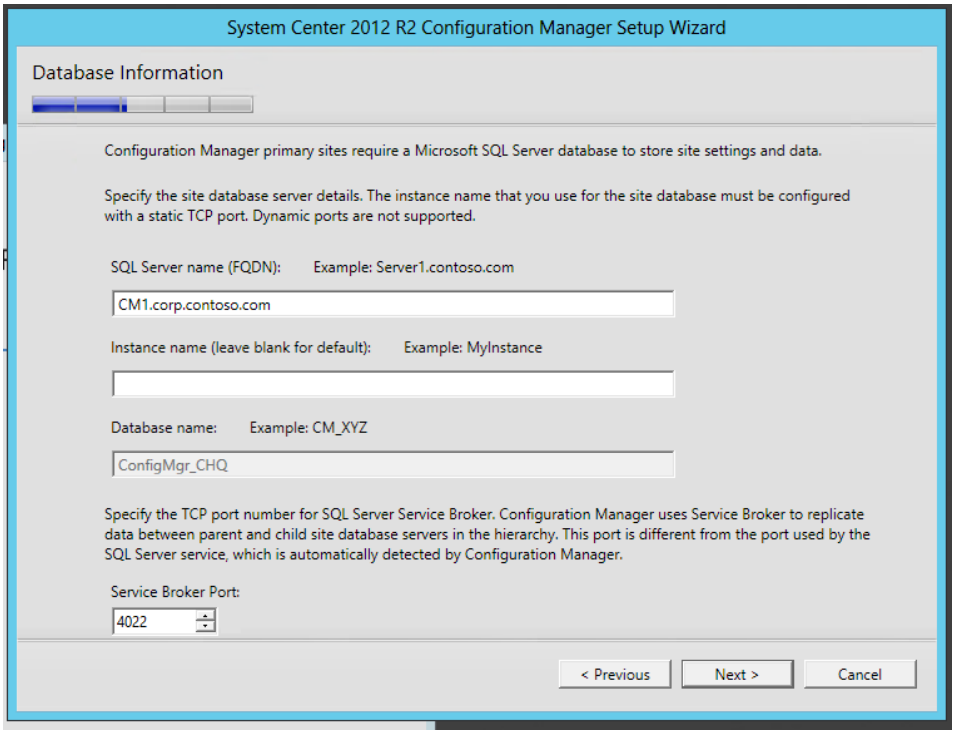


7 Site and Installation Settings. The Site Code and Site Name should be read from the backup. Ensure that the Installation folder is correct based on the Previous Site configuration.

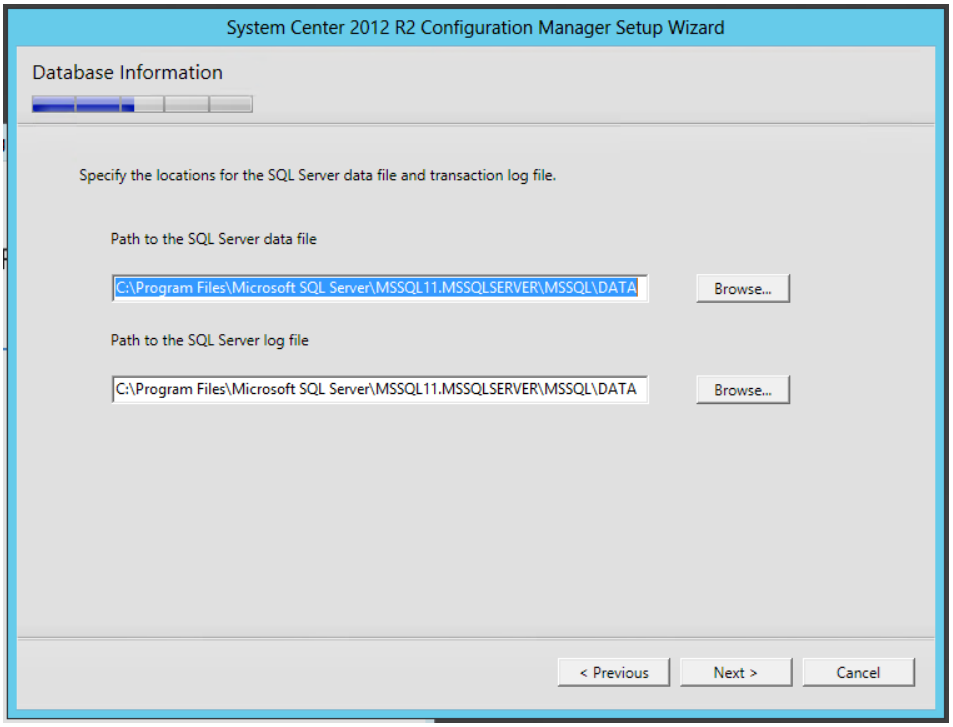
NOTE: It is recommended to use the same Installation folder as the installation that is being recovered.



8 Database Information. Ensure that the SQL Server Name is Correct. In the case of SQL Instance, that should also be exactly the same as the original site. In this case, SQL is also located on the Primary Site, thus the host name should be the Primary Site. If a custom SSB port is being used, that should be set as well.

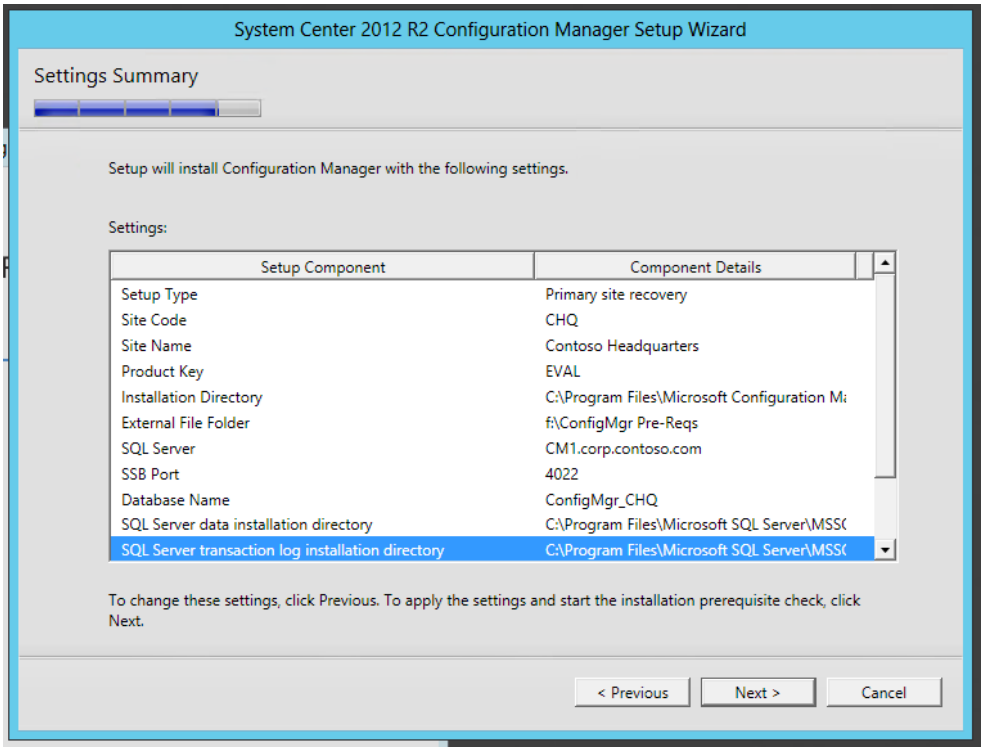


9 Database Information (cont.). Enter the drive locations that the SQL Data file and the SQL Log file should be restored to.

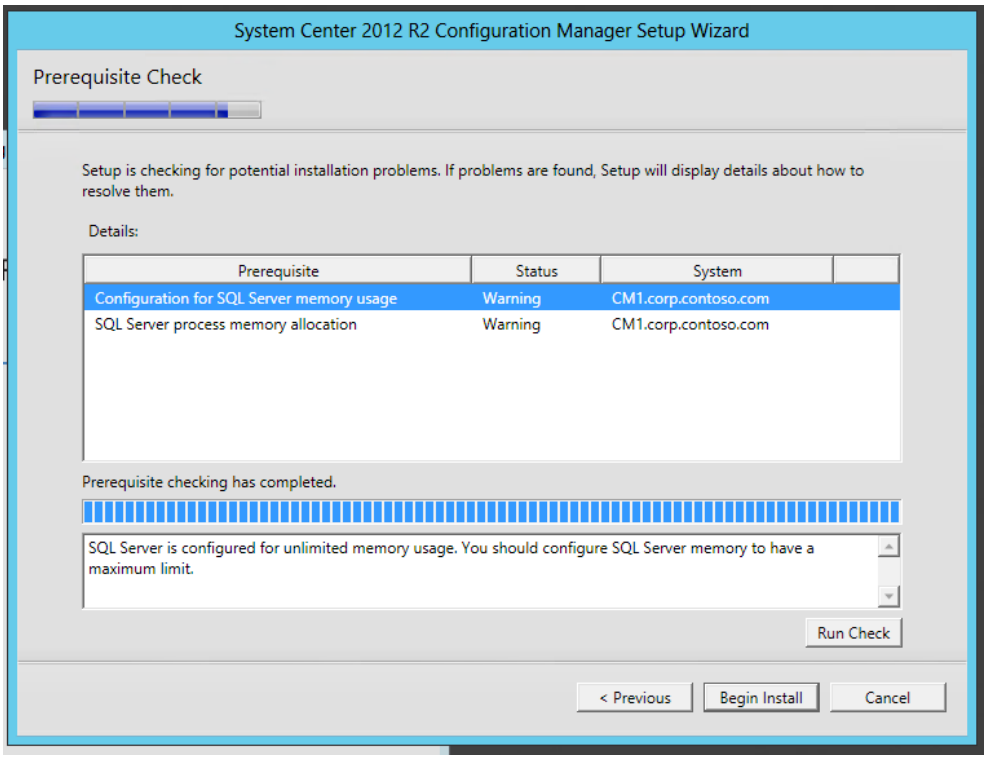


10 Customer Experience Improvement Program. Choose whether or not to enroll

11 Settings Summary. Review this page to ensure that all the information entered is correct.



12 The Prerequisite Check will now run and identify items that should be addressed prior to proceeding.



13 Clicking the "**Begin Install**" button will begin the Site Recovery.

14 When the recovery is complete, the "Finished" screen will appear with various Post-Recovery actions that will need to be taken. These actions can include updating service

account passwords in the Configuration Manager Console and Hotfixes that need to be re-installed.

3.3 Manually reinstall the Primary Site and use the Recovery Wizard to restore the database

3.3.1 Install the new primary site

1. Install fresh Primary site with same site server name and site code.
2. SQL database server hostname can be different but the database name of the Configuration Manager's site must be the same.
3. Install the same hotfixes for Configuration Manager as that of previous primary site.
4. Verify that SQL ports (i.e. 1433 and 4022) are open between primary site server and the server which will host the secondary site servers

3.3.2 Primary site database

In order to complete the recovery, the new "empty" database from the fresh install needs to be deleted. Please note that SQL Instance name should be the same as backup to perform the Primary Site recovery from SQL.

1. Launch SQL Server Management Studio (SSMS) for Primary site.
2. Expand the instance and then expand databases.
3. Right Click on the **Configuration Manager database**, **CM_XXX,** and select Tasks → Backup
4. After the backup is completed, Right Click on the Database again and choose delete

Delete the database otherwise Configuration Manager 2012 R2 site Recovery will fail if there is a database with the same name that already exists.

5. If there is no backup from Configuration Manager Site Maintenance task and SQL backup is available then restore the database now. If the database is restored at this step then there is no need to follow the database restore steps in next section.

Important: Setup admin requires sysadmin permission on the database if it is attached manually to SQL server otherwise SQL Connection will fail during setup. If SQL DB is attached on remote SQL, site server machine account should also require permission on attached DB. Normally this permission is not added by default when user attaches DB manually.

6. Close Management Studio

3.3.3 Primary site server

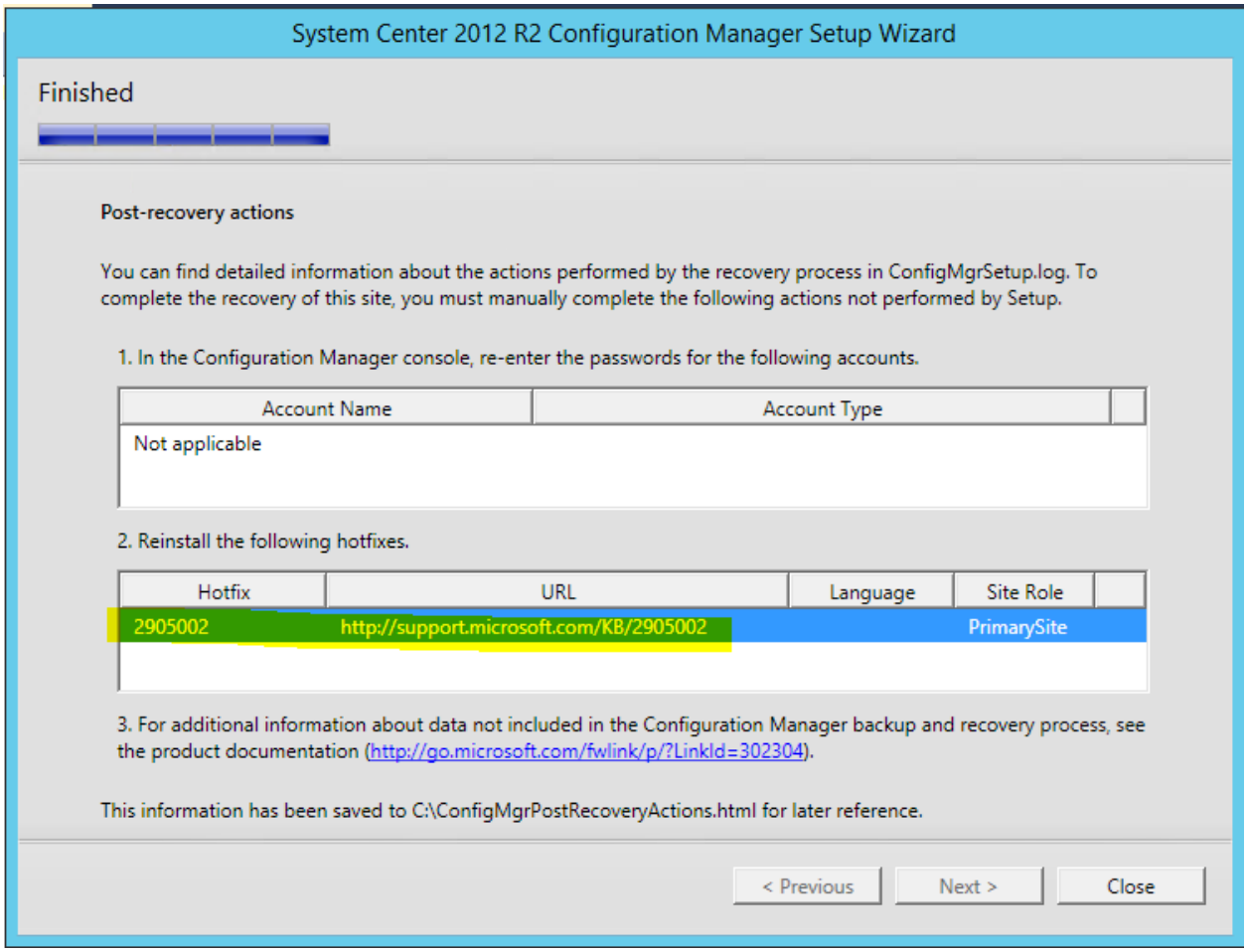
1. Launch the **Configuration Manager 2012 R2 site** installation media
2. Click install and then choose to **Recover a Site**
3. Recover Site Server using an existing backup will be greyed out because **Configuration Manager 2012 R2 site** is already installed on the server

To Recover a Site Server, the Primary Site Server installation must be uninstalled. But we are not going use recover site server option in this case. (See previous Chapter 3.2)

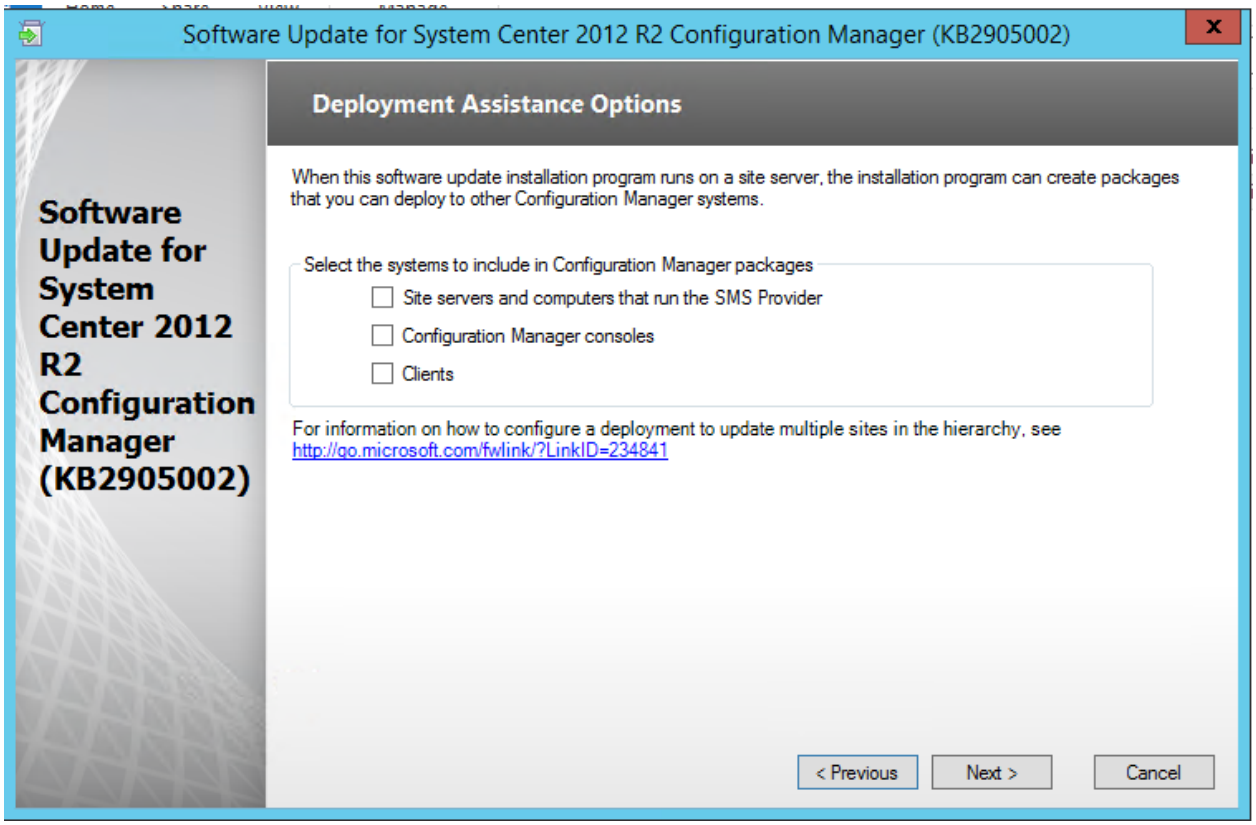
4. On **Site Server and Database Recovery Options** page,
    a. If SQL database is being restored from Backup Site Server maintenance task's backup copy then select => **Recover site database using the backup set at the following location:** & Enter backup folder path.
    b. If SQL database for primary site is restored from SQL backup then select => **Use a site database that has been manually recovered** and Click **Next**
5. On **Site Recovery Information** page, select **Recover Primary Site.** Mention the Central Administration site (FQDN). Click **Next.**
6. On the **Product Key** page, select **Install the licensed edition of this product.** Enter the product key and click **Next**.
7. On the **Microsoft Software License Terms** page, select "I accept this license terms." Click **Next.**
8. On the **Prerequisites Licenses** page, select three checkboxes and click **Next.**
9. On the **Prerequisites Downloads** page, select **Use previously downloaded files** and enter **path.** (Note: Make sure that you have downloaded pre-requisites files already.)
10. On **Site and Installation Settings** page, verify values for:
    a. Site Code
    b. Site Name
    c. Installation Folder
    d. Select checkbox for '***Install the Configuration Manager Console***'
11. On the **Database Information** page, verify/update values for:
12. Database Server Name (FQDN)
    a. Instance Name
13. On the next page, again on **Database Information,** enter
    a. Path to the SQL Server Data file
    b. Path to the SQL Server log file

*(Note: This **Database Information** page is not available if SQL server is clustered.)*

14. On the **Customer Experience Improvement Program** page, select appropriate option and click **Next**
15. On the **Settings Summary** page, verify the settings and click **Next**
16. On the **Prerequisites Page,** once all checks are completed and successful, click on **Begin Install.**
17. Once installation is completed, re-enter the passwords for the accounts that are used by site systems. These accounts will be listed at the end of setup. Install the same hotfixes as that of original setup. You will see the list of hotfixes, which need to be reinstalled at the following screen.



Important: During the hotfix reinstallation process, if hotfix prompts to create packages for Console, Server and Client side, then **uncheck** those boxes as shown below as those are already created during new hierarchy installation.



3.4 Recover Secondary Sites

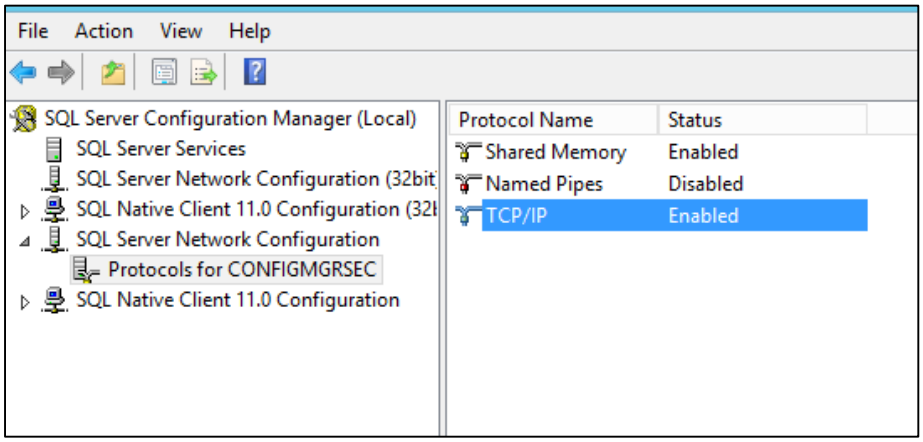
3.4.1 Prepare for secondary site recovery

1. Install fresh server OS with same computer name of old secondary site server.

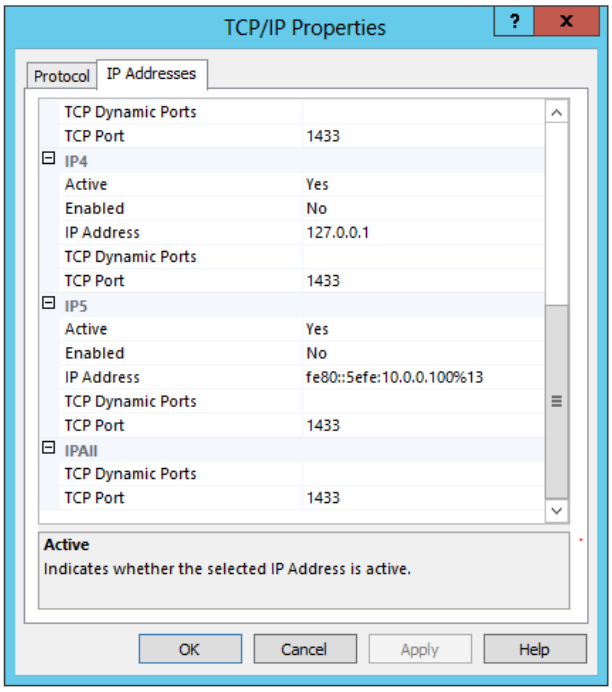
2. During a secondary site recovery, Configuration Manager does not install SQL Server Express if it is not installed on the computer. Therefore, before you recover a secondary site, you must manually install SQL Server Express or SQL Server. You must use the same version of SQL Server and the same instance of SQL Server that you used for the secondary site database before the failure.

```
SQLEXPR_x64_ENU.exe /QS /ACTION=install /FEATURES=SQL
/INSTANCENAME=CONFIGMGRSEC /SQLSVCACCOUNT="NT AUTHORITY\SYSTEM"
/AGTSVCACCOUNT="NT AUTHORITY\SYSTEM"
/SQLSYSADMINACCOUNTS="BUILTIN\Administrators"
/ADDCURRENTUSERASSQLADMIN="True"
/BROWSERSVCSTARTUPTYPE="Automatic" /IAcceptSQLServerLicenseTerms
/SQLCOLLATION="SQL_Latin1_General_CP1_CI_AS" /TCPENABLED=1
```

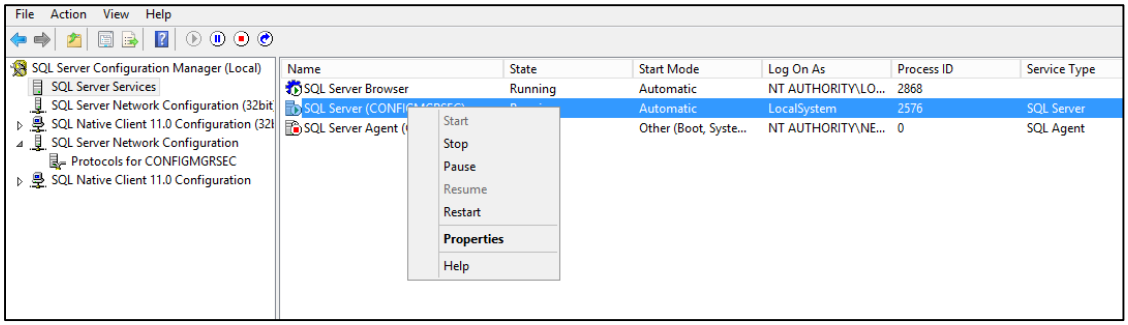
3. Setup SQL Instance for Static TCP Port
    - Open **SQL Server Configuration Manager**
    - Expand the **SQL Server Network Configuration** node and select **Protocols for CONFIGMGRSEC.**
    - Right click again and choose **Properties**.



    - Select the **IP Addresses** tab. Scroll down to the **IPAll** section, clear the **TCP Dynamic Ports** field and enter 1433 in the **TCP Port** field. This will set the named instance of SQL Express to use TCP 1433.



    - Restart the SQL Server Service (Select the **SQL Server Services** node, in the right pane, find the **SQL Server (CONFIGMGRSEC)** service, right click and **restart**.



4. Configure roles, services and features required by secondary site:

   Roles / Role Services
   - ✓ Web Server (IIS)
   - ✓ Application Development:
   - ✓ ISAPI Extensions
   - ✓ Security:
   - ✓ Windows Authentication
   - ✓ IIS 6 Management Compatibility
   - ✓ IIS 6 Metabase Compatibility
   - ✓ IIS 6 WMI Compatibility

   Features Required for Secondary Site:
   - ✓ Remote Differential Compression
   - ✓ BITS
   - ✓ .NET Framework 3.5
   - ✓ .NET Framework 4

   For command line installation of these features via PowerShell:

   ```
   Install-WindowsFeature Web-ISAPI-Ext, Web-Windows-Auth, Web-Metabase, Web-WMI, Web-Mgmt-Console, RDC, NET-Framework-45-Core, BITS-IIS-Ext

   Install-WindowsFeature Net-Framework-Core –Source \\share\sxs (machine account must have read)
   ```

5. Verify that SQL ports (i.e. 1433 and 4022), WMI, and File Sharing Ports are open between primary site server and the server which will host the secondary site servers

   For command line to open firewall ports:
   SQL Ports:

   ```
   netsh adv fire add rule name="SCCM/SQL" dir=in protocol=TCP localport="1433,4022" action=allow
   ```

   Enable WMI Firewall Exceptions:

```
netsh adv firewall set rule group="Windows Management Instrumentation
(WMI)" new enable=yes

Enable File and Printer Sharing:
netsh adv fire set rule group="File and Printer sharing" new enable=yes
```

6. Add the computer account of primary site to local admin group of the server to host secondary site

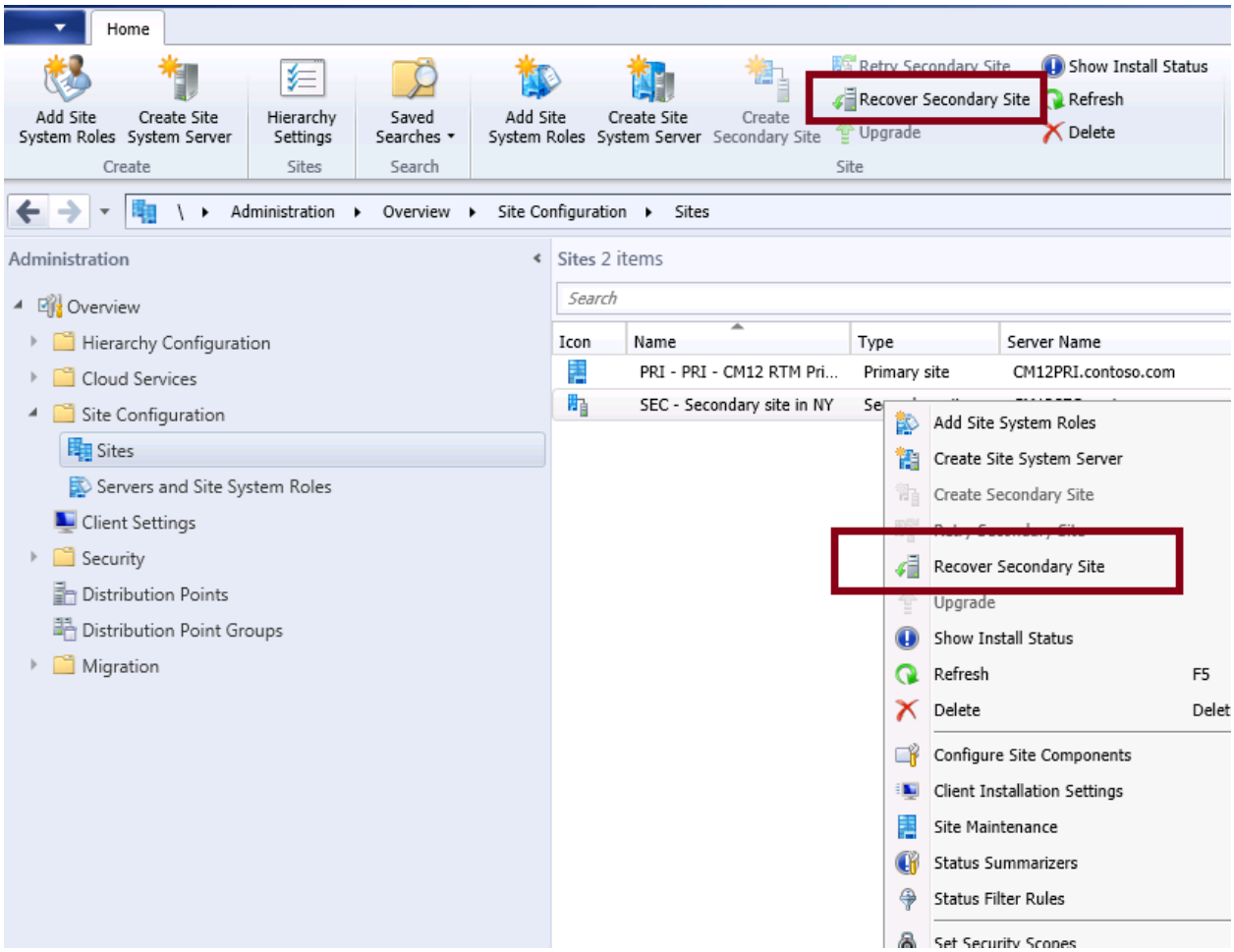
```
Command line to add Primary Site to the local administrators group:
net localgroup Administrators corp\cm1$ /add

(Replace corp\CM1$ with domain\hostname$ of your primary site)
```

7. Give the Secondary Site Server Computer Account Permissions to the System Management container in AD.

3.4.2 Recover secondary site from SCCM console

1. Use the **Recover Secondary Site** action from the **Sites** node in the Configuration Manager console

   Note: Unlike recovery for a central administration site or primary site, recovery for a secondary site does not use a backup file. Instead, Configuration Manager installs the secondary site files on the failed secondary site computer and then the secondary site data is reinitialized with data from the parent primary site.



2. Keep the same installation path of the previously failed site

3.5 Recover from supplemental backups

3.5.1 Content library

For primary site, please refer to module 4 (CAS) for details.

For secondary site, during the recovery process, Configuration Manager verifies that the content library exists on the secondary site computer and that the appropriate content is available.

The secondary site will use the content library, if it exists on the computer and contains the appropriate content. Otherwise, to recover the content library you must redistribute or pre-stage the content to the secondary site.

When you have a distribution point that is not on the secondary site, you are not required to reinstall the distribution point during a recovery of the secondary site. After the secondary site recovery, the site automatically synchronizes with the distribution point.

3.5.2 Software updates and SCUP 2011 database

Please refer to Module 4 for details.

3.5.3 SQL reporting service and RSP

Please refer to Module 4 for details.

3.5.4 Source files

Please refer to Module 4 for details.

4 Recover Entire Hierarchy

Configuration Manager Hierarchy has CAS and Primary site(s) in production datacenter. For some reason, datacenter is down and not all the sites and database servers are in working condition. Database backup is available either from Configuration Manager backup task or from SQL backup. Our goal is to recover Configuration manager CAS & Primary sites in the hierarchy from backups. In the case of Secondary site recovery, there is no ConfigMgr backup option for Secondary site. You have to use the following steps to recovery Secondary site:

1. Install secondary site with same site code, DB name and SQL instance name as given in section 3.4. It is similar to initial installation of CAS and Primary site
2. Once CAS and Primary site are recovered, recover Secondary site as given in section 3.4 (Recovery Secondary site)

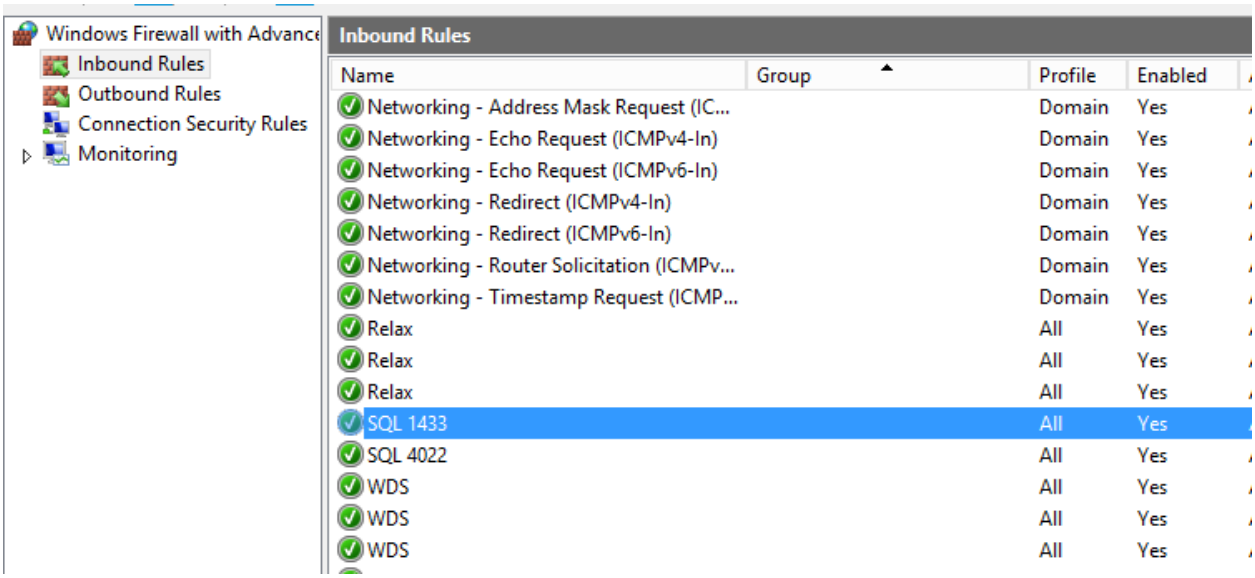
4.1 Prepare for Hierarchy Restore

Important: Please note that ConfigMgr site server and sitecode may be different for different sections of this document as they are used for illustration purposes only.

4.1.1 Install New Configuration Manager Hierarchy

To recover the entire hierarchy, you will need to keep track of all the changes made in your production ConfigMgr environment since it would require to install fresh hierarchy as per original build plus any changes made after the initial installation. Below steps describes this process in details.

1. First install CAS site and make sure to use exact same site server name and site code
2. Install Primary site with same site server name and site code.
3. The SQL database server hostname can be different but the database name of the Configuration manager's sites (CAS & Primary) must be same. Please make sure SQL Instance name should be exactly the same as well.
4. Install the same hotfixes for Configuration Manager as that of previous production hierarchy.
5. Verify that Database Replication, between CAS & Primary site, is in ACTIVE state.
6. Verify that SQL ports (i.e. 1433 and 4022) are open between CAS and Primary sites. If you have changed any ports from their default value then make sure you are using the same custom port.



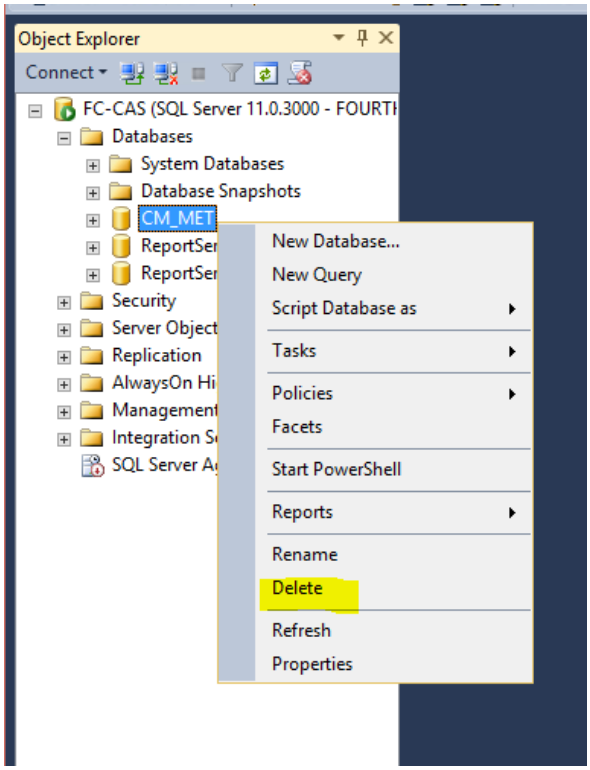
Important – Before restoration starts, we need a fresh installation of Configuration Manager 2012 R2 CAS and Primary sites.

DO NOT USE BACKUPS TO INSTALL Configuration Manager 2012 R2. The Reason for fresh install is CAS database has entries for primary site. After restore, CAS tries to replicate with primary. If primary site does not exist then CAS will never become Active and we cannot start primary site restore. Thus it becomes a deadlock situation.

4.1.2 Delete Databases in Fresh Hierarchy

1. Launch SQL Server Management Studio (SSMS) and connect to CAS site database.
2. Expand the instance and then expand databases. Click on CM_<sitecode> (for example, CM_MET if MET is the site code).
3. You can backup CM_<sitecode> if backup is not already taken via Configuration Manager Site Maintenance backup.
4. Right Click on the database, **CM_XXX (i.e. CM_MET)** and choose Backup. Once backup is complete then delete **CM_MET** database.

The database deletion is an important step. If a database with same name already exists then Configuration Manager 2012 R2 Recovery will fail.



5. If Configuration Manager Site Maintenance backup is not available and only SQL Database Backup is available, which was taken as a part of SQL backup then restore the database from the backup at this stage.
6. Close Management Studio.

Site Database Recovery option

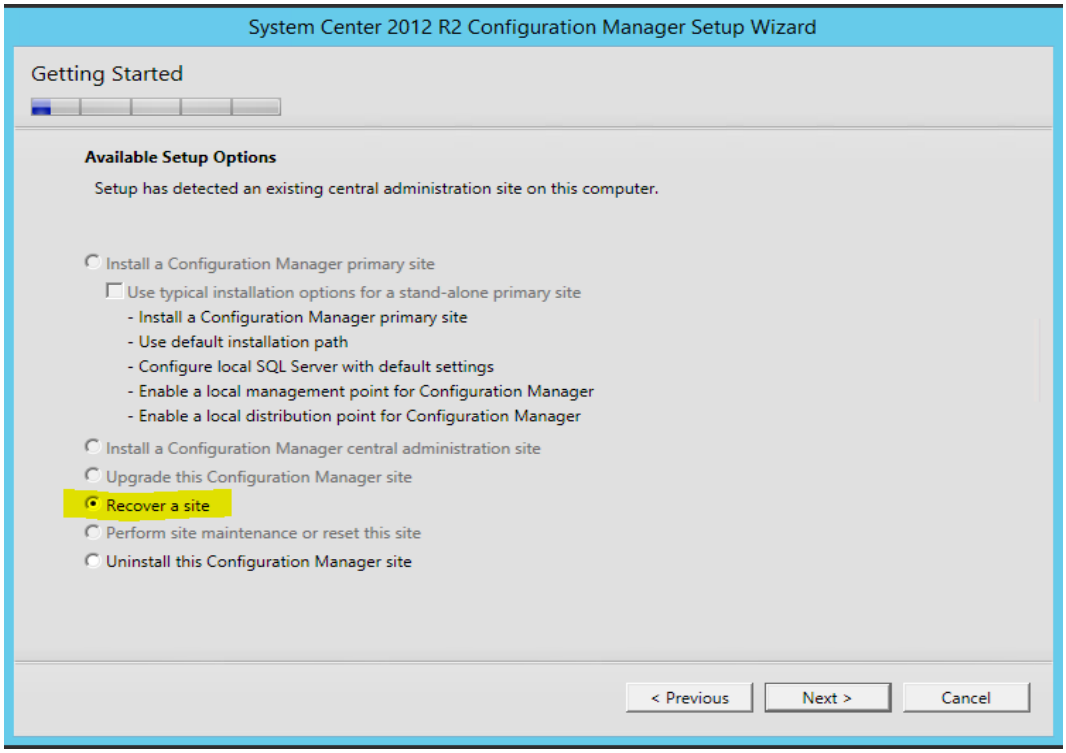
You can use either SQL backup or ConfigMgr Backup task backup to restore ConfigMgr database. If you are using SQL to backup ConfigMgr database then you can restore it before you start the recovery options. If you are using ConfigMgr backup task then you will have the option to specify the path during the recovery process below.

Important: Setup admin requires sysadmin permission on the database if it is attached manually to SQL server otherwise SQL Connection will fail during setup. If SQL DB is attached on remote SQL, site server machine account should also require permission on the attached DB. Normally this permission is not added by default when user attaches DB manually.

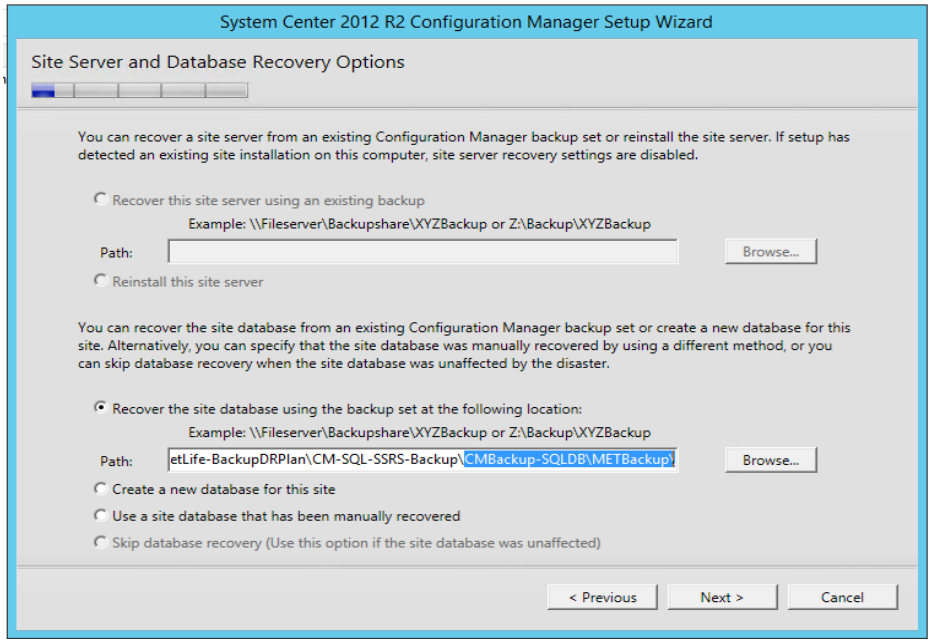
4.2 Recover CAS Site

4.2.1 CAS Site Database

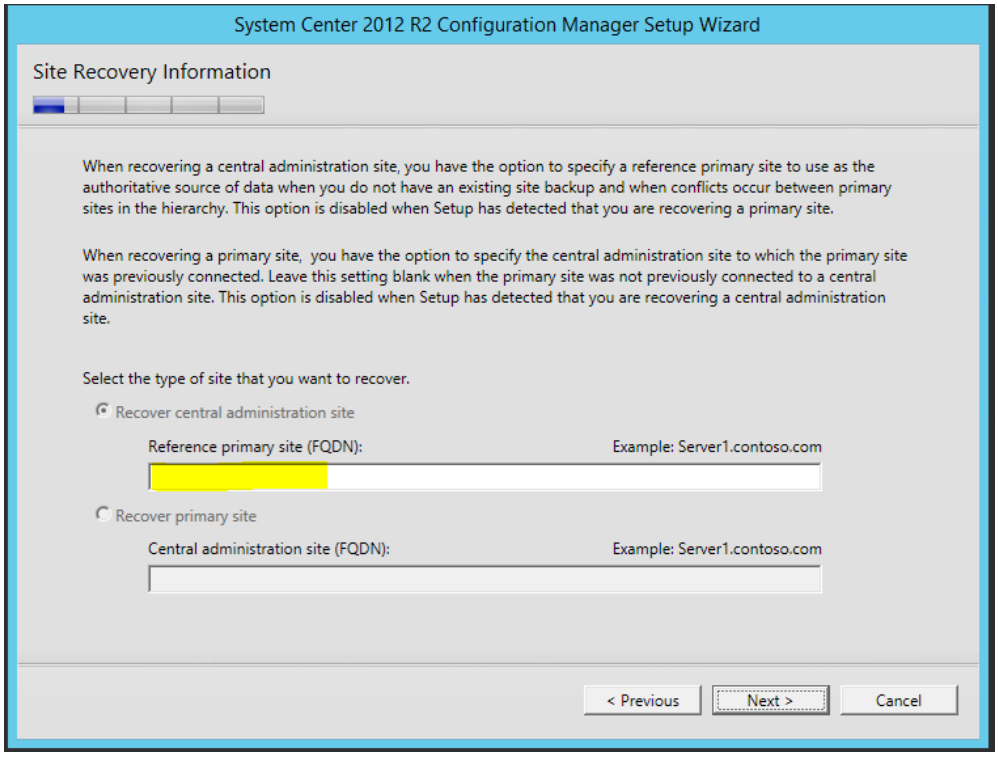
1. Once newly installed hierarchy is prepared for restore as per previous section, Run Configuration Manager 2012 R2 **Setup** from Media
2. On **Getting Started** page, select **Recover a site** option and click **Next.**



3. On **Site Server and Database Recovery Options** page,
    a. If SQL database is being restored from Backup Site Server maintenance task's backup copy then select => **Recover site database using the backup set at the following location:** & Enter backup folder path.
    b. If SQL database for CAS site is restored from SQL backup then select => **Use a site database that has been manually recovered** and Click **Next**



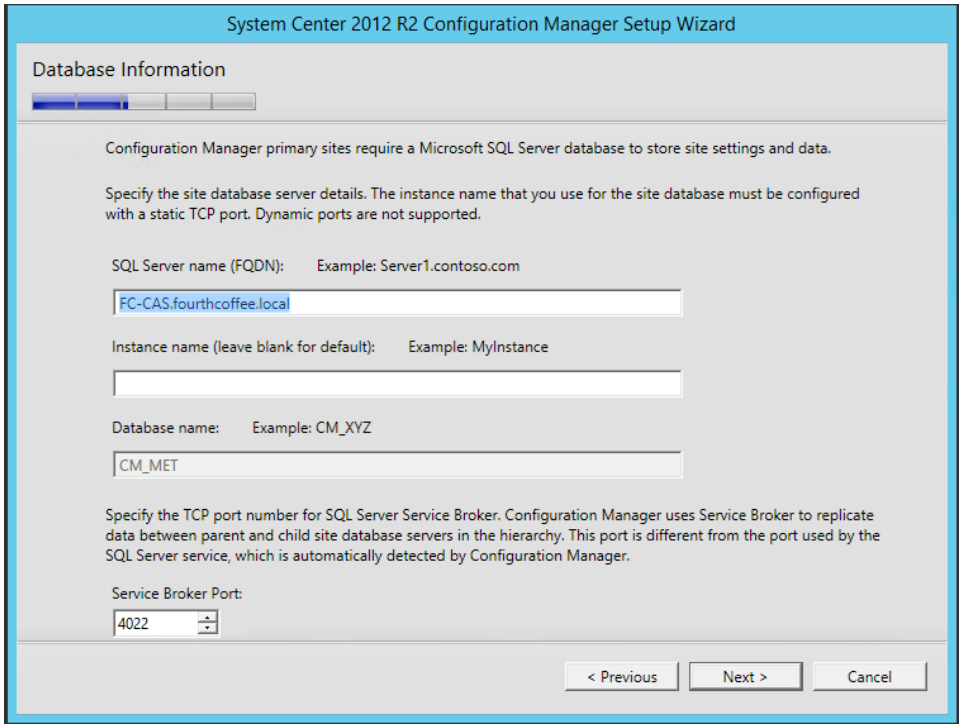
4. On **Site Recovery Information** page, select **Recover Central Administration Site.** Do not mention reference primary site (FQDN). Click **Next.**



5. On the **Product Key** page, select **Install the licensed edition of this product.** Enter the product key and click **Next**.
6. On the **Microsoft Software License Terms** page, select "I accept this license terms." Click **Next.**
7. On the **Prerequisites Licenses** page, select three checkboxes and click **Next.**

8. On the **Prerequisites Downloads** page, select **Use previously downloaded files** and enter **path.** (It is good option to download prerequisites separately.)
9. On **Site and Installation Settings** page, settings cannot be modified.
10. On the **Database Information** page. Select appropriate SQL Server name (i.e. if you are planning to change the SQL database location then this is the step to enter SQL server's name)

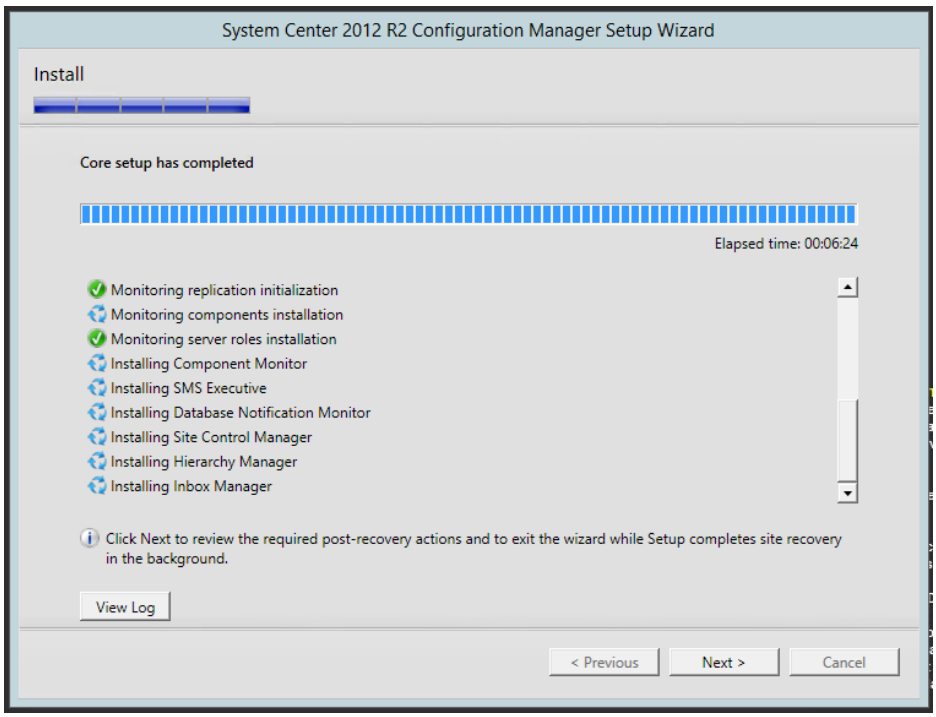
    - Database Server Name (FQDN)
    - Instance Name



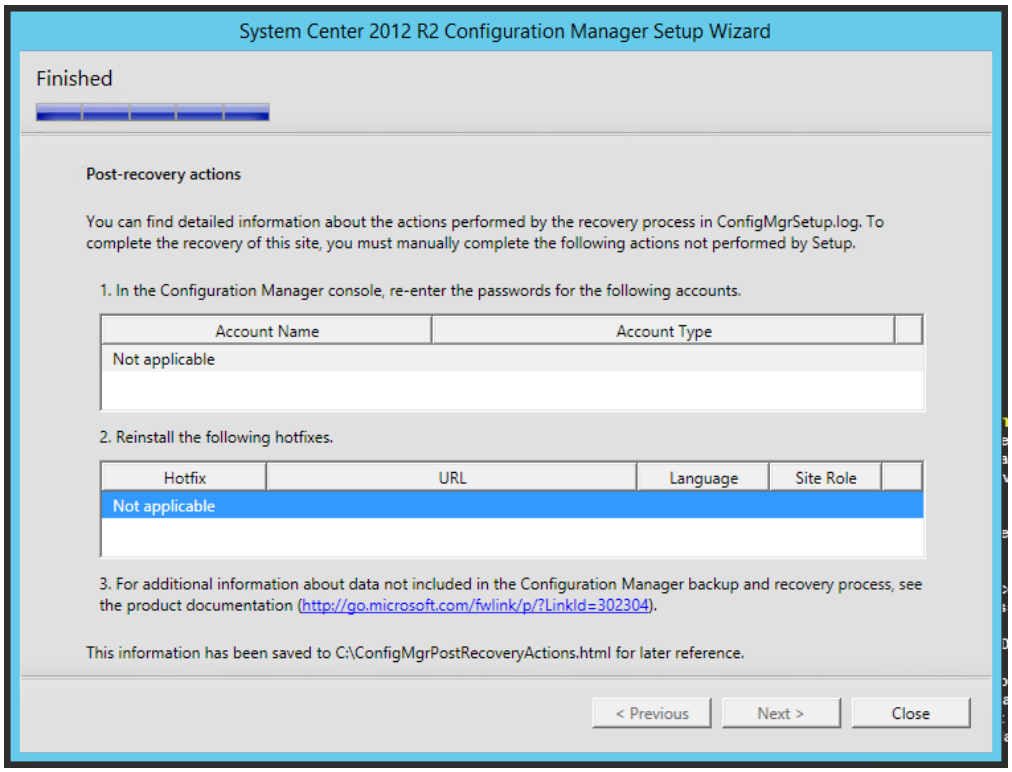
11. On the next page, again on **Database Information,** enter
    a. **Path to the SQL Server Data file**
    b. **Path to the SQL Server log file**

This option is not available for a clustered database.

12. On the **Customer Experience Improvement Program** page, select appropriate option and click **Next**
13. On the **Settings Summary** page, verify the settings and click **Next**
14. On the **Prerequisites Page,** once all checks are completed and successful, click on **Begin Install.** (The Recovery wizard completed within 6:24 minutes on the CAS during this test. It may take longer if database size is larger.)



15. Once the restore is completed, the last page will show the accounts to re-enter the password for and the list of hotfixes to be installed.



4.2.2 CAS Site Server

4.2.2.1 *To Exchange SSB certificates*

WARNING: Direct Changes/updates to Configuration Manager Databases are NOT supported by Microsoft. Use below steps only if you are working with Microsoft Support professional.

1. On the CAS Server Launch SQL Server Management Studio (SSMS)
2. Click on New Query and run the following query to backup the ***ConfigMgrEndpointCert*** to the Root of the C drive:

   use master
   Backup Certificate ConfigMgrEndpointCert TO FILE='C:\MET.CER'

   Note: Where ***MET*** is the site code of CAS Site Server

3. Copy MET.cer file to Primary Site's database server.
   a. Logon to each Primary Site's database server. Open SQL Server Management Studio (SSMS). Click on New Query. In the database Dropdown, choose the Configuration Manager Database for primary site.
   b. Run the following Query to import the ***ConfigMgrEndpointCert*** from the CAS Server:

   Exec dbo.spCreateSSBLogin @EndPointLogin='ConfigMgrEndpointLoginXXX', @DestSiteCode='XXX', @DestSiteCertFile='C:\MET.cer', @EndpointName='ConfigMgrEndpoint'

   NOTE: For the @EndPointLogin='ConfigMgrEndpointLogin**XXX**' and @DestSiteCode='**XXX**', Change **XXX** to the site code of the CAS site.

WARNING: Direct Changes/updates to Configuration Manager Databases are NOT supported by Microsoft. Use above steps only if you are working with Microsoft Support professional and if you see an error on Service Broker Login failed and Endpoint Certificate in SQL logs.

4. On Primary site database, from SQL Server Management Studio, run the following query to backup the ***ConfigMgrEndpointCert*** to the root of the C drive. This Certificate will be imported in the CAS as per the following steps.

   use master
   Backup Certificate ConfigMgrEndpointCert TO FILE='C:\YYY.CER'

   Note: Where *YYY* is the site code of Primary Site.

5. Copy the certs from all the Primary Sites to the root of the C: drive on the CAS database server.
   a. On the CAS database, open Management Studio and run below query for each Primary Cert that was copied to the Root of the C: drive:

Exec dbo.spCreateSSBLogin @EndPointLogin='ConfigMgrEndpointLoginYYY', @DestSiteCode='YYY', @DestSiteCertFile='C:\YYY.cer', @EndpointName='ConfigMgrEndpoint'

Where,
YYY in ConfigMgrEndpointLoginYYY => Respective Primary Site code.
YYY in @DestSiteCode='YYY' => Respective Primary Site code.
YYY in @DestSiteCertFile='C:\YYY.cer' => Respective primary site code or file name from respective primary site.

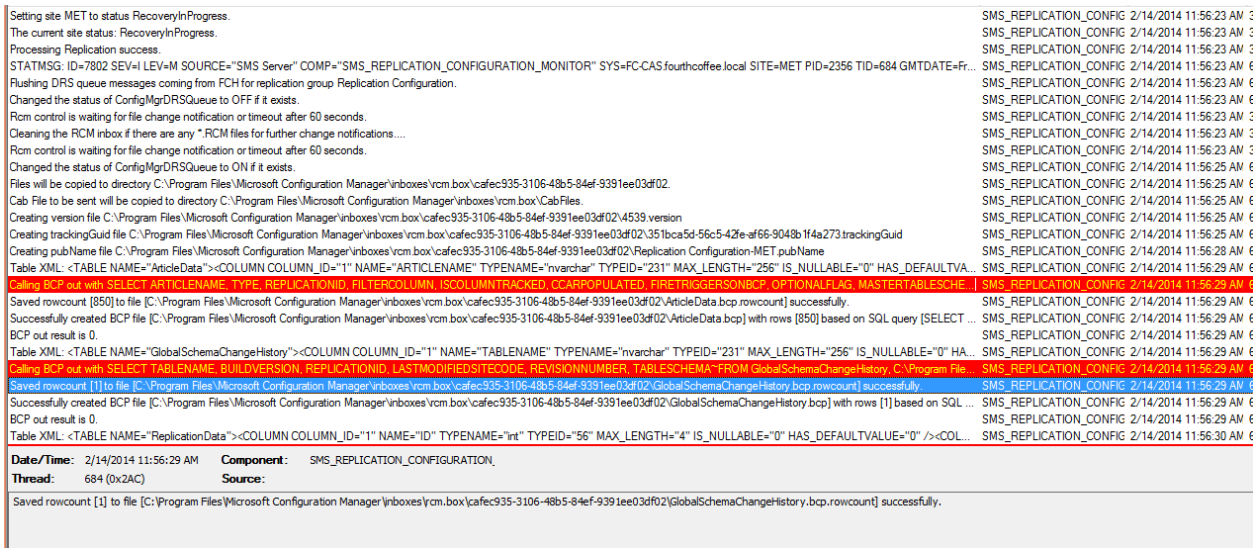
WARNING: Direct Changes/updates to Configuration Manager Databases are NOT supported by Microsoft. Use above steps only if you are working with Microsoft Support professional and if you see an error on Service Broker Login failed and Endpoint Certificate in SQL logs.

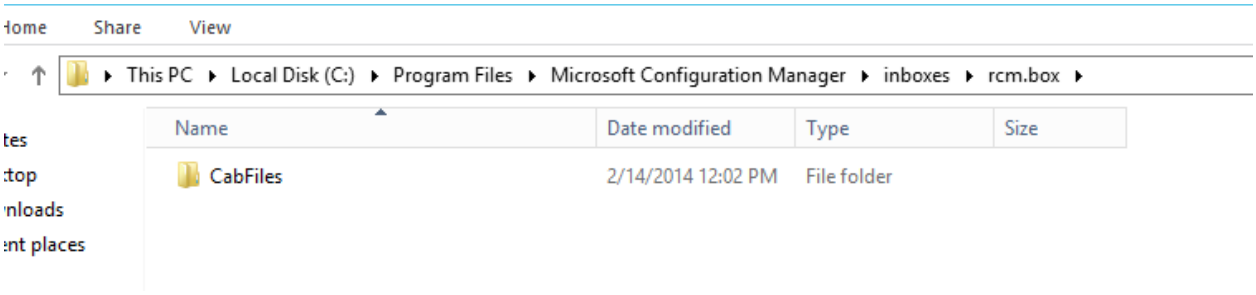
6. Close Management Studio and reboot CAS, Primary site servers & database servers.
7. After reboot, run the following SQL query on CAS database server from SSMS, to start the replication process

Update RCM_RecoveryTracking set RecoveryStatus=1 where RecoveryStatus!=1

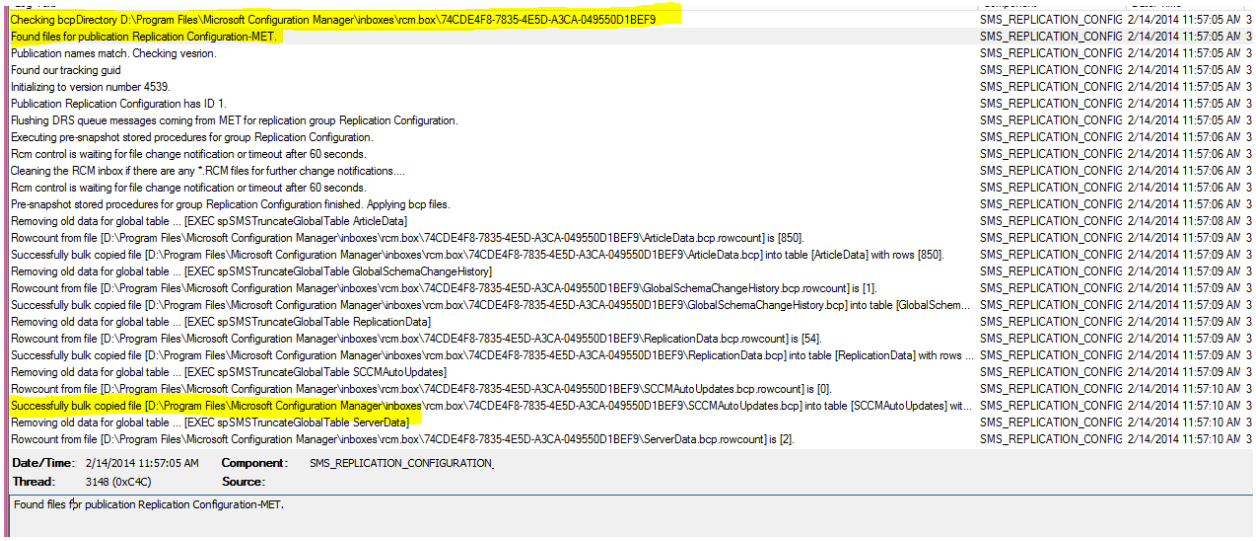
WARNING: Direct Changes/updates to Configuration Manager Databases are NOT supported by Microsoft. Use above steps only if you are working with Microsoft Support professional

8. CAS will start replication with all primary sites. Review CAS rcmctrl.log. Date should change on **CabFiles** folder under **inboxes\rcm.box** on CAS.

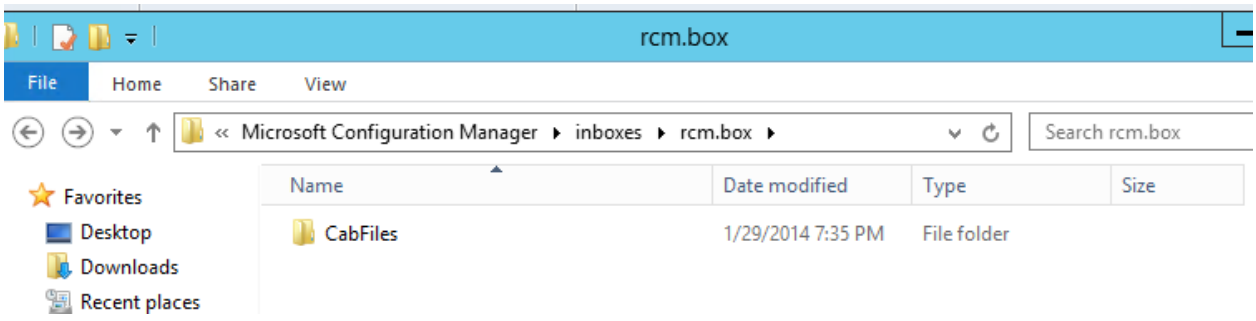




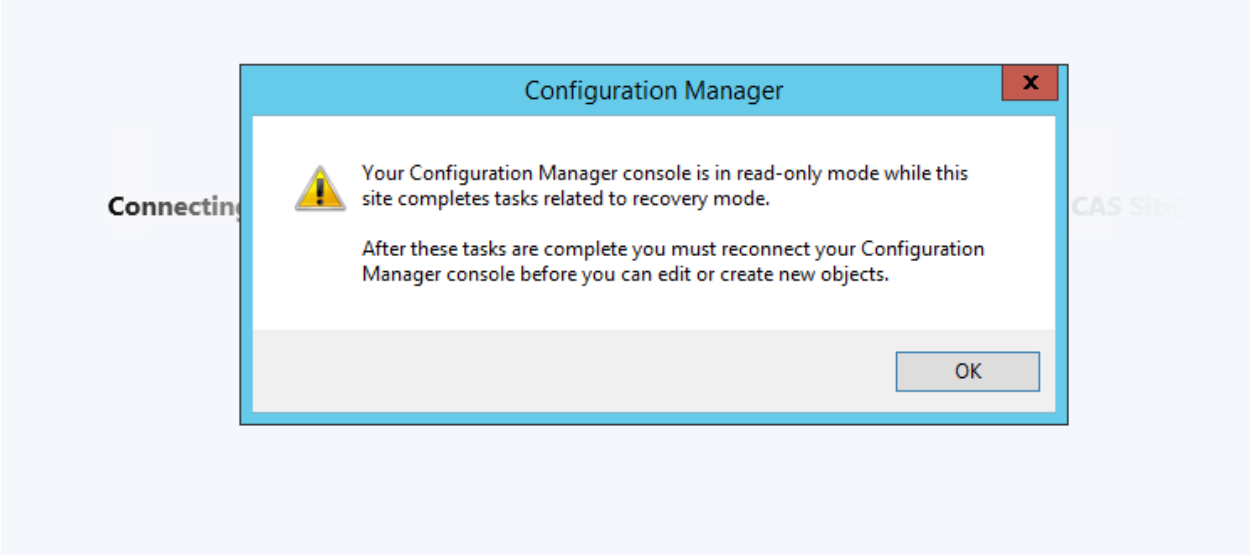
9. On Primary site, review rcmctrl.log and search for keyword "**Rowcount**" or "**Successfully bulk copied file**":



Important: Modified date on CabFiles folder on inboxes\rcm.box on Primary site do not change.



10. Below are a couple of methods to track the replication progress. The CAS will be in **Read-Only Mode** until the recovery/replication process is complete. If you open the Configuration Manager console for CAS site then you will see following message:



NOTE: Do not proceed to primary site recovery steps until the CAS is out of Read-Only mode and in an Active State.

4.2.2.2 *To verify the CAS and Primary Replication Links are communicating*

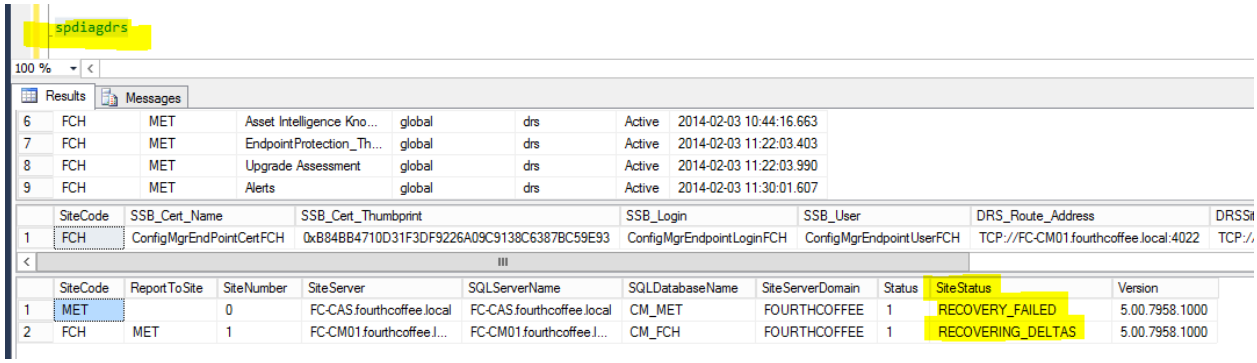
a. Open Configuration Manager Admin Console on the CAS. Navigate to the monitoring workspace, and click on Database Replication.
b. Right Click on each Child Primary Site and Run Replication Link Analyzer. If it completes without any issue then CAS and Primary Sites are communicating successfully.
c. If there is any issue then look in the logs on the desktop. Usually, it is an issue with the certificates exported & imported in the above section.

4.2.2.3 *To verify the CAS and Primary sites are exchanging data*

a. Open the RCMCTRL.log in the Configuration Manager logs folder and verify the CAS and Primary sites are exchanging data.

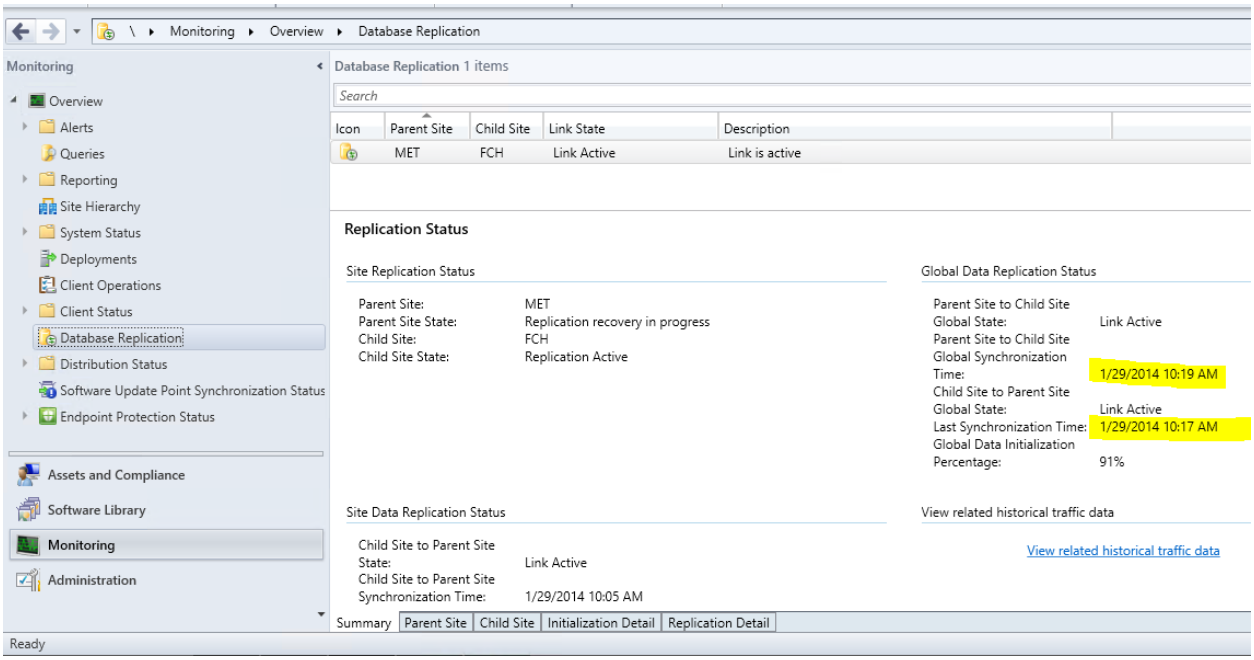
4.2.2.4 *To Verify the CAS is in and ACTIVE state*

a. Open the Configuration Manager Admin Console on the CAS. If it does not open in Read-only Mode then the CAS is in an Active state
b. To track the state of the CAS, open Management Studio on the CAS. Navigate to Configuration Manager Database. Click on a new query and type **SPDiagdrs.** Click execute. The stored procedure will run and it will display the current state of the CAS.
c. Even if console shows that CAS and Primary site are ACTIVE, sometime those are not active. Run **spdiagDRS** to find out the state or run Replication Link Analyzer to find out the exact state.



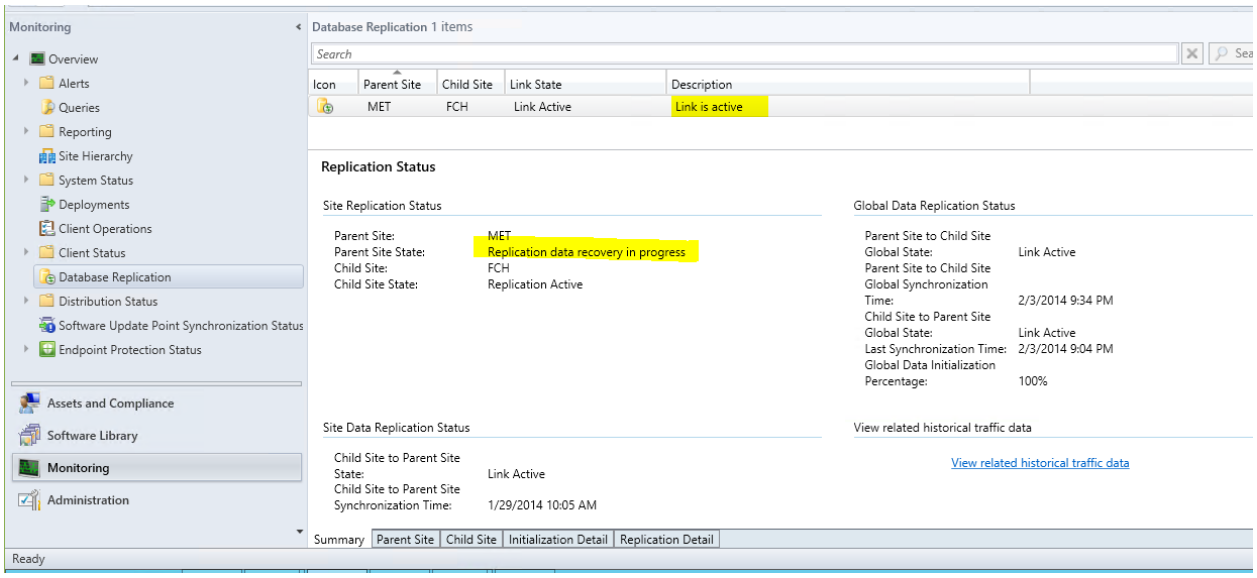
Important:

Review Database Replication Status on CAS Console. Please note that restore date is 1/31/2014 but below screen shows 1/29/2014. Hence it has not started the replication and still showing ACTIVE. Once date is updated automatically to the date on which restoration occurred and link state is ACTIVE then Configuration Manager is in actual active state.

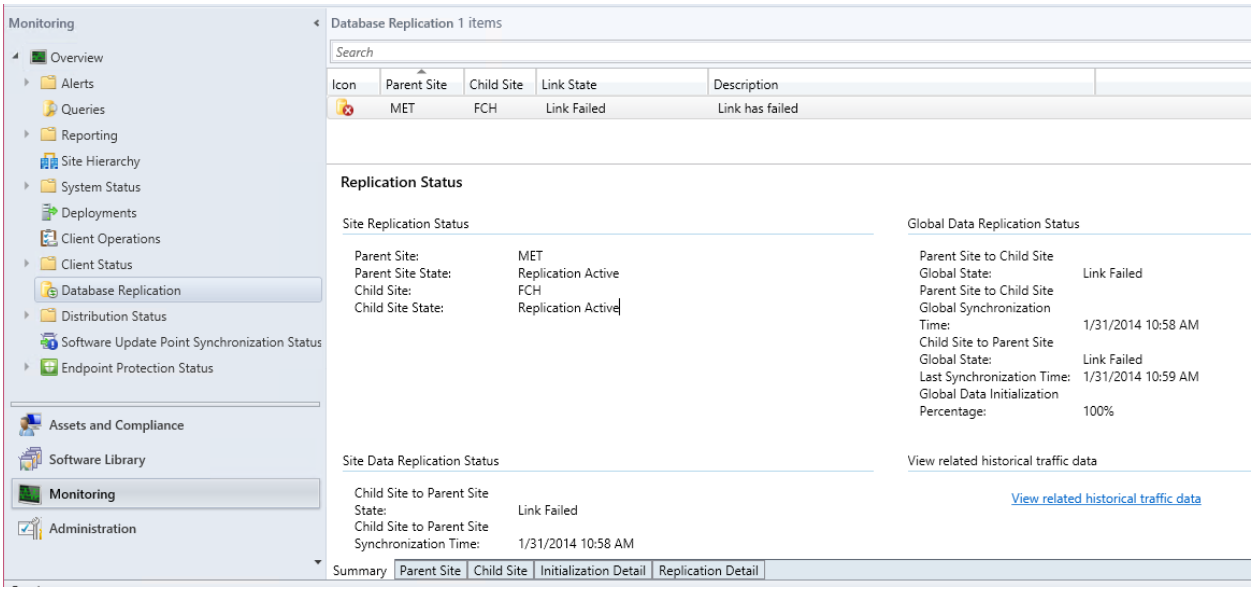


OR

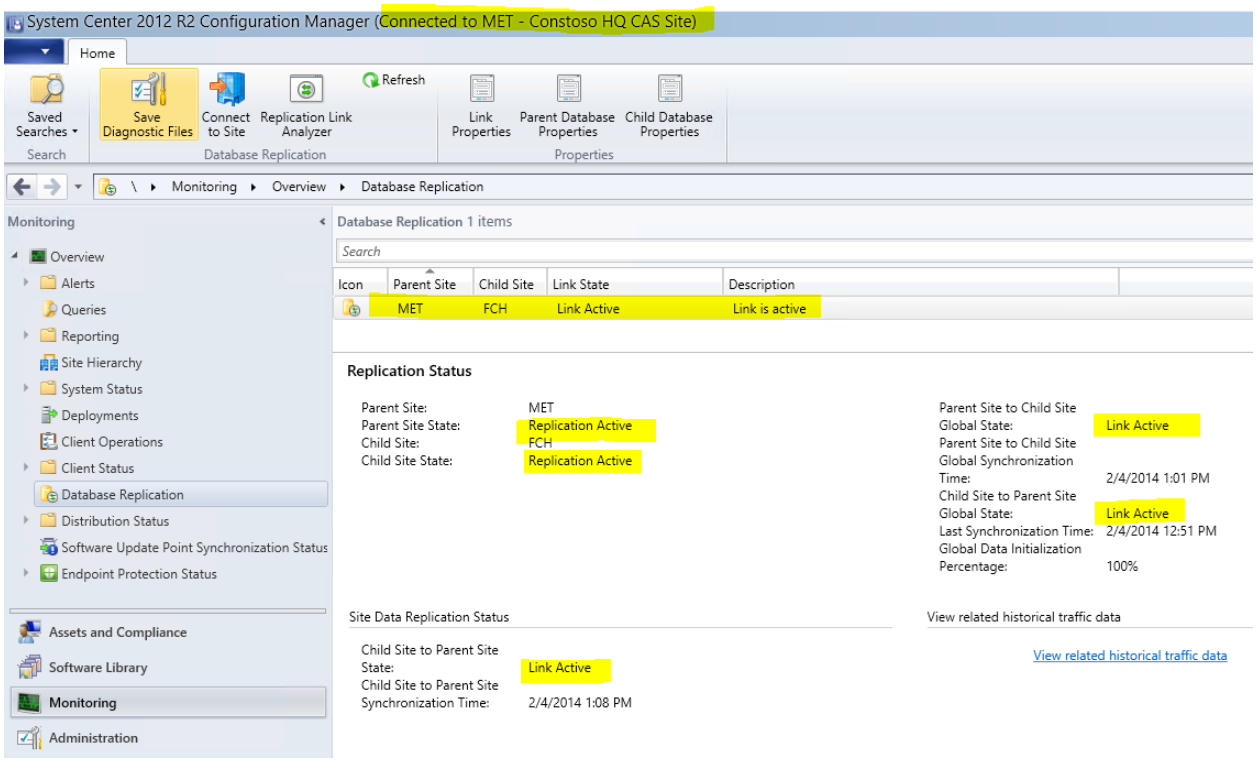
On CAS, it may show Link is Active but under Site Replication Status, it shows Replication data recovery in progress. You still want to wait until Parent Site Status becomes “Replication Active”.



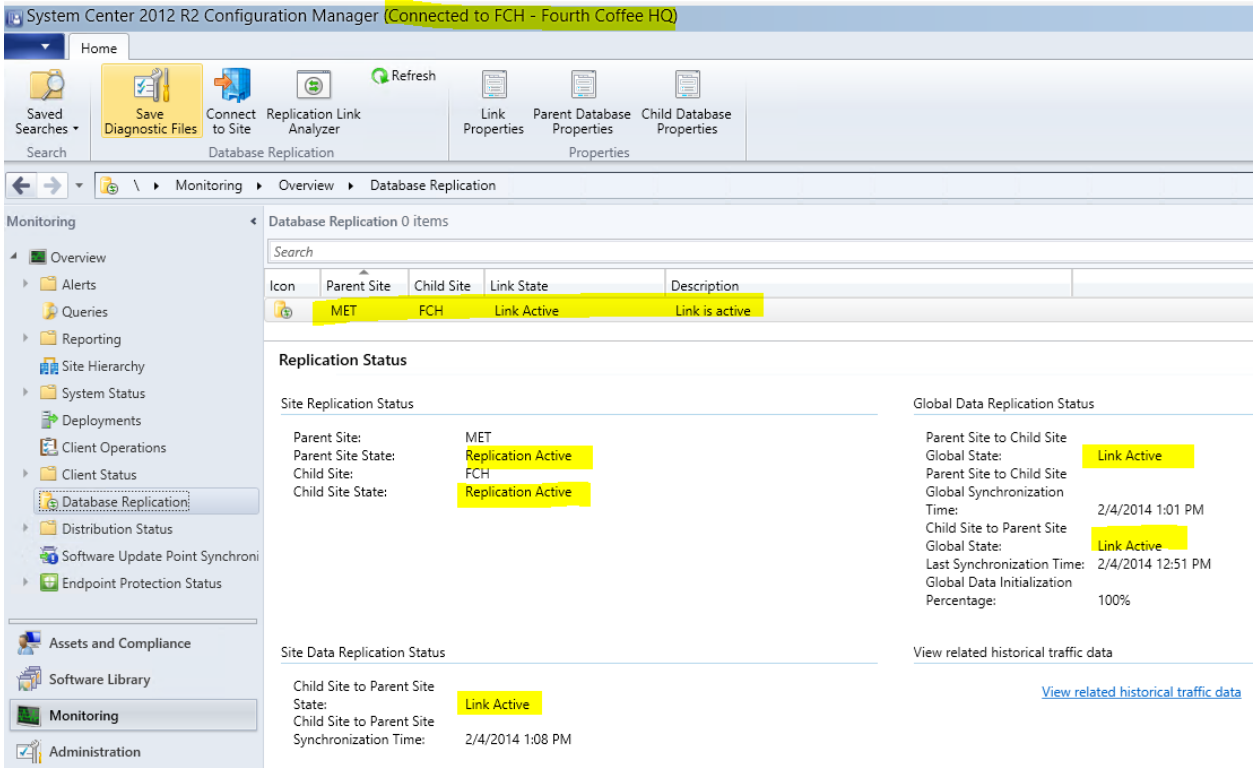
On primary site, database replication status shows **Link Failed.** You will have to wait until that status changes to Active. In our test scenario, it took 2 hours. In your case, it might be different. If it continues to fail then you may have to investigate further to find out which replication group is failing.



After CAS recovery completed and CAS Console shows ACTIVE.



Following screen shows the Primary Site (FCH) console after CAS Recovery completed. Note that Primary site recovery is not started yet but Primary site console shows state as an ACTIVE.



4.3 Recover Primary Site

4.3.1 Primary Site Database

Important: Proceed with below steps only after CAS site is in an Active state.

5. Launch SQL Server Management Studio (SSMS) for Primary site.
6. Expand the instance and then expand databases.
7. Right Click on the **Configuration Manager 2012 R2 site**, **CM_YYY,** database and click Backup
8. After the backup is completed, Right Click on the Database again and choose delete

Delete the database otherwise Configuration Manager 2012 R2 site Recovery will fail if there is a database with the same name already in existence.

9. If there is no backup from Configuration Manager Site Maintenance task and SQL backup is available then restore the database. If database is restored at this step then '**Use a site database that has been manually recovered'** option on '**Site Server and Database Recovery Options**' page while running recovery setup in 'primary Site Server' section below.

10. Close Management Studio

4.3.2 Primary Site Server

18. Launch the **Configuration Manager 2012 R2 site** installation media
19. Click install and then choose to **Recover a Site**
20. Recover Site Server using an existing backup will be greyed out because **Configuration Manager 2012 R2 site** is already installed on the server

To Recover a Site Server, the Primary Site Server installation must be uninstalled. However, we are not going use recover site server option in this case.

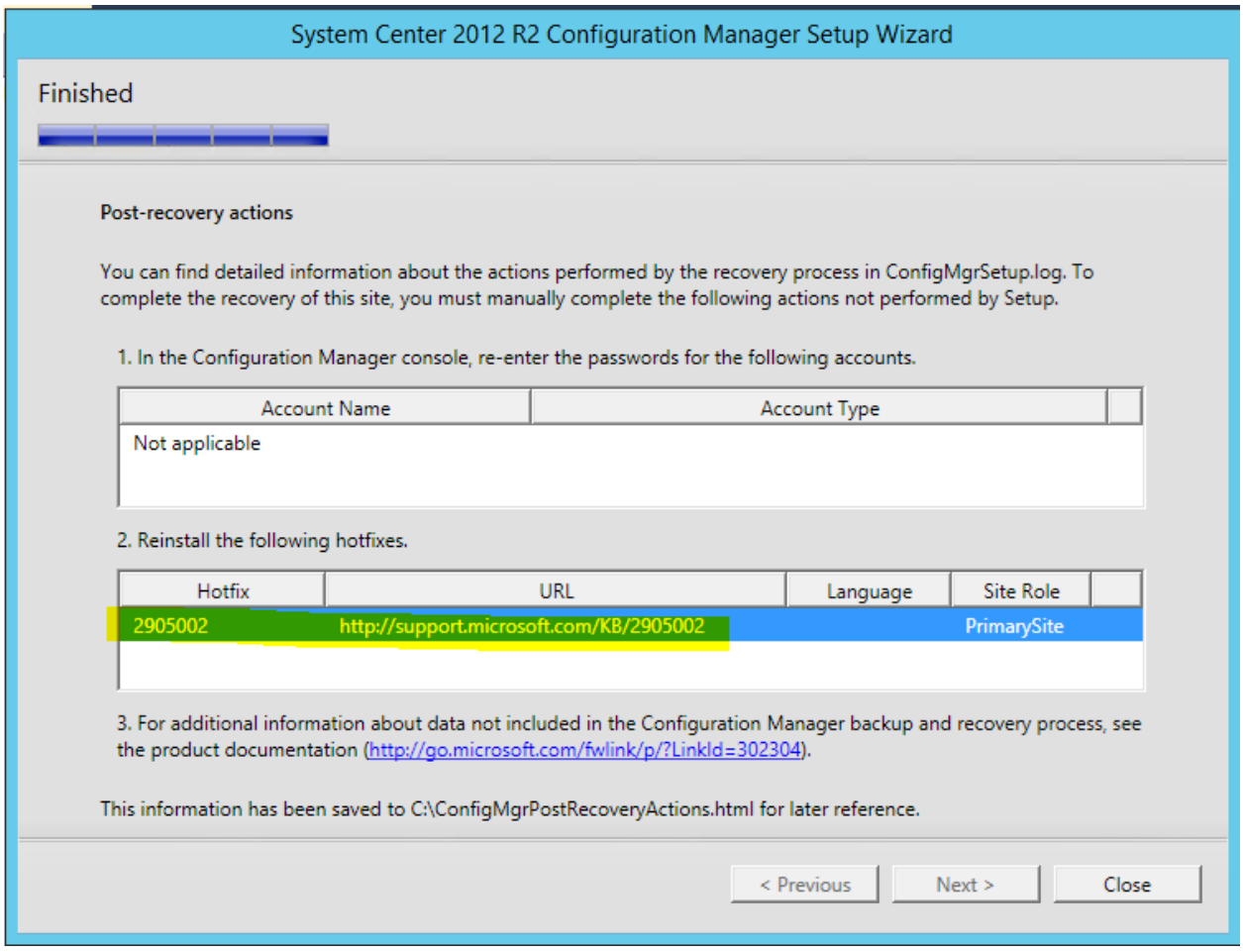
21. On **Site Server and Database Recovery Options** page,
    a. If SQL database is being restored from Backup Site Server maintenance task's backup copy then select => **Recover site database using the backup set at the following location:** & Enter backup folder path.
    b. If SQL database for CAS site is restored from SQL backup then select => **Use a site database that has been manually recovered** and Click **Next**
22. On **Site Recovery Information** page, select **Recover Primary Site.** Mention the Central Administration site (FQDN). Click **Next.**
23. On the **Product Key** page, select **Install the licensed edition of this product.** Enter the product key and click **Next**.
24. On the **Microsoft Software License Terms** page, select "I accept this license terms." Click **Next.**
25. On the **Prerequisites Licenses** page, select three checkboxes and click **Next.**
26. On the **Prerequisites Downloads** page, select **Use previously downloaded files** and enter **path.** (Note: Make sure that you have downloaded pre-requisites files already.)
27. On **Site and Installation Settings** page, verify values for:
    a. Site Code
    b. Site Name
    c. Installation Folder
    d. Select checkbox for '***Install the Configuration Manager Console***'
28. On the **Database Information** page, verify/update values for:

a. Database Server Name (FQDN)
b. Instance Name

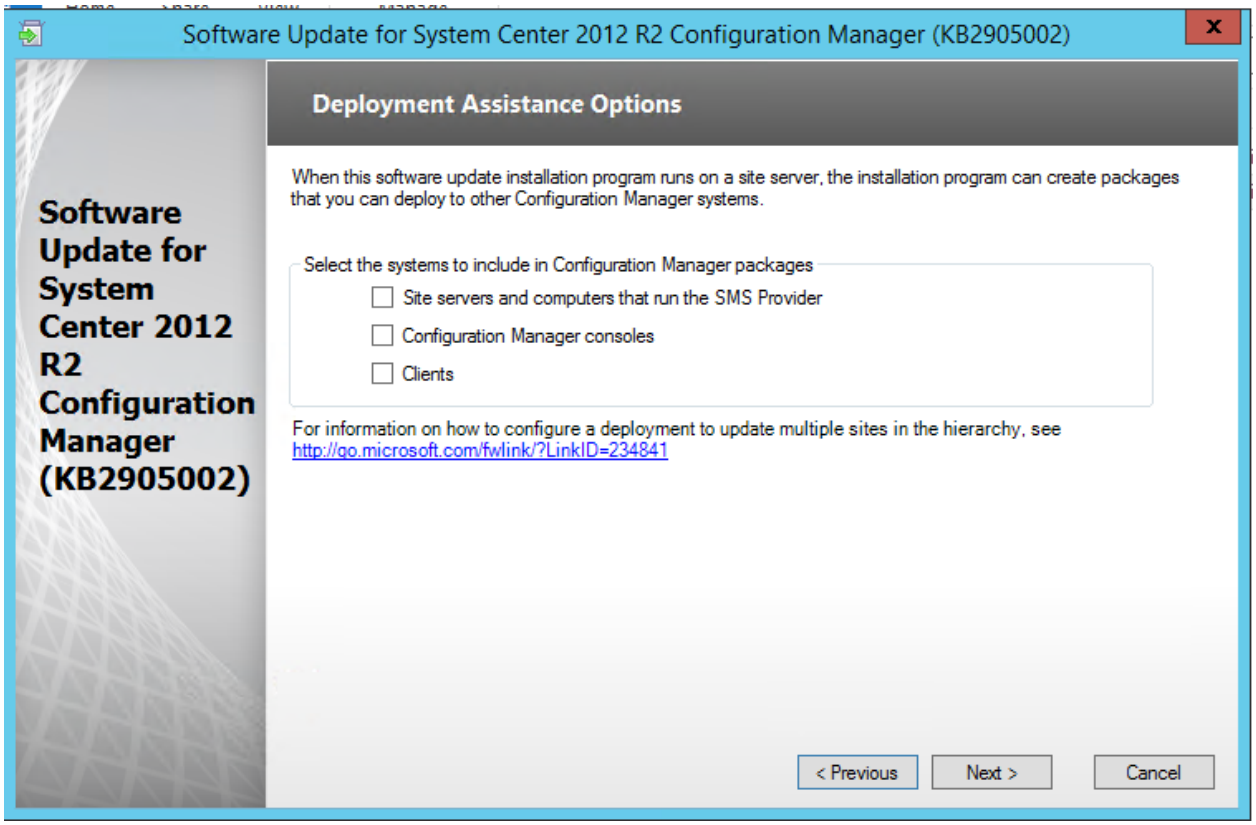
29. On the next page, again on **Database Information,** enter
    a. Path to the SQL Server Data file
    b. Path to the SQL Server log file

*(Note: This **Database Information** page is not available if SQL server is clustered.)*

30. On the **Customer Experience Improvement Program** page, select appropriate option and click **Next**
31. On the **Settings Summary** page, verify the settings and click **Next**
32. On the **Prerequisites Page,** once all checks are completed and successful, click on **Begin Install.**
33. Once installation is completed, re-enter the passwords for the accounts that are used by site systems. These accounts will be listed at the end of setup. Install the same hotfixes as that of original setup. You will see the list of hotfixes, which need to be reinstalled at the following screen.



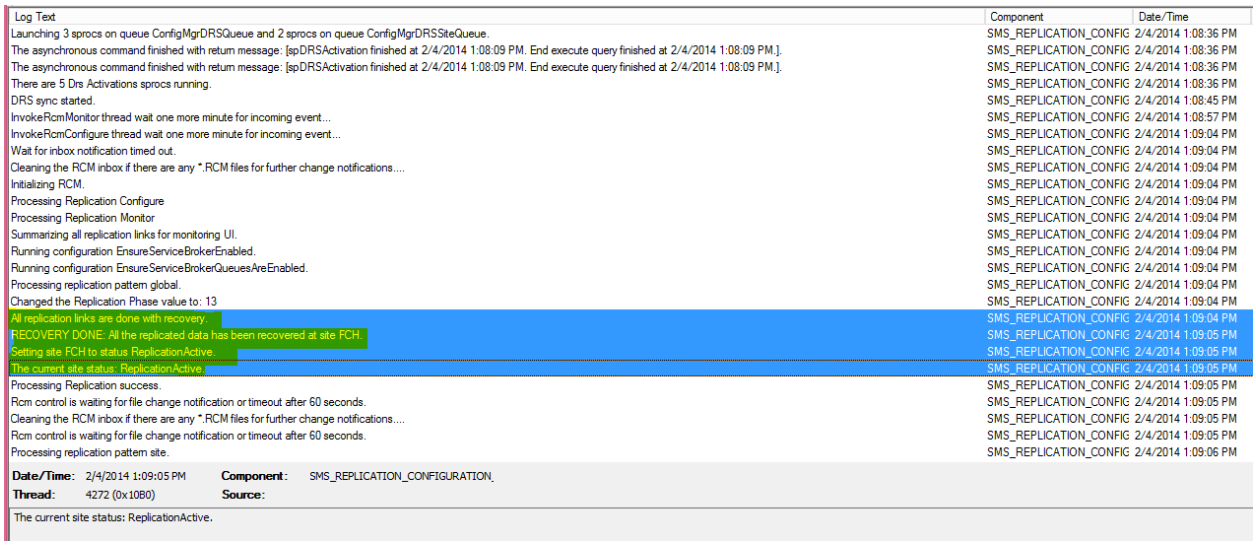
Important: During the hotfix reinstallation process, if hotfix prompts to create packages for Console, Server and Client side, then **uncheck** those boxes as shown below as those are already created during new hierarchy installation.



34. Verify the replication between Primary Site and the CAS site. Check the following in the logs to verify and make sure Primary Site changes to ACTIVE state.

On Primary site rcmctrl.log:

All replication links are done with recovery.
SMS_REPLICATION_CONFIGURATION_MONITOR 2/4/2014 1:09:04 PM 4272 (0x10B0)
RECOVERY DONE: All the replicated data has been recovered at site FCH.
SMS_REPLICATION_CONFIGURATION_MONITOR 2/4/2014 1:09:05 PM 4272 (0x10B0)
Setting site FCH to status ReplicationActive.
SMS_REPLICATION_CONFIGURATION_MONITOR 2/4/2014 1:09:05 PM 4272 (0x10B0)
The current site status: ReplicationActive.
SMS_REPLICATION_CONFIGURATION_MONITOR 2/4/2014 1:09:05 PM 4272 (0x10B0)

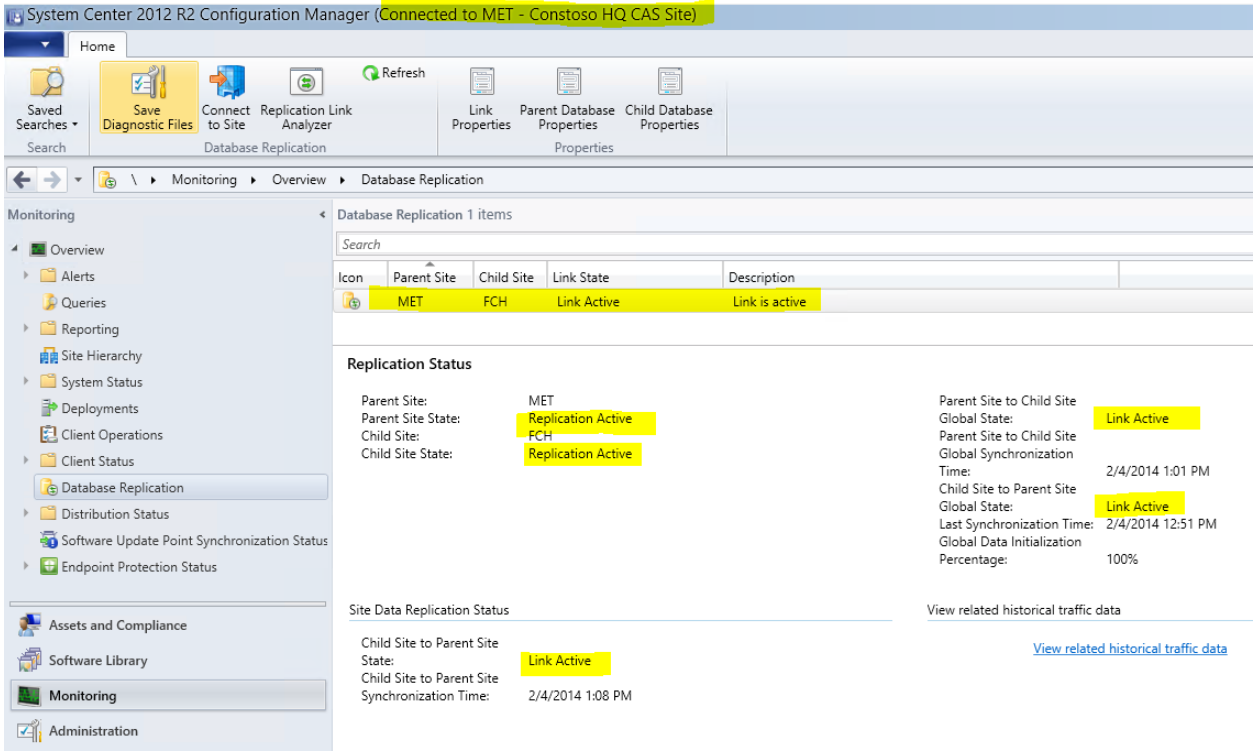


Log Text	Component	Date/Time
Launching 3 sprocs on queue ConfigMgrDRSQueue and 2 sprocs on queue ConfigMgrDRSSiteQueue.	SMS_REPLICATION_CONFIG	2/4/2014 1:08:36 PM
The asynchronous command finished with return message: [spDRSActivation finished at 2/4/2014 1:08:09 PM. End execute query finished at 2/4/2014 1:08:09 PM.].	SMS_REPLICATION_CONFIG	2/4/2014 1:08:36 PM
The asynchronous command finished with return message: [spDRSActivation finished at 2/4/2014 1:08:09 PM. End execute query finished at 2/4/2014 1:08:09 PM.].	SMS_REPLICATION_CONFIG	2/4/2014 1:08:36 PM
There are 5 Drs Activations sprocs running.	SMS_REPLICATION_CONFIG	2/4/2014 1:08:36 PM
DRS sync started.	SMS_REPLICATION_CONFIG	2/4/2014 1:08:45 PM
InvokeRcmMonitor thread wait one more minute for incoming event...	SMS_REPLICATION_CONFIG	2/4/2014 1:08:57 PM
InvokeRcmConfigure thread wait one more minute for incoming event...	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Wait for inbox notification timed out.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Cleaning the RCM inbox if there are any *.RCM files for further change notifications....	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Initializing RCM.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Processing Replication Configure	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Processing Replication Monitor	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Summarizing all replication links for monitoring UI.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Running configuration EnsureServiceBrokerEnabled.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Running configuration EnsureServiceBrokerQueuesAreEnabled.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Processing replication pattern global.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
Changed the Replication Phase value to: 13	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
All replication links are done with recovery.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:04 PM
RECOVERY DONE: All the replicated data has been recovered at site FCH.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Setting site FCH to status ReplicationActive.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
The current site status: ReplicationActive.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Processing Replication success.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Rcm control is waiting for file change notification or timeout after 60 seconds.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Cleaning the RCM inbox if there are any *.RCM files for further change notifications....	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Rcm control is waiting for file change notification or timeout after 60 seconds.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:05 PM
Processing replication pattern site.	SMS_REPLICATION_CONFIG	2/4/2014 1:09:06 PM

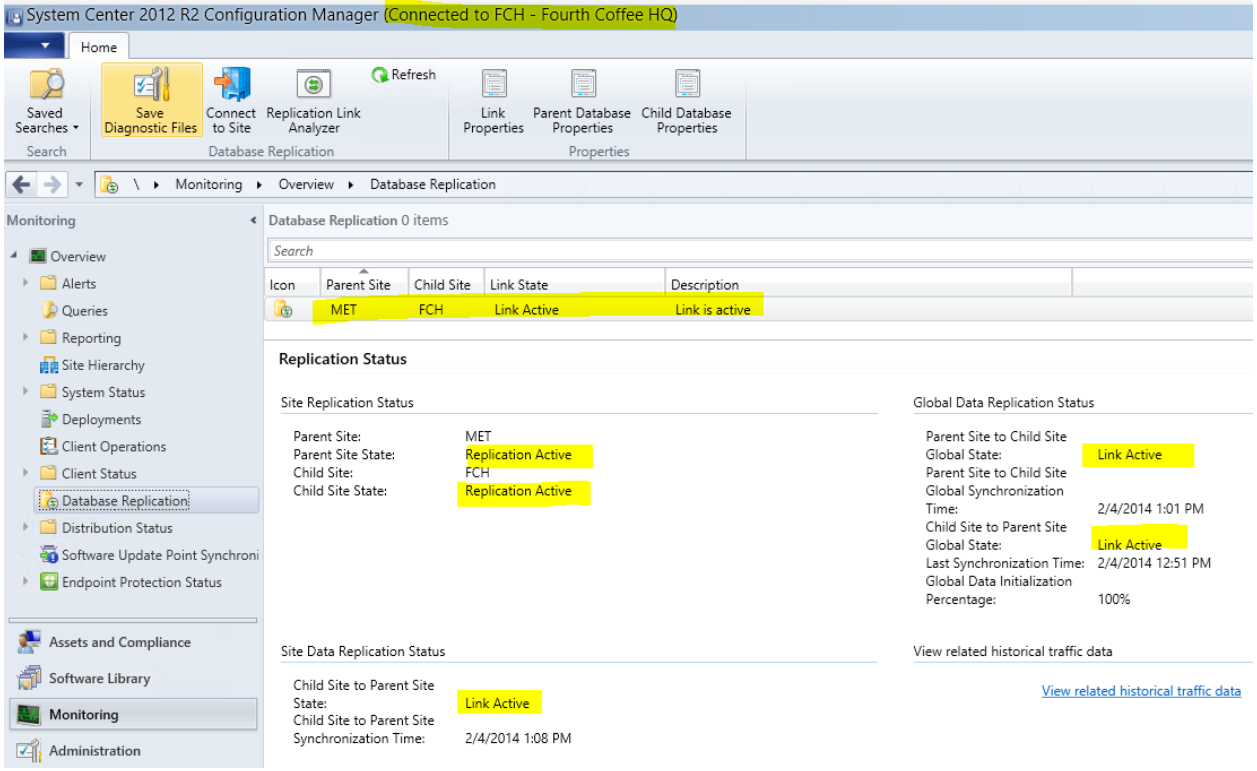
Date/Time: 2/4/2014 1:09:05 PM **Component:** SMS_REPLICATION_CONFIGURATION_
Thread: 4272 (0x10B0) **Source:**

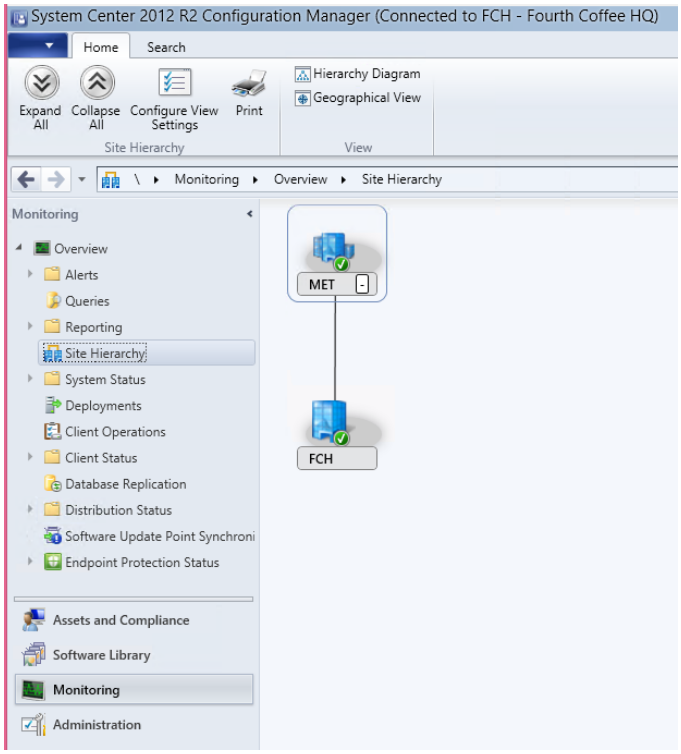
The current site status: ReplicationActive.

On CAS Console:



On Primary Site (FCH) Console:





35. Once the Primary site is in an ACTIVE state then follow the same process for other remaining Primary sites.
36. Once all Primary sites and CAS are in ACTIVE state, then next step is to recovery Secondary sites (if any). If you don't have any secondary sites in the hierarchy then the recovery process is complete and the hierarchy has been restored!!!
37. To recover Secondary site, follow the below steps:

    a. Install secondary site with same site code, DB name and SQL instance name as given in section 3.4 (under Recovery of Secondary sites). It is similar to initial installation of CAS and Primary site
    b. Once CAS and Primary site are recovered and in ACTIVE state then recover Secondary site as given in section 3.4.

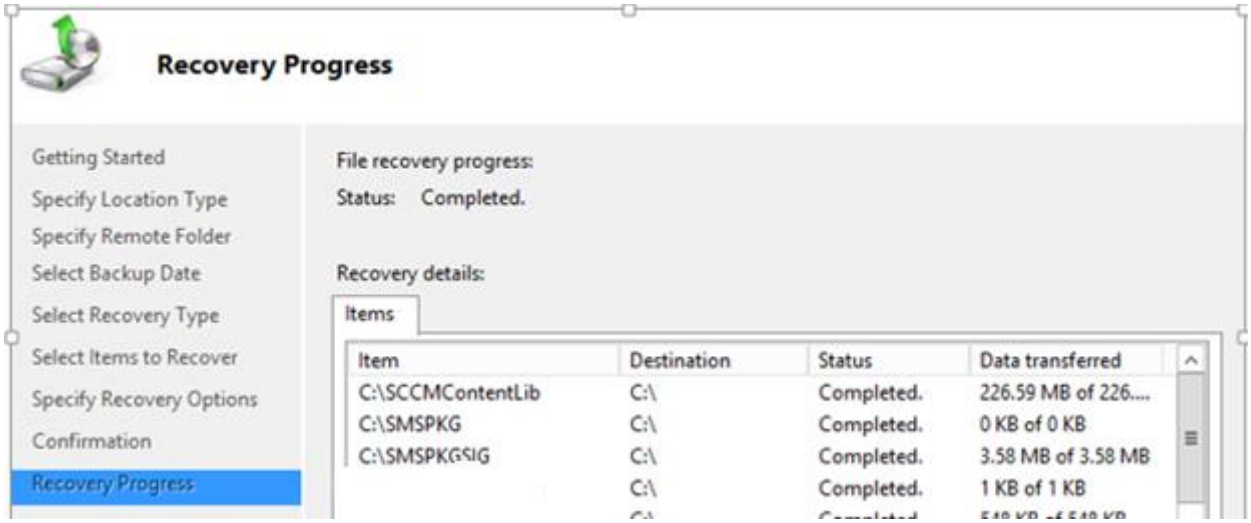
4.4 Recover from Supplemental Backups

This section describes the steps to restore other components of Configuration Manager, which are not restored by SQL backup or backup from Configuration Manager Backup Maintenance task and MUST be restored separately.

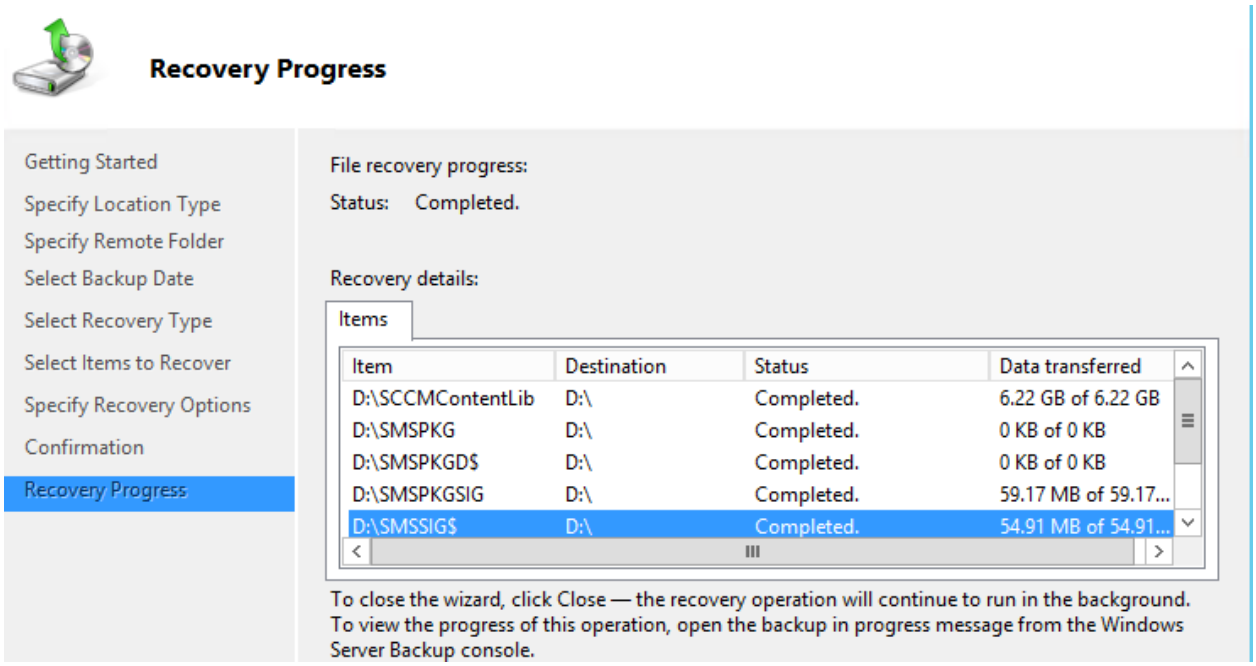
4.4.1 Content Library

1. Restore the following folders on CAS. Please make sure that they are restored on the same drive and path as it was in the original CAS Site server. Below screen shot is from Windows backup/restore process.

    - SCCMContentLib
    - SMSPKG
    - SMSPKGSIG



2. Restore the following folders on Primary Sites. Please make sure that they are restored on the same drive and path as it was in the original Primary Site server.
   - SCCMContentLib
   - SMSPKG
   - SMSPKGSIG
   - SMSPKG<driveletter>$ (i.e. SMSPKGC$, SMSPKGD$, and SMSPKGE$ etc.)
   - SMSSIG$



If you DO NOT have a file system backup for the package source files, you have to manually copy or download them as you did originally when you first created the package. You can run the following query in SQL Server to find the package source location for all packages and applications:

SELECT * FROM v_Package

You can identify the package source site by looking at the first three characters of the package ID. For example, if the package ID is CAS00001, the site code for the source site is CAS. When you restore the package source files, they must be restored to the same location in which they were before the failure.

If you do not have a file system backup that contains the content library, you have the following restore options:

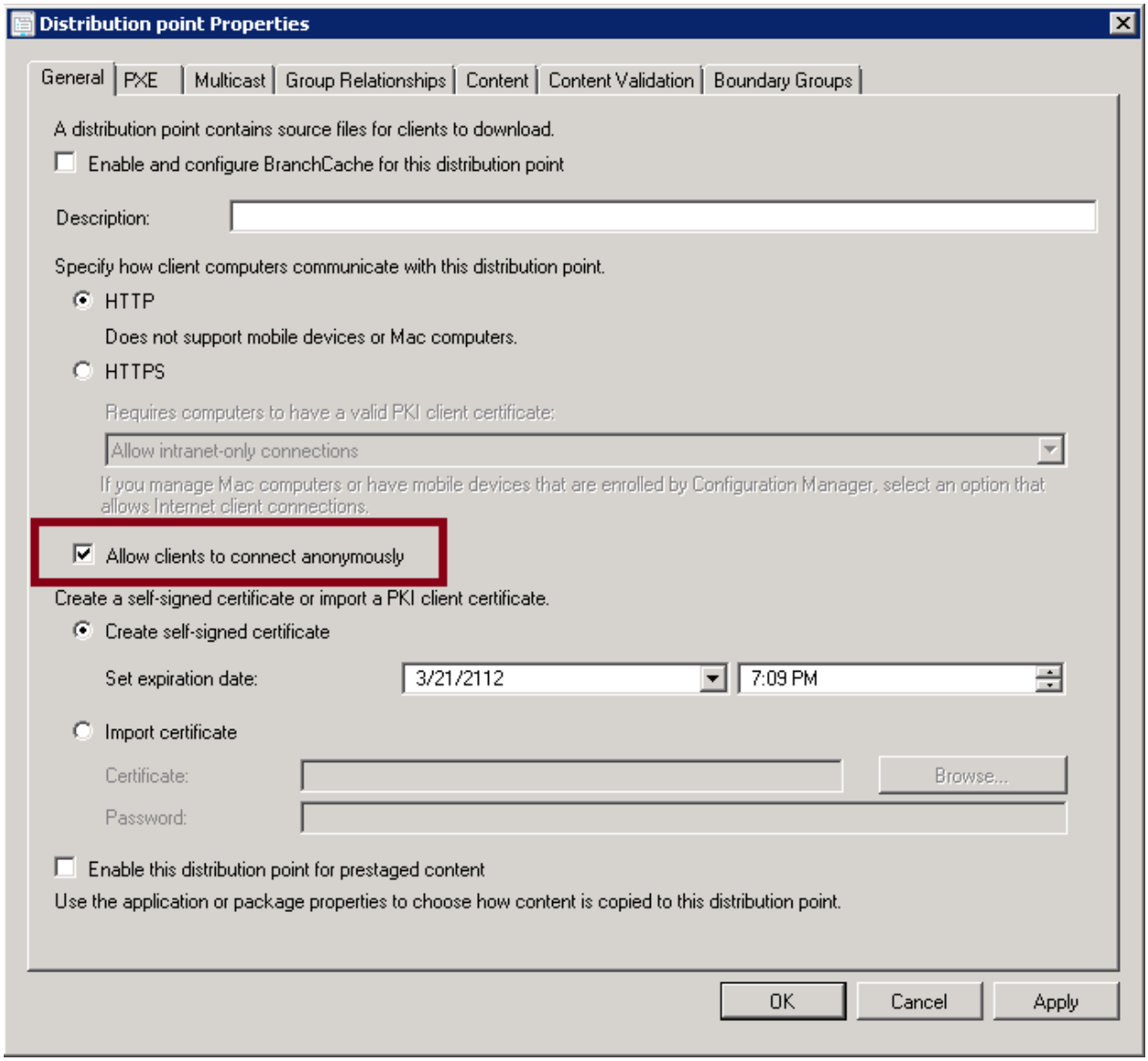
- **Import a prestaged content file**
- **Update content**: Reference: http://technet.microsoft.com/en-us/library/gg712697.aspx#BKMK_SiteServerRecoveryOptions

3. In order to complete the content library restore process, you also need to create or restore below IIS directories. Please use the below method to recreate the required IIS directories.

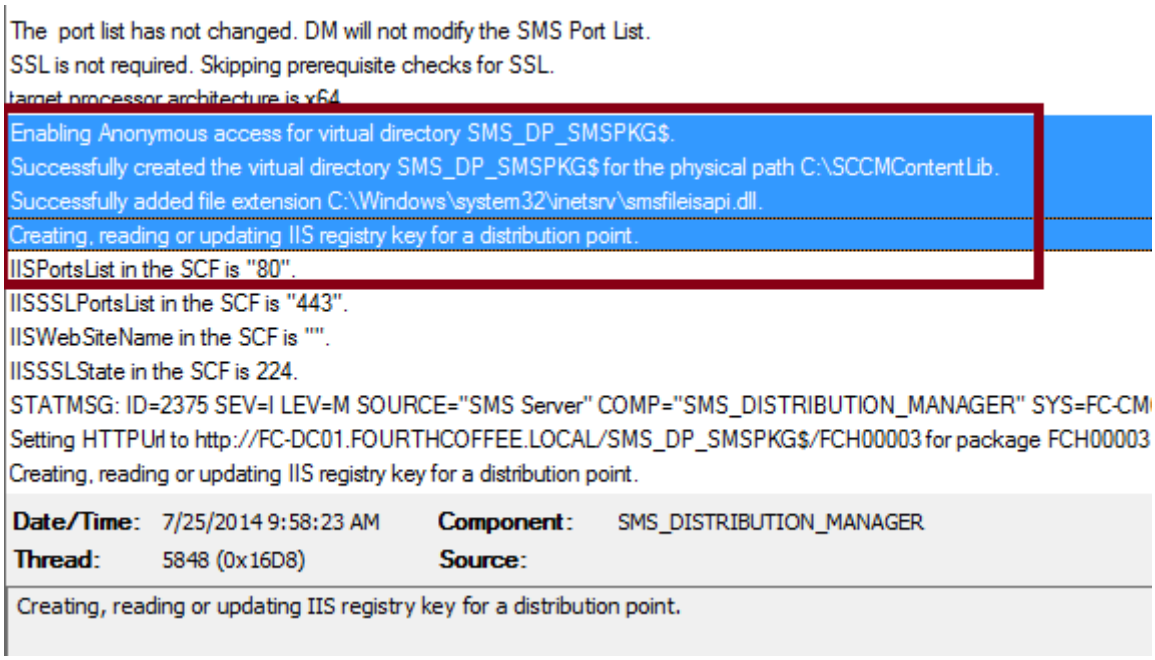
SMS_DP_SMSPKG$

SMS_DP_SMSSIG$

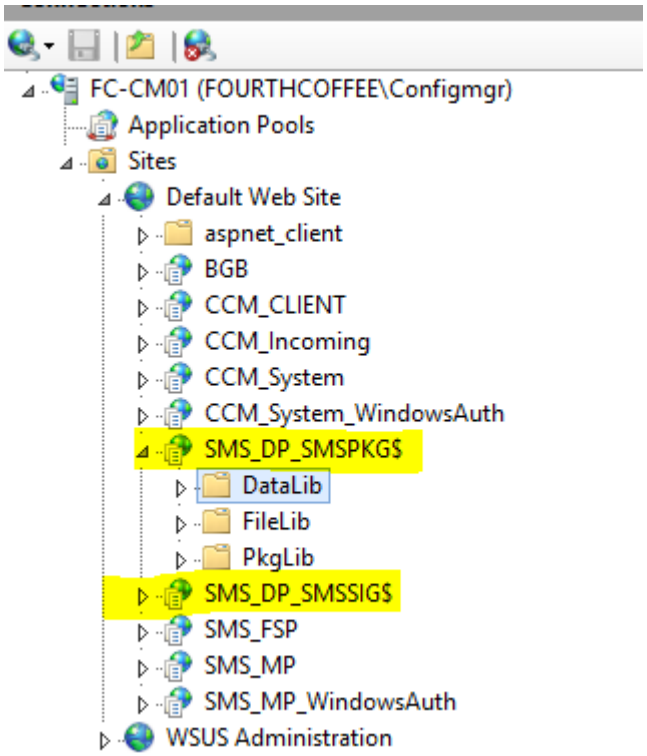
a. Connect to the ConfigMgr Console, and go to Administration → Site Configuration → Highlight the server you want to recreate these IIS directories on and highlight "Distribution Point" under Site System Roles and click on properties
b. Check "**Allow clients to connect anonymously**" and click apply



c. Monitor **DistMgr.log** and look for the following entries.



d. Go to IIS and review the virtual directories SMS_DP_SMSPKG$ and SMS_DP_SMSSIG$ to make sure they are created.



e. Once IIS Virtual directories are created then go back to the ConfigMgr console and select Administration → Site Configuration → Highlight the server and then "Distribution Point" under Site System Roles and click on properties

f. **Uncheck** "**Allow clients to connect anonymously**" and click apply

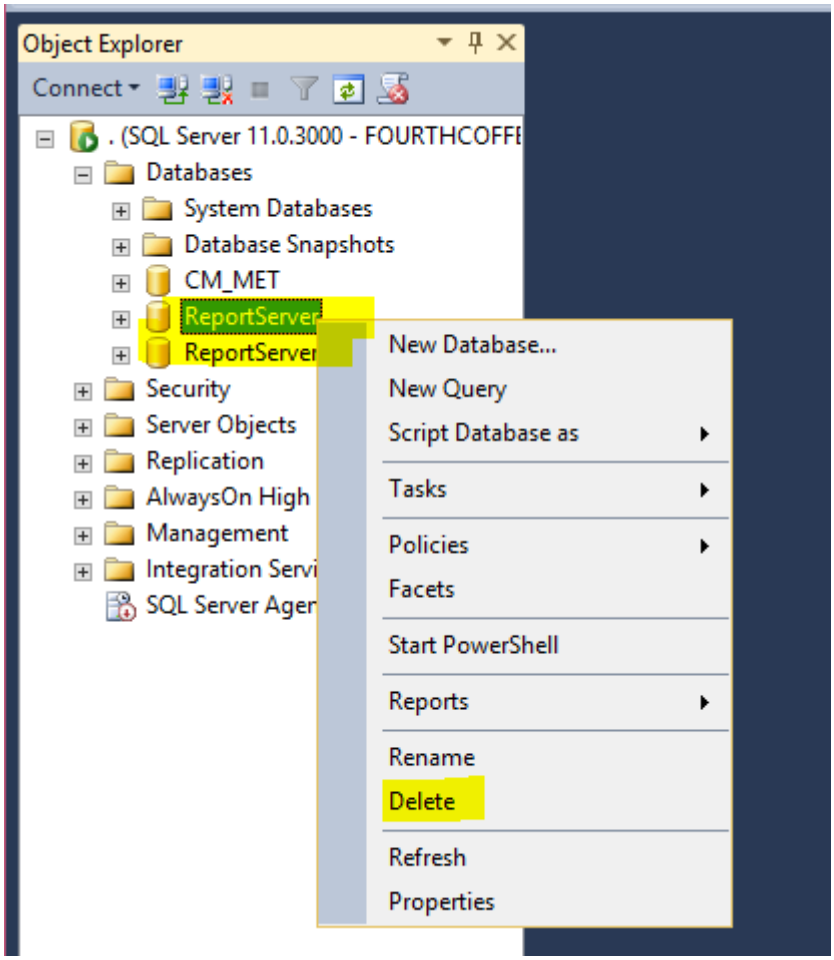
Note: If you are planning to restore IIS on the server running Windows Server 2012 with IIS v 8.00 then there is no GUI option to backup individual virtual directories. You can use webdeploy or appcmd utility to backup individual virtual directories and restore them.

4.4.2 Source Files – Applications, Software Update

The package source files must be restored before you can update content on distribution points. When you start a content update, Configuration Manager copies new or modified files from the package source to the content library, which in turn copies the files to associated distribution points. When you restore the package source files for applications and software updates, they must be restored to the same location in which they were before the failure.

4.4.3 SQL Service Reporting Service & Reporting Service Point

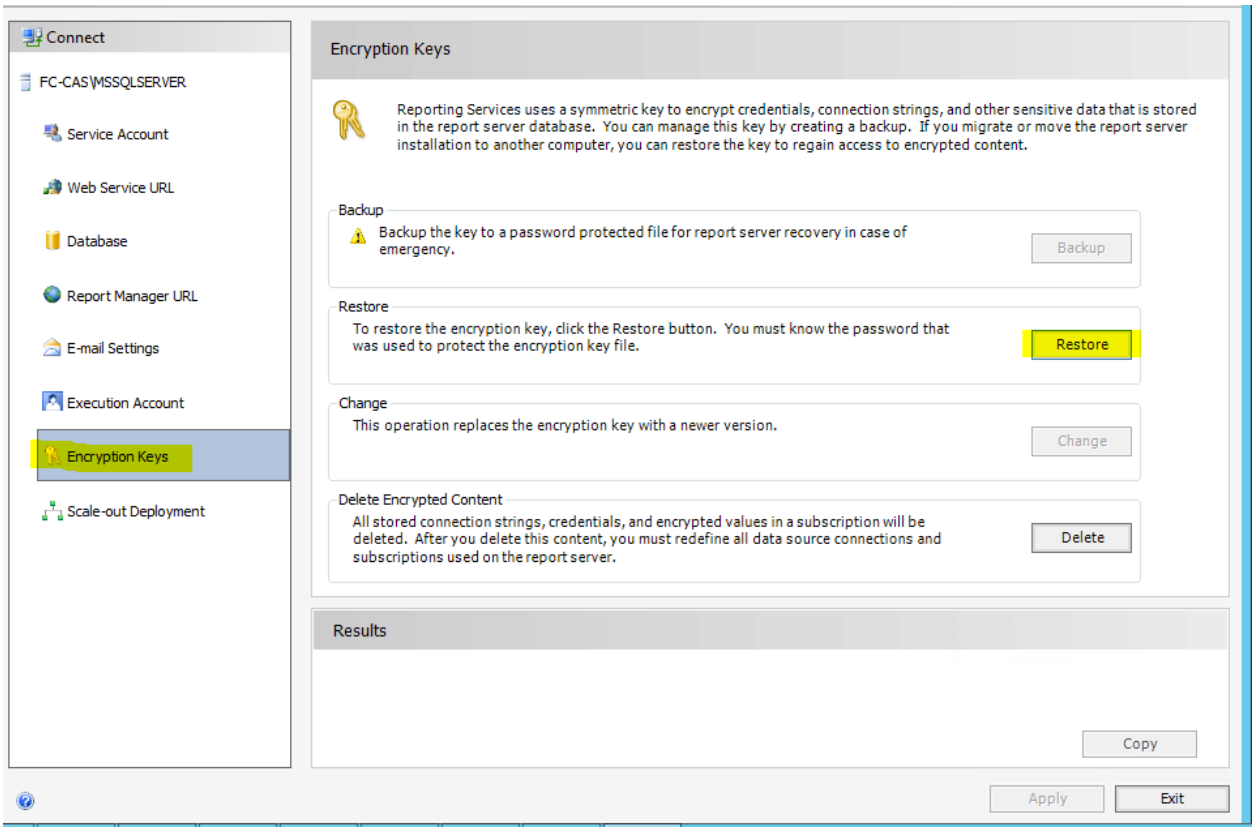
1. Make sure you have a backup of all the necessary files and database as given in 2.4 section.
2. Install the Reporting Services Point as per the original design.
3. Once the Reporting Services Point is installed then drop the existing Reporting Services Databases (i.e. ReportServer and ReportServerTemp) from SQL.



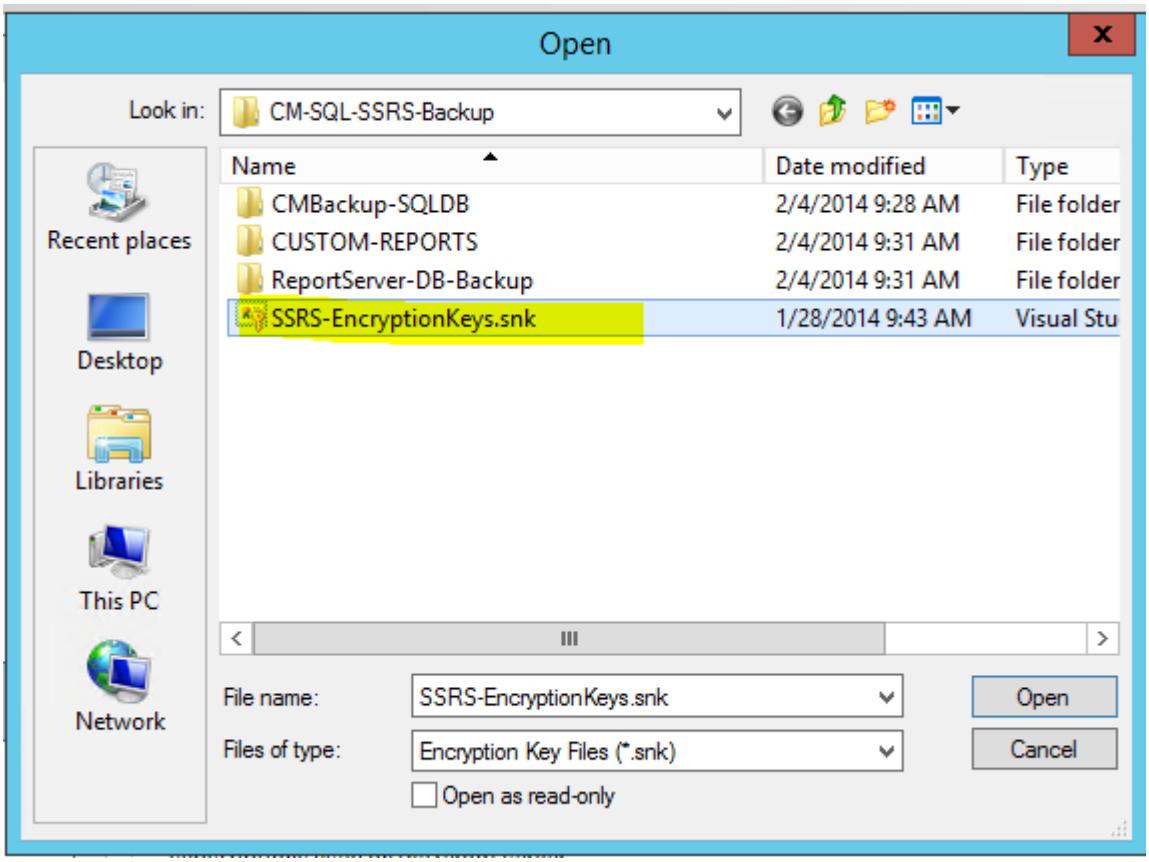
4. Restore ReportServer and ReportServerTemp database from the backup
5. Restore the following Configuration files from the backup:

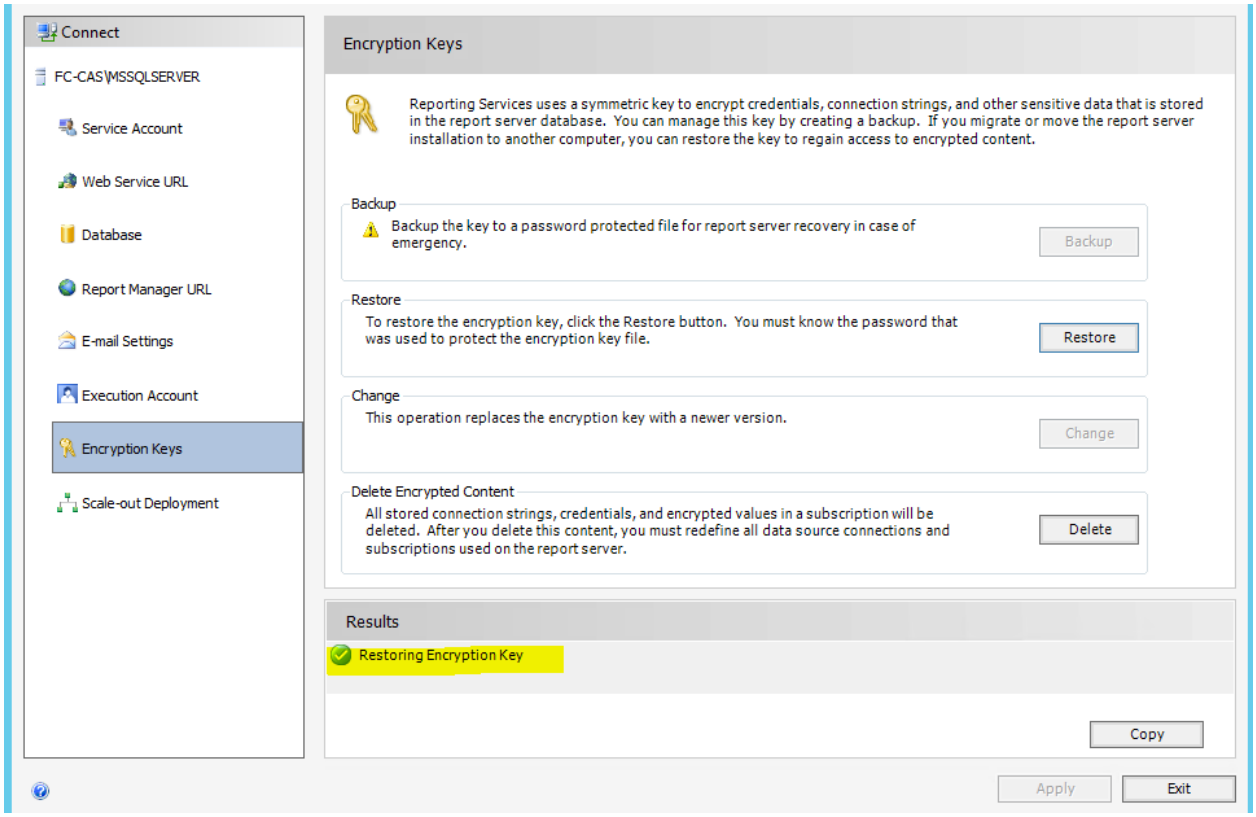
   - Rsreportserver.config - <driveletter>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLServer\Reporting Services\ReportServer
   - Rssvrpolicy.config - <driveletter>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLServer\Reporting Services\ReportServer
   - Rsmgrpolicy.config - <driveletter>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLServer\Reporting Services\ReportManager
   - ReportingServicesService.exe.config - <driveletter>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLServer\Reporting Services\ReportServer\bin
   - RSWebApplication.config - <driveletter>:\Program Files\Microsoft SQL Server\MSRS11.MSSQLServer\Reporting Services\ReportManager

6. Restore any custom reports .RDL files to their original location.
7. Restore the Encryption key from the backup using the following steps.
   a. Connect to the Reporting Services Configuration Manager
   b. Click on Encryption Keys tab and select Restore

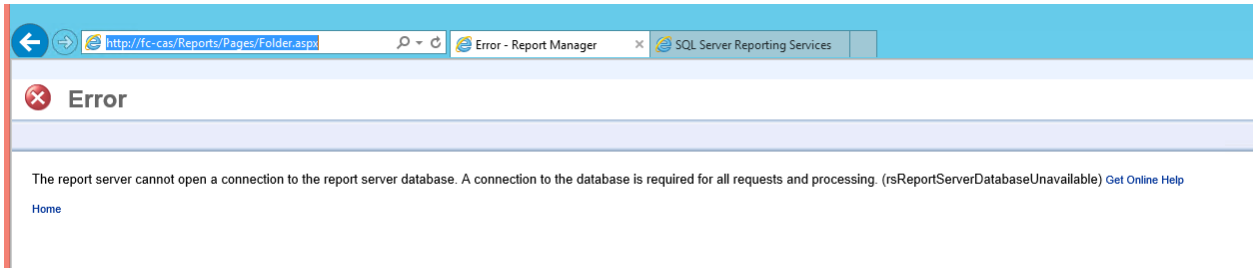


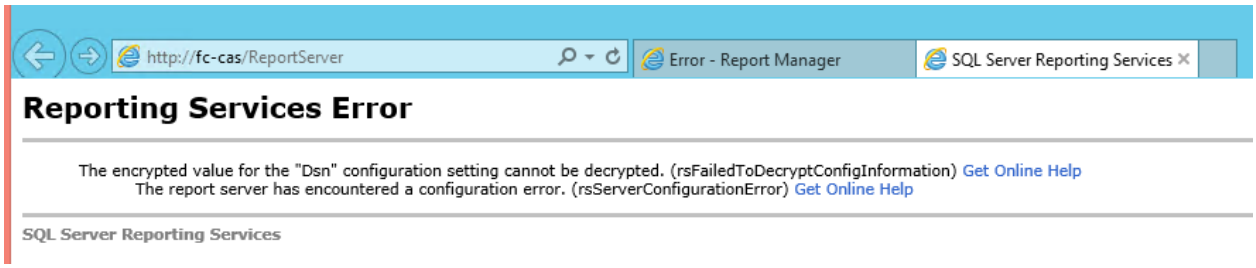
c. Choose the file location for the backup encryption key and make sure it successfully restores the encryption key.


Open
Look in:
CM-SQL-SSRS-Backup
Recent places
Desktop
Libraries
This PC
Network
Name
Date modified
Type
CMBackup-SQLDB
2/4/2014 9:28 AM
File folder
CUSTOM-REPORTS
2/4/2014 9:31 AM
File folder
ReportServer-DB-Backup
2/4/2014 9:31 AM
File folder
SSRS-EncryptionKeys.snk
1/28/2014 9:43 AM
Visual Stu
File name:
SSRS-EncryptionKeys.snk
Open
Files of type:
Encryption Key Files (*.snk)
Cancel
Open as read-only



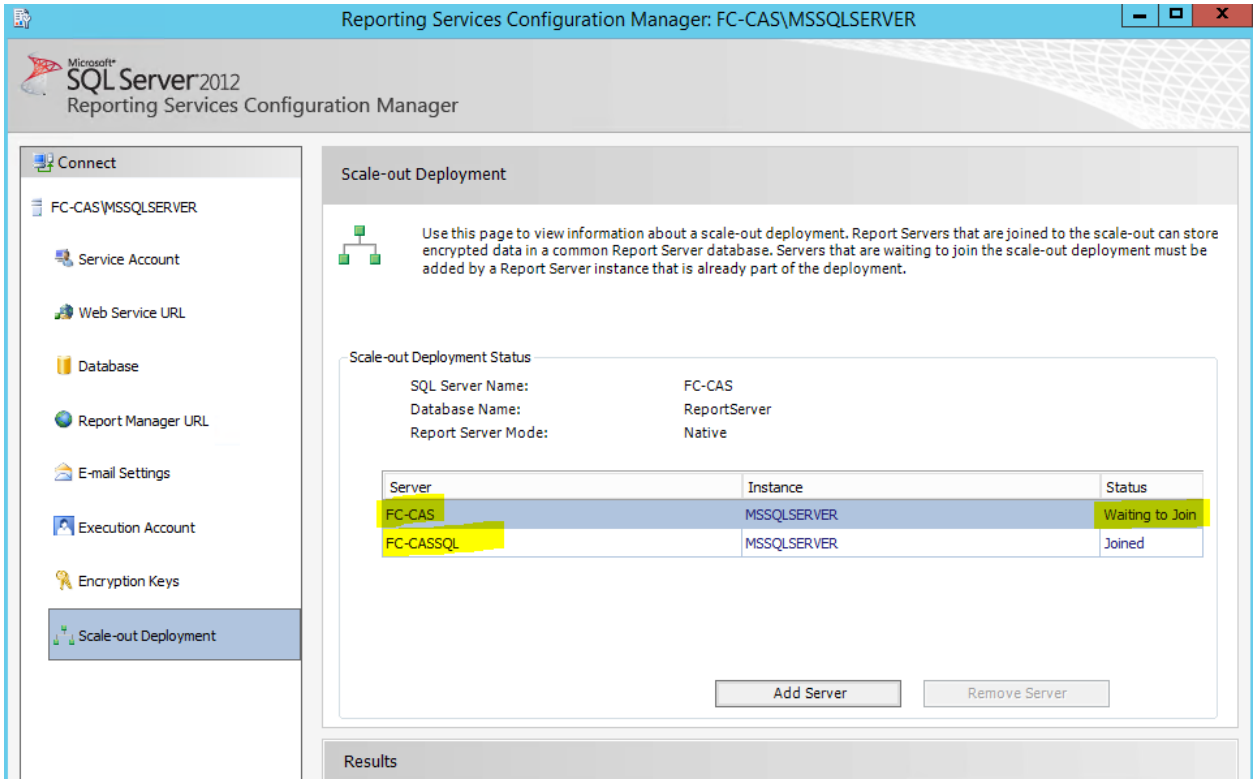
8. Connect to the reporting server URL http://ServerName/Reports and http://Srevername/ReportServer. If you see the following errors then continue with the additional steps and configuration.



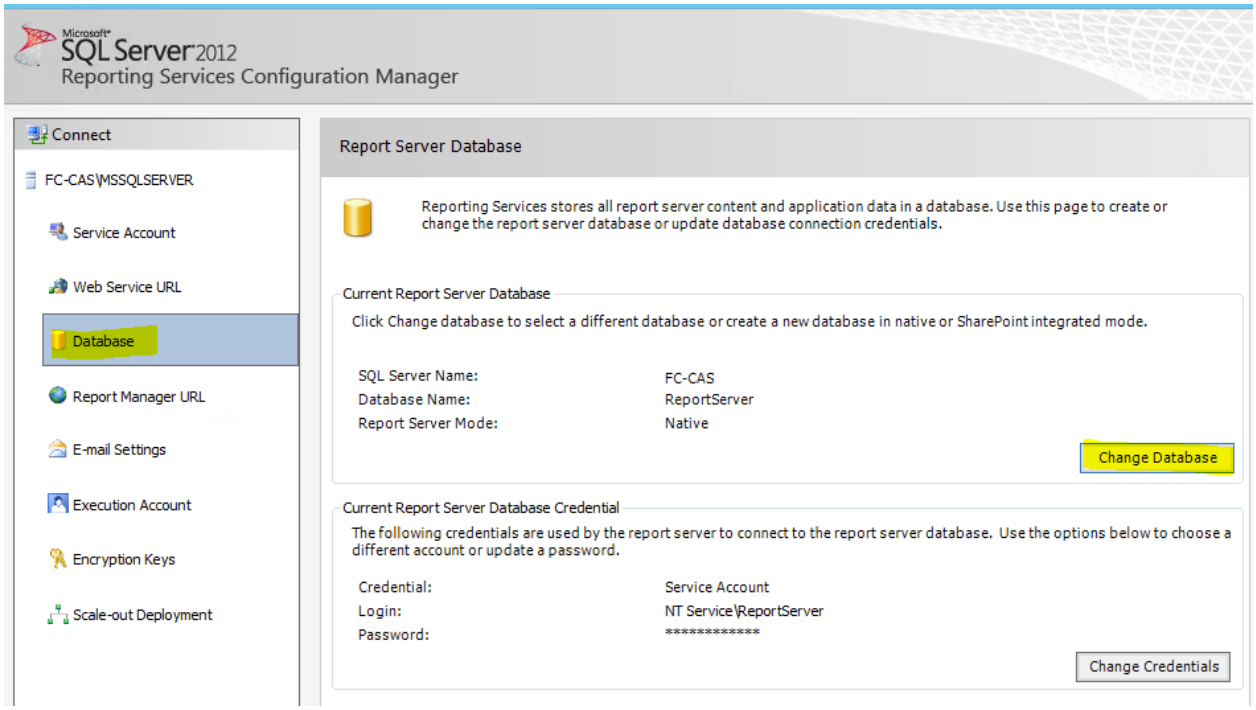


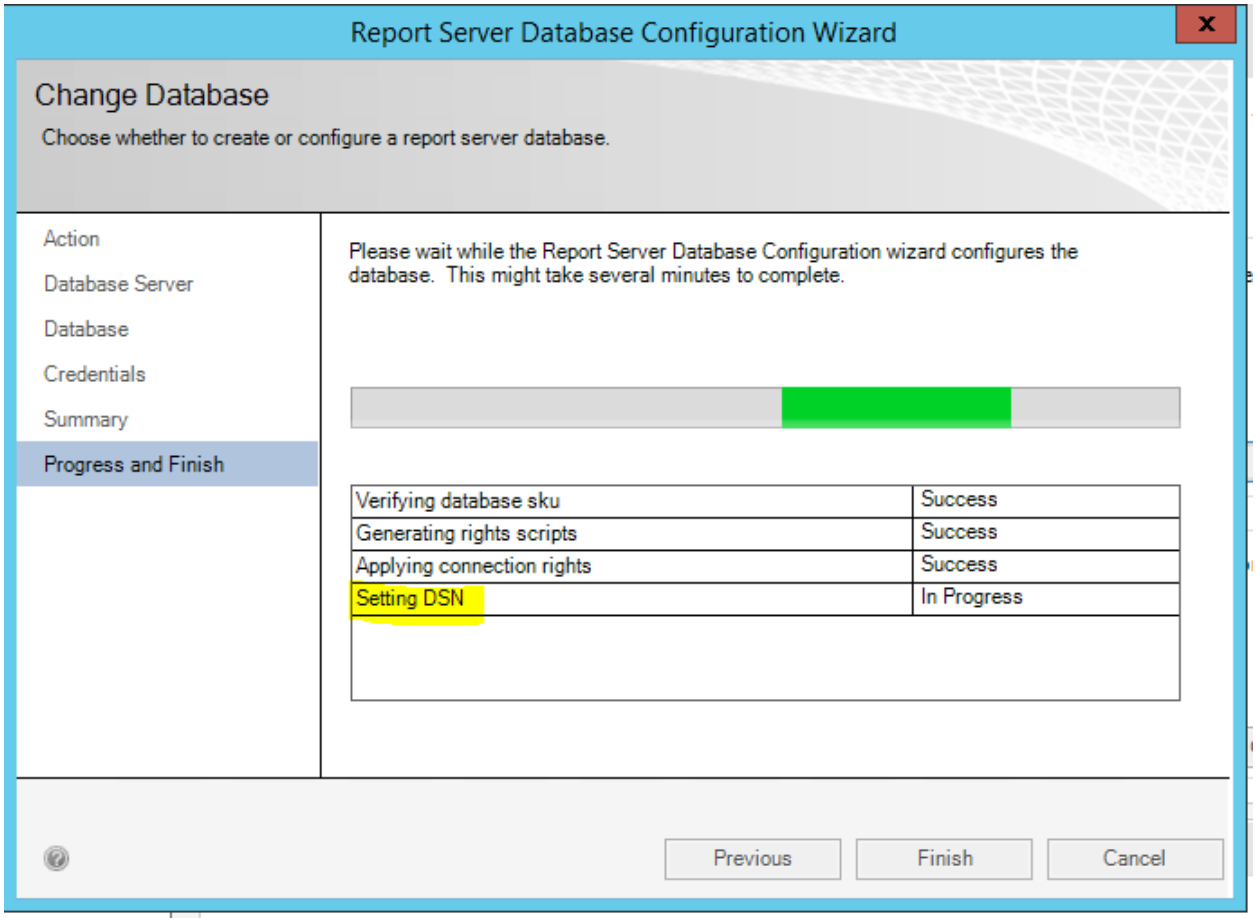
9. Review Scale-Out Deployment options. If you have moved the Reporting Point to a different server then make sure you remove the old server entry. E.g. In my case, it is FC-CASSQL. If you move the

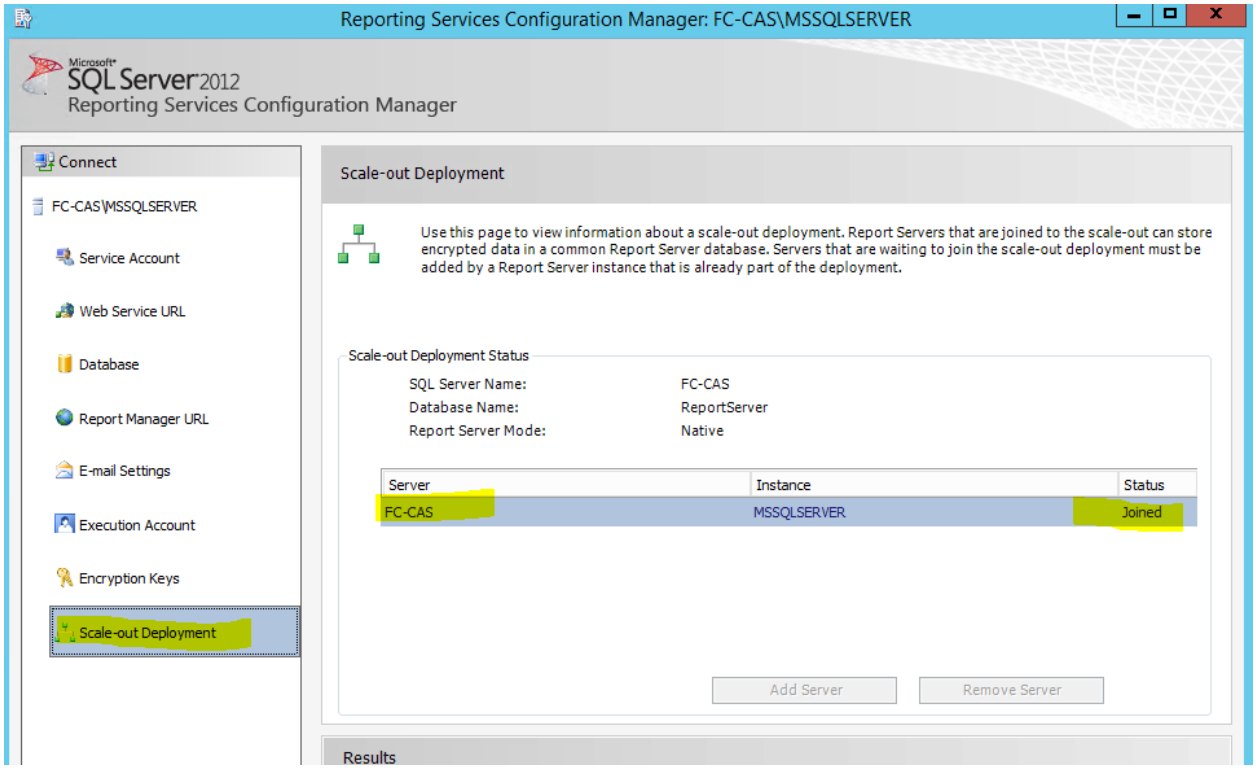
Reporting Services Point from a remote box to local on CAS E.g. FC-CAS then add FC-CAS to Scale-Out Deployment.



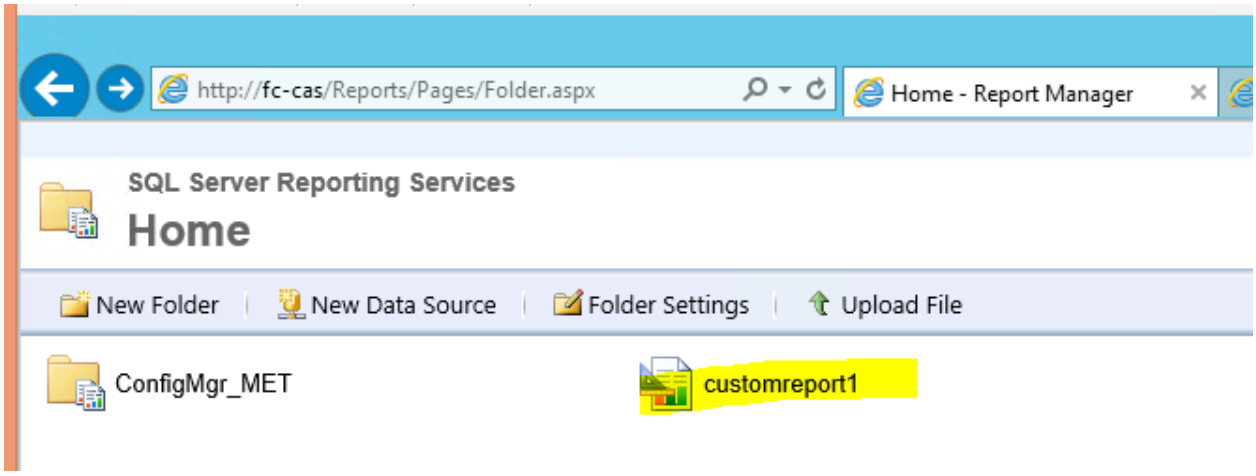
10. If you are not able to add from the above options then you may have to reconfigure the **ReportServer** database under Database option as shown below.




Report Server Database Configuration Wizard
Change Database
Choose whether to create or configure a report server database.
Action
Database Server
Database
Credentials
Summary
Progress and Finish
Please wait while the Report Server Database Configuration wizard configures the database. This might take several minutes to complete.
Verifying database sku
Success
Generating rights scripts
Success
Applying connection rights
Success
Setting DSN
In Progress
Previous
Finish
Cancel

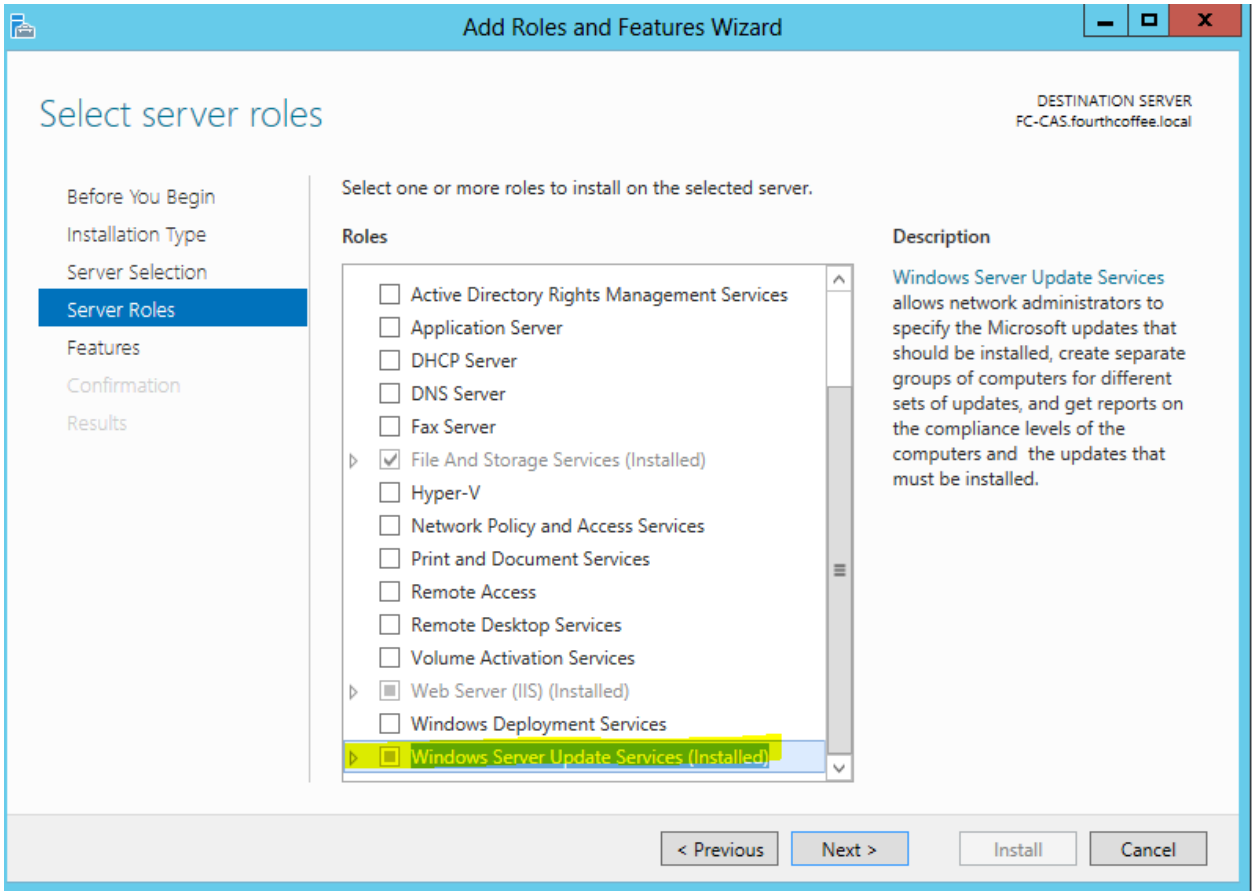


11. After configuring Reporting Services, try accessing the reports link e.g. http://fc-cas/Reports. Now all custom reports should be listed.



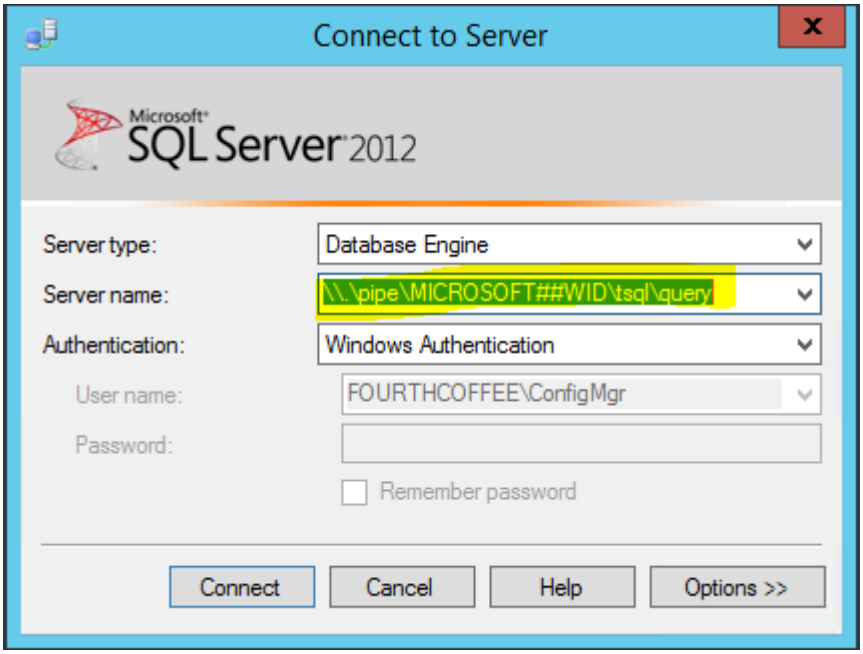
4.4.4 Software Updates & SCUP 2011 Restoration

1. On newly recovered CAS, make sure WSUS is installed. If server is Windows Server 2012 then add Windows Server Update Services as part of the Add Roles and Features options.



2. Once WSUS is installed, open the WSUS Console. It will prompt the drive letter and folder to configure (i.e. C:\WSUS). This step MUST be followed. Otherwise SUP will not be able to find WSUS and give an error during the sync process.
3. Restore WSUS database (SUSDB) and content from the backup (i.e. C:\WSUS and it's subfolders)
    a. You can restore the SUSDB using SQL Management Studio or through the command line
    b. If you are using Windows Internal Database then connect to the WID using SQL Management Studio:

       Under Server name, enter \\.\pipe\MICROSOFT##WID\tsql\query if you are running Windows Server 2012, else enter \\.\pipe\MSSQL$MICROSOFT##SSEE\sql\query



c. Once connected, restore SUSDB.

-OR-

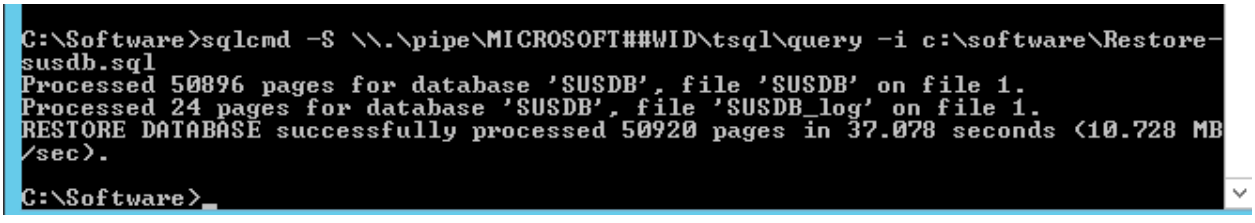
Use the following command to restore the SUSDB using SQLCMD utility:

d. Create a .sql script using the following text (replace the C:\SOFTWARE\susdb.bak with the appropriate path.)

RESTORE DATABSE [SUSDB] FROM DISK = N'c:\SOFTWARE\susdb.bak'
GO

e. Save this script as Restore-susdb.sql under C:\SOFTWARE\ and run the following at the command prompt (run as admin) if using Windows Server 2012:

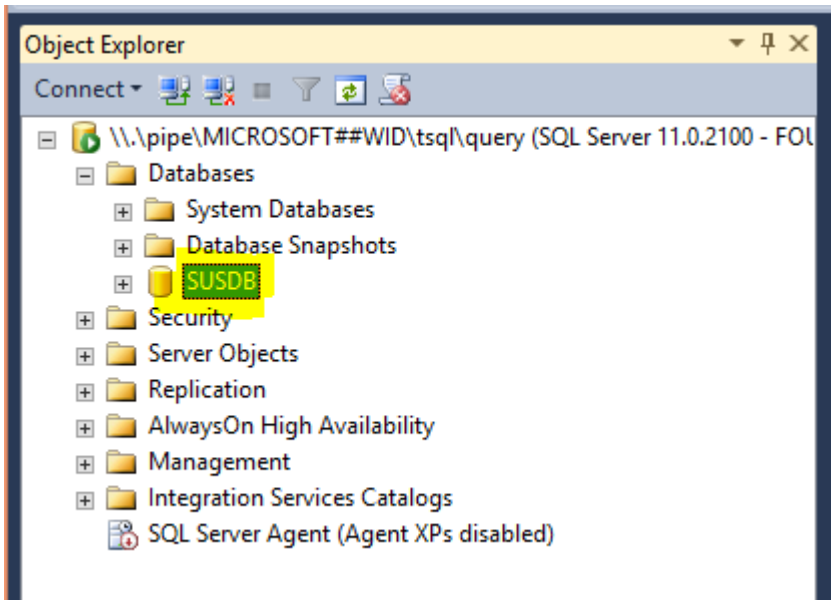
a. sqlcmd -S \\.\pipe\MICROSOFT##WID\tsql\query -i C:\SOFTWARE\Restore-susdb.sql



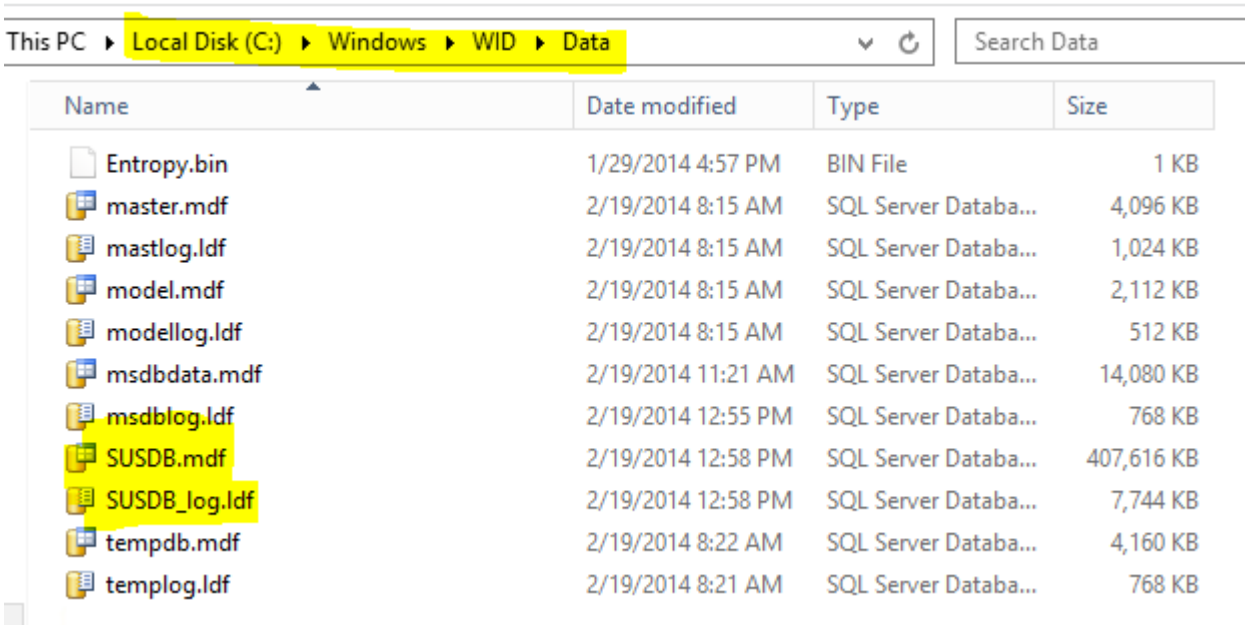
f. If using Windows Server 2008 then run the following at the Admin command prompt:

b. sqlcmd -S \\.\pipe\MSSQL$MICROSOFT##SSEE\sql\query -i C:\SOFTWARE\Restore-susdb.sql

c. Once the SUSDB is restored successfully then check in SQL Mgmt. Studio to confirm.



d. Review the **SUSDB.mdf** and **SUSDB_log.ldf** under **C:\Windows\WID\Data** folder on your Windows 2012 Server.



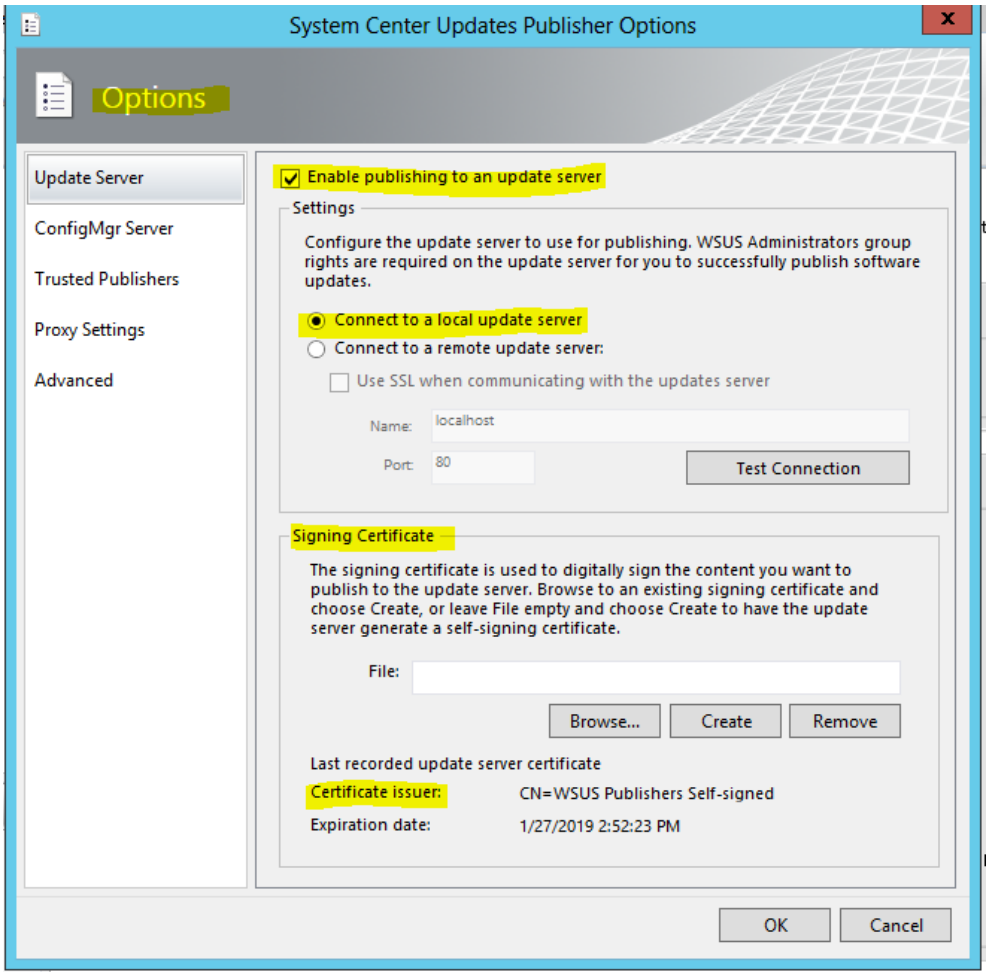
4. Follow the same step on Primary sites. (Install WSUS and restore WSUS database and folder accordingly). Make sure to restore WSUS Database and WSUS folder on the same path as it was on the old Primary site (i.e. C:\WSUS or D:\WSUSContent).

Important: *Software Update Point should already be there with all proper categories and products from the recovery process on CAS. We only need to make sure WSUS is installed.*

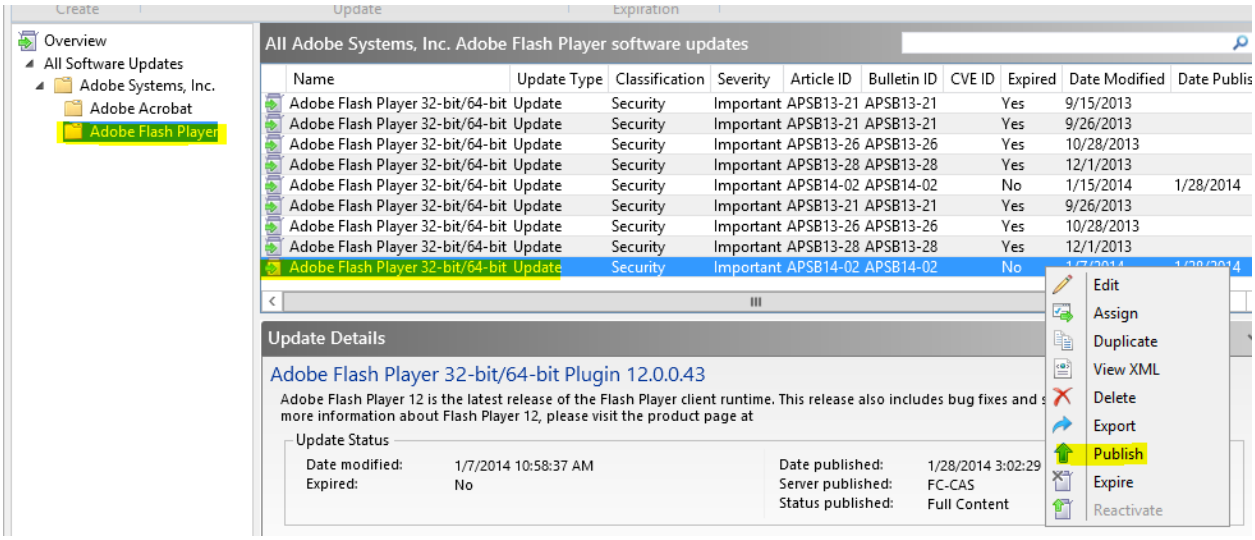
5. Install SCUP 2011 on CAS if it was there on the original CAS site server. If SCUP 2011 was not in the original hierarchy then you can skip the below steps.

    a. Restore SCUP 2011 database from the backup. On the computer that runs Updates Publisher (SCUP 2011), browse the SCUP 2011 database file (**Scupdb.sdf**) from ***%USERPROFILE%*\AppData\Local\Microsoft\System Center Updates Publisher 2012\5.00.1727.0000** and replace it from the backup.

    b. Connect to SCUP 2011 console and configure SCUP 2011. Make sure WSUS certificates are created and stored in "**Trusted Root Certification Authorities**" and "**Trusted Publishers**". Also make sure that the WSUS certificates are distributed to Configuration Manager Clients.



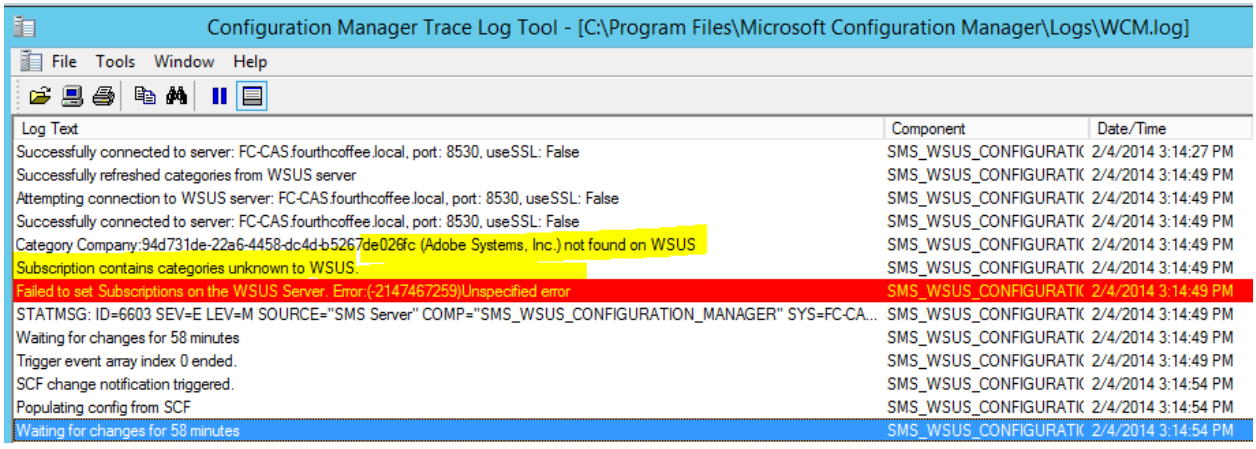
    c. Select an existing Windows Update, which was deployed previously, and re-publish. Make sure the update is not expired and you are able to publish it successfully.

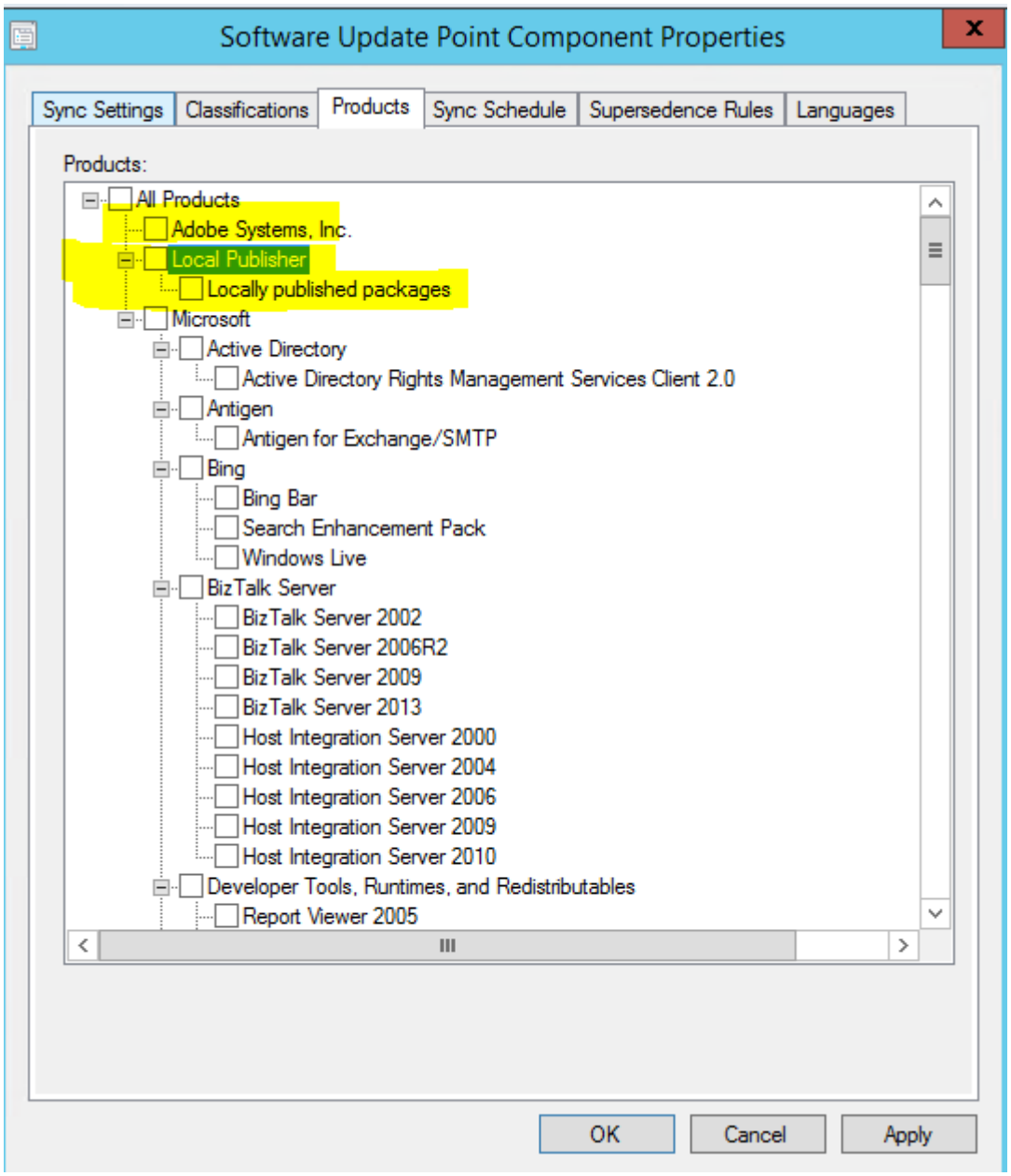


d. Connect to the Configuration Manager console and force the Software Update Synchronization. Review the following logs first on CAS and then on Primary to make sure sync process has started and progressing without any errors:
   - Wsyncmgr.log
   - WSUSCtrl.log
   - WCM.log

Troubleshooting:

If you don't have SUSDB backup and are not able to restore it then you may receive an error similar to the following screen. Now you may have to uncheck the appropriate software category (i.e. Adobe in this case) causing the issue from SCUP 2011 and then try to force the sync again. After the synchronization, try to publish a sample update from SCUP and force the sync again.




Software Update Point Component Properties
Sync Settings
Classifications
Products
Sync Schedule
Supersedence Rules
Languages
Products:
All Products
Adobe Systems, Inc.
Local Publisher
Locally published packages
Microsoft
Active Directory
Active Directory Rights Management Services Client 2.0
Antigen
Antigen for Exchange/SMTP
Bing
Bing Bar
Search Enhancement Pack
Windows Live
BizTalk Server
BizTalk Server 2002
BizTalk Server 2006R2
BizTalk Server 2009
BizTalk Server 2013
Host Integration Server 2000
Host Integration Server 2004
Host Integration Server 2006
Host Integration Server 2009
Host Integration Server 2010
Developer Tools, Runtimes, and Redistributables
Report Viewer 2005
OK
Cancel
Apply

4.4.5 Testing Packages/Applications/Software Updates

Once restoration of application & Windows updates completes, test it on few clients to make sure everything is working properly.

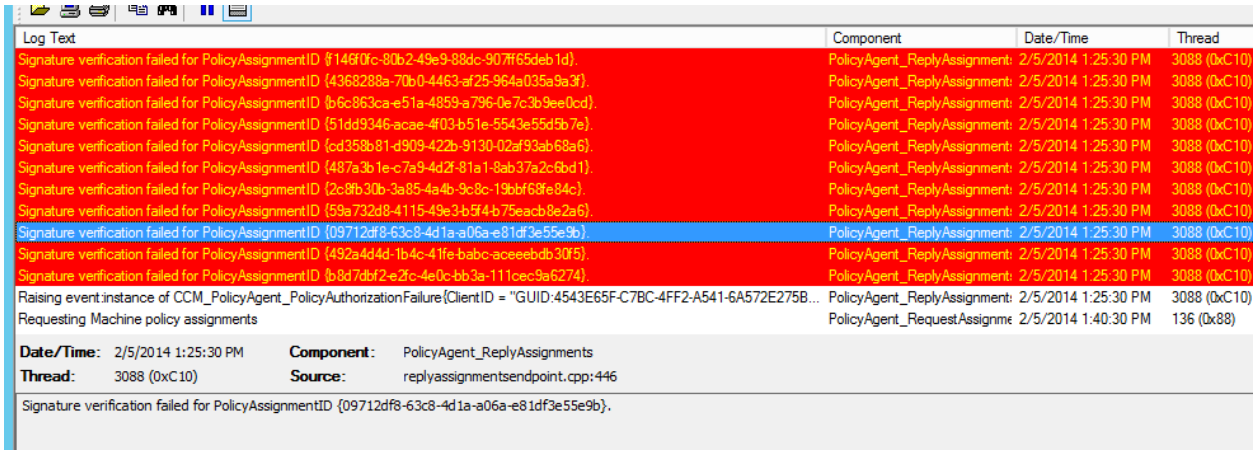
1. Check the MP to make sure it is working properly by running the following from any Configuration Manager client:

   http://<MP_name>/sms_mp/.sms?autMPCERT – This should return long certificate

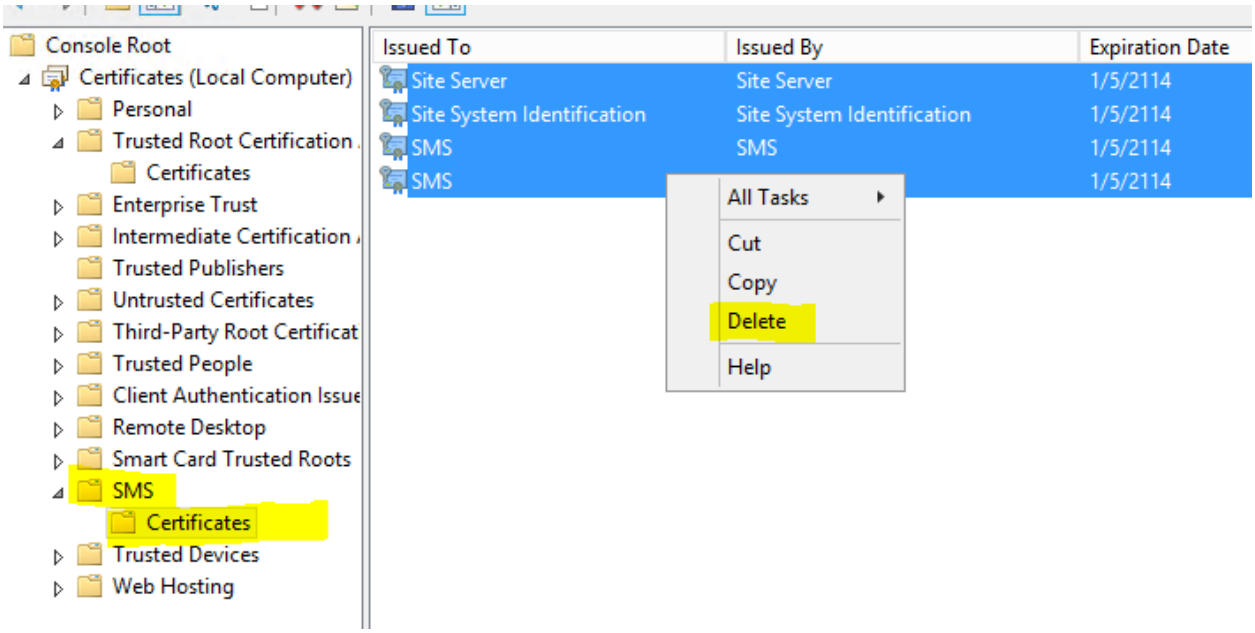
   http://<MP_name>/sms_mp/.sms?autMPLIST – This should return list of MPs

   If you receive any errors while running the above URLs then the Management Point (MP) is possibly broken and you may need to reinstall it.

2. Once you confirm the MP is functional then the next step is to review PolicyAgent.log on a client to see if the client is receiving policies from the MP. You may see the following error in **PolicyAgent.log** that indicates something is wrong with the signing policy and that is because of the certificates.



In order to resolve this issue, you will have to remove certificates located under the SMS folder as shown in the below screen shot and reboot the server. Configuration Manager will recreate these four certificates. However you will have to make sure to either restart SMS Agent Host service on the client and force Machine policy or wait until the next cycle.



3. Deploy a test package as well as Software Updates to the client to make sure that those are installed properly.

5 Other Recovery Scenarios

Important: In all of the scenarios list below (5.1 through 5.4), you DO NOT have to install a fresh copy of Configuration Manager but only OS and SQL. Once you have a fresh copy of OS and SQL installed then you can directly run the recovery process using ConfigMgr 2012 Media.

Important: There are certain prerequisites that must be installed on your site server otherwise you will get a failed message during prerequisite test as shown below.

Prerequisites:

- Previous CAS site server should be deleted
- New CAS site server with the same NetBIOS name should be joined to the domain
- Install the same SQL server and hotfix version as previous installation
- Microsoft Remote Differential Compression (RDC) library registered
- SQL Server service must be running using domain user account
- Install WADK 8.1. (Configuration Manager 2012 R2 requires WADK 8.1)
    - User State Migration Tool (USMT) must be installed
    - Windows Deployment Tools must be installed
    - Windows Preinstallation environment must be installed
- License Number
- Configure the same drive partition for Configuration Manager as previous installation

5.1 Scenario 1: CAS Site down and database backup copy within retention period (5 days)

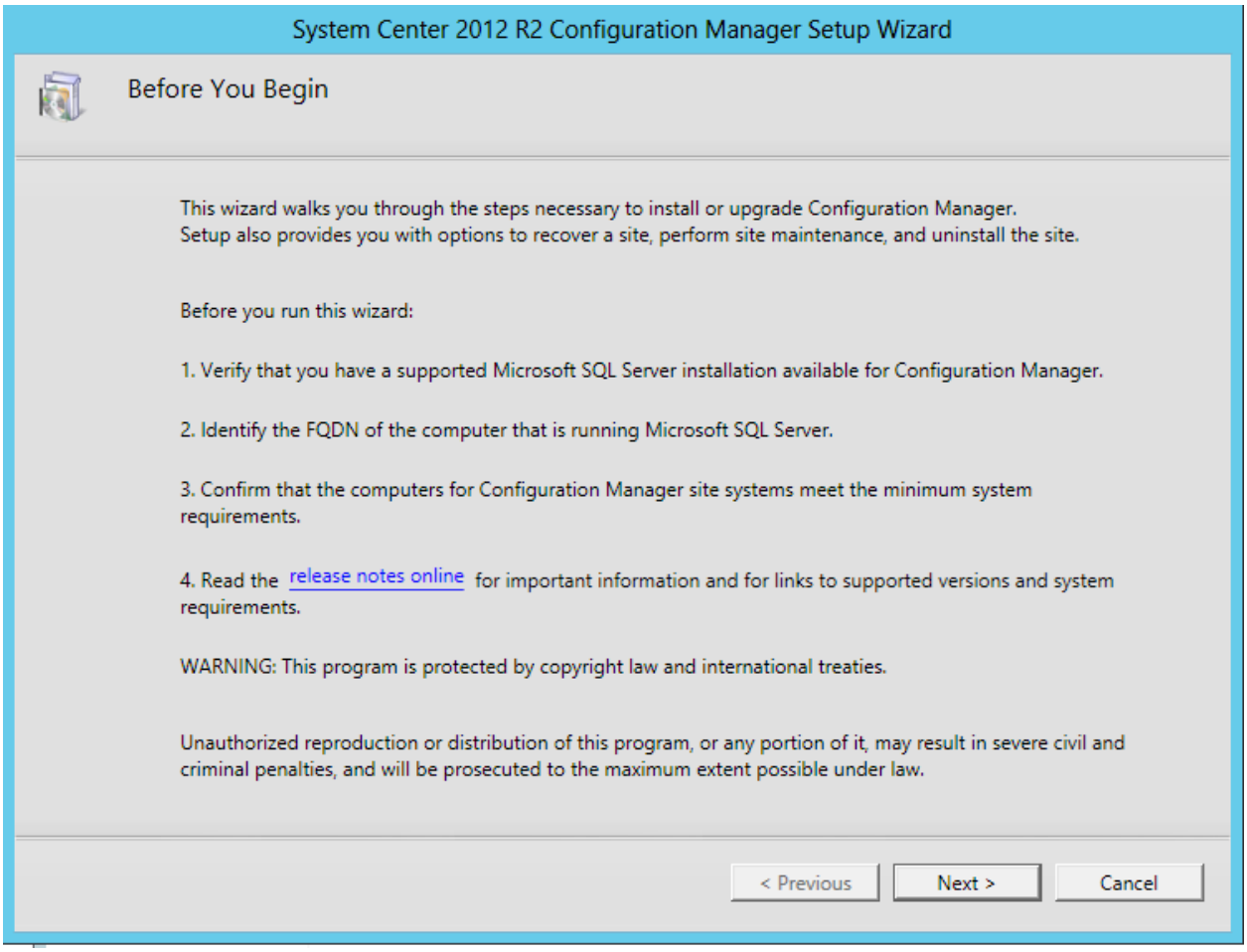
Analysis:

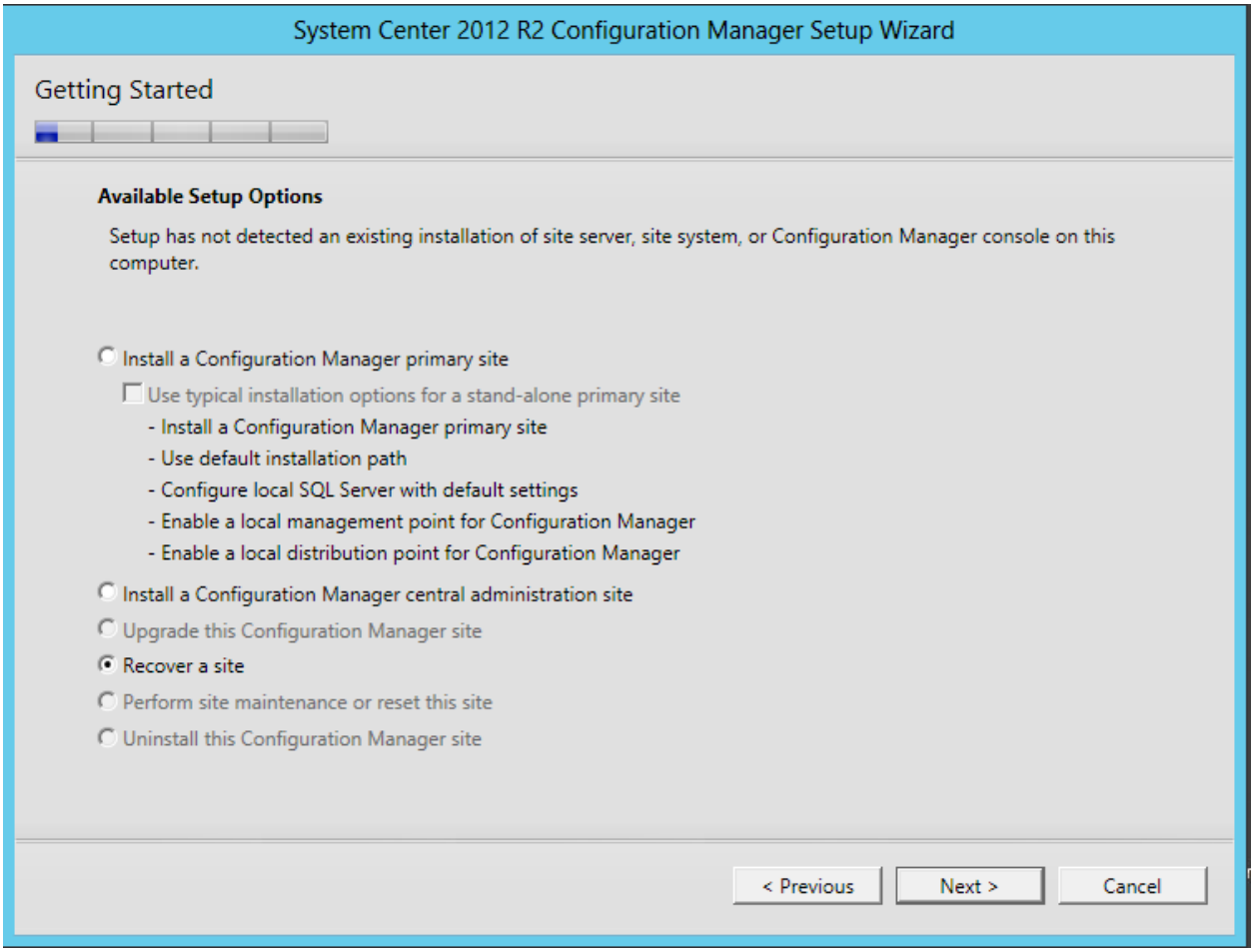
1. **Global Data**
   The CAS will restore the global data from the backup if it is within the retention period i.e. 5 days (default value). Due to the change tracking feature, all the changes in global data on the primary sites after backup will be applied to the restored CAS site if the reference Primary site is specified. Otherwise CAS is the authority of global data.

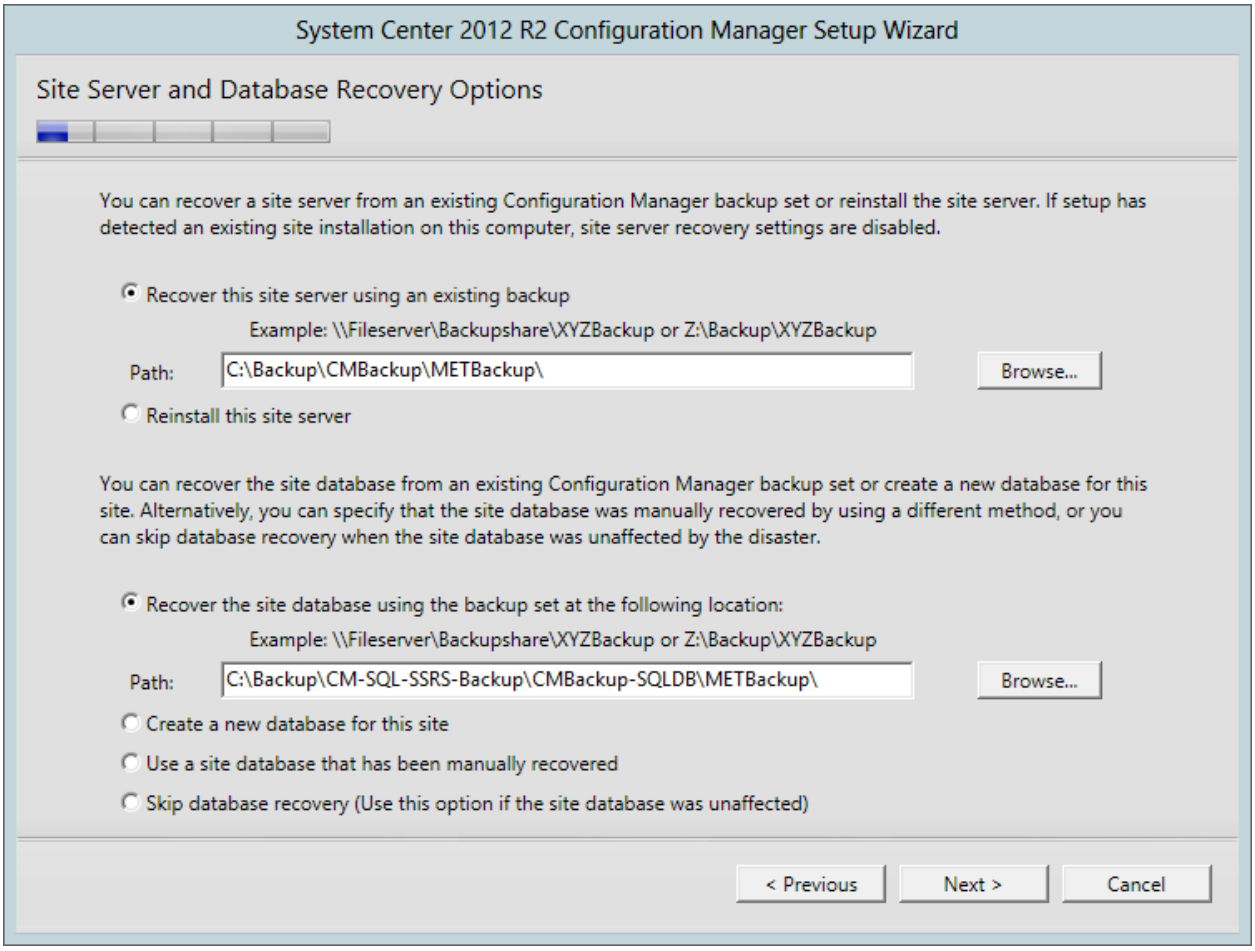
2. **Site Data**
   CAS receives the site data from each primary site. Site data is replicated from the primary site to CAS. Site data is reinitialized through change tracking.

Steps to follow

1. Install a fresh copy of OS and SQL to recovery CAS.
2. Insert the Configuration Manager 2012 R2 media and start.
3. To restore the CAS site from the backup within 5 days.


System Center 2012 R2 Configuration Manager Setup Wizard
Before You Begin
This wizard walks you through the steps necessary to install or upgrade Configuration Manager.
Setup also provides you with options to recover a site, perform site maintenance, and uninstall the site.
Before you run this wizard:
1. Verify that you have a supported Microsoft SQL Server installation available for Configuration Manager.
2. Identify the FQDN of the computer that is running Microsoft SQL Server.
3. Confirm that the computers for Configuration Manager site systems meet the minimum system requirements.
4. Read the release notes online for important information and for links to supported versions and system requirements.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Getting Started
Available Setup Options
Setup has not detected an existing installation of site server, site system, or Configuration Manager console on this computer.
Install a Configuration Manager primary site
Use typical installation options for a stand-alone primary site
- Install a Configuration Manager primary site
- Use default installation path
- Configure local SQL Server with default settings
- Enable a local management point for Configuration Manager
- Enable a local distribution point for Configuration Manager
Install a Configuration Manager central administration site
Upgrade this Configuration Manager site
Recover a site
Perform site maintenance or reset this site
Uninstall this Configuration Manager site
< Previous
Next >
Cancel



4. Specifying a reference Primary site is optional. If a reference Primary site is not specified then site data will be replicated from the first primary site which was installed in the hierarchy. You can find out the first Primary site using the **serverdata** table. In the below query ID = 1 refers to the first Primary site in the hierarchy.

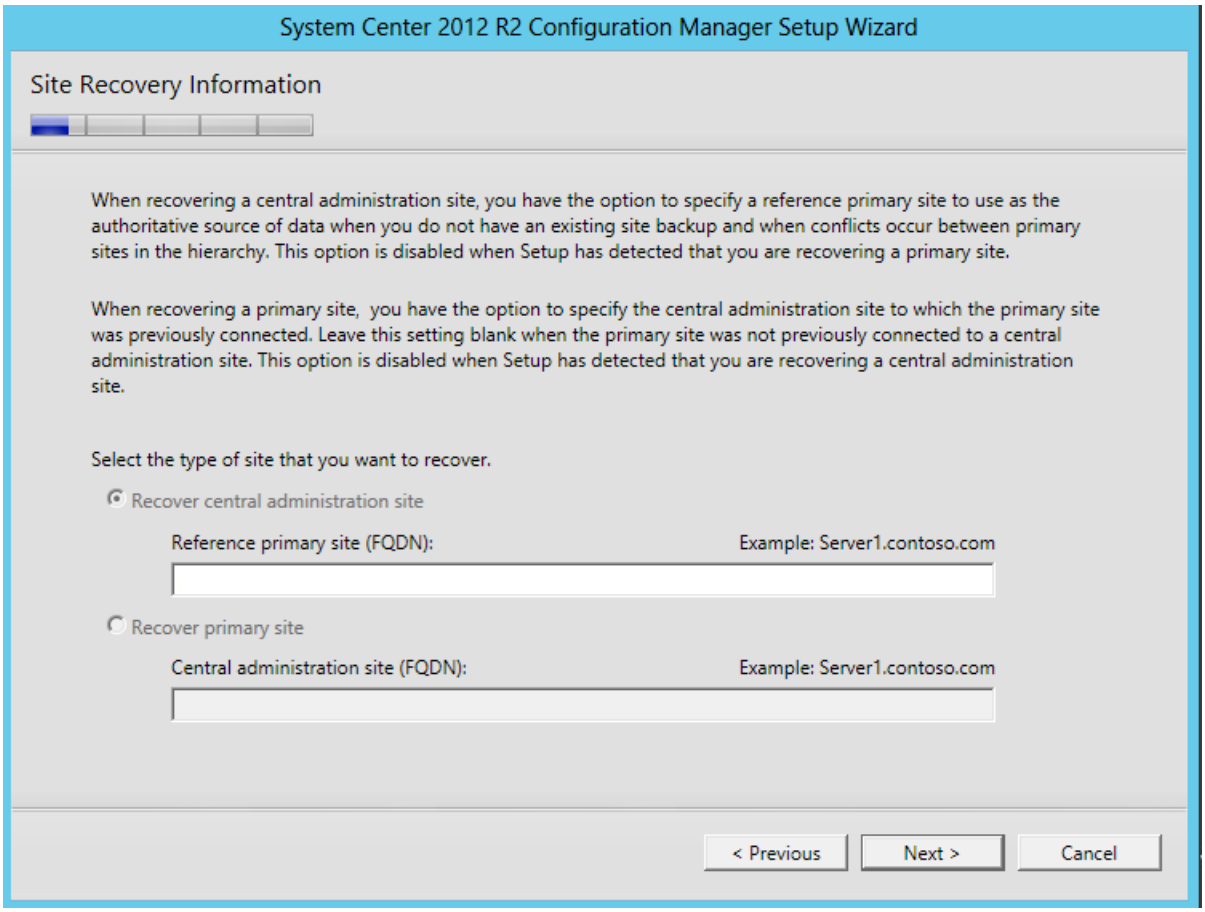
```
select * from serverdata
```

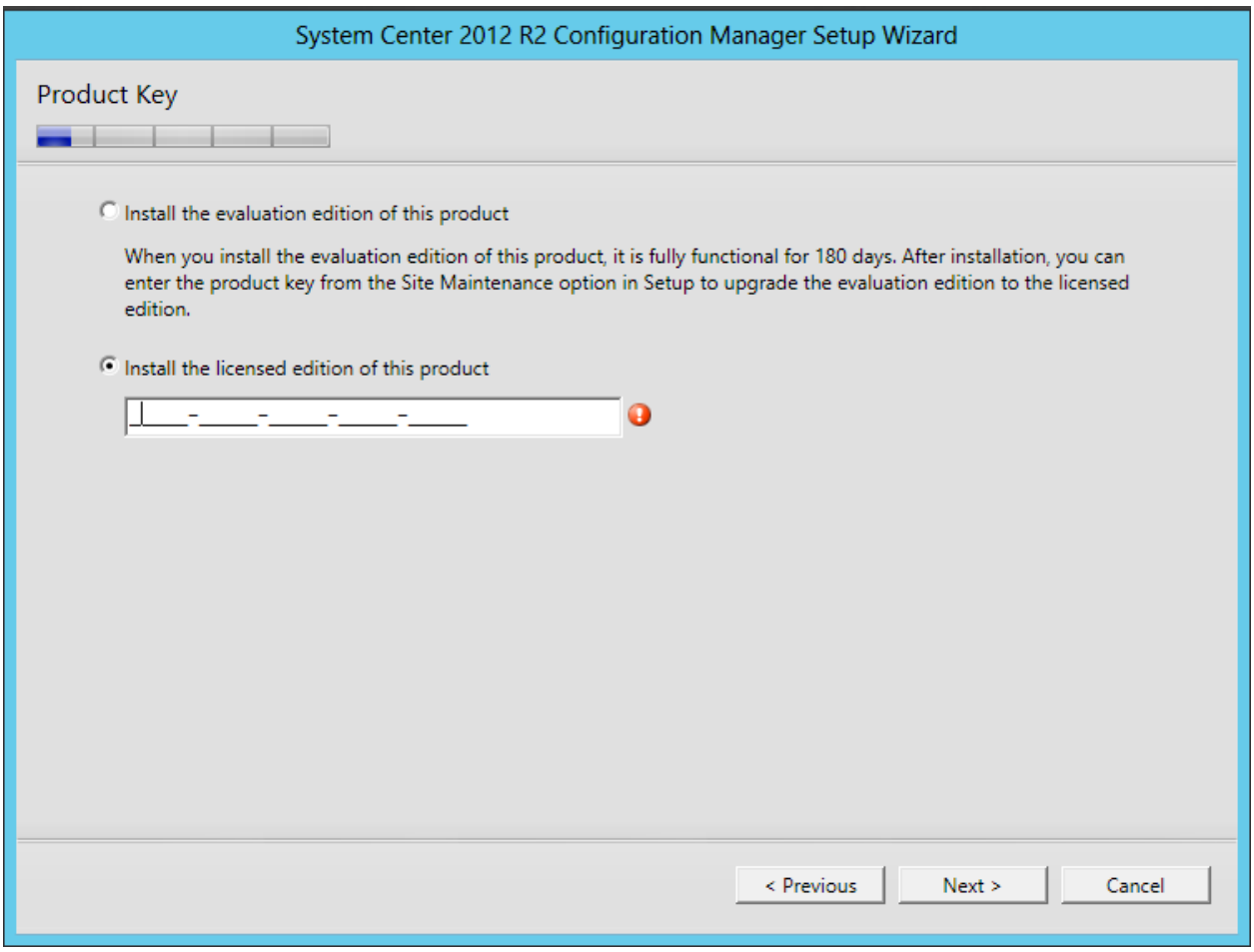
Results | Messages

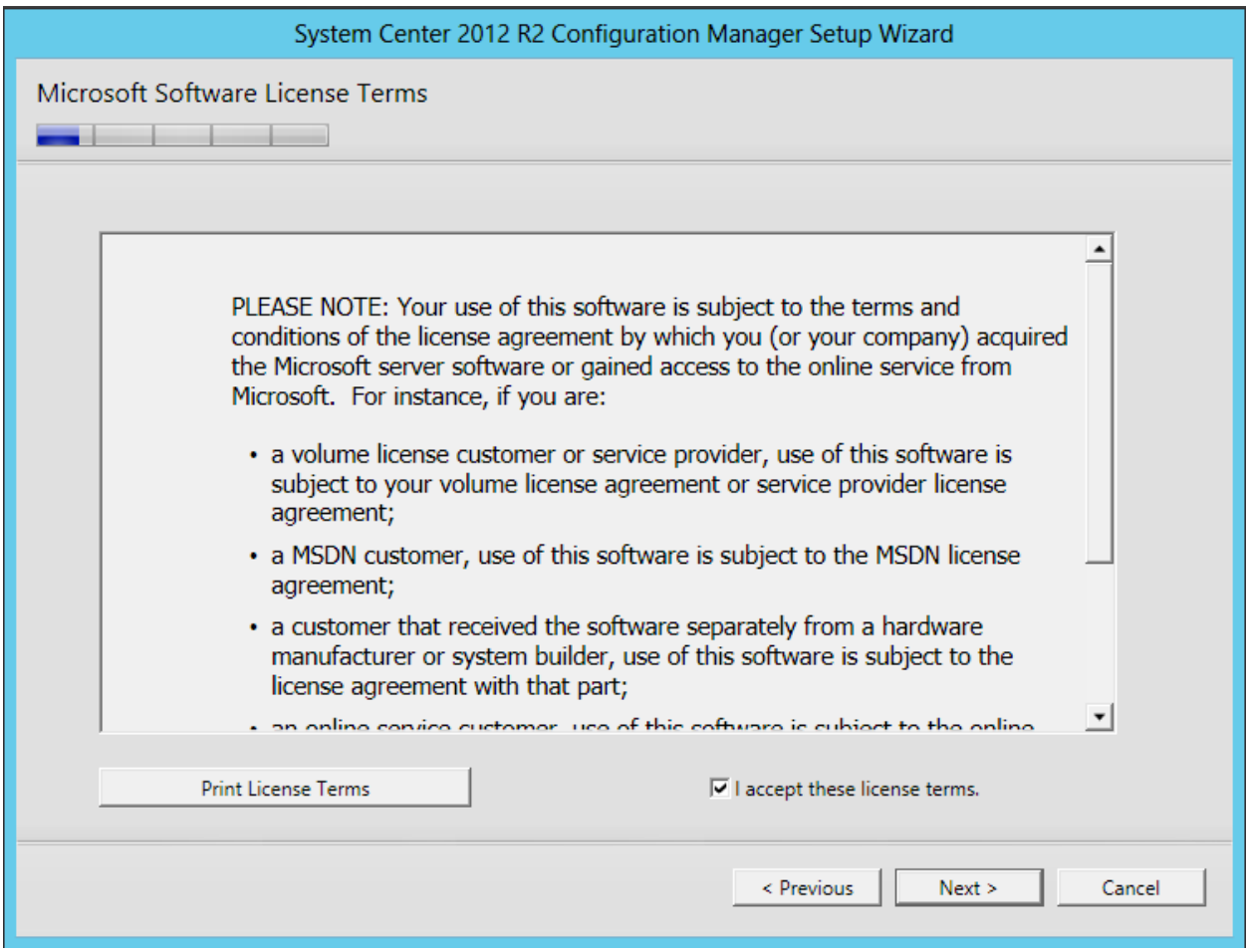
ID	Name	SiteCode	ServerRole	SQLInstance	SQLPort	ConfigMgrDatabase	SiteStatus	RecoveryCount
0	CMPerf143.CMPerfIT.com	CAS	CCAR	CMPERF143.CMPERFIT.COM	NULL	SMS_CAS	125	NULL
1	CMPerf138.CMPerfIT.com	P01	Peer	CMPERF138.CMPERFIT.COM	NULL	SMS_P01	125	NULL
2	CMPerf139.CMPerfIT.com	P02	Peer	CMPERF139.CMPERFIT.COM	NULL	SMS_P02	125	NULL
3	CMPerf140.CMPerfIT.com	P03	Peer	CMPERF140.CMPERFIT.COM	NULL	SMS_P03	125	NULL
4	CMPerf141.CMPerfIT.com	P04	Peer	CMPERF141.CMPERFIT.COM	NULL	SMS_P04	125	NULL
5	CMperf008.CMPerfIT.com	P05	Peer	CMperf008.CMPerfIT.com	NULL	CM_P05	125	NULL
6	CMPerf009.CMPerfIT.com	P06	Peer	CMPerf009.CMPerfIT.com	NULL	CM_P06	125	NULL

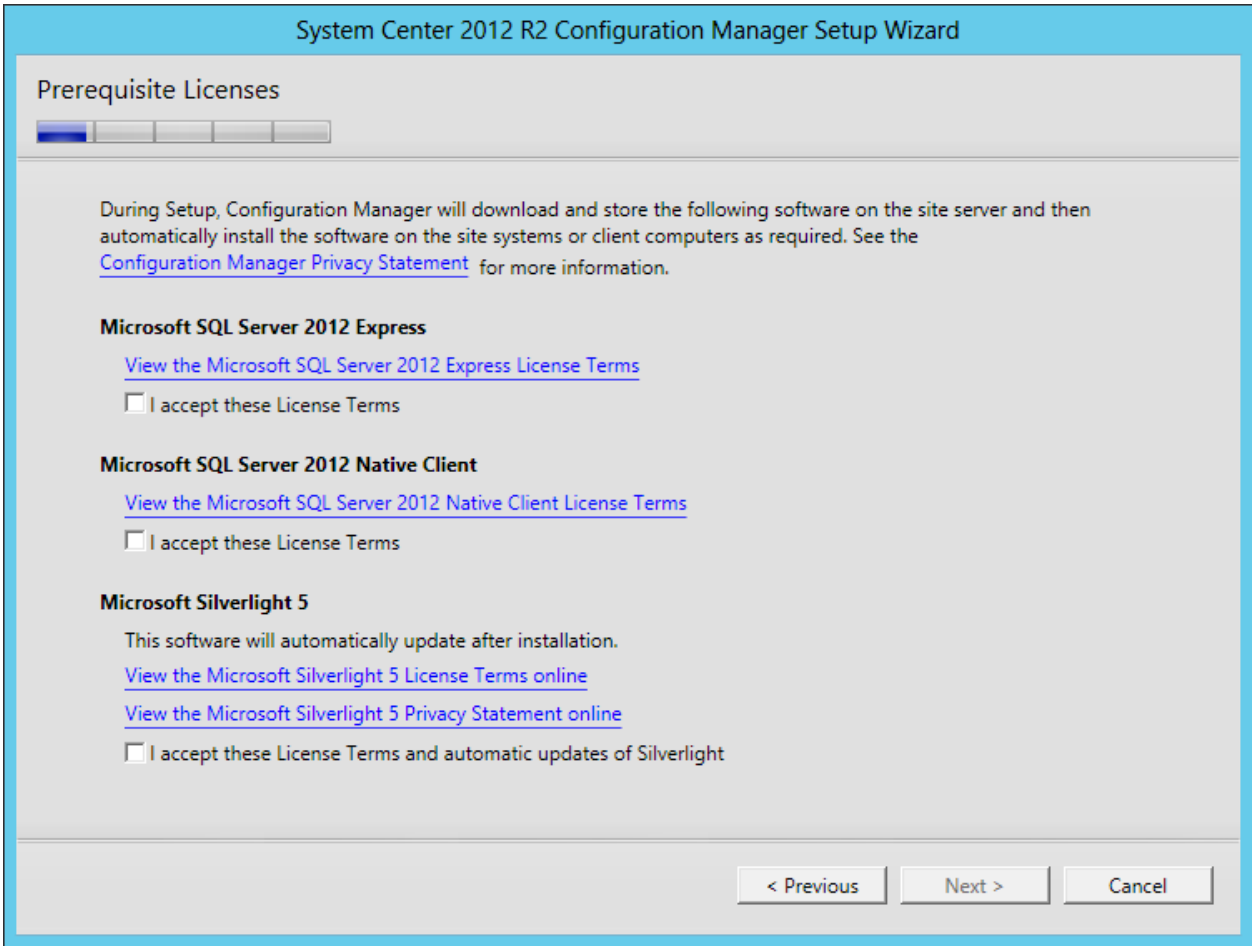
5. Below is the screenshot of the definition of specifying a reference primary site.

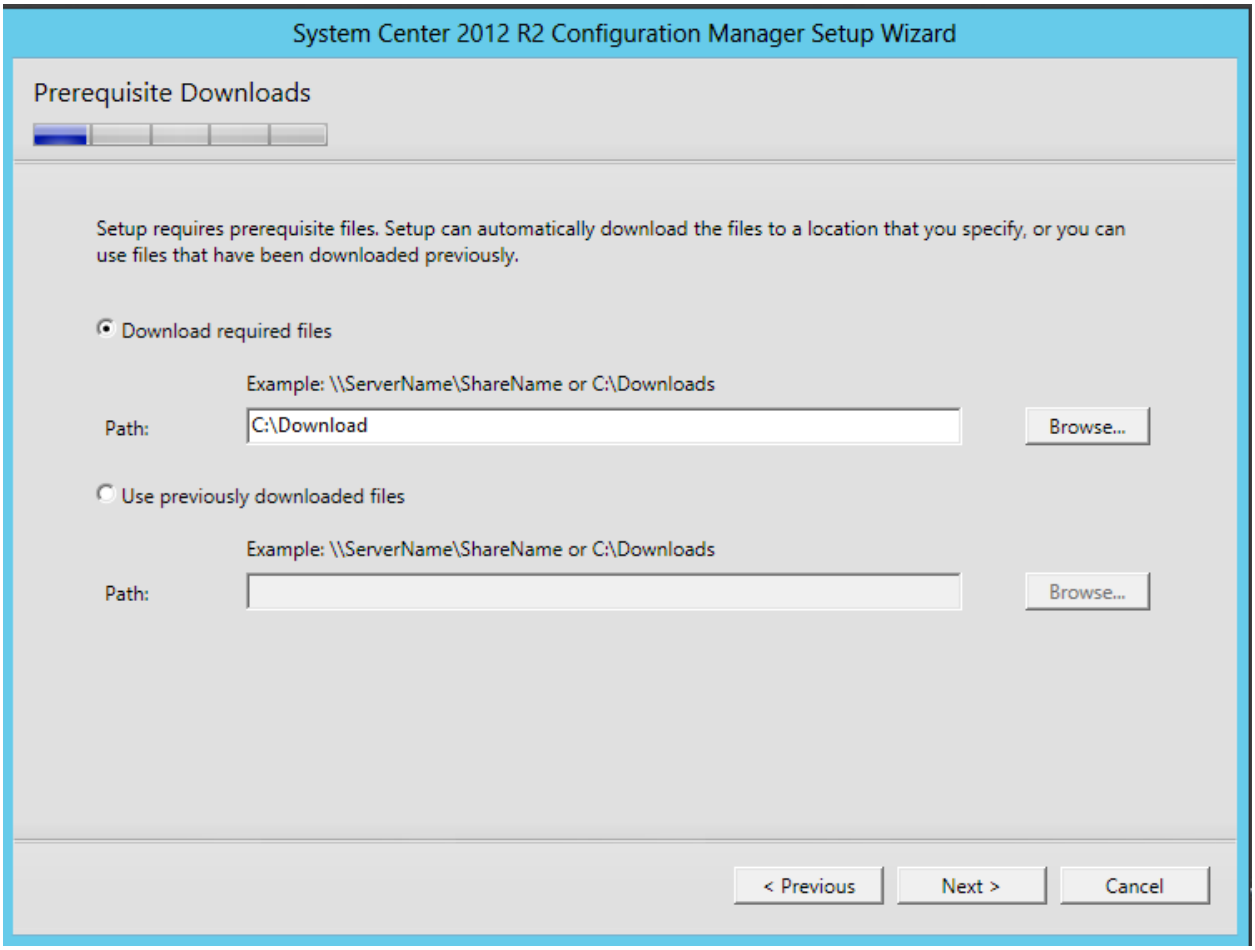
> When recovering a central administration site, you have the option to specify a reference primary site to use as the authoritative source of data when you do not have an existing site backup and when conflicts occur between primary sites in the hierarchy. This option is disabled when Setup has detected that you are recovering a primary site.


System Center 2012 R2 Configuration Manager Setup Wizard
Site Recovery Information
When recovering a central administration site, you have the option to specify a reference primary site to use as the authoritative source of data when you do not have an existing site backup and when conflicts occur between primary sites in the hierarchy. This option is disabled when Setup has detected that you are recovering a primary site.
When recovering a primary site, you have the option to specify the central administration site to which the primary site was previously connected. Leave this setting blank when the primary site was not previously connected to a central administration site. This option is disabled when Setup has detected that you are recovering a central administration site.
Select the type of site that you want to recover.
Recover central administration site
Reference primary site (FQDN):
Example: Server1.contoso.com
Recover primary site
Central administration site (FQDN):
Example: Server1.contoso.com
< Previous
Next >
Cancel

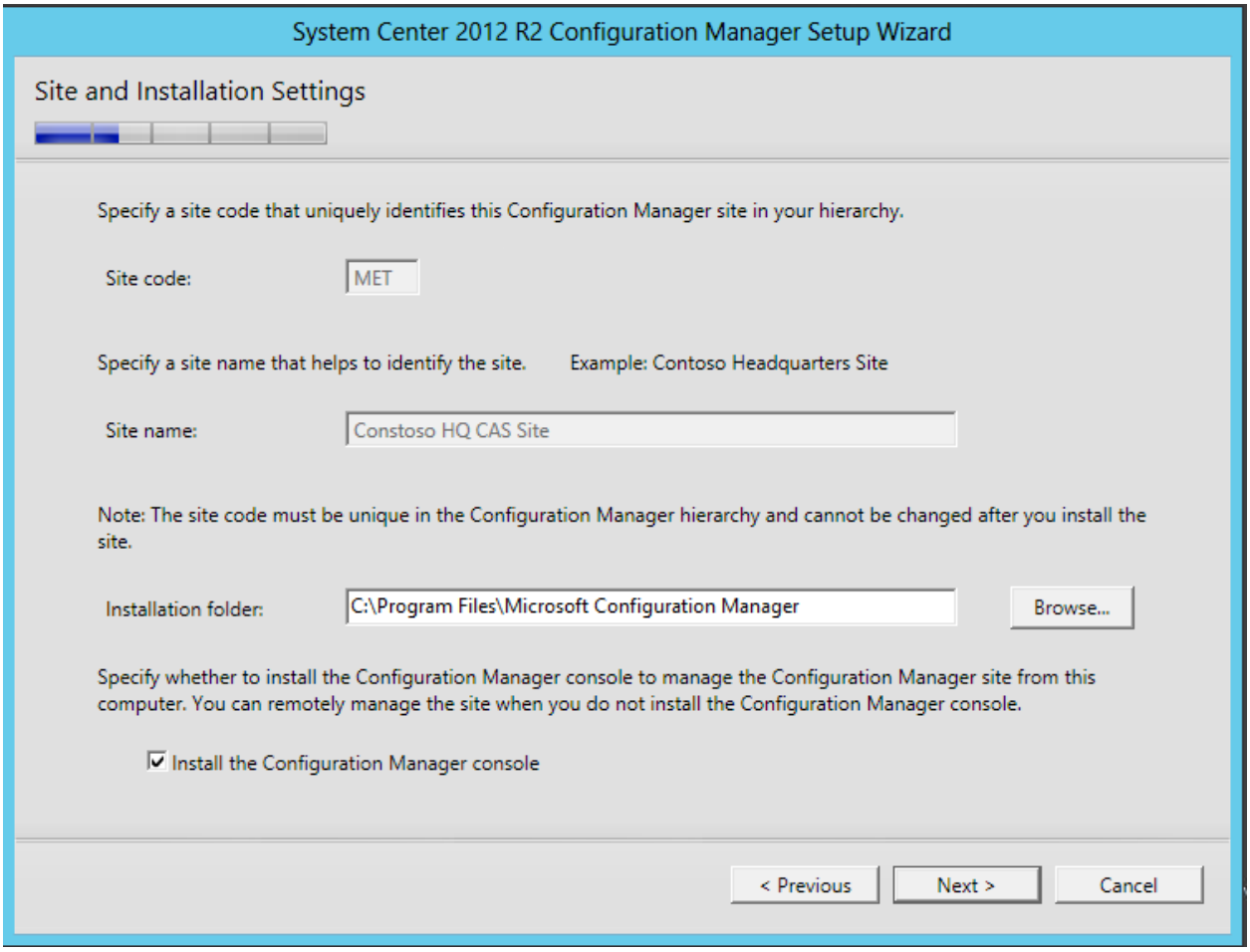

System Center 2012 R2 Configuration Manager Setup Wizard
Product Key
Install the evaluation edition of this product
When you install the evaluation edition of this product, it is fully functional for 180 days. After installation, you can enter the product key from the Site Maintenance option in Setup to upgrade the evaluation edition to the licensed edition.
Install the licensed edition of this product
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Microsoft Software License Terms
PLEASE NOTE: Your use of this software is subject to the terms and conditions of the license agreement by which you (or your company) acquired the Microsoft server software or gained access to the online service from Microsoft. For instance, if you are:
• a volume license customer or service provider, use of this software is subject to your volume license agreement or service provider license agreement;
• a MSDN customer, use of this software is subject to the MSDN license agreement;
• a customer that received the software separately from a hardware manufacturer or system builder, use of this software is subject to the license agreement with that part;
Print License Terms
I accept these license terms.
< Previous
Next >
Cancel

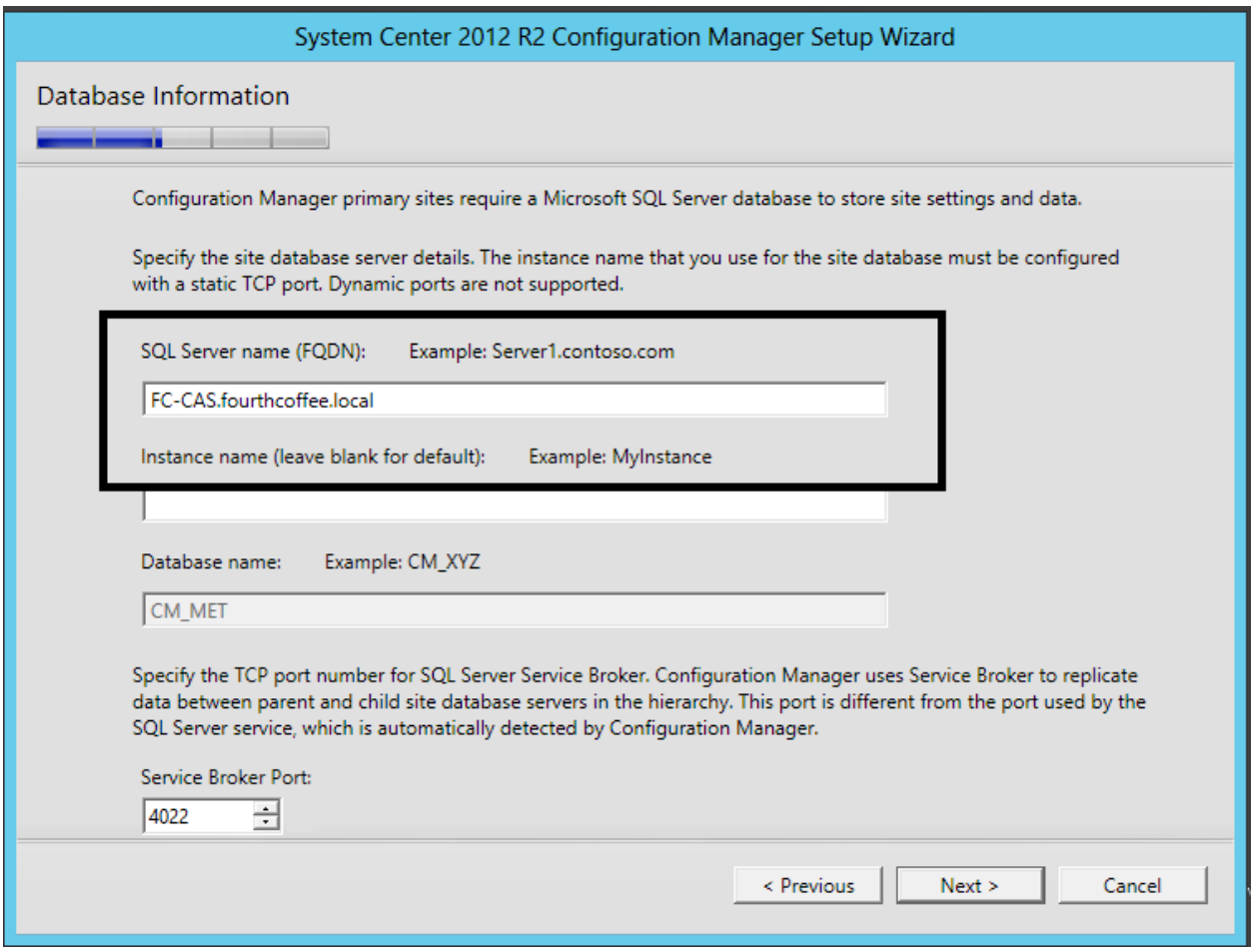

System Center 2012 R2 Configuration Manager Setup Wizard
Prerequisite Licenses
During Setup, Configuration Manager will download and store the following software on the site server and then automatically install the software on the site systems or client computers as required. See the Configuration Manager Privacy Statement for more information.
Microsoft SQL Server 2012 Express
View the Microsoft SQL Server 2012 Express License Terms
I accept these License Terms
Microsoft SQL Server 2012 Native Client
View the Microsoft SQL Server 2012 Native Client License Terms
I accept these License Terms
Microsoft Silverlight 5
This software will automatically update after installation.
View the Microsoft Silverlight 5 License Terms online
View the Microsoft Silverlight 5 Privacy Statement online
I accept these License Terms and automatic updates of Silverlight
< Previous
Next >
Cancel

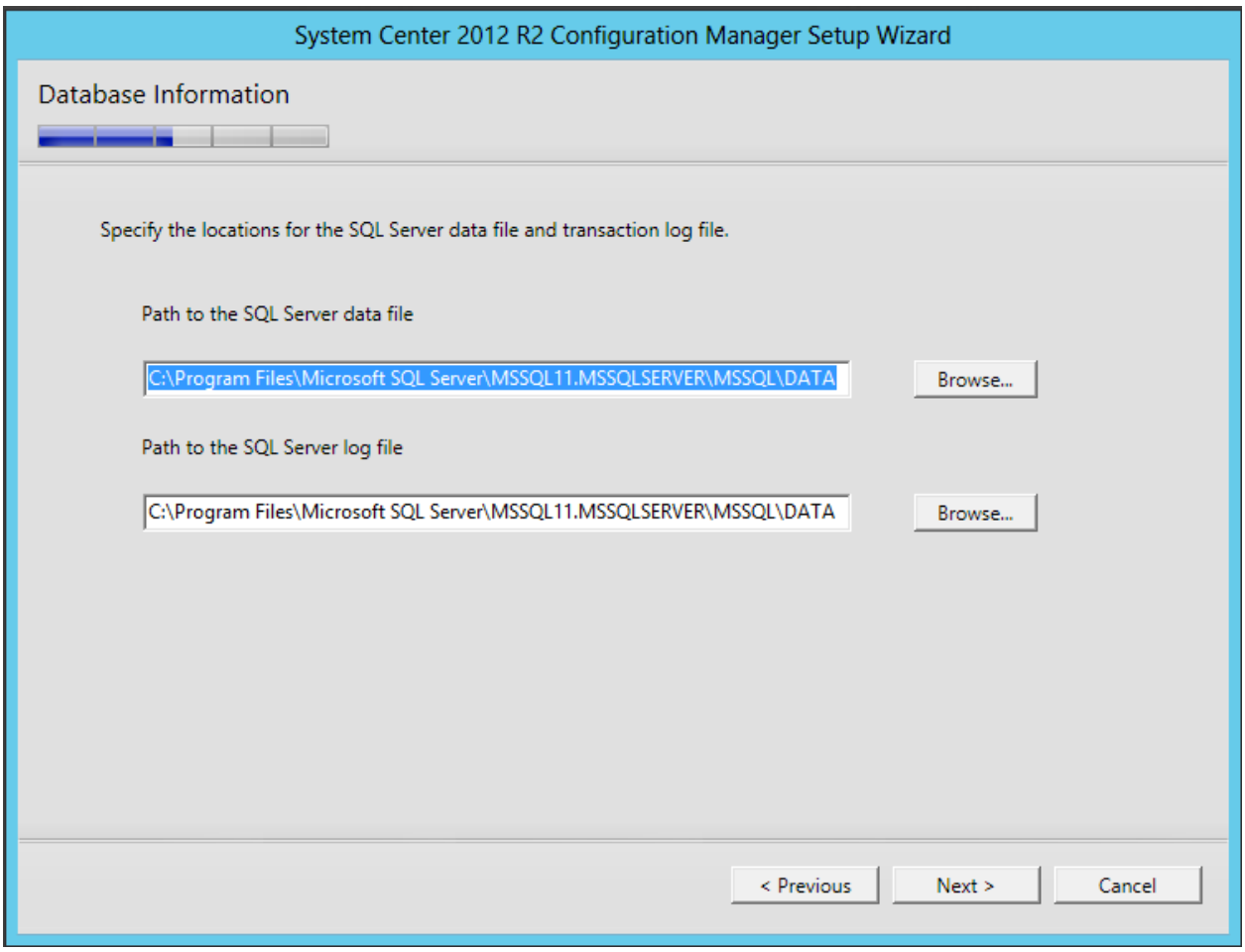


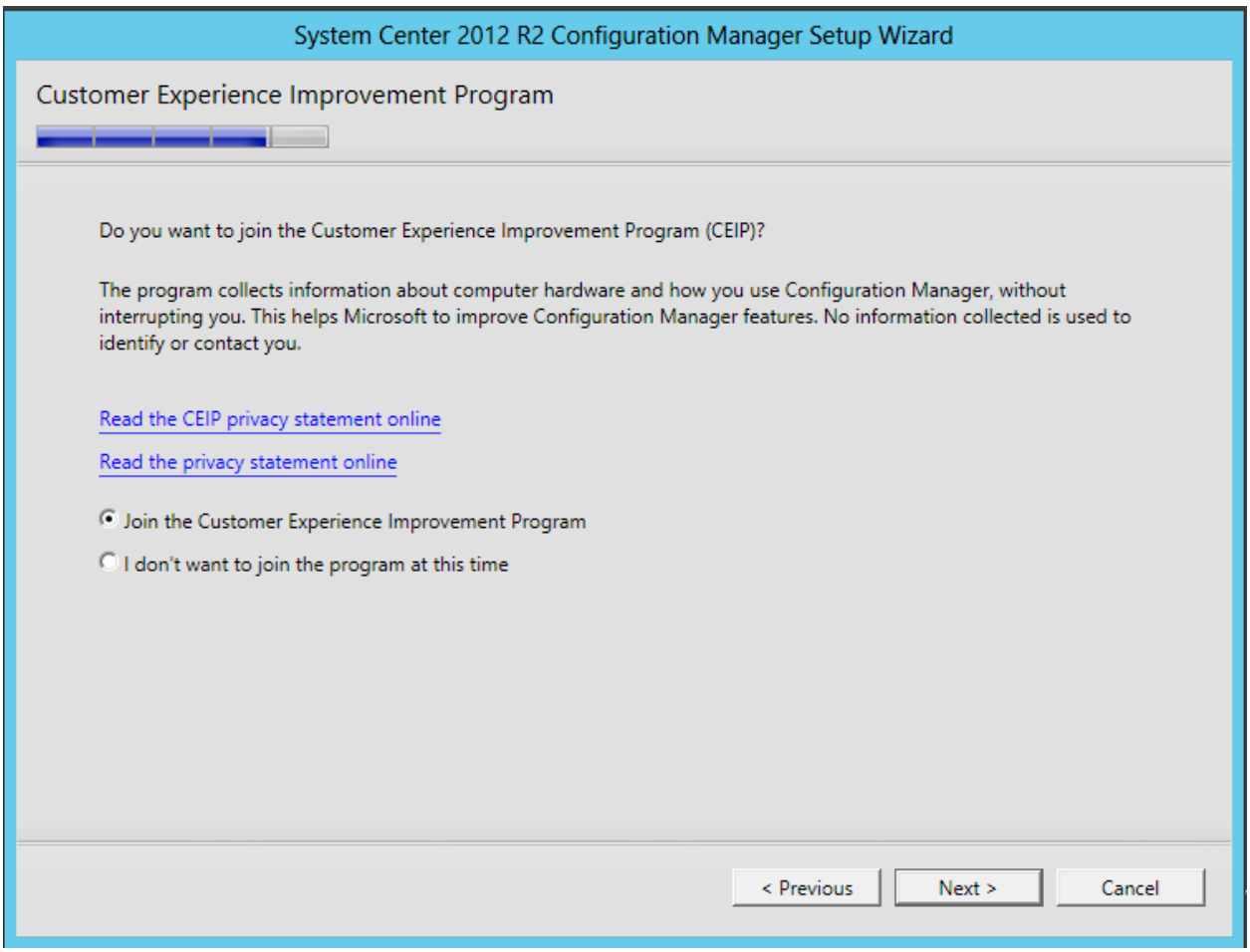
Note: Please note that the site code and name are pre-populated from the backup file. It is recommended to install the Configuration Manager in the same folder as that of the previous installation.

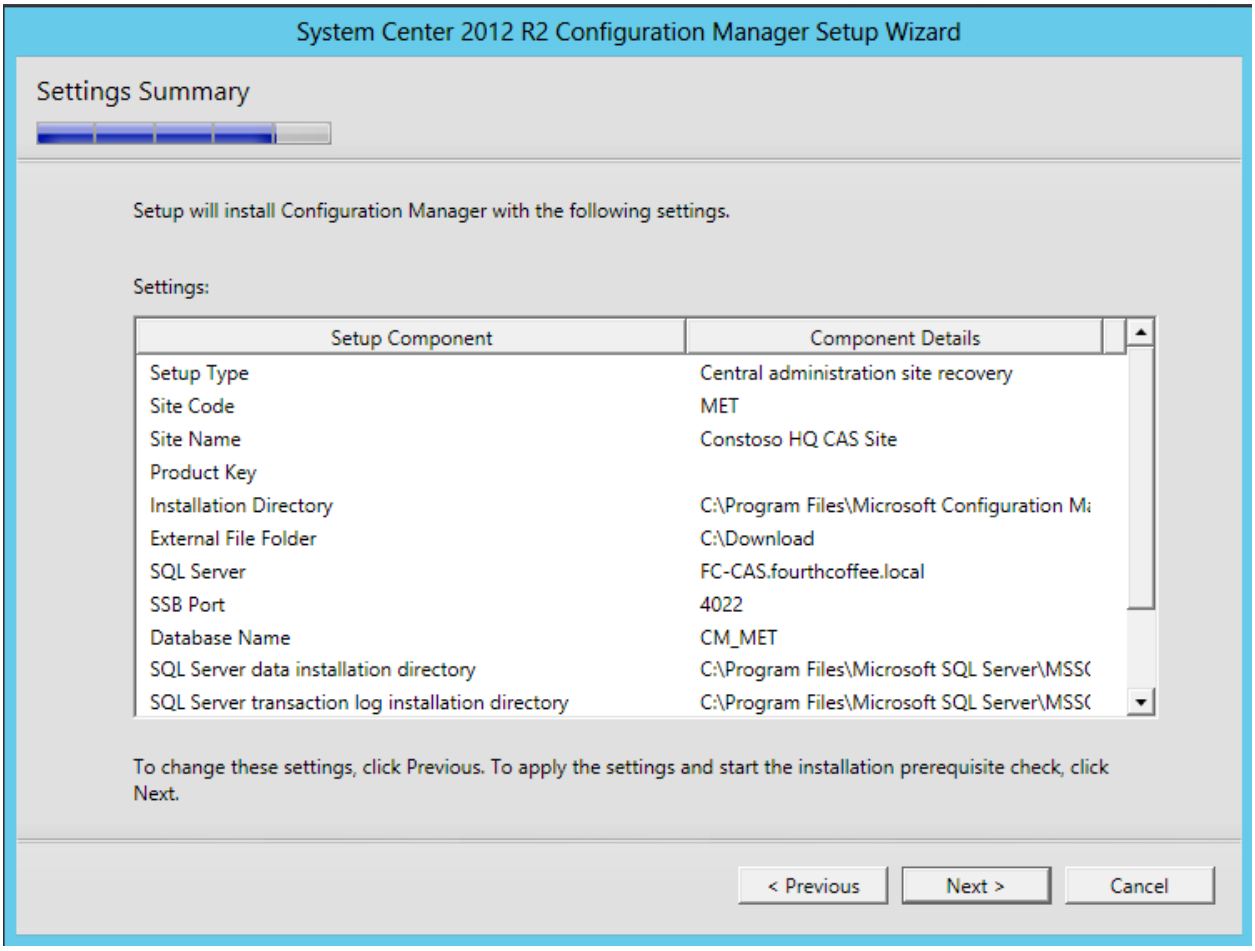


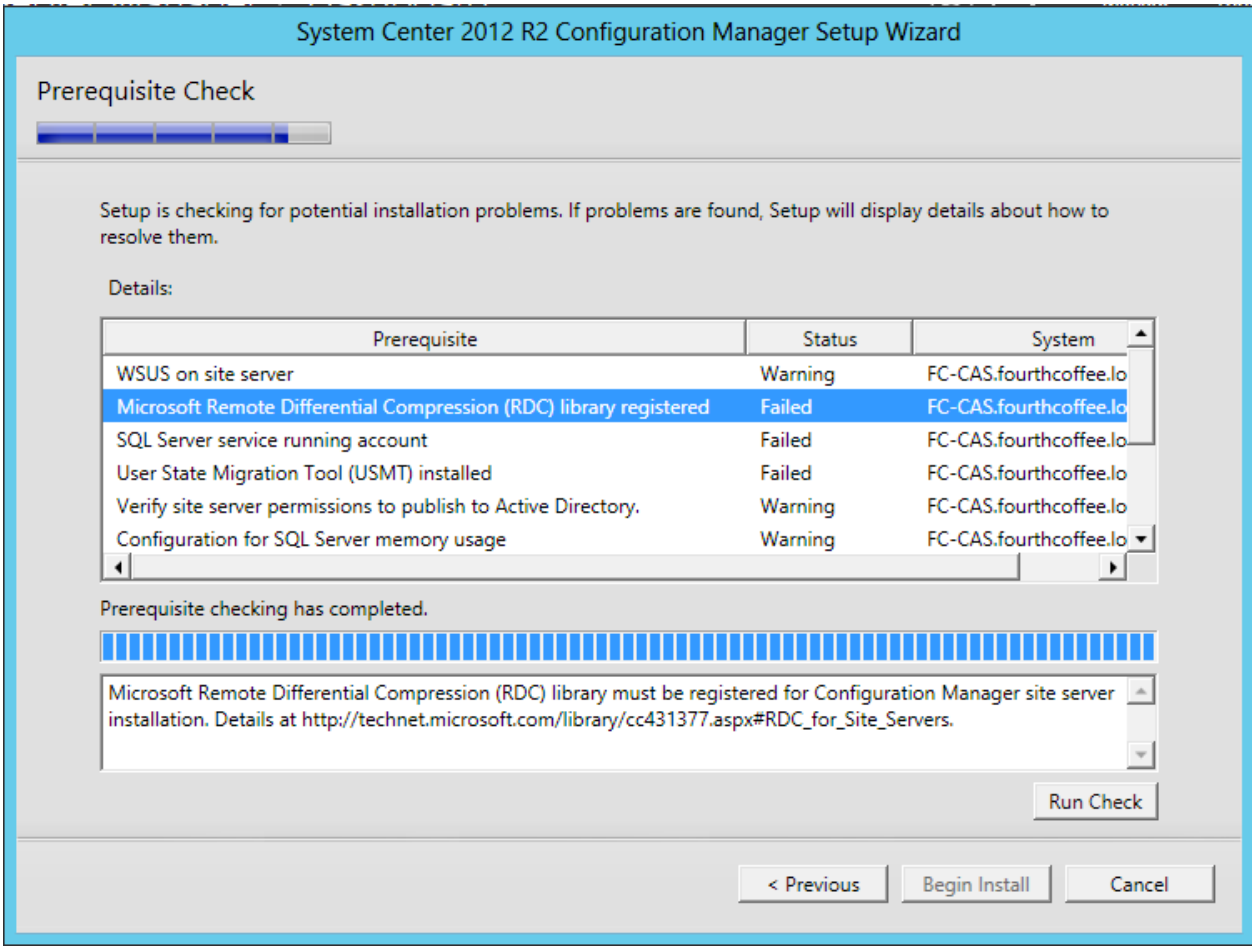
Important: If you are planning to install SQL remotely or move from remote to local box then specify SQL Server name accordingly (remote or local). If you were using different Service Broker port (i.e. default is 4022) then enter the same port number under Service Broker port.

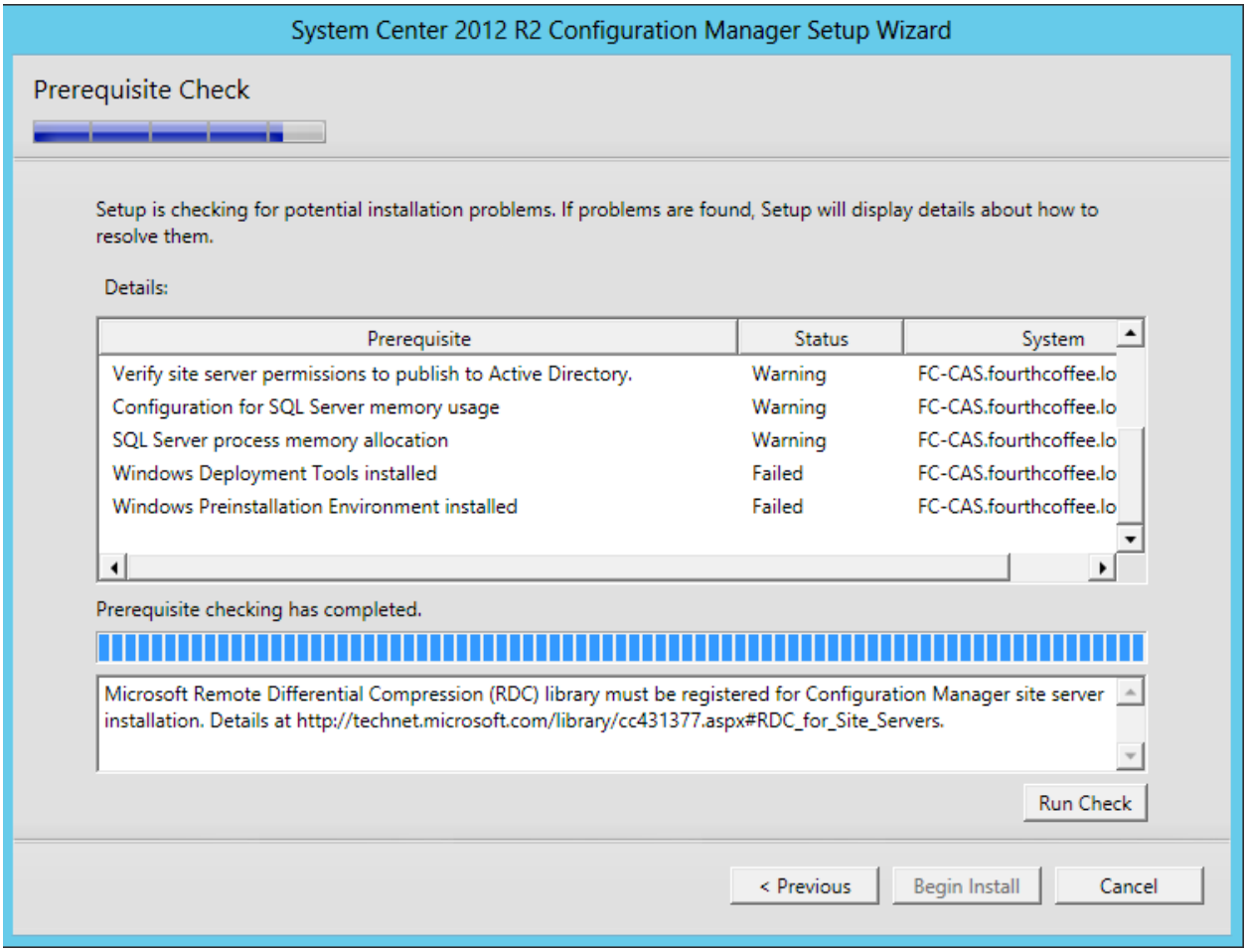

System Center 2012 R2 Configuration Manager Setup Wizard
Database Information
Configuration Manager primary sites require a Microsoft SQL Server database to store site settings and data.
Specify the site database server details. The instance name that you use for the site database must be configured with a static TCP port. Dynamic ports are not supported.
SQL Server name (FQDN): Example: Server1.contoso.com
FC-CAS.fourthcoffee.local
Instance name (leave blank for default): Example: MyInstance
Database name: Example: CM_XYZ
CM_MET
Specify the TCP port number for SQL Server Service Broker. Configuration Manager uses Service Broker to replicate data between parent and child site database servers in the hierarchy. This port is different from the port used by the SQL Server service, which is automatically detected by Configuration Manager.
Service Broker Port:
4022
< Previous
Next >
Cancel

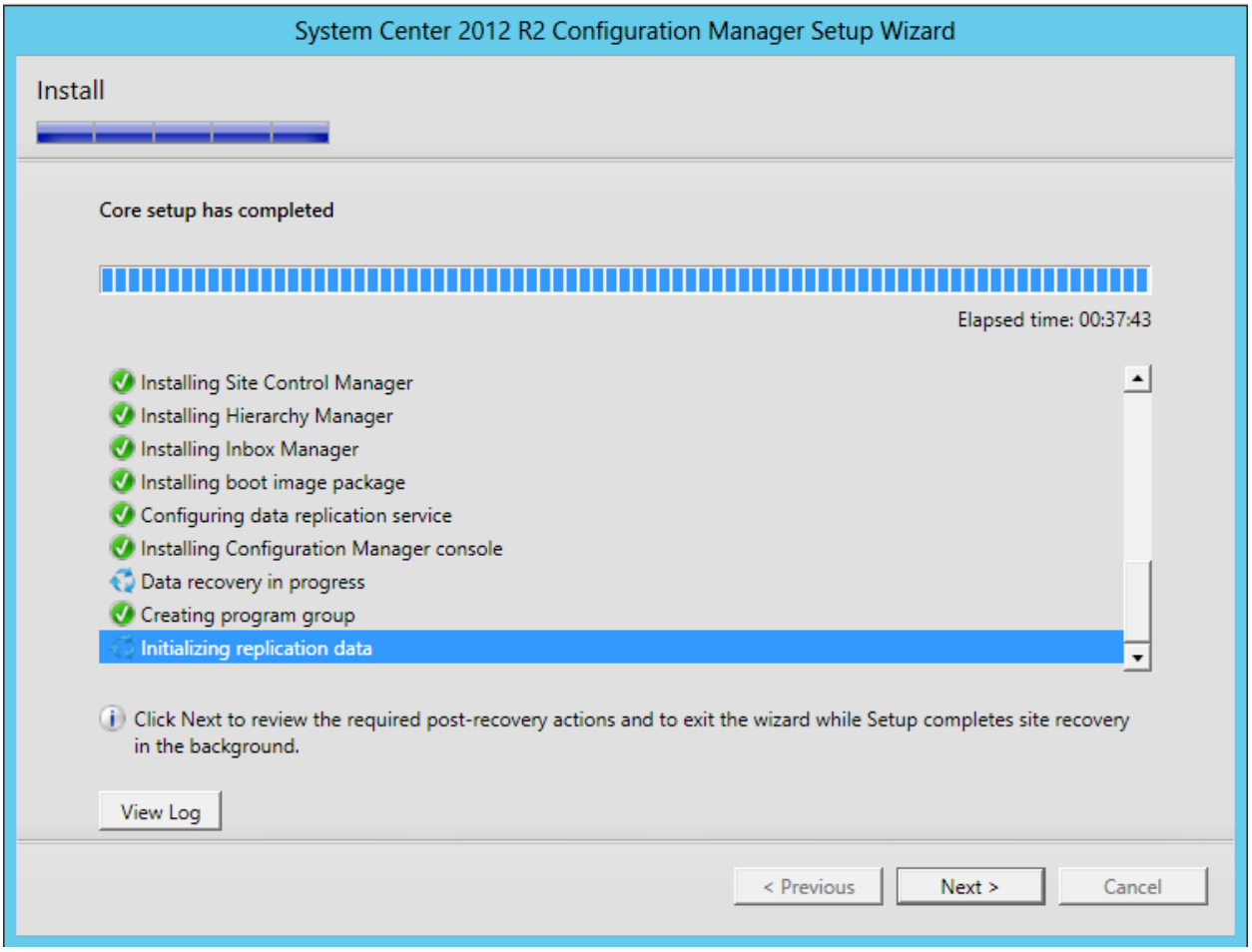

System Center 2012 R2 Configuration Manager Setup Wizard
Database Information
Specify the locations for the SQL Server data file and transaction log file.
Path to the SQL Server data file
C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\DATA
Browse...
Path to the SQL Server log file
C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\DATA
Browse...
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Customer Experience Improvement Program
Do you want to join the Customer Experience Improvement Program (CEIP)?
The program collects information about computer hardware and how you use Configuration Manager, without interrupting you. This helps Microsoft to improve Configuration Manager features. No information collected is used to identify or contact you.
Read the CEIP privacy statement online
Read the privacy statement online
Join the Customer Experience Improvement Program
I don't want to join the program at this time
< Previous
Next >
Cancel

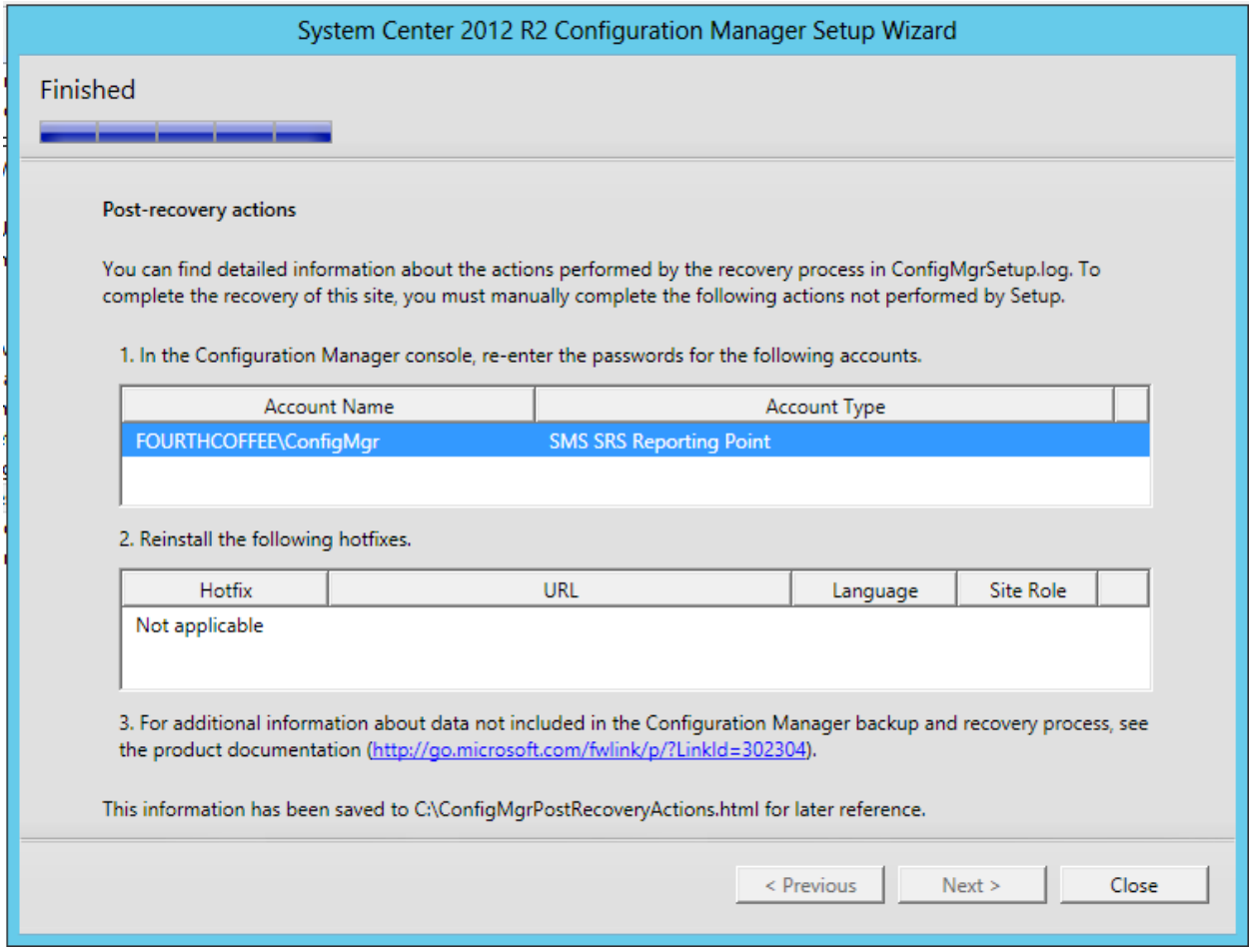

System Center 2012 R2 Configuration Manager Setup Wizard
Settings Summary
Setup will install Configuration Manager with the following settings.
Settings:
Setup Component
Component Details
Setup Type
Central administration site recovery
Site Code
MET
Site Name
Constoso HQ CAS Site
Product Key
Installation Directory
C:\Program Files\Microsoft Configuration M
External File Folder
C:\Download
SQL Server
FC-CAS.fourthcoffee.local
SSB Port
4022
Database Name
CM_MET
SQL Server data installation directory
C:\Program Files\Microsoft SQL Server\MSS(
SQL Server transaction log installation directory
C:\Program Files\Microsoft SQL Server\MSS(
To change these settings, click Previous. To apply the settings and start the installation prerequisite check, click Next.
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Prerequisite Check
Setup is checking for potential installation problems. If problems are found, Setup will display details about how to resolve them.
Details:
Prerequisite
Status
System
WSUS on site server
Warning
FC-CAS.fourthcoffee.lo
Microsoft Remote Differential Compression (RDC) library registered
Failed
FC-CAS.fourthcoffee.lo
SQL Server service running account
Failed
FC-CAS.fourthcoffee.lo
User State Migration Tool (USMT) installed
Failed
FC-CAS.fourthcoffee.lo
Verify site server permissions to publish to Active Directory.
Warning
FC-CAS.fourthcoffee.lo
Configuration for SQL Server memory usage
Warning
FC-CAS.fourthcoffee.lo
Prerequisite checking has completed.
Microsoft Remote Differential Compression (RDC) library must be registered for Configuration Manager site server installation. Details at http://technet.microsoft.com/library/cc431377.aspx#RDC_for_Site_Servers.
Run Check
< Previous
Begin Install
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Prerequisite Check
Setup is checking for potential installation problems. If problems are found, Setup will display details about how to resolve them.
Details:
Prerequisite
Status
System
Verify site server permissions to publish to Active Directory.
Warning
FC-CAS.fourthcoffee.lo
Configuration for SQL Server memory usage
Warning
FC-CAS.fourthcoffee.lo
SQL Server process memory allocation
Warning
FC-CAS.fourthcoffee.lo
Windows Deployment Tools installed
Failed
FC-CAS.fourthcoffee.lo
Windows Preinstallation Environment installed
Failed
FC-CAS.fourthcoffee.lo
Prerequisite checking has completed.
Microsoft Remote Differential Compression (RDC) library must be registered for Configuration Manager site server installation. Details at http://technet.microsoft.com/library/cc431377.aspx#RDC_for_Site_Servers.
Run Check
< Previous
Begin Install
Cancel



Important: On the last screen, it will list all the accounts that would require the administrator to re-enter the password. It will also list the hotfixes that require reinstallation after the recovery process.



Note: Replication process took around 35-40 minutes to complete in the lab. Your results may vary.

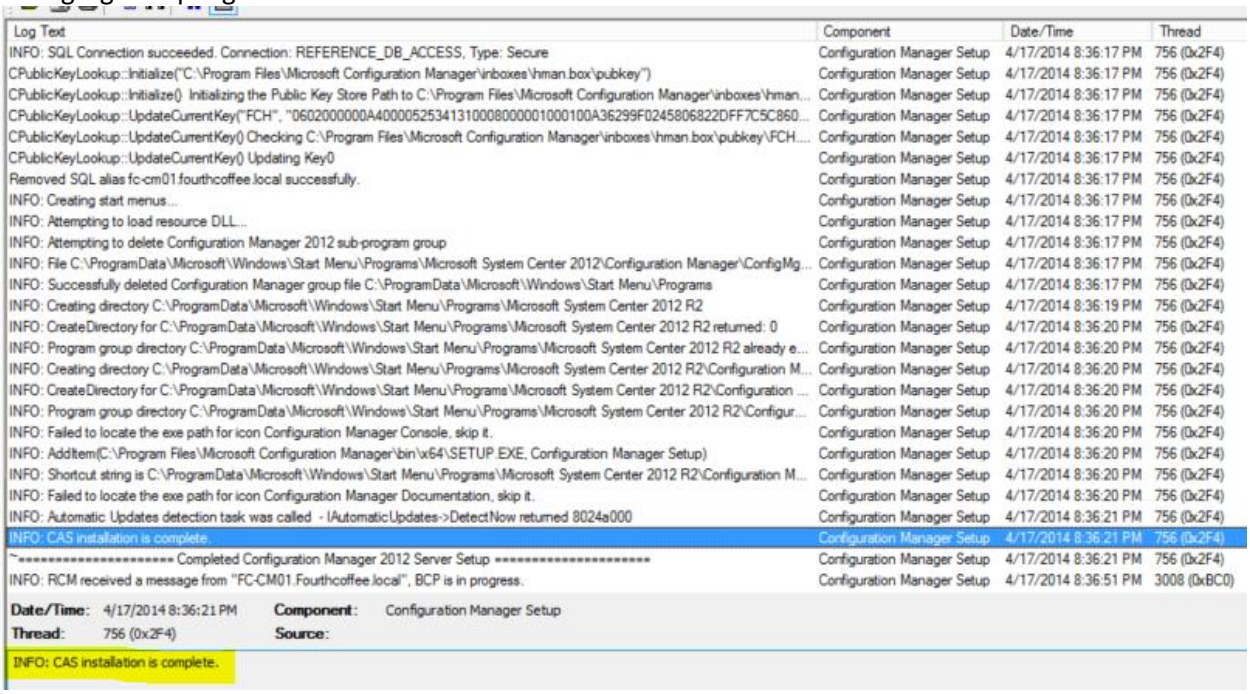
Post-Restore Actions:

Two log files: ConfigMgrPostRecoveryActions.html, ConfigMgrSetup.log
You can find detailed information about the actions performed by the recovery process in ConfigMgrSetup.log. To complete the recovery of this site, look at the log file: ConfigMgrPostRecoveryActions.html in the C:\ root directory.

1. C:\ConfigMgrPostRecoveryActions.html
   This provides additional post-restore action items as follows:

- Re-enter account passwords
- Reinstall hotfixes
- Recover content
- Recover custom reports
- Recover SCUP database
- Recover User State data (State Migration Point folders)

2. ConfigMgrSetup.log



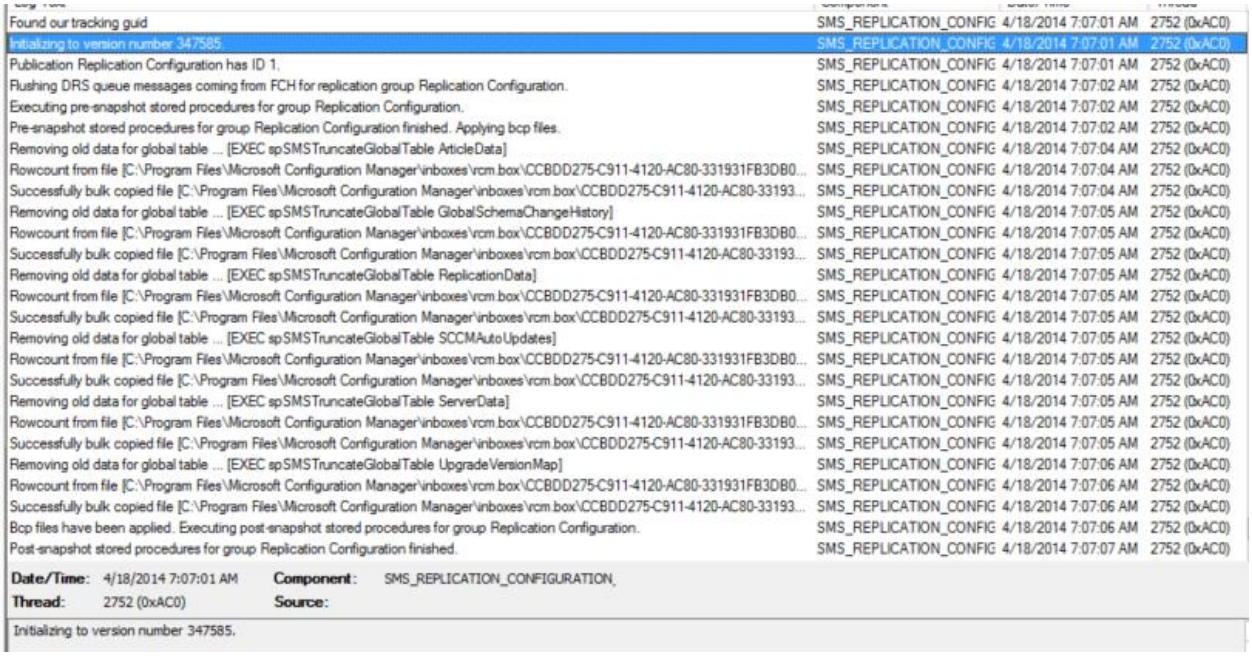
Log Text	Component	Date/Time	Thread
INFO: SQL Connection succeeded. Connection: REFERENCE_DB_ACCESS, Type: Secure	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
CPublicKeyLookup::Initialize("C:\Program Files\Microsoft Configuration Manager\inboxes\hman.box\pubkey")	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
CPublicKeyLookup::Initialize() Initializing the Public Key Store Path to C:\Program Files\Microsoft Configuration Manager\inboxes\hman...	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
CPublicKeyLookup::UpdateCurrentKey("FCH", "0602000000A400005253413100080000010001000A36299F0245806822DFF7C5C860...	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
CPublicKeyLookup::UpdateCurrentKey() Checking C:\Program Files\Microsoft Configuration Manager\inboxes\hman.box\pubkey\FCH....	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
CPublicKeyLookup::UpdateCurrentKey() Updating Key0	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
Removed SQL alias fc-cm01.fourthcoffee.local successfully.	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: Creating start menus...	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: Attempting to load resource DLL...	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: Attempting to delete Configuration Manager 2012 sub-program group	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: File C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012\Configuration Manager\ConfigMg...	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: Successfully deleted Configuration Manager group file C:\ProgramData\Microsoft\Windows\Start Menu\Programs	Configuration Manager Setup	4/17/2014 8:36:17 PM	756 (0x2F4)
INFO: Creating directory C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2	Configuration Manager Setup	4/17/2014 8:36:19 PM	756 (0x2F4)
INFO: CreateDirectory for C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2 returned: 0	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Program group directory C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2 already e...	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Creating directory C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2\Configuration M...	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: CreateDirectory for C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2\Configuration ...	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Program group directory C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2\Configur...	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Failed to locate the exe path for icon Configuration Manager Console, skip it.	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: AddItem(C:\Program Files\Microsoft Configuration Manager\bin\x64\SETUP.EXE, Configuration Manager Setup)	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Shortcut string is C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Microsoft System Center 2012 R2\Configuration M...	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Failed to locate the exe path for icon Configuration Manager Documentation, skip it.	Configuration Manager Setup	4/17/2014 8:36:20 PM	756 (0x2F4)
INFO: Automatic Updates detection task was called - IAutomaticUpdates->DetectNow returned 8024a000	Configuration Manager Setup	4/17/2014 8:36:21 PM	756 (0x2F4)
INFO: CAS installation is complete.	Configuration Manager Setup	4/17/2014 8:36:21 PM	756 (0x2F4)
~********** Completed Configuration Manager 2012 Server Setup **********	Configuration Manager Setup	4/17/2014 8:36:21 PM	756 (0x2F4)
INFO: RCM received a message from "FC-CM01.Fourthcoffee.local", BCP is in progress.	Configuration Manager Setup	4/17/2014 8:36:51 PM	3008 (0xBC0)

Date/Time: 4/17/2014 8:36:21 PM **Component:** Configuration Manager Setup
Thread: 756 (0x2F4) **Source:**

INFO: CAS installation is complete.

3. Additional Log file: RcmCtrl.log

Starting replication process on CAS:



Found our tracking guid	SMS_REPLICATION_CONFIG	4/18/2014 7:07:01 AM	2752 (0xAC0)
Initializing to version number 347585.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:01 AM	2752 (0xAC0)
Publication Replication Configuration has ID 1.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:01 AM	2752 (0xAC0)
Flushing DRS queue messages coming from FCH for replication group Replication Configuration.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:02 AM	2752 (0xAC0)
Executing pre-snapshot stored procedures for group Replication Configuration.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:02 AM	2752 (0xAC0)
Pre-snapshot stored procedures for group Replication Configuration finished. Applying bcp files.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:02 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable ArticleData]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:04 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:04 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:04 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable GlobalSchemaChangeHistory]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable ReplicationData]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable SCCMAutoUpdates]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable ServerData]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:05 AM	2752 (0xAC0)
Removing old data for global table ... [EXEC sp SMSTruncateGlobalTable UpgradeVersionMap]	SMS_REPLICATION_CONFIG	4/18/2014 7:07:06 AM	2752 (0xAC0)
Rowcount from file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-331931FB3DB0...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:06 AM	2752 (0xAC0)
Successfully bulk copied file [C:\Program Files\Microsoft Configuration Manager\inboxes\rcm.box\CCBDD275-C911-4120-AC80-33193...	SMS_REPLICATION_CONFIG	4/18/2014 7:07:06 AM	2752 (0xAC0)
Bcp files have been applied. Executing post-snapshot stored procedures for group Replication Configuration.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:06 AM	2752 (0xAC0)
Post-snapshot stored procedures for group Replication Configuration finished.	SMS_REPLICATION_CONFIG	4/18/2014 7:07:07 AM	2752 (0xAC0)

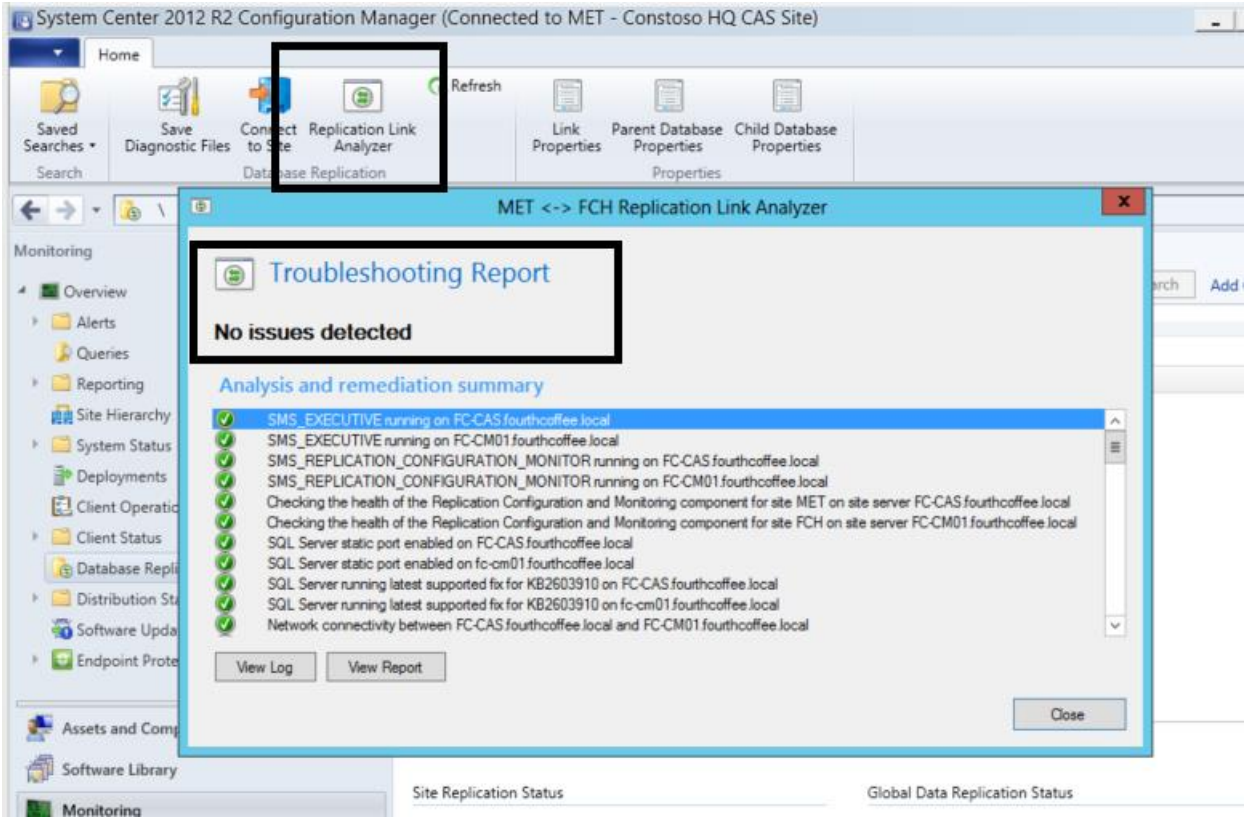
Date/Time: 4/18/2014 7:07:01 AM **Component:** SMS_REPLICATION_CONFIGURATION
Thread: 2752 (0xAC0) **Source:**

Initializing to version number 347585.

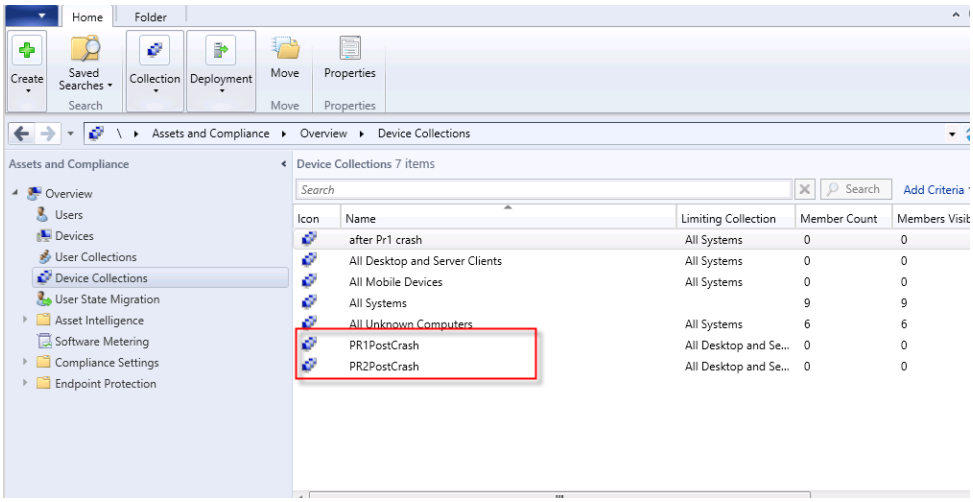
RCMCTRL.log: check the link state below. If the link is not active, you can look at this log for troubleshooting.

After the initial BCP replication is complete, you can monitor the status of data replication completion among sites from the Monitoring in the console: Monitoring node -> Overview -> Database Replication.

A. Make sure Link State is “Active.”
B. If it does not show Active, you can use a built-in Replication Link Analyzer.



4. Check the customized collections from Primary and CAS after restoring the CAS site:



Note: The above two highlighted collections (PR1PostCrash and PR2PostCrash) were created on each of the Primary site PR1 and PR1 while CAS was down. After the CAS is restored, these collections were replicated to all sites once replication is successful.

5.2 Scenario 2: CAS Site down and no database backup

Analysis:

CAS with two Primary site PR1 and PR2.

After the data replication is done, the collection created on PR2 will be gone. Instead, the collections created on PR1 site is available on PR2 Primary Site because new CAS global database is replicated to PR2 after PR1 database is used as authoritative.

1. **Global Data**
   Since CAS does not have any backup, the global data will be built using a reference primary site. Once this is done, global data is replicated out to the remaining primary sites (if you have multiple sites) to make sure all sites have the same global data.

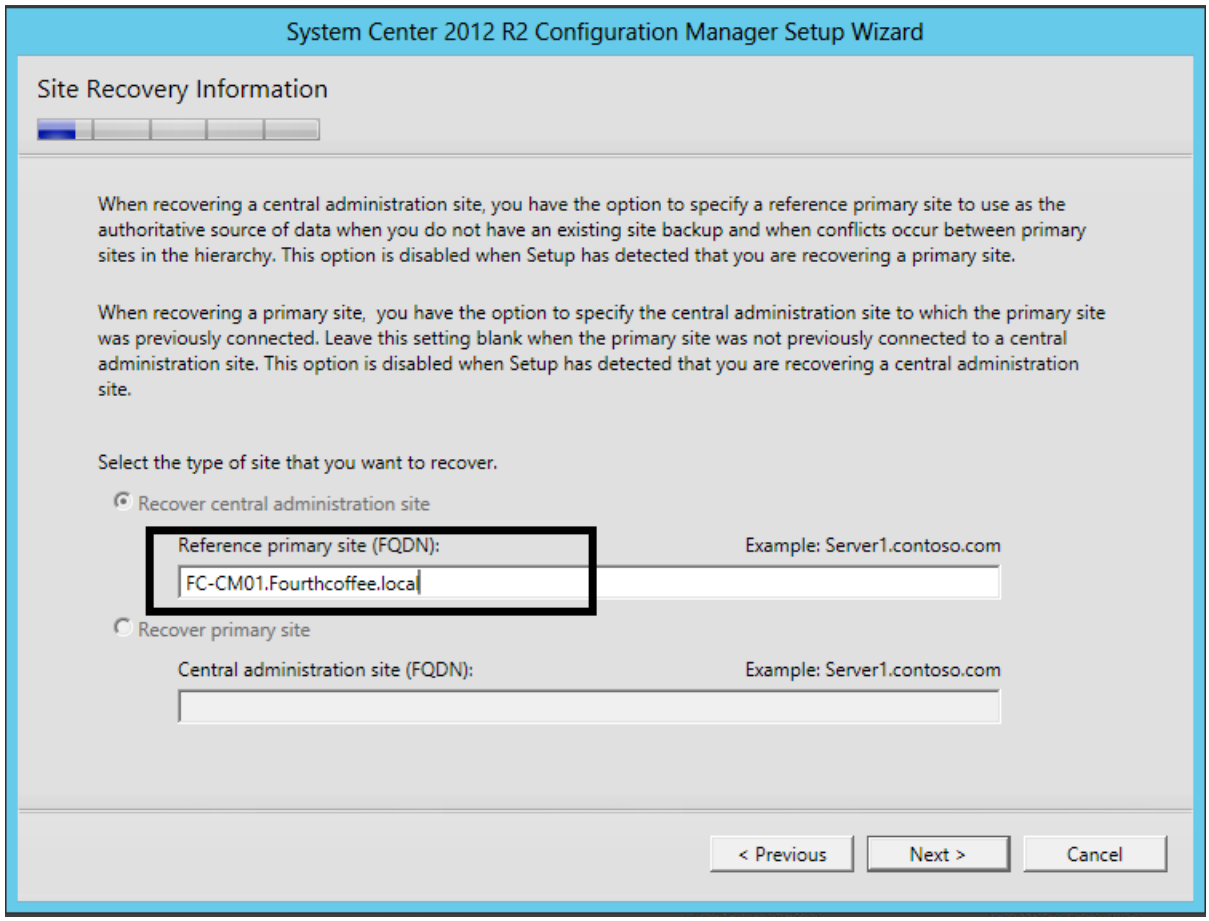
2. **Site Data**
   CAS receives the site data from each primary site.

Steps to follow

1. Install a fresh copy of OS and SQL to recovery CAS.
2. Run setup.exe from the Configuration Manager 2012 R2 media.
3. Select “Recover a site”
4. Select “Reinstall this site server”
5. Select “Create a new database for this site”

Note: Since we do not have a backup of the CAS site, we have to select options 3 and 4 above.

6. You must specify a reference primary site.



Note: You also need to specify the site code, the SCCM installation path, the SQL Server, instance, database name for the CAS and the port for SSB. (Please make sure it is the same as your old CAS site)

Post-Restore Actions

1. CAS global data is built from the reference primary site, PR1. Now global data at CAS is authoritative and it is further replicated to PR2 (Global data on PR2 is overwritten)
2. Check the C:\ConfigMgrSetup.log. It will create a database for CAS and install all components.
3. Check the replication database status with the Replication Link Analyzer and Rcmctrl.log.
4. After the data replication is done, we can see that the collection created on PR2 is gone. Instead, the collections created on PR1 site are available on PR2 Primary Site because the new CAS global database is replicated to PR2 after PR1 database is used as authoritative.

5.3 Scenario 3: CAS Site down and Database backup older than retention period (5 days)

Analysis

1. **Global Data**

The CAS will restore from a backup, which is older than 5 days. We have options to specify a reference primary site.

If a reference primary site is selected as an authoritative source, the CAS will reinitialize from a reference Primary to restore global data changes.

Example: If PR1 is used as a reference primary site, any collection that is created in PR1 is replicated to CAS and then to PR2. All collections in all sites must be the same.

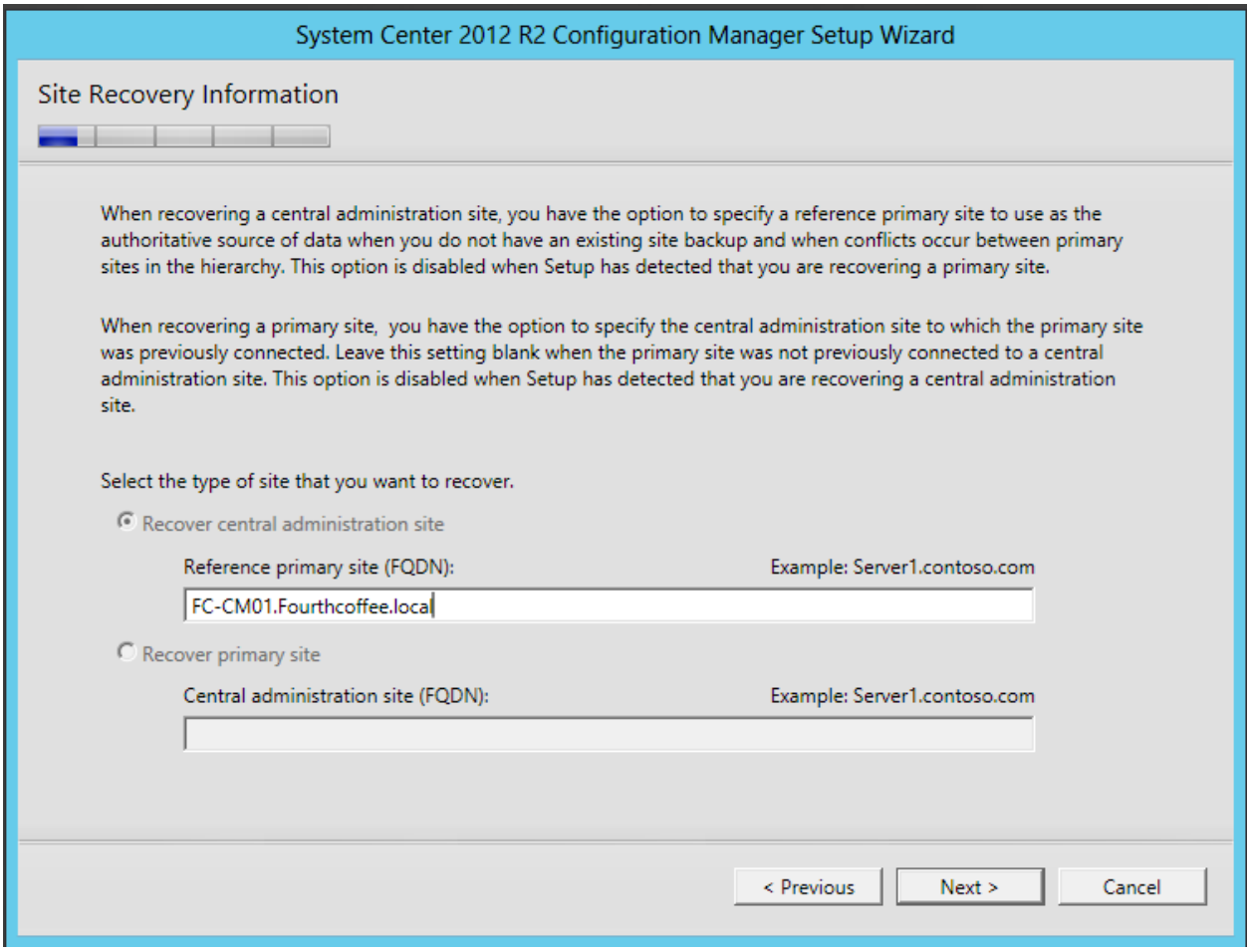
If you choose not to select a reference primary site, the global data from the backup will be authoritative and it will be replicated to all primary sites.

Example: Any collection that is created in PR1 or PR2 after the backup will be removed. Collections on the CAS is authoritative. All collections in all sites must be same.

2. **Site Data**
   CAS reinitializes the site data from each primary site. Re-initialization means all the site data in CAS is removed and rebuilt using site data from each primary site.

Steps to follow

1. Install fresh copy of OS and SQL.
2. Run setup.exe from the Configuration Manager 2012 R2 media.
3. Select “Recover a site”
4. Select “Recover this site server using existing backup” and “Recover the site database using the backup set at the following location” options
5. Select “Recover Central Administration Site” and specify Reference Primary site FQDN



6. Specify License key of the product
7. Accept the License terms
8. Accept the license terms of prerequisites
9. Select “Download required files” option and specify the path.
10. Specify Installation folder path
11. Specify SQL Server name (FQDN). If SQL is remote then specify remote SQL Server name. Specify appropriate port for Service Broker Port (i.e. default is 4022).
12. Specify path to the SQL Server data file and log file.
13. Under Prerequisite check, make sure there are no errors and all prerequisites are installed.

5.4 Scenario 4: Primary Site down/No Backup/Backup copy within retention period (5 days)/Backup copy older than retention period (5 days)

Analysis

1. **Global data** - CAS is used for the source of data.
   If no primary backup (PR1) exists, global data on PR1 is reinitialized by CAS. Site data on PR1 is regenerated by clients and replicated to the CAS

If the primary backup (PR1) is less than 5 days old, the change tracking feature restores any changes made in CAS or PR2 (while PR1 is down) to PR1.
If the primary backup is more than 5 days old, The PR1 reinitializes the global data from the CAS database.

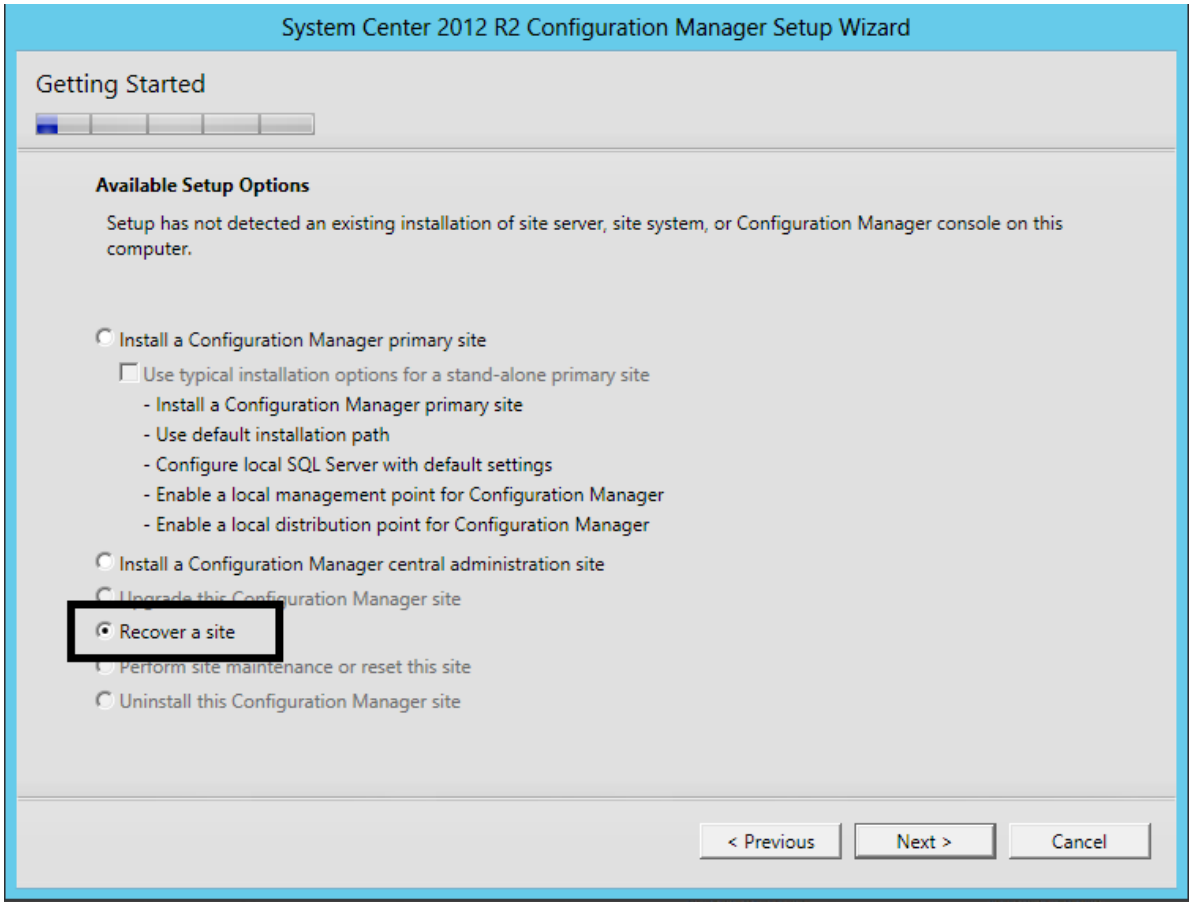
2. Site data

If the primary site has the backup, the PR1 site data is restored from the backup and then CAS reinitializes the site data from the primary site. Changes on PR1 after the backup will be lost but most data is regenerated by clients that send information to the primary site.

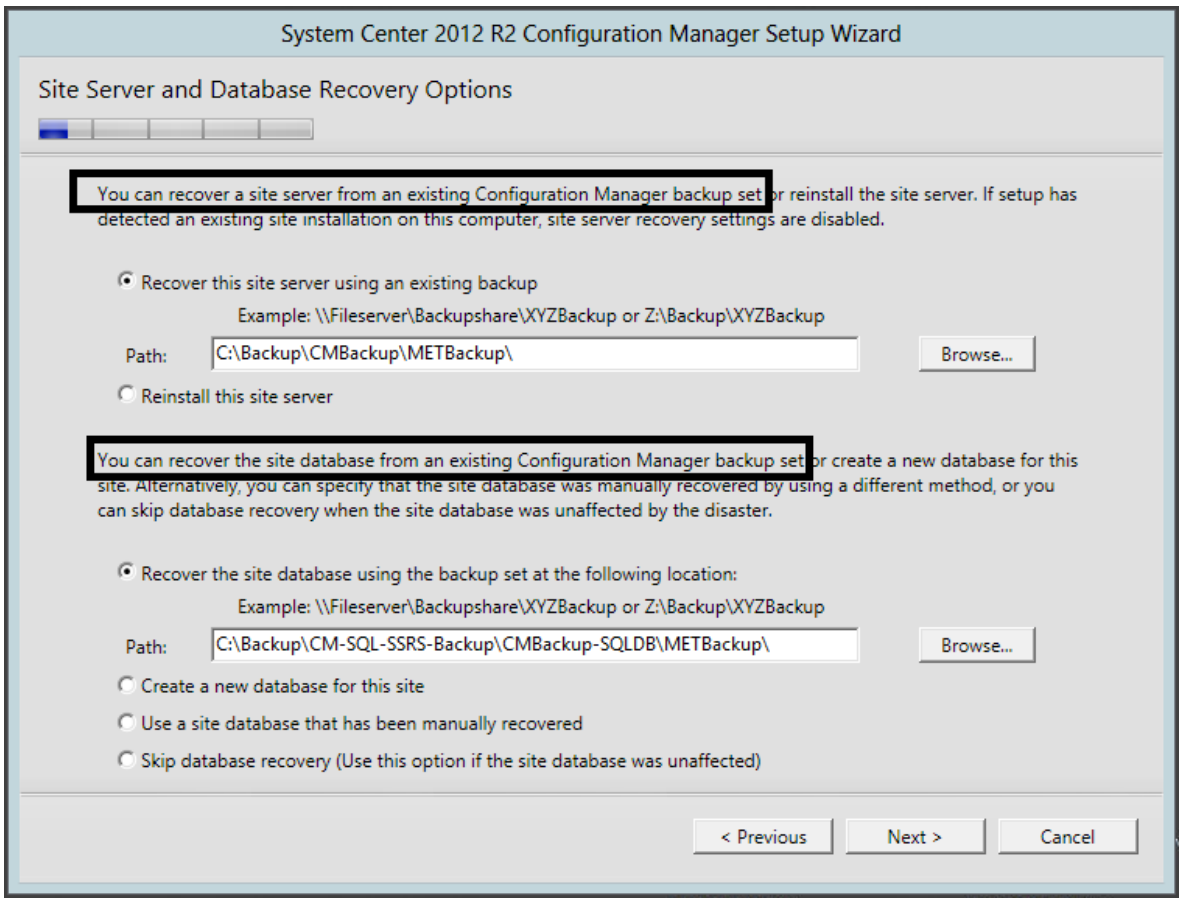
If the primary site does not have a backup, the site data for this primary site will be empty and the CAS reinitializes the site data from the restored primary site. However, the site data from other primary sites are still in the CAS.

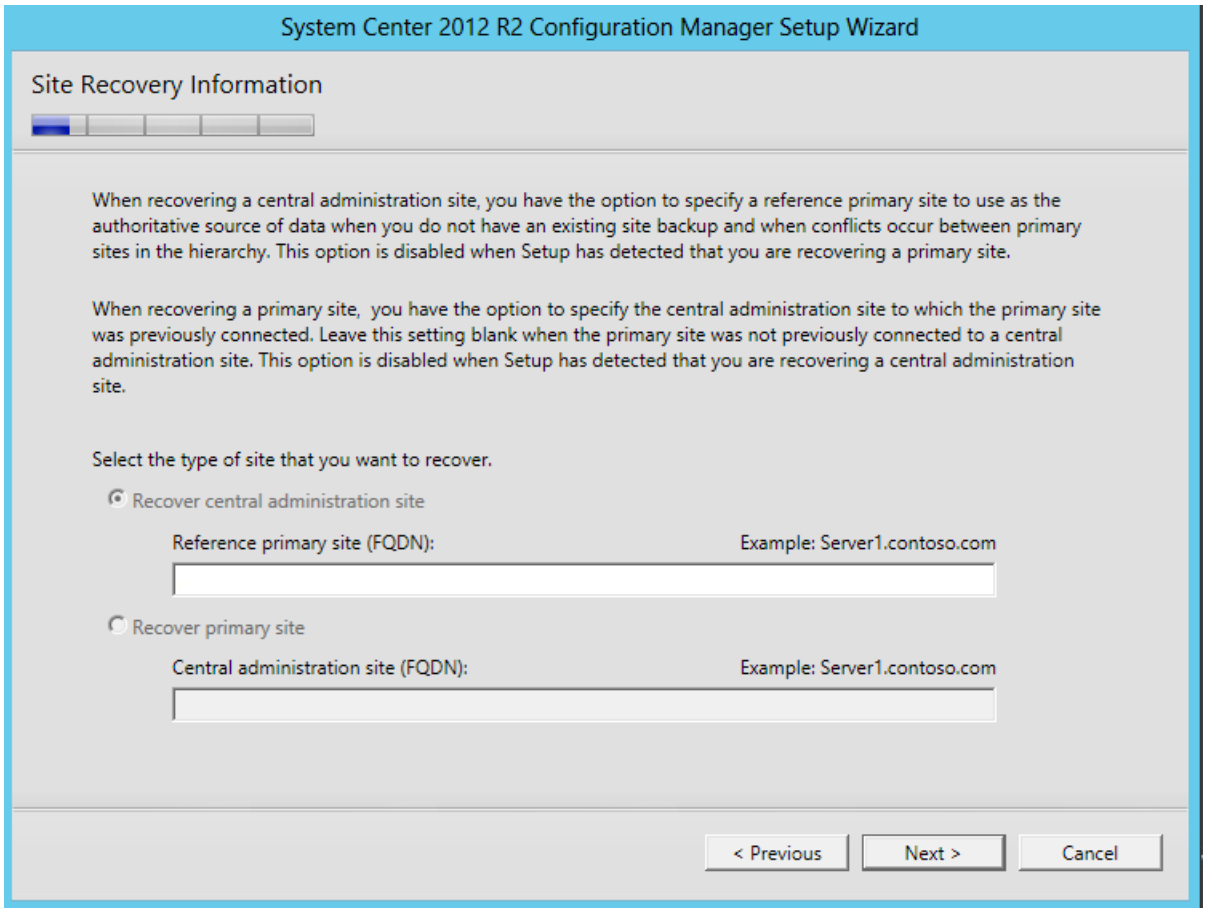
Steps to follow

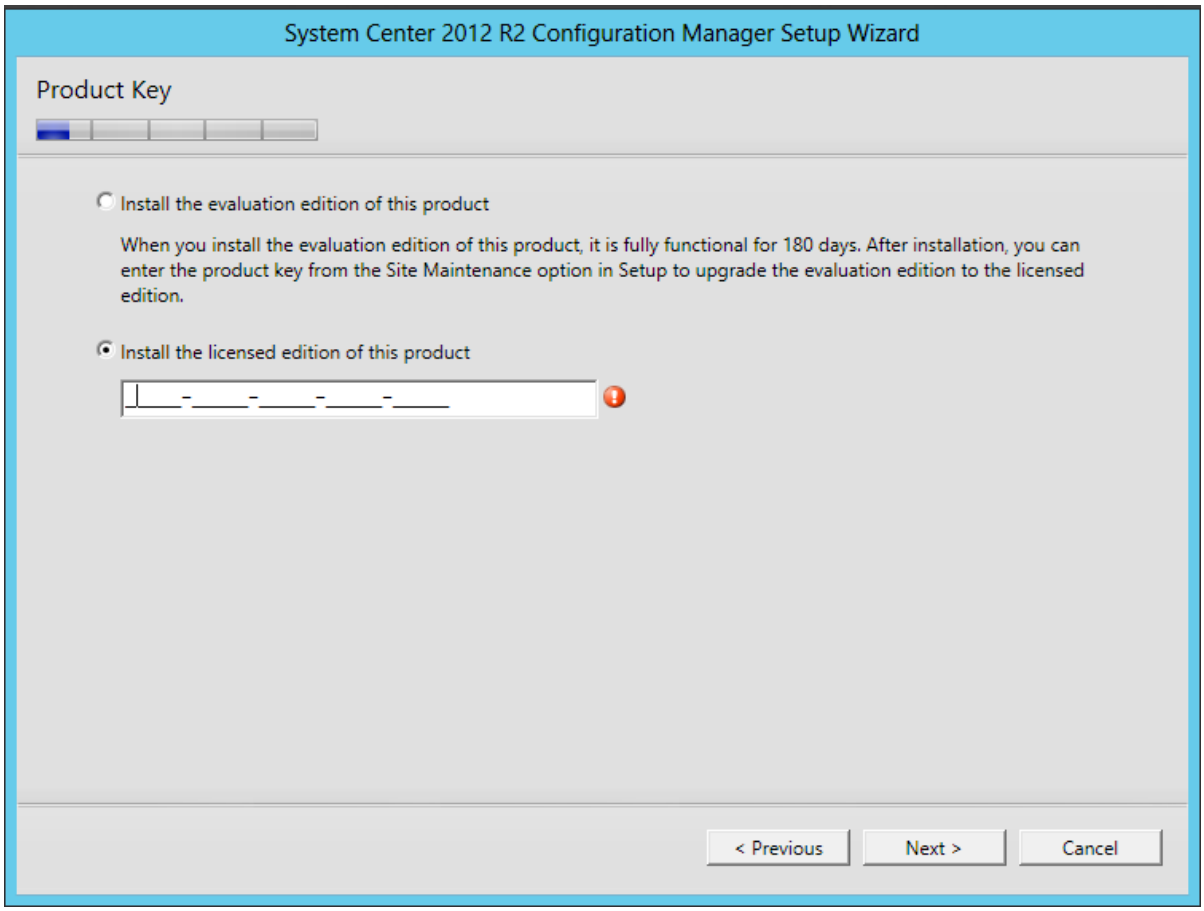
1. Install a fresh copy of OS and SQL
2. Remove the current primary site server from AD
3. Name the new primary site server same as the old primary site server
4. Join the new server to AD
5. Assign the full permission to the System Management container
   (Remove the SID of old primary site server)
6. Run Configuration Installation Media to recover the primary site
7. Select “Recover a site”, the Next

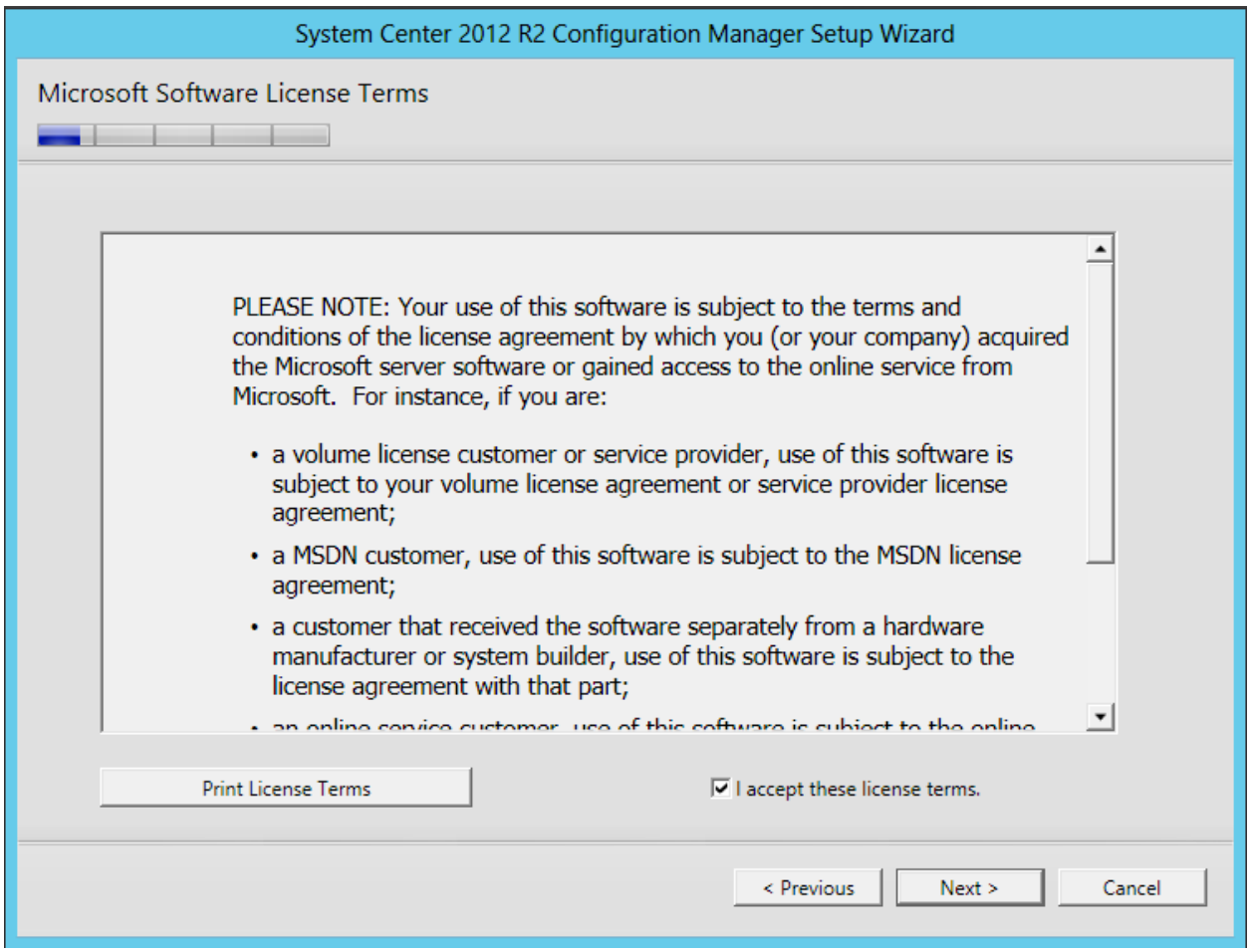


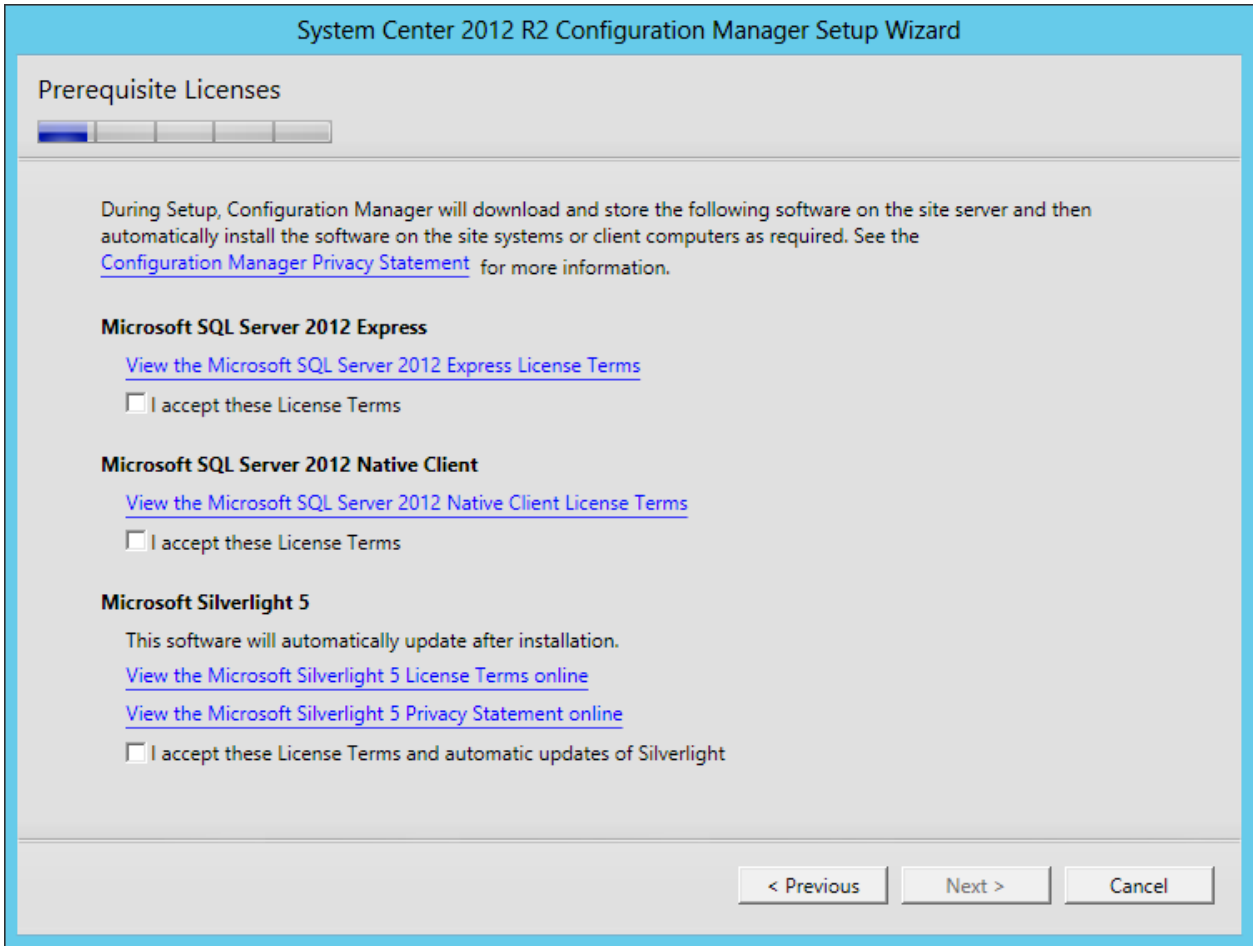
8. Select two options below
    - Recover this **site Server** using an existing backup
    - Recover the **site database** using the backup set at the following location

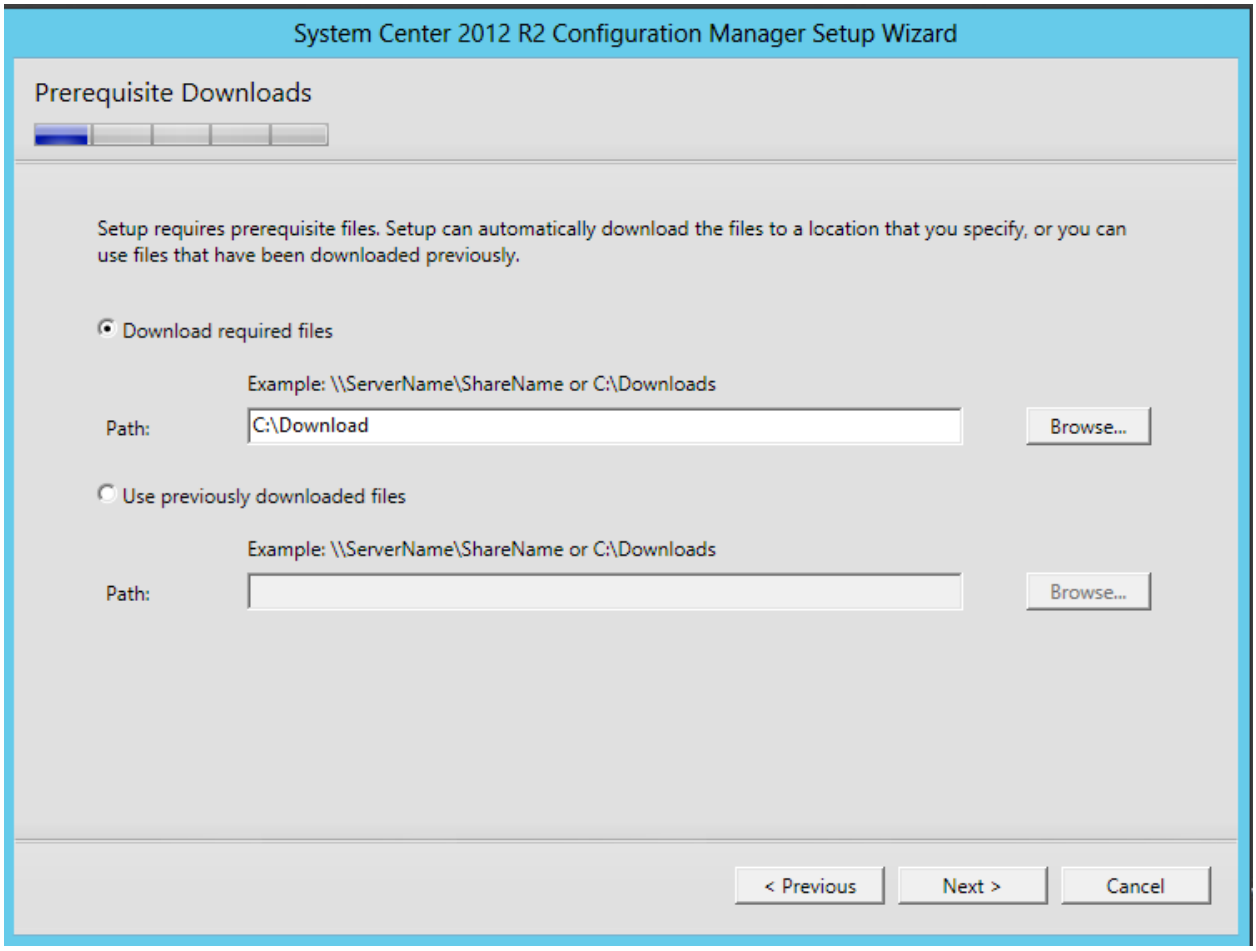

System Center 2012 R2 Configuration Manager Setup Wizard
Site Server and Database Recovery Options
You can recover a site server from an existing Configuration Manager backup set or reinstall the site server. If setup has detected an existing site installation on this computer, site server recovery settings are disabled.
Recover this site server using an existing backup
Example: \\Fileserver\Backupshare\XYZBackup or Z:\Backup\XYZBackup
Path:
C:\Backup\CMBackup\METBackup\
Browse...
Reinstall this site server
You can recover the site database from an existing Configuration Manager backup set or create a new database for this site. Alternatively, you can specify that the site database was manually recovered by using a different method, or you can skip database recovery when the site database was unaffected by the disaster.
Recover the site database using the backup set at the following location:
Example: \\Fileserver\Backupshare\XYZBackup or Z:\Backup\XYZBackup
Path:
C:\Backup\CM-SQL-SSRS-Backup\CMBackup-SQLDB\METBackup\
Browse...
Create a new database for this site
Use a site database that has been manually recovered
Skip database recovery (Use this option if the site database was unaffected)
< Previous
Next >
Cancel

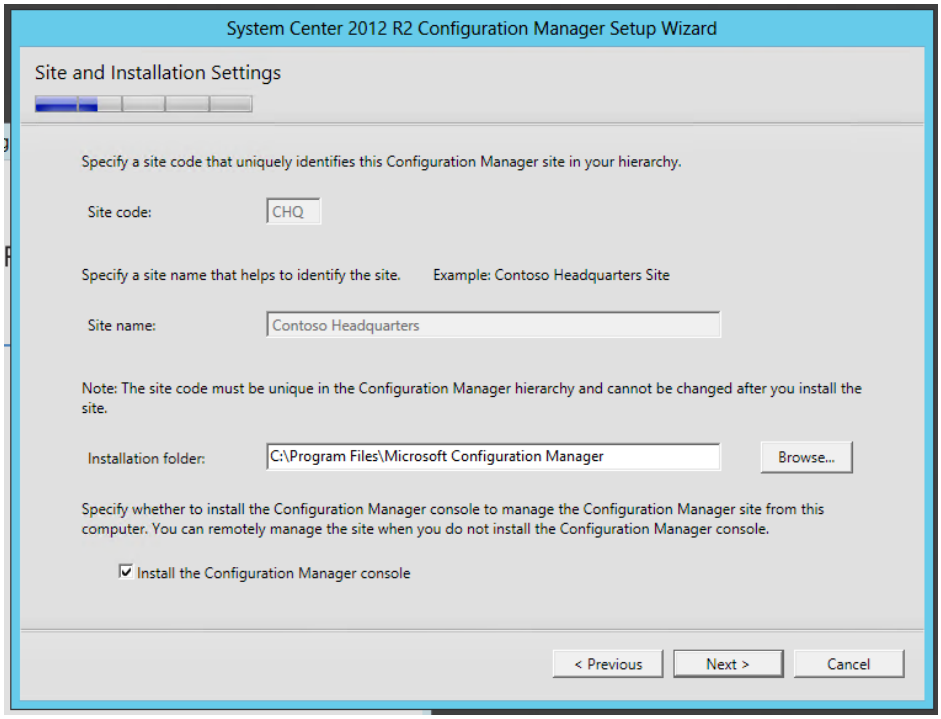

System Center 2012 R2 Configuration Manager Setup Wizard
Site Recovery Information
When recovering a central administration site, you have the option to specify a reference primary site to use as the authoritative source of data when you do not have an existing site backup and when conflicts occur between primary sites in the hierarchy. This option is disabled when Setup has detected that you are recovering a primary site.
When recovering a primary site, you have the option to specify the central administration site to which the primary site was previously connected. Leave this setting blank when the primary site was not previously connected to a central administration site. This option is disabled when Setup has detected that you are recovering a central administration site.
Select the type of site that you want to recover.
Recover central administration site
Reference primary site (FQDN):
Example: Server1.contoso.com
Recover primary site
Central administration site (FQDN):
Example: Server1.contoso.com
< Previous
Next >
Cancel

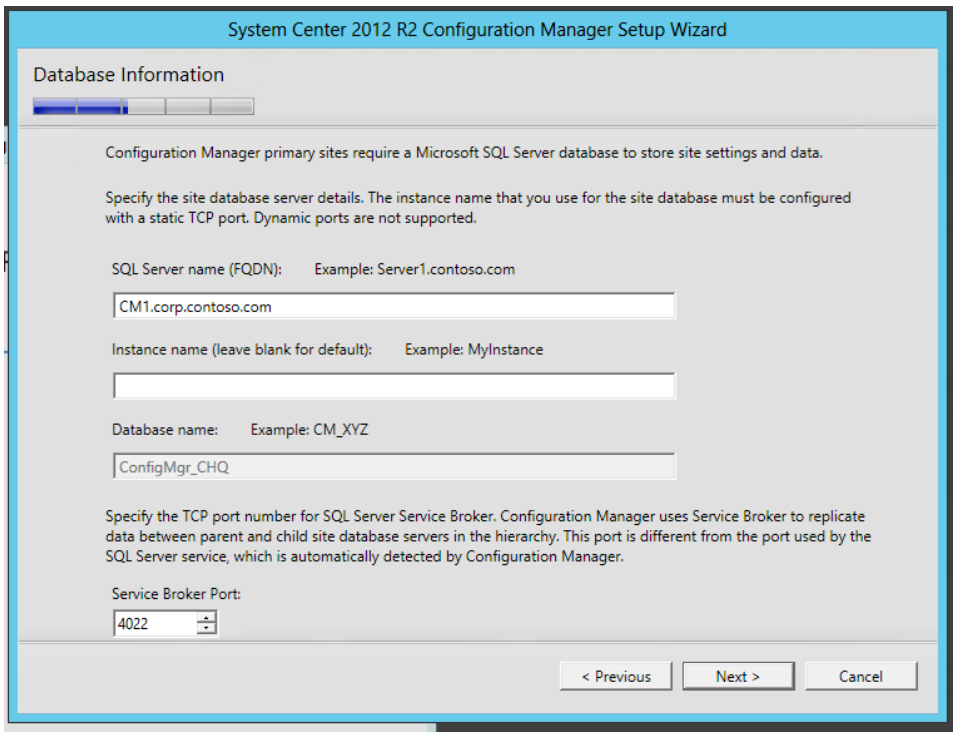

System Center 2012 R2 Configuration Manager Setup Wizard
Product Key
Install the evaluation edition of this product
When you install the evaluation edition of this product, it is fully functional for 180 days. After installation, you can enter the product key from the Site Maintenance option in Setup to upgrade the evaluation edition to the licensed edition.
Install the licensed edition of this product
_____-_____-_____-_____-_____
< Previous
Next >
Cancel

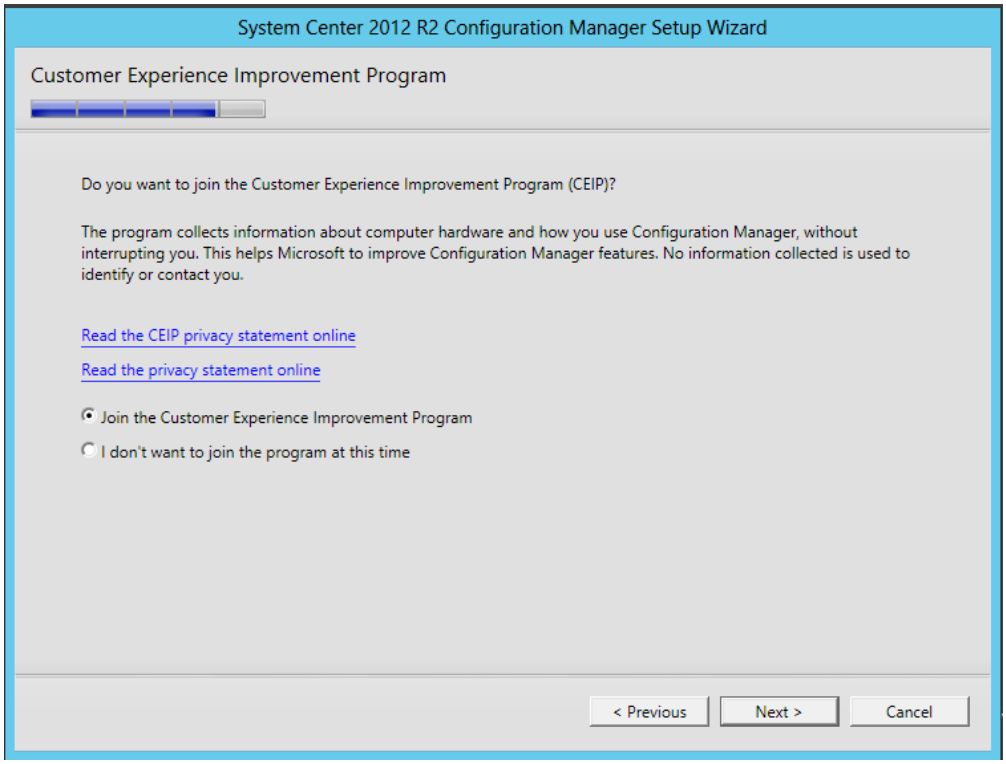

System Center 2012 R2 Configuration Manager Setup Wizard
Microsoft Software License Terms
PLEASE NOTE: Your use of this software is subject to the terms and conditions of the license agreement by which you (or your company) acquired the Microsoft server software or gained access to the online service from Microsoft. For instance, if you are:
• a volume license customer or service provider, use of this software is subject to your volume license agreement or service provider license agreement;
• a MSDN customer, use of this software is subject to the MSDN license agreement;
• a customer that received the software separately from a hardware manufacturer or system builder, use of this software is subject to the license agreement with that part;
Print License Terms
I accept these license terms.
< Previous
Next >
Cancel

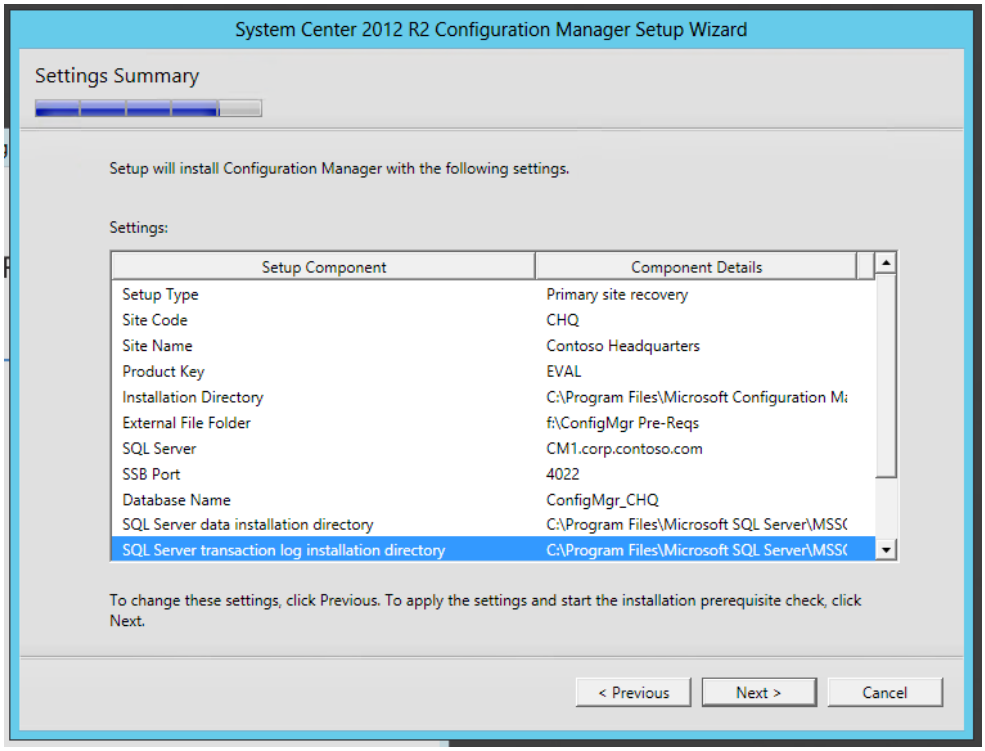

System Center 2012 R2 Configuration Manager Setup Wizard
Prerequisite Licenses
During Setup, Configuration Manager will download and store the following software on the site server and then automatically install the software on the site systems or client computers as required. See the Configuration Manager Privacy Statement for more information.
Microsoft SQL Server 2012 Express
View the Microsoft SQL Server 2012 Express License Terms
I accept these License Terms
Microsoft SQL Server 2012 Native Client
View the Microsoft SQL Server 2012 Native Client License Terms
I accept these License Terms
Microsoft Silverlight 5
This software will automatically update after installation.
View the Microsoft Silverlight 5 License Terms online
View the Microsoft Silverlight 5 Privacy Statement online
I accept these License Terms and automatic updates of Silverlight
< Previous
Next >
Cancel

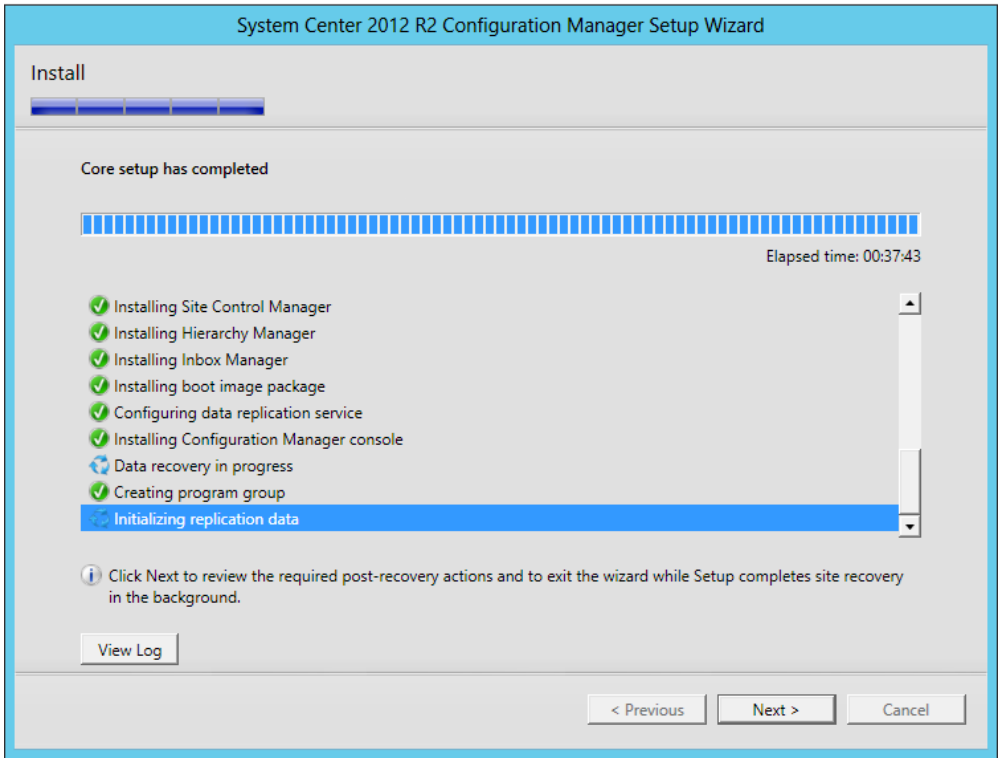

System Center 2012 R2 Configuration Manager Setup Wizard
Prerequisite Downloads
Setup requires prerequisite files. Setup can automatically download the files to a location that you specify, or you can use files that have been downloaded previously.
Download required files
Example: \\ServerName\ShareName or C:\Downloads
Path:
C:\Download
Browse...
Use previously downloaded files
Example: \\ServerName\ShareName or C:\Downloads
Path:
Browse...
< Previous
Next >
Cancel

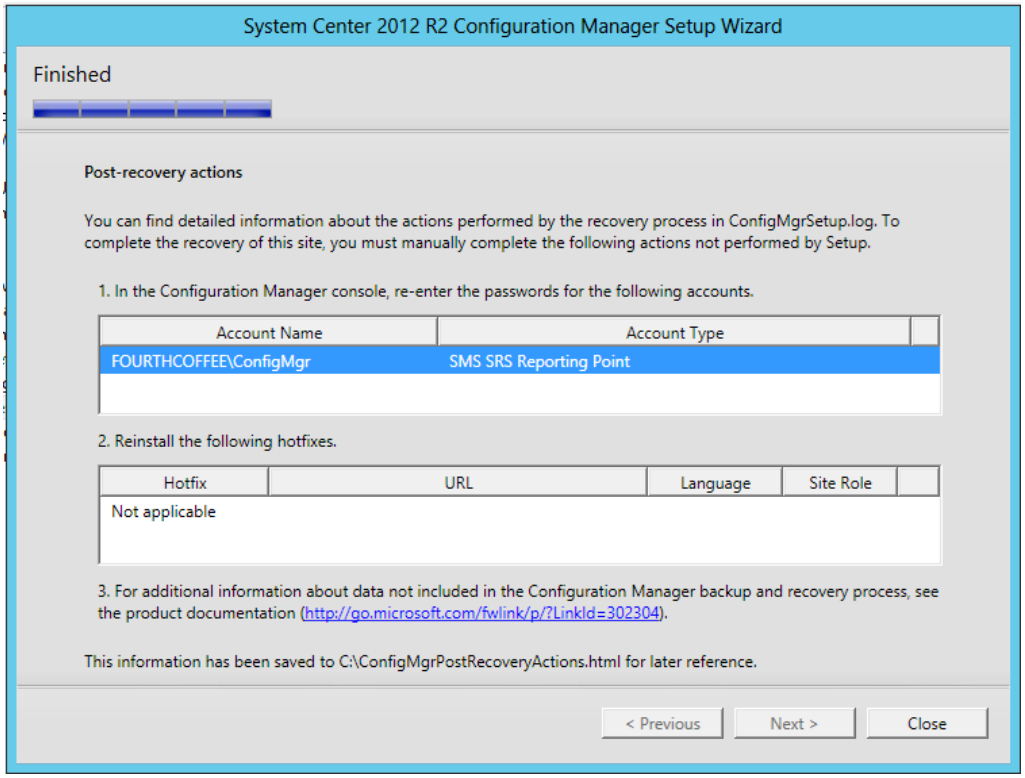

System Center 2012 R2 Configuration Manager Setup Wizard
Site and Installation Settings
Specify a site code that uniquely identifies this Configuration Manager site in your hierarchy.
Site code:
CHQ
Specify a site name that helps to identify the site.
Example: Contoso Headquarters Site
Site name:
Contoso Headquarters
Note: The site code must be unique in the Configuration Manager hierarchy and cannot be changed after you install the site.
Installation folder:
C:\Program Files\Microsoft Configuration Manager
Browse...
Specify whether to install the Configuration Manager console to manage the Configuration Manager site from this computer. You can remotely manage the site when you do not install the Configuration Manager console.
Install the Configuration Manager console
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Database Information
Configuration Manager primary sites require a Microsoft SQL Server database to store site settings and data.
Specify the site database server details. The instance name that you use for the site database must be configured with a static TCP port. Dynamic ports are not supported.
SQL Server name (FQDN): Example: Server1.contoso.com
CM1.corp.contoso.com
Instance name (leave blank for default): Example: MyInstance
Database name: Example: CM_XYZ
ConfigMgr_CHQ
Specify the TCP port number for SQL Server Service Broker. Configuration Manager uses Service Broker to replicate data between parent and child site database servers in the hierarchy. This port is different from the port used by the SQL Server service, which is automatically detected by Configuration Manager.
Service Broker Port:
4022
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Customer Experience Improvement Program
Do you want to join the Customer Experience Improvement Program (CEIP)?
The program collects information about computer hardware and how you use Configuration Manager, without interrupting you. This helps Microsoft to improve Configuration Manager features. No information collected is used to identify or contact you.
Read the CEIP privacy statement online
Read the privacy statement online
Join the Customer Experience Improvement Program
I don't want to join the program at this time
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Settings Summary
Setup will install Configuration Manager with the following settings.
Settings:
Setup Component
Component Details
Setup Type
Primary site recovery
Site Code
CHQ
Site Name
Contoso Headquarters
Product Key
EVAL
Installation Directory
C:\Program Files\Microsoft Configuration Mi
External File Folder
f:\ConfigMgr Pre-Reqs
SQL Server
CM1.corp.contoso.com
SSB Port
4022
Database Name
ConfigMgr_CHQ
SQL Server data installation directory
C:\Program Files\Microsoft SQL Server\MSS(
SQL Server transaction log installation directory
C:\Program Files\Microsoft SQL Server\MSS(
To change these settings, click Previous. To apply the settings and start the installation prerequisite check, click Next.
< Previous
Next >
Cancel


System Center 2012 R2 Configuration Manager Setup Wizard
Install
Core setup has completed
Elapsed time: 00:37:43
Installing Site Control Manager
Installing Hierarchy Manager
Installing Inbox Manager
Installing boot image package
Configuring data replication service
Installing Configuration Manager console
Data recovery in progress
Creating program group
Initializing replication data
Click Next to review the required post-recovery actions and to exit the wizard while Setup completes site recovery in the background.
View Log
< Previous
Next >
Cancel



9. Replication process should be initiated and you can monitor the process using rcmctrl.log.

6 Automating Site Recovery

This section discusses ways to automate portions of the site recovery. These portions are discussed is sections. During a recovery exercise, you will want to confirm each step of the recovery process has completed successfully.

6.1 Install Prerequisite Components for the Central Administration or Primary Site.

During a recovery exercise, you will need to ensure the new target environment has all the required prerequisites for System Center 2012 R2 Configuration Manager. The most common prerequisites include:

- Supported version of SQL Server (this document assume SQL Server 2012 SP1)
- Required Operating System Roles and Features (available from Windows Server 2012 R2 installation media)
    - Remote Differential Compression
    - Background Intelligent Transfer Service (BITS)
    - .NET Framework 3.5
    - .NET Framework 4
- Windows Assessment and Deployment Kit (ADK) 8.1 (Update 1 is also supported)

6.1.1 Install Microsoft SQL 2012 with SP1

SQL server is a required component of Configuration Manager. Automating the re-installation of your SQL server will reduce the recovery time of a site server. Two examples of automating the re-installation of SQL server are: (1) command line with custom parameters and (2) command line with a configuration file.

6.1.1.1 *Install of Microsoft SQL 2012 SP1 with Command Line Parameters*

You can use command line parameters to automate the installation of SQL. A list of command line parameter options is located at http://msdn.microsoft.com/en-us/library/ms144259(v=sql.110).asp. The most common command line parameters that you may use include:

Table 6: Common SQL Installation Command Line Parameters

Parameter	Purpose
/QS	Enables quiet simple mode which only shows the installation progress without displaying error messages
/Action	Required parameter to identify installation workflow
/FEATURES	Identifies SQL components to be installed
/UpdateEnabled	Determines whether to include recent SQL product updates
/UpdateSource	Determines the location that the SQL Server setup will obtain product updates
/INSTALLSHAREDDIR	Identifies the non-default installation directory for 64-bit shared components
/INSTALLSHAREDWOWDIR	Identifies the non-default installation directory for 32-bit shared components
/INSTANCENAME	The name of the SQL instance
/RSINSTALLMODE	The installation mode for SRS
/INSTANCEDIR	The installation directory of the SQL instance
/SQLCOLLATION	The collation settings for SQL Server
/SQLSVCSTARTUPTYPE	The startup mode of the SQL server service
/SQLSVCACCOUNT	The account that runs the SQL server service
/SQLSVCPASSWORD	The password of the account running the SQL server service

Parameter	Purpose
/SQLSYSADMINACCOUNTS	The accounts that will be SQL administrators
/RSSVCACCOUNT	The account that runs the SQL Reporting Service
/RSSVCPASSWORD	The password of the account running the SQL Reporting Service
/RSSVCSTARTUPTYPE	The startup mode of the SQL server service
/IACCEPTSQLSERVERLICENSETERMS	Acceptance of the SQL server license terms
/BROWSERSVCSTARTUPTYPE	The startup mode of the SQL server browser service
/PID	The product key for the edition of SQL server

An example of a command line installation of SQL server is provided in Table 7.

Table 7: Sample Command Line Parameters for Installation of SQL 2012 SP1

```
D:\Setup.exe /QS /Action=Install /IACCEPTSQLSERVERLICENSETERMS=True
/UpdateEnabled=True /FEATURES=SQLENGINE,RS,SSMS,ADV_SSMS /UpdateSource=MU
/INSTANCENAME="MSSQLSERVER" /INSTANCEID="MSSQLSERVER" /SQMREPORTING=True
/RSINSTALLMODE=DefaultNativeMode /SQLSVCSTARTUPTYPE=Automatic
/SQLCOLLATION=SQL_Latin1_General_CP1_CI_AS /SQLSVCACCOUNT="TAILSPIN\cmPR1SQLsvc"
/SQLSVCPASSWORD=<Provide Password Here> /SQLSYSADMINACCOUNTS="TAILSPIN\SQL Admins"
"TAILSPIN\SysCtr Admins" /RSSVCACCOUNT="TAILSPIN\cmSSRSSvc" /RSSVCPASSWORD=<Provide
Password Here> /RSSVCSTARTUPTYPE=Automatic /PID="<Product Key>"
```

6.1.1.2 *Install Microsoft SQL Server 2012 SP1 with Configuration file*

To automate the installation of SQL Server 2012 SP1 in a similar manner to your current installation, locate the SQL ConfigurationFile.INI on the server hosting your site database. ConfigurationManager.INI contains the some of the initial configuration options selected during the installation of your SQL instance. The default location of the file is **<Drive>:\Program Files\Microsoft SQL Server\110\Setup Bootstrap\Log\{YYYYMMDD_HHMMSS}\ConfigurationFile.INI**.

Review these settings periodically in your environment to ensure you have current information. During a recovery exercise, you can reinstall your SQL server instance by connecting to the SQL Server 2012 SP1 media and using your ConfigurationFile.INI. The command line syntax is **{SQL 2012 Media}\setup.exe /ConfigurationFile=MyConfigurationFile.INI**. See http://technet.microsoft.com/en-us/library/dd239405.aspx for guidance on these settings. A sample script is provided below (see Table 8) that reflects a single SQL instance supporting the database engine, the full management tools and the reporting services component on the default instance.

Table 8: Sample ConfigurationFile.INI for SQL Server 2012 Unattended Installations

```
;SQL Server 2012 Configuration File
```

```
[OPTIONS]

; Specifies a Setup work flow, like INSTALL, UNINSTALL, or UPGRADE. This is a
required parameter.

ACTION="Install"

; Detailed help for command line argument ENU has not been defined yet.

ENU="True"

; Accept EULA agreement

IAcceptSQLServerLicenseTerms="True"

; Setup will not display any user interface.

QUIET="False"

; Setup will display progress only, without any user interaction.

QUIETSIMPLE="True"

; Specify whether SQL Server Setup should discover and include product updates. The
valid values are True and False or 1 and 0. By default SQL Server Setup will include
updates that are found.

UpdateEnabled="True"

; Specifies features to install, uninstall, or upgrade. The list of top-level
features include SQL, AS, RS, IS, MDS, and Tools. The SQL feature will install the
Database Engine, Replication, Full-Text, and Data Quality Services (DQS) server. The
Tools feature will install Management Tools, Books online components, SQL Server Data
Tools, and other shared components.

FEATURES=SQLENGINE,RS,SSMS,ADV_SSMS

; Specify the location where SQL Server Setup will obtain product updates. The valid
values are "MU" to search Microsoft Update, a valid folder path, a relative path such
as .\MyUpdates or a UNC share. By default SQL Server Setup will search Microsoft
Update or a Windows Update service through the Window Server Update Services.

UpdateSource="MU"

; Displays the command line parameters usage

HELP="False"

; Specifies that the detailed Setup log should be piped to the console.

INDICATEPROGRESS="False"

; Specifies that Setup should install into WOW64. This command line argument is not
supported on an IA64 or a 32-bit system.

X86="False"
```

```
; Specify the root installation directory for shared components.  This directory
remains unchanged after shared components are already installed.

INSTALLSHAREDDIR="C:\Program Files\Microsoft SQL Server"

; Specify the root installation directory for the WOW64 shared components.  This
directory remains unchanged after WOW64 shared components are already installed.

INSTALLSHAREDWOWDIR="C:\Program Files (x86)\Microsoft SQL Server"

; Specify a default or named instance. MSSQLSERVER is the default instance for non-
Express editions and SQLExpress for Express editions. This parameter is required when
installing the SQL Server Database Engine (SQL), Analysis Services (AS), or Reporting
Services (RS).

INSTANCENAME="MSSQLSERVER"

; Specify the Instance ID for the SQL Server features you have specified. SQL Server
directory structure, registry structure, and service names will incorporate the
instance ID of the SQL Server instance.

INSTANCEID="MSSQLSERVER"

; Specify that SQL Server feature usage data can be collected and sent to Microsoft.
Specify 1 or True to enable and 0 or False to disable this feature.

SQMREPORTING="True"

; RSInputSettings_RSInstallMode_Description

RSINSTALLMODE="DefaultNativeMode"

; Specify if errors can be reported to Microsoft to improve future SQL Server
releases. Specify 1 or True to enable and 0 or False to disable this feature.

ERRORREPORTING="False"

; Specify the installation directory.

INSTANCEDIR="C:\Program Files\Microsoft SQL Server"

; Agent account name

AGTSVCACCOUNT="NT Service\SQLSERVERAGENT"

; Auto-start service after installation.

AGTSVCSTARTUPTYPE="Manual"

; CM brick TCP communication port

COMMFABRICPORT="0"

; How matrix will use private networks
```

```
COMMFABRICNETWORKLEVEL="0"

; How inter brick communication will be protected

COMMFABRICENCRYPTION="0"

; TCP port used by the CM brick

MATRIXCMBRICKCOMMPORT="0"

; Startup type for the SQL Server service.

SQLSVCSTARTUPTYPE="Automatic"

; Level to enable FILESTREAM feature at (0, 1, 2 or 3).

FILESTREAMLEVEL="0"

; Set to "1" to enable RANU for SQL Server Express.

ENABLERANU="False"

; Specifies a Windows collation or an SQL collation to use for the Database Engine.

SQLCOLLATION="SQL_Latin1_General_CP1_CI_AS"

; Account for SQL Server service: Domain\User or system account.

SQLSVCACCOUNT="TAILSPIN\cmPR2SQLsvc"

; Windows account(s) to provision as SQL Server system administrators.

SQLSYSADMINACCOUNTS="TAILSPIN\SQL Admins" "TAILSPIN\SysCtr Admins"

; Provision current user as a Database Engine system administrator for SQL Server
2012 Express.

ADDCURRENTUSERASSQLADMIN="False"

; Specify 0 to disable or 1 to enable the TCP/IP protocol.

TCPENABLED="1"

; Specify 0 to disable or 1 to enable the Named Pipes protocol.

NPENABLED="0"

; Startup type for Browser Service.

BROWSERSVCSTARTUPTYPE="Disabled"

; Specifies which account the report server NT service should execute under.  When
omitted or when the value is empty string, the default built-in account for the
current operating system.
; The username part of RSSVCACCOUNT is a maximum of 20 characters long and
```

```
; The domain part of RSSVCACCOUNT is a maximum of 254 characters long.

RSSVCACCOUNT="TAILSPIN\cmSSRSSvc"

; Specifies how the startup mode of the report server NT service.  When
; Manual - Service startup is manual mode (default).
; Automatic - Service startup is automatic mode.
; Disabled - Service is disabled

RSSVCSTARTUPTYPE="Automatic"

; Provide your license key
PID="<License Key>"
```

NOTE: Since you will be recovering your site server and reusing the previous site server name, you should not need to re-register the service principal name of the service account running the SQL server instance. Confirm this with your SQL DBA and/or AD administrator.

An example of a command line installation of SQL server using a configuration file with passwords is provided in Table 9.

Table 9: Sample Command Line Parameters for Installation of SQL Server 2012 SP1 with Configuration File

```
D:\Setup.exe /SQLSVCPASSWORD="********" /RSSVCPASSWORD="********"
/ConfigurationFile=ConfigurationFile.INI
```

6.1.2 Add Roles and Features to Windows Server 2012 R2

You can use PowerShell to install the commonly required roles on your site server (central administration site, primary site or secondary site). You can check the roles and features installed on your current site server using the cmdlet **Install-WindowsFeature**. To install the required roles and features for the Central Administration Site you can use the sample below. This sample script assumes the Central Administration Site will host the following roles:

- Asset Intelligence synchronization point
- BranchCache-enabled distribution point
- Endpoint Protection Point
- Software Update Point

To execute this script you will need access to the source media of Windows Server 2012 R2. These instructions assume you have a share available with the source media. Replace share with a drive letter if you will be using mounted media.

Installing Windows Roles and Features for a Site Server

```
Install-WindowsFeature Web-ISAPI-Ext,Web-Windows-Auth,Web-Metabase,Web-
WMI,Web-Mgmt-Console,RDC,NET-Framework-45-Core,BITS-IIS-Ext
#(must have read access to share or SXS folder from DVD Installation Media)
Install-WindowsFeature Net-Framework-Core –Source {Installation Media or
share}\sxs
```

6.1.3 Installing Software Update Point

These instructions assume the Windows Server Update Services (WSUS) SUSDB database will be installed on the same SQL instance as the site database. First, you will install the WSUS role. Then, you will configure WSUS to use your SQL instance to host the SUSDB database. These steps assume a fresh install of WSUS and a reinstall of the SUSDB.

- Install WSUS 4.0 without Windows Internal Database using PowerShell. You will need to remove the Windows Internal Database, which gets installed by default, if you want to install the WSUS database on the same SQL instance as your site database. Removing the Windows Internal Database requires a reboot. These tasks can be performed using the following commands in an elevated command prompt:

```
Install-WindowsFeature -Name UpdateServices –IncludeManagementTools
Remove-WindowsFeature –Name Windows-Internal-Database –restart
Install-WindowsFeature -Name UpdateServices-DB –IncludeManagementTools
```

- Configure WSUS 4.0 to use an existing SQL instance and identify the directory to store WSUS content using an elevated command prompt:

```
C:\Program Files\Update Services\Tools\wsusutil.exe postinstall
SQL_INSTANCE_NAME=localhost CONTENT_DIR=C:\WSUS
```

6.1.4 Configure Security and Firewall

Configure your software firewall to allow the required communication ports. Confirm with your Active Directory/Security teams that these firewall settings are not already being enforced by Group Policy. Configure the Windows Advanced Firewall by command line as follows:

Opening Required ports on the Windows Advanced Firewall.

- SQL Ports for DB Access and SSB Access

```
netsh adv fire add rule name="SCCM/SQL" dir=in protocol=TCP
localport="1433,4022" enable=yes action=allow
netsh adv fire add rule name="SCCM/SQL Browser" dir=in
protocol=UDP localport=1434 enable=yes action=allow
```

- Enable WMI Firewall Exceptions

```
netsh adv firewall set rule group="Windows Management
Instrumentation (WMI)" new enable=yes
```

- Enable File and Printer Sharing

```
netsh adv fire set rule group="File and Printer sharing"
new enable=yes
```

Ensure that the Configuration Manager Administration domain group is a member of the local administrators group. These instructions assume a Configuration Manager administrator is a member of domain group and will be performing the site recovery. You will also need to add the computer account of your central site or primary site if you have a hierarchy or secondary sites. Check with your Active Directory/Security team to see if Group Policy is applying these settings.

- Adding the Configuration Manager administrators to the local Administrators Group
  `Example: net localgroup Administrators PROSEWARE\ConfigMgrAdmins /add`
- Adding the Central Site/Primary site computer account to the local Administrators Group
  `Example: net localgroup Administrators corp\cm1$ /add`

6.1.5 Install Prerequisite Software

Configuration Manager 2012 R2 requires the Windows Assessment and Deployment Kit (ADK) 8.1. At the time this document was created, Windows Assessment and Deployment Kit (ADK) 8.1 Update was supported.

Installing the required components of ADK

```
Adksetup.exe /quiet /installpath <path> /promptrestart /features
optionid.deploymenttools optionid.windowspreinstallationenvironment
optionid.userstatemigrationtool
```

NOTE: You can remove the **/installpath** parameter to install ADK in default (<SystemDrive>:\Program Files\Windows Kits\) directory.

6.1.6 Final Preparations/Prerequisite Check

If you are hosting a distribution point on your site server, create the blank text file **no_sms_on_drive.sms** and place this file on drives that will not be used for content management.

Before installing, you want to confirm all prerequisites are met. This can be done by a command line. Connect to the share hosting your Configuration Manager 2012 R2 media or mount the media on the server. You will need this to run the prerequisite check utility to confirm you are ready to recover your site.

- Running the Prerequisite Check for a Central Administration Site

  ```
  \\<Share Name>\SMSSETUP\BIN\X64\PREREQCHK.EXE /ADMINUI /CAS /SQL
  <SERVER>\<INSTANCE> /SDK <FQDN OF SDK>
  ```

- Running the Prerequisite Check for a Primary Site

  ```
  \\<Share Name>\SMSSETUP\BIN\X64\PREREQCHK.EXE /ADMINUI /PRI /SQL
  <SERVER>\<INSTANCE> /SDK <FQDN OF SDK>
  ```

  Running the Prerequisite Check for a Secondary Site running SQL Express

  ```
  \\<Share Name>\SMSSETUP\BIN\X64\PREREQCHK.EXE /ADMINUI /SEC <FDQN OF
  SECONDARY SITE SERVER> /INSTALLSQLEXPRESS
  ```

- Running the Prerequisite Check for a Distribution Point

  ```
  \\<Share Name>\SMSSETUP\BIN\X64\PREREQCHK.EXE /ADMINUI /DP <Site
  System Name>
  ```

Review the results of the Prerequisite Wizard and address any issues before proceeding.

6.2 Automating the Site Recovery

You can automate the site recovery process by creating an unattended setup file that provides all the required parameters in a text file. This text file can be saved named SETUP.INI and passed as a command line parameter to execute an automated recovery. The command line to perform an automated recovery process would be **{Installation Media or Share}\SMSSETUP\BIN\X64\SETUP.EXE /SCRIPT SETUP.INI.**

6.2.1 Unattended recovery of a Central Administration Site

Here is sample SETUP.INI file that can be used to start an unattended recovery of your central administration site. This file assumes the central administration site and SQL server are on the same server using the default SQL instance and that you are restoring from a previous backup within the change tracking retention period.

Table 10: Sample SETUP.INI for Recovery of Central Administration Site

```
[Identification]
Action=RecoverCCAR


[RecoveryOptions]
ServerRecoveryOptions=1
DatabaseRecoveryOptions=10
ReferenceSite=PRI.proseware.lab
SiteServerBackupLocation=C:\CMBackup\CASBackup\SiteServer
BackupLocation= C:\CMBackup\CASBackup\SiteDBServer

[Options]
ProductID=Eval
SiteCodeCAS
SiteName=Proseware Central Administration Site
SMSInstallDir=C:\Program Files\Microsoft Configuration Manager
SDKServer=VCMCAS.proseware.lab
PrerequisitePath=C:\CM12R2PreReqs
PrerequisiteComp=1
AdminConsole=1
JoinCEIP=0

[SQLConfigOptions]
DatabaseName=CM_CAS
SQLServerName= VCMCAS.proseware.lab
SQLSSBPort=4022
```

6.2.2 Unattended recovery of a Primary Site in a Hierarchy

Here is sample SETUP.INI file that can be used to start an unattended recovery of your primary site. This file assumes the primary site and SQL server are on the same server using the default SQL instance and the central administration site is online.

Table 11: Sample SETUP.INI for Recovery of Hierarchy Primary Site

```
[Identification]
Action= RecoverPrimarySite


[RecoveryOptions]
ServerRecoveryOptions=1
DatabaseRecoveryOptions=10
ReferenceSite=PRI.proseware.lab
SiteServerBackupLocation=C:\CMBackup\PRIBackup\SiteServer
BackupLocation= C:\CMBackup\PRIBackup\SiteDBServer

[Options]
ProductID=Eval
SiteCodeCAS
SiteName=Proseware Primary Site
SMSInstallDir=C:\Program Files\Microsoft Configuration Manager
SDKServer=VCMCAS.proseware.lab
PrerequisitePath=C:\CM12R2PreReqs
PrerequisiteComp=1
AdminConsole=1
JoinCEIP=0

[SQLConfigOptions]
DatabaseName=CM_CAS
SQLServerName= VCMCAS.proseware.lab
SQLSSBPort=4022

[HierarchyExpansionOption]
CCARSiteServer= CAS
```

6.2.3 Unattended recovery of a Standalone Primary Site

Here is sample SETUP.INI file that can be used to start an unattended recovery of your standalone primary site. This file assumes the primary site and SQL server are on the same server using the default SQL instance and that you are restoring from a previous backup.

Table 12: Sample SETUP.INI for Recovery of Standalone Primary Site

```
[Identification]
Action= RecoverPrimarySite

[RecoveryOptions]
ServerRecoveryOptions=1
DatabaseRecoveryOptions=10
SiteServerBackupLocation=C:\CMBackup\PRIBackup\SiteServer
BackupLocation= C:\CMBackup\PRIBackup\SiteDBServer

[Options]
```

```
ProductID=Eval
SiteCode=PRS
SiteName=Proseware Primary Standalone Site
SMSInstallDir=C:\Program Files\Microsoft Configuration Manager
SDKServer=VCMPRS.proseware.lab
PrerequisitePath=C:\CM12R2PreReqs
PrerequisiteComp=1
AdminConsole=1
JoinCEIP=0

[SQLConfigOptions]
DatabaseName=CM_PRS
SQLServerName= VCMPRS.proseware.lab
SQLSSBPort=4022
```