

Documentation for IBM Content Manager Enterprise Edition System Move

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1. Abstract

This documentation describes the process of moving IBM Content Manager Enterprise Edition (Content Manager EE) Version 8.4.3 from one machine to another, and provides the Content Manager EE V8.5 upgrade steps on the new machine. Two move samples are provided in the documentation for reference.

2. Special Notice

The document is provided to assist with the migration of Content Manager EE V8.4.3. Such Materials are provided by IBM on an “as-is” basis. IBM makes no representations or warranties regarding these Materials and does not provide any guarantee or assessment that the use of such Materials will result in a successful customer Content Manager EE migration.

3. Preface

This documentation provides the following guidance:

- The process of moving a Content Manager EE system from one machine to another.
- The steps for an upgrade to Content Manager EE V8.5.
- Two move samples for reference. The scripts and commands used during the system moving are included in the samples. Screenshots are also provided.

3.1 Background

Many Content Manager EE systems are still running on the outdated hardware. To improve the systems' performance, the existing Content Manager EE system must move to a new machine with better hardware.

Content Manager EE drops 32-bit server support beginning with V8.5, and a 32-bit server upgrade isn't supported. Therefore, any Content Manager EE systems running on 32-bit architecture hardware that require an upgrade to Content Manager EE V8.5 must move to a 64-bit architecture machine first.

3.2 Disclaimer

Moving Content Manager EE system from one environment to another can be very

complex, time consuming, and prone to errors. It requires a deep understanding of Content Manager EE V8.4.3, DBMS, Storage, and the operating system (OS) technologies involved. This documentation focuses on Content Manager EE product configuration, all the third-party software such as DB2, Oracle, Tivoli, and storage related tools used in the Content Manager EE system move are supported by their respective product services team.

Given the wide variety of possible configurations, each configuration might take a different amount of steps and effort to move to the new hardware. In some configurations, the procedure might be simple. In other cases, the solution might be more difficult. As a reference, to give some idea of the details and complexities involved, this documentation details the steps for an example move

While not all cases might be possible, it is important that an evaluation be done in order to determine if the procedure is appropriate. **Recommendation:** Engage with the IBM Lab Services team to help accomplish the system move.

4. Content Manager EE system move overview

The Content Manager EE system move discussed in this documentation pertains only to V8.4.3 and its fix pack level. If your system is earlier than V8.4.3, you must first upgrade Content Manager EE to version 8.4.3 in order to meet the minimum requirement for this document. This document only supports the move between identical Content Manager EE V8.4.3 versions on source and target. For a later version or fix pack level for Content Manager EE, you should upgrade only after the move has been successfully completed.

4.1 The methodology for Content Manager EE system move

This documentation divides the Content Manager EE components into two types: database components and other components. The system move procedure moves the database components (databases) from the source system to the target system, and first-time configures the other components on the target machine.

4.1.1 Database components

Database components included:

- Library server
- Resource manager database
- IBM Information Integrator for Content federated database

These components would be migrated by DBMS tools from the source machine to the target machine. If you plan to upgrade Content Manager EE V8.5 after the system

move, do not move the federated database to the target because V8.5 no longer supports it.

4.1.2 Other components

Other components included:

- Resource manager application
- System administration client
- Connectors
- Toolkits and samples
- Web services
- Information Integrator for Content system administration client
- eClient
- Information center

The components would be moved using the Content Manager EE V8.4.3 configuration wizard.

If you plan to upgrade to Content Manager EE V8.5 after the system move, federated and OnDemand (OD) related connecters, toolkits, samples, Information Integrator for Content system administration client, eClient, and the Information Center should not be configured on the target.

4.1.3 Content Manager EE system move stages

To perform the Content Manager EE system move, complete the following four stages:

1. Collect the configuration information for the source system.
2. Prepare and set up the target system.
3. Move the databases from the source system to the target system.
4. Reconfigure Content Manager EE on the target system.

4.2 Requirements

4.2.1 Source system

The source system is your existing Content Manager EE system. Make sure your system meets the Content Manager EE 8.4.3.x prerequisite software levels at <http://www-01.ibm.com/support/docview.wss?rs=86&uid=swg27020447>.

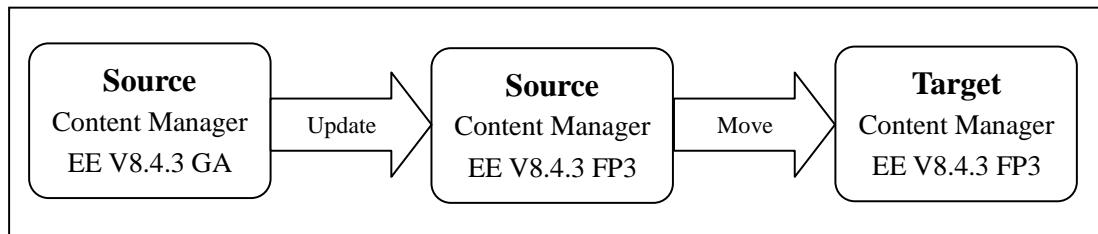
4.2.2 Target system

The target system is the Content Manager EE system on the new machine. Make sure your system meets the Content Manager EE 8.4.3.x prerequisite software levels at <http://www-01.ibm.com/support/docview.wss?rs=86&uid=swg27020447>.

Important: If you plan to upgrade any prerequisite software versions while moving

the Content Manager EE system, you should ensure that the Content Manager EE version of your source system supports the software levels planned for the target machine. If not, update your Content Manager EE software levels on the source machine to support the planned software versions *before* you move the system. For example, the following path shown in figure 4-1, illustrates moving the source Content Manager EE system currently running with DB2 V9.5 to the target version running with DB2 v10.1.

Fig 4-1 Move path



Because Content Manager EE V8.4.3 Fix Pack 3 is the minimum supported Content Manager EE version for use with DB2 v10.1, you need to update the Content Manager EE V8.4.3 base version to Fix Pack 3 on the source machine before you move the Content Manager EE system to the target machine.

Important: If you plan to upgrade Content Manager EE V8.5 after the system move, ensure that the target system software versions meet the minimum software requirements of Content Manager EE V8.5. See <https://www.ibm.com/support/docview.wss?uid=swg27038464> to check the software requirements.

Requirement for Windows 2012 target machines:

Although the Windows Server 2012 operating systems are supported with Content Manager EE V8.5, but they are not officially supported on Content Manager EE V8.4.3. If you plan to move your system to Windows Server 2012, then upgrade Content Manager EE to V8.5 immediately after you re-configure Content Manager EE V8.4.3 on the target machine. Content Manager EE V8.4.3 will be invalid on Windows server 2012 until you upgrade to Content Manager EE V8.5. Do not allow the system to be used for actual production level work while in the interim configuration state.

Content Manager EE must be on V8.4.3 Fix Pack 3 prior to moving to new hardware running on Windows Server 2012; consequently, the source machine must already be on Content Manager EE 8.4.3 Fix Pack 3 prior to moving to the target machine running on Windows Server 2012.

4.2.3 System moves not supported by this documentation

The documentation does not cover the following topics:

- Moving across DBMS, for example, from Oracle to DB2.
- Moving Content Manager EE configurations which are not currently supported

by IBM.

- Moving to or from Content Manager EE on zOS.
- Moving to or from Content Manager EE on iSeries or IBM i;
- Moving storage management, for example, from Tivoli Storage Manager to disk.

These operations are not supported by this documentation. If you need assistance with these issues, engage the appropriate IBM Lab Services Team for assistance.

Notes: If Tivoli Storage Manager is used to store objects in Content Manager EE system, the system move from Windows to Unix/Linux and from Unix/Linux to Windows mustn't be supported by this documentation.

5. Collecting the configuration information of source system

In order to stay compatible with the data coming from the source system, the Content Manager EE configuration on the target system should match the source system. The system user IDs and passwords should match, for example, icmadmin and rmadmin. The database settings should also match, for example, database and schema names and user passwords should match. Before you set up the target system and performing the system move, it is necessary to collect the exact configuration information from the source system. Note that spelling and case (upper case, lower case) must also match between the source and target environments when specifying user IDs, database names, and so on.

5.1 Step 1: Library server configuration information collection

Collect library server configuration information from the source system. For a list of the configuration information to collect, see the following links:

DB2:

Windows

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw319.htm

UNIX

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mca163.htm

ORACLE:

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw190.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw191.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw192.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw193.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw195.htm

5.2 Step 2: Resource manager configuration information collection

If your source system contains a resource manager, you must collect its (or there if more than one resource manager resides on the source system) configuration information from the source system. To determine what configuration information needs to be collected, see the following links:

Step 2.1: Resource manager database

DB2:

Windows

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw320.htm

UNIX

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mca175.htm

ORACLE:

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw196.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw197.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw198.htm

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw199.htm

Step 2.2: Resource manager application server

Windows

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw321.htm

UNIX

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mca179.htm

Step 2.3: Other resource manager related configuration

Physical storage mapping:

You can collect your resource manager physical storage mapping from each resource manager database by collecting the contents of the RMVOLUMES table. Volumes will be moved in a one to one fashion, and will not be merged during the procedure outlined in this document.

Physical directory paths and logical volume names can differ on the target system. After the move, the database entries in the resource manager will be updated to reflect the target's physical storage environment. For details, see [8.2.4 Disk Volume Changes](#).

Tivoli Storage Manager option file

If Tivoli Storage Manager is used as a resource manager storage volume, collect the option file (typically named dsm.opt) and back it up. The option file is used to connect to the Tivoli Storage Manager server, and will be copied to the new target.

5.3 Step 3: Information Integrator for Content federated database configuration information collection

Collect the configuration information for the Information Integrator for Content federated database on the source system. For a list of configuration information to collect, see the following links

Windows

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_miw200.htm

UNIX

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mia300.htm

5. 5 Collect configuration history from the Installation Data Repository file

The Installation Data Repository (IDR) file is used to records the Content Manager EE installation and configuration history and contains configuration information for

the source system in it. It is an XML file named ECMInstallDataV8. See table 5-1 for its location.

Table 5-1

UNIX/Linux	/var/ibm/ecm/ECMInstallDataV8.xml
Windows Server 2003	C:\Documents and Settings\All Users\Application Data\IBM\ecm\ECMInstallDataV8.xml
Windows Server 2008	C:\ProgramData\IBM\ecm\ECMInstallDataV8.xml

6. Preparing and setting up the target system

All software on the target machine must meet the requirements recorded in section **4.2 Requirements**.

In order to stay compatible with the data coming from the source system, the target system should match as closely as possible. The closer the target system's configuration matches the source system, the easier the system move.

6.1 Step 1: System settings

6.1.1 Step 1.1: IP addresses and hostnames

When the Content Manager EE system moves to the new hardware, the IP addresses and/or hostnames of the new machines will differ. After the move, the database entries and configurations will be updated to reflect this change.

6.1.2 Step 1.2: User IDs and passwords

The Content Manager EE related operating system user IDs: library server administrative ID, library server connection ID, resource manager administrative ID (for example, icmadmin, icmconct, and rmadmin) and their passwords should remain the same in the target environment as they are in the source environment (including case sensitivity). For the names of respective user IDs, refer to the results of configuration collection. Create the user IDs in advance on the target machine prior to the system move. See

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installcm.doc/dc_mcw127.htm to create the user IDs with proper rights and privileges.

6.1.3 Step 1.3 System date and time

It is recommended that the target system's date and time be synchronized with the source before the data is moved in order to ensure that Content Manager EE functions which rely on timestamp information work properly..

6.2 Step 2: Database settings

The strategy of the library server and resource manager database move depends on the use of the DBMS migration tool. If the DBMS migration tool requires that you create the databases before the data migration, the database names should match on both the source and target systems (including case sensitivity). Changing database names is beyond the scope of this documentation.

When you use the DBMS backup and restore functionality in the move procedure, the restore operation creates the tables in the same tablespaces by default. Therefore, the easiest and recommended approach is to use the same tablespace configurations on the target system as those which exist on the source system. Although it might be possible during database restore to create a mapping of the source database tablespaces to the new target database tablespaces, this is beyond the scope of this documentation.

- Oracle

Oracle users should create the databases, listener.ora, and tnsname.ora files before the move. See the following link:

<http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dcmoc100.htm>

Make sure the target values in listener.ora and tnsname.ora match with the source system's Oracle configuration, for example, ORACLE_HOME. If you plan to move an Oracle database with a 32-bit Content Manager EE library server to a target system with a 64-bit library server on UNIX, then ensure that the value of PROGRAM in listener.ora is *extproc*. The following example shows a listener.ora for AIX:

```
LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS_LIST =
        (ADDRESS = (PROTOCOL = IPC)(KEY = ICMLSEXTPROC))
      )
      (ADDRESS_LIST =
        (ADDRESS = (PROTOCOL = TCP)(HOST = unixhost.mydomain.com)(PORT = 1521))
      )
    )
  )

SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = PLSExtProc)
      (ORACLE_HOME = /u01/oracle/product/11.2.0.3)
      (PROGRAM = extproc)
    )
    (ENVS="EXTPROC_DLLS=ONLY:/opt/IBM/db2cmv8/lib/ICMPORSP,LIBPATH=/opt/IBM/db2cmv8/icc
64/lib64:/u01/oracle/product/11.2.0.3/lib:$LIBPATH")
  )

```

6.3 Step 3: WebSphere Application Server settings

Recommendation: Keep the same WebSphere Application Server home path, profile home path, port numbers, and administration user name on the target system as what is used on the source system.

6.4 Step 4: Tivoli Storage Manager and DB2 Net Search Extender

Configure Tivoli Storage Manager on the target system in an identical manner to the source system.

Install and configure DB2 NSE on the target machine if it is configured and used in the source machine.

6.5 Step 5: Content Manager EE preparation

If a Content Manager EE component is configured on the source machine, it must also be configured on the target machine. Before moving the Content Manager EE system, install all required Content Manager EE components at the 8.4.3 version and Fix Pack level on the target machine to match what is on the source matching. Make sure that the target Content Manager EE component's versions and fix pack levels match the source system's requirements, and there is no need to configure any Content Manager EE components in this step.

Oracle library server: If the database type is Oracle, you need to manually prepare a stored procedure file for the library server configuration on the target machine:

Step 1: Link or copy the ICMPOSP file into IBMCMROOT/lib

UNIX/Linux: Link the ICMPOSP file:

Enter the following command as root user:

```
ln -f -s /opt/IBM/db2cmv8/lib/<lib32 or 64>/<ora10g or 11g>/ICMPORSP  
/opt/IBM/db2cmv8/lib/ICMPORSP
```

Windows: Copy the ICMPOSP.dll file from %IBMCMROOT%\lib\<lib32 or 64>\<ora10g or 11g> to %IBMCMROOT%\lib.

Step 2: Create the library ICMPORSP

Enter the following command in the PL/SQL command line:

UNIX:

```
create or replace library icmporsp as '<ibmcroot>/lib/ICMPORSP';
```

/

Windows:

```
create or replace library icmporsp as '<ibmcmroot>\lib\ICMPORSP.dll';
```

/

where <ibmcmroot> is the full path of the \$IBMCMROOT or %IBMCMROOT% directory.

7. Moving data from the source system to the target system

The steps in this chapter require taking the source Content Manager EE system offline, so plan for this outage accordingly. In this documentation, the process of moving Content Manager EE data moving depends upon the DBMS data movement and migration tools. Therefore, a deep understanding of the Content Manager EE and DBMS products is required.

Recommendation: Involve the DBMS product services team in the data move. Before the actual data move, the operational steps should be validated in a test (non-production) environment.

7.1 Step 1: Taking Content Manager EE system on the source offline

Step 1.1: Disable all client applications to ensure that no new transactions are requested

Step 1.2: Ensure that all transactions have completed

Per Table 7-1, ensure that the count of tasks is 0 (zero).

Table 7-1

Services	Database	Table	Condition	Task Count
Migration	<rmdb>	RMMIGRATIONTASKS	NA	0
Replication	<rmdb>	RMREPLICATION	NA	0
Delete	<icmnlsdb>	ICMSTITEMSTODELETE	NA	0
	<rmdb>	RMOBJECTS	OBJ_STATUS='D'	0

Step 1.3: Purge resource manager staging

Step 1.3.1: Set the purge trigger

Set purge start and stop maximum size to 0. Update the STA_PERCENTSTART and STA_PERCENTSTOP to 0 in RMSTAGING table.

Table 7-2

Services	Database	Table	Column	Value
Purge	<rmdb>	RMSTAGING	STA_PERCENTSTART	0
			STA_PERCENTSTOP	0

Step 1.3.2: Restart the Purger service using the Content Manager EE system administration client

Step 1.3.3: Ensure that the staging directory is now empty

Per Table 7-3, ensure that the count of tasks is 0 (zero).

Table 7-3

Services	Database	Table	Condition	Task Count
Purge	<rmdb>	RMOBJECTS	OBJ_STATUS='B'	0
			OBJ_STATUS='L'	0

Step 1.4 DB2 only: Handling the Content Manager EE sequences and identity columns

Step 1.4.1 Record the value of Content Manager EE sequences

Ensure that the current value of sequences in the target exceeds the source's. If they are not, then change them accordingly. Record the value of sequences as noted in Table 7-4.

Table 7-4

Database	Sequence
<icmnlsdb>	CM_SEQ_ACL
	CM_SEQ_UNUM

After the system move, check the current value of the sequences to verify whether they are no less than the source's. If not, alert update their values to be not less than those of the source's.

Example:

Record CM_SEQ_UNUM sequence value on source: `select NEXTCACHEFIRST-VALUE from syscat.sequences where SEQNAME='CM_SEQ_UNUM'`

Alter CM_SEQ_UNUM to next value(the result of last SQL+1) on target: `alter sequence <icmadmin>.CM_SEQ_UNUM restart with NextValue`

Step 1.4.2 Ensure the tables that include the identity columns are clean

Per Table 7-5, ensure that the record of tables is 0.

Table 7-5

Database	Table	Record Count
<icmnlsdb>	RMEAUDIT	0
	ICMSTEVENTQUEUE	0
<rmdb>	RMVALREPORT	0

The ways to empty the tables:

RMEAUDIT : it can be emptied by any SQL tools.

ICMSTEVENTQUEUE: Disable the “Enable Event Subscriptions” feature in the system administration client, and keep the Event Monitor running until the record is 0.

RMVALREPORT: Log in to the resource manager administration console, and click the **Clean Report** button in the Validation Report column.

Step 1.4.3 Checking the ICMSTEVENTSUBSCRIPTIONS table in the library server

Check whether the ICMSTEVENTSUBSCRIPTIONS table in the library server has a record of 0. If not, contact the IBM service team to handle the table migration.

Step 1.5 DB2 only: Ensure all DB2 Net Search Extender indexing has completed

For more details, see [7.5.1 Step 5A: NSE index migration method](#).

Step 1.6: Stop all resource manager services

Stop resource manager services: Purger, Migrator, Stager, Replicator using the Content Manager EE system administration client.

Step 1.7: Stop all WebSphere Application Server application servers.

Step 1.8 DB2 only: Stop the library server monitor service

Step 1.9 DB2 only: Stop the Net Search Extender service

Step 1.10: Restart the database instance

Restart all databases to stop all of the connections to the IBM Content Manager servers.

Step 1.11 Strongly Recommended: Full offline backup of all Content Manager databases

See the Content Manager EE Fix Pack update environment link to get the proper command or methods for the above processes:

Windows:

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.cmgmt843freadme.doc/fpinstallprepare_win.htm

UNIX/Linux:

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.cmgmt843freadme.doc/fpinstallprepare_unix.htm

7.2 Step 2: library server database and resource manager database move

To move the library server database and resource manager database from the source to the target, consider the migration tool provided by the DBMS product. If you have a backup/restore tool to support your move scenario, you can back up the database on the source, and then restore the database to the target host. Otherwise, you should export all Content Manager EE data from the source database, and then import the data into the database on target host.

Step 2.1: Back up or export the databases on the source

According to the data move policy and DBMS movement tool selected, back up the library server database and all resource manager databases, or export the data from the databases on the source system.

Step 2.2: Restore or import the databases on the target

Move the backed up or exported data to the target system, then follow your data move process and using the DBMS move tool you've selected, either restore the library server and all resource manager databases, or import the data into the databases on the target system.

7.3 Step 3: Move resource manager objects

The object data that is used by the source resource manager system must also be made available to the target resource manager system, for example, the LBOSDATA binary object storage directory structure. In some cases, this could mean physically moving the data from one system to another. In other cases, it could mean making the existing data accessible to the target system, for example, connections to a Tivoli Storage Manager server or a SAN connection. Note that any file system and storage migration operation should be supported by the operating system and storage product service team.

Important: The object data must be consistent with the database backups, and should be performed at the same time while the system is quiesced.

Step 3.1: Determine source and target file locations

When physically moving data from one system to another, determine the location of the object data in the source system and copy it to the new location in the target system. **Recommendation:** Keep the relative path locations the same to make things simpler. Alternatively, you can follow additional procedures to change the path locations and hard drives for the volume data on the target system (see Section “[8.2.4](#)”)

[Disk Volume Changes](#)” for details).

Step 3.2: Make the data file accessible

The data can be copied or mounted using any available method. In some environments, it is imperative that file permissions and file ownership remain the same. This is one of the reasons why the user IDs should match between the source and target systems. Changing file ownership could make the objects inaccessible to the target resource manager application.

Note that by copying the data, the original data on the source system remains intact and available for a fallback plan to the source environment in the case that the target migration does not complete successfully.

7.4 Step 4: Information Integrator for Content federated database move

In most cases, the Information Integrator for Content federated database coexists with the Content Manager EE library server database. Therefore, the backup and restore of the database already includes both components. However, if the Information Integrator for Content federated database exists as a standalone database, separate from the library server database, then it should be backed up and restored separately using the same process described earlier for the library server database.

Note that the Information Integrator for Content federated database component is no longer supported beginning with IBM Content Manager V8.5. If you plan to upgrade to Content Manager EE 8.5 after the Content Manager EE move, then the Information Integrator for Content federated database should not be reconfigured on the target system.

7.5 Step 5 DB2 only: DB2 Net Search Extender indexes

If DB2 Net Search Extender (NSE) is installed and configured on the source machine, then perform the procedures in this section. Otherwise, skip this section.

You can move the Content Manager EE NSE text index in one of two ways: either the “NSE index migration method” or the “Content Manager EE index re-creation method”. Because NSE stores some data in the database and other data in files, you must choose the method based on whether the NSE data files from the source system are compatible with the target system. If the NSE data files are compatible, then the “NSE index migration method” is the most recommended. Otherwise, the “Content Manager

EE index re-creation method” is the only choice. For details, see the following two sections.

7.5.1 Step 5A: NSE index migration method

Recommendation: Engage the IBM DB2 NSE services team to evaluate whether the source text index files are compatible with the target environment, or if the files require using the migration utility to make the files compatible.

Follow the steps listed below to migrate your NSE indexes:

Step 5A.1: Ensure that all DB2 NSE indexing has completed on the source machine

Make sure that all client applications are offline and that all DB2 NSE indexing has completed.

Enter the following command for each TLOGTABLE to verify that no text index tasks are pending:

```
db2 "select count(*) from db2ext.TLOGTABLE"
```

If no index tasks are pending, the result of the SQL above should be 0.

You can select all *TLOGTABLENAME* values from the db2ext.TTEXTINDEXES table.

Step 5A.2: Collect NSE data from the source system

Collect and bring over the NSE index files directory to the new system. The NSE index files are located in a directory determined by the NSE configuration settings. Enter the following command to determine which directory contains the NSE index files:

```
db2 "select indexdirectory from db2ext.textindexes"
```

Step 5A.3: Move the library server database

Move the library server database to the target machine as described in section 7.1.

Step 5A.4: Migrate NSE and copy the text index files to the target

Using the same index directory as the source system is the easiest method. If the index directory is changed on the target, see section [8.2.7 Special DB2 Net Search Extender considerations](#) to properly configure the target environment.

Depending on the target system environment configuration, see the appropriate link below for instructions on migrating NSE.

DB2 V9.1

Net Search Extender Migration:

<http://publib.boulder.ibm.com/infocenter/db2luw/v9/topic/com.ibm.db2.udb.admin.nse.topics.doc/doc/t0052133.htm>

32bit to 64bit migration tool for Net Search Extender full-text indexes:

<http://publib.boulder.ibm.com/infocenter/db2luw/v9/topic/com.ibm.db2.udb.admin.nse.topics.doc/doc/t0052133.htm>

[e.topics.doc/doc/c0056923.htm](#)

Migrating Net Search Extender indexes from 32-bit indexes to 64-bit indexes (Windows):

<http://publib.boulder.ibm.com/infocenter/db2luw/v9/topic/com.ibm.db2.udb.admin.nse.topics.doc/doc/t0058511.htm>

DB2 V9.5

Migrating to DB2 Net Search Extender Version 9.5:

<https://publib.boulder.ibm.com/infocenter/db2luw/v9r5/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/t0052133.html>

DB2 Net Search Extender index migration tool from 32-bit to 64-bit:

<https://publib.boulder.ibm.com/infocenter/db2luw/v9r5/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/c0056923.html>

Migrating Net Search Extender indexes from 32-bit indexes to 64-bit indexes (Windows):

<https://publib.boulder.ibm.com/infocenter/db2luw/v9r5/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/t0058511.htm>

DB2 V9.7

Migrating to DB2 Net Search Extender Version 9.7:

<http://pic.dhe.ibm.com/infocenter/db2luw/v9r7/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/t0052133.html>

DB2 Net Search Extender index migration tool from 32-bit to 64-bit:

<http://pic.dhe.ibm.com/infocenter/db2luw/v9r7/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/c0056923.html>

Migrating Net Search Extender indexes from 32-bit indexes to 64-bit indexes (Windows):

<http://publib.boulder.ibm.com/infocenter/db2luw/v9/topic/com.ibm.db2.udb.admin.nse.topics.doc/doc/t0058511.htm>

DB2 V10.1

Migrating to DB2 Text Search:

<http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/topic/com.ibm.db2.luw.admin.ts.doc/doc/c0053115.html>

DB2 Net Search Extender index migration tool:

<http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/topic/com.ibm.db2.luw.admin.nse.topics.doc/doc/c0056923.html>

DB2 Net Search Extender index migration tool from 32-bit to 64-bit (Windows):
<http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/topic/com.ibm.db2.luw.admin.nse.toppics.doc/doc/c0056923.html>

You can ignore the DB2 V8 steps in the above links, because DB2 V8 is not supported for use with Content Manager EE 8.4.3 systems.

Note that all of the NSE migration tools are DB2 product features, and are supported by the DB2 product team if you run into NSE migration issues.

7.5.2 Step 5B: Content Manager EE index recreation method

The DB2 NSE migration tool has limitations, and not all scenarios are supported, for example, Windows 32-bit to Linux 64-bit migration. In this case, you should recreate NSE text indexes on the target system.

Note that recreating the text indexes can take up to several days depending on the size of your source indexes.

The Content Manager EE index recreation process follows the steps below:

Step 5B.1: Finish the Content Manager EE system move

Before you recreate the indexes on the target, you must make sure that the entire Content Manager EE system has already been successfully moved onto the target, and that all component configurations and all data has already been completed and moved to the target environment. Consider recreating the index as the last step for the system move.

Step 5B.2: Collect index information from the library server database on the target

Get and record the component typeid, index names and UDF name on attributes or parts by entering the following command:

```
"db2 select COMPONENTTYPEID , INDEXNAME ,COLUMNNAME ,UDFNAME  
from ICMSTTEXTINDEXCONF"
```

These records will be used when creating indexes.

Step 5B.3: Drop the text search indexes on target

Drop all indexes one by one using the following command for each index retrieved using the query above in step 5B.2:

```
"db2text drop index CMS_SCHEMA.INDNAME for text connect to <icmnlsdb> user  
<icmadmin> using <password>"
```

Step 5B.4: Recreate indexes on the target

Step 5B.4.1 If the index is to be created for an attribute, the command should be:

```
db2text "create index CMS_SCHEMA.INDNAME on CMS_SCHEMA.UTTable
```

```
(ATTR0GroupID0AttrID) for text connect to <icmnlsdb> user <icmadmin> using <password>"
```

UTTable=ICMUT0+COMPONENTTYPEID (gotten from step 5B.2) +001

ATTR0GroupID0AttrID=COLUMNNAME (gotten from step 5B.2)

step 5B.4.2: If the index is to be created for a document part, the command should be:

```
db2text "create index CMS_SCHEMA.INDNAME on CMS_SCHEMA.UTTable (TIEREF) for text function CMS_SCHEMA.ICMfetchContent connect to <icmnlsdb> user <icmadmin> using <password>"
```

UTTable=ICMUT0+COMPONENTTYPEID (gotten from step 5B.2) +001

All indexes should be recreated to match the data recorded in step 5B.2.

The hostname referenced in the TIEREF column should match the target's value. The command to update the TIEREF host name should be:

```
db2 "update CMS_SCHEMA.UTTable set TIEREF = RE-PLACE(TIEREF,'mysource','mytarget')"
```

UTTable=ICMUT0+COMPONENTTYPEID (gotten from step 5B.2) +001

All TIEREF values should be updated.

Step 5B.5: Update indexes on target

Update all the indexes via command:

```
db2text "update index CMS_SCHEMA.INDNAME for text connect to <icmnlsdb> user <icmadmin> using <password>"
```

For more details about the Content Manager EE recreate text index, see

<http://www-01.ibm.com/support/docview.wss?rs=86&uid=swg21284899>

Appendix B: Migrating or Recreating NSE Text Indexes.

7.6 Step 6 Oracle only: Recreate Oracle Text Search indexes

If Oracle Text Search is used on the source machine, then perform the procedures defined in this section. Otherwise, skip this section.

Note that recreating text indexes might take several days to complete depending on the size of your indexes.

The following steps recreate the Oracle Text Search indexes:

Step 6.1: Finish the Content Manager EE system move

Before you recreate the indexes on the target, you must make sure the entire Content Manager EE system has already been successfully moved onto the target, and that all component configurations and all data has already been completed and moved to the target environment. Consider recreating the index as the last step for the system move.

Step 6.2: Collect index information from library server database

Get and record indexid, component typeid, index name and column name from IC-MSTTEXTINDEXES using this SQL statement:

```
select INDEXID, COMPONENTTYPEID, INDEXNAME, COLUMNNNAME from  
<icmadmin>.ICMSTTEXTINDEXES;
```

The records will be used when recreating the indexes.

Step 6.3: Drop the text search indexes from the library server database

Use the following command for each index retrieved using the query above in step 6.3:

```
DROP INDEX INDEXNAME FORCE;
```

Step 6.4: Configure Oracle Text Search on the target

Perform the steps in the following link to configure Oracle Text Search on the target:

http://pic.dhe.ibm.com/infocenter/cmgmt/v8r4m0/topic/com.ibm.installngcm.doc/dc_mcw243.htm

Step 6.5: Recreate the Oracle indexes on the target

Step 6.5.1 If the text search index was created for an attribute, enter the following command from the PL/SQL command line:

```
CREATE INDEX ICMADMIN.INDEXNAME ON UTTABLE (ATTR0GroupID0AttrID)  
INDEXTYPE IS CTXSYS.CONTEXT PARAMETERS('NOPOPULATE');  
BEGIN UPDATE ICMADMIN. UTTABLE SET ATTR0GroupID0AttrID =  
ATTR0GroupID0AttrID; COMMIT; END;  
/  
UTTTable=ICMUT0+COMPONENTTYPEID (gotten from step 6.2) +001  
ATTR0GroupID0AttrID=COLUMNNNAME (gotten from 6.2)
```

Step 6.5.2: If the text search index was created for a document part, enter the following command from the PL/SQL command line:

```
CREATE INDEX ICMADMIN. INDEXNAME ON UTTABLE (TIEREF) INDEXTYPE IS  
CTXSYS.CONTEXT PARAMETERS('DATASTORE ICMAD-  
MIN.ICMFETCHCONTENT NOPOPULATE');  
BEGIN UPDATE ICMADMIN. UTTABLE SET TIEREF=TIEREF ; COMMIT; END;  
/  
UTTTable=ICMUT0+COMPONENTTYPEID (gotten from step 6.2) +001
```

Step 6.6: Update index in ICM Java sample API

Make sure the IBM Content Manager Java samples are installed on the target. Then update the index using the API call:

```
Java STextIndexUpdateICM.class <icmnlsdb> <icmadmin> <password>
```

8. Configuring Content Manager EE on the target system

Although the data is now moved over to the new system, it is not usable until you change the data to accommodate the fact that the data is still at the source configuration, and to account for potential changes to host names, and disk volumes.

8.1 Configure Content Manager EE V8.4.3 on target system

The Content Manager EE component files should be installed as indicated in [6.5 Step 5: Content Manager EE preparation](#). Run the V8.4.3 configuration wizard to configure Content Manager EE on the target system. The wizard guides you through selecting and configuring the features that you installed.

To start the configuration wizard manually, enter one of the following commands. The actual files are located in IBMCMROOT/bin (where IBMCMROOT is the installation path for Content Manager EE, for example, C:\Program Files\IBM\db2cmv8\bin or /opt/IBM/db2cmv8):

- config_CM (Content Manager EE)
- config_II4C (IBM Information Integrator for Content)
- config_EC (eClient)

8.1.1 Configure database components

When you configure this component on the target machine, be careful to use the following rules:

- Use existing databases.
- Use the same administration user IDs and passwords from the source server (same spelling, same case – upper-case or lower-case), for example, icmadmin, rmaadmin, and icmconct.
- Change the mount points and volumes to match the target environment's values.
- If you plan to convert the library server or the Information Integrator for Content federated database to 64-bit, then select the 64-bit radio button when in the Content Manager EE or Information Integrator for Content “Bit Width” configuration panels. If both databases co-exist on the same machine, then make sure that their bit widths match.

8.1.2 Configure other components

When you configure this type of component on the target machine, make sure to use the following rules:

- Use the same application name as the source system.

8.2 Match target system configuration with the new environment

Perform the following steps to confirm that the target system has been configured properly and that the data matches the new environment.

8.2.1 Host name in database

Verify each resource manager server hostname in the library server as seen in table 8-1. If the new hostname does not match the existing resource manager name in the ICMSTRESOURCEMGR table, then modify the <hostname> value in ICMSTRESOURCEMGR to match the new environment value.

Table 8-1

Database: <icmnlldb>		
Table: ICMSTRESOURCEMGR		
RMCODE	RMNAME	INETADDR
<rmcode>	<rmdb>	<hostname>

Verify the library server's hostname in each resource manager database as seen in table 8-2. If the hostname does not match the value for the new library server hostname in the RMSERVER table, modify the <hostname> value in RMSERVER to match the new environment value.

Table 8-2

Database: <rmdb>	
Table: RMSERVER	
SVR_SERVERTYPE	SVR_HOSTNAME
Library server	<hostname>
Resource manager	<hostname>

If there are multiple resource managers in your Content Manager EE system, ensure that every resource manager's hostname matches the new environment's value in the RMSERVER table in each resource manager database. Also verify that the communication between each resource manager is working.

8.2.2 Resource manager port

Verify the resource manager's port numbers in the library server as seen in Table 8-3. If the target <port> does not match the resource manager in the ICMSTRMACCESSTYPES table, then the table should be updated to reflect the <port> for the new environment.

Table 8-3

Database: <icmnlldb>			
Table: ICMSTRMACCESSTYPES			
RMCODE	RMACCESSTYPE	PORT	ACCESSDATA
<rmcode>	<1 or 6>	<port>	<accessdata>

Table 8-4 shows the corresponding value of RMACCESSTYPE and PORT.

Table 8-4

RMACCESSTYPE	PORT
1	<https(9080)>
6	<http(9443)>

You can refer to the ICMSTRESOURCEMGR table to correlate the correct RMCODE with the corresponding RMNAME (Table 8-1).

Verify the resource manager's port numbers in the RMSERVER table from each resource manager database. If the listed <port> does not match the target's <port>, the table should be updated to reflect the new value. See table 8-5.

Table 8-5

Database: <rmdb>	
Table: RMSERVER	
SVR_SERVERTYPE	SVR_PORT
resource manager	<port>

8.2.3 IBMCROOT and working directory path

If the target system's "IBMCROOT" and "Working DIR" path is different than the source system, then their related values in the library server database need to be reflected in the new environment. For the default values, see table 8-6.

Table 8-6

Database: <icmnlldb>				
Table: ICMSTSYSCONTROL				
	TRACE-FILENAME	PATH-ICMROOT	PATH-ICMDLL	UDFTRACE-FILENAME
Windows default	C:\Program files (x86)\IBM\db2cmv8\log\ls\icmnlldb\ICMSERVE.R.log	C:\Program files (x86)\IBM\db2cmv8\log\ls\icmnlldb\cmgmt\ls	C:\Program files (x86)\IBM\db2cmv8\cmgmt\ls	C:\Program files (x86)\IBM\db2cmv8\log\ls\icmnlldb\UDFTRACE
UNIX/Linux default	~ibmcadm/log/ls/icmnlldb/ICM SERVER.log	/opt/IBM/db2cmv8	~ibmcadm/cmgmt/ls	~ibmcadm/log/ls/cmnlldb/UDFTRACE

8.2.4 Disk volume changes

If the volume data was moved to a new location, then the volume definitions need to change accordingly. The disk volume related records in each resource manager database in RMVOLUMES table need to reflect the values for the new environment. For volume information, see table 8-7.

Table 8-7

Database: <rmdb>					
Table: RMVOLUMES					
VOL_VO LUMID	VOL_SIZE	VOL_FRE ESPACE	VOL_LOGI CALNAME	VOL_MOU NTPOINT	VOL_PATH
<id>	<0>	<0>	<logical name>	<mount point>	<staging path>

If the volume mount point or logical name has changed, the volume sizes would be different on the new system. Consequently, it is likely that the capacity and freespace available values have changed. To inform the resource manager of this, the VOL_SIZE and VOL_FREESPACE should be set 0. The resource manager will re-calculate the actual values and update the table when it is shut down and restarted.

For the staging area, confirm and update the available staging space STA_SIZE, the purge start and stop maximum percentage sizes STA_PERCENTSTART and STA_PERCENTSTOP, and the staging path STA_PATH values in the RMSTAGING table in each resource manager database. See Table 8-8.

Table 8-8

Database: <rmdb>				
Table: RMSTAGING				
STA_SIZE	STA_SPACE USED	STA_PERCENT START	STA_PERCENT STOP	STA_PATH
<size>	0	<%>	<%>	<path>

8.2.5 WebSphere Application Server administration user change

If the WebSphere Application Server administrative user ID on the target was changed from that which is used on the source, you must adjust the user name in each resource manager database's RMCONFIGURATION table needs to match the new environment's value. Make sure that the new administrative user has permission to access the resource manager objects. See table 8-9.

Table 8-9

Database: <rmdb>	
Table: RMCONFIGURATION	
PROPERTYNAME	PROPERTYVALUE
ICMRM_USER	<WebSphere Application Server admin user>

8.2.6 Tivoli Storage Manager configuration

If the Content Manager EE resource manager uses a Tivoli Storage Manager storage volume, then keep the same Tivoli Storage Manager client installation location as was

used with the source, and move the Tivoli Storage Manager option file from the source to the target. If the Tivoli Storage Manager client installation location changed, then update the Tivoli Storage Manager client option file information in the RMCONFIGURATION table in each resource manager database accordingly for the new environment. See Table 8-10.

Table 8-10

Database: <rmdb>	
Table: RMCONFIGURATION	
PROPERTINAME	PROPERTIVALE
DSMI_DIR	<Tivoli Storage Manager API path>

If the Tivoli Storage Manager option file location or name changed, then the related records need to be reflected together in RMSERVER table on the target. Update <path\option file name> in SVR_PATH. See table 8-11.

Table 8-11

Database: <rmdb>	
Table: RMSERVER	
SVR_SERVERTYPE	SVR_PATH
Tivoli Storage Manager	<path\option file name>

Tips: After the Tivoli Storage Manager option file is moved, you can use the Tivoli Storage Manager Backup-Archive Clients to validate the Tivoli Storage Manager server connection. For details, see <http://publib.boulder.ibm.com/infocenter/tivihelp/v1r1/topic/com.ibm.itsmc.doc/baclients.html>.

8.2.7 Special DB2 Net Search Extender considerations

If the DB2 NSE indexes were moved to new location, then you must confirm and update the NSE related configuration records in the target library server database as needed. See table 8-12.

Table 8-12

Database: <icmnlsdb>		
Table: TTEXTINDEXES		
INDEXIDENTIFIER	INDEXDIRECTORY	WORKINGDIRECTORY
<identifier id>	<index directory>	<working directory>

8.2.8 Connector INI files

If you customized any of the connectors INI files on the source system, you need to manually reapply the changes to the corresponding files on the target system. For example, if you set the values for SSL in *cmbicmsrvs.ini*, you must reapply them manually after the move.

8.3 Validate with the clients

Configure client applications to access the new library server database, and run some acceptance tests to validate that the system is functioning properly. Ensure that all business processes work the same on the target environment as they did in the source environment.

9. Upgrading the Target system to Content Manager EE v8.5

Content Manager EE V8.5 provides a brand-new configuration manager utility to upgrade from Content Manager EE V8.4.3. Use the Content Manager EE V8.5 installer to build up a configuration reference host first (which is a Content Manager EE 8.5 files repository and includes all required component's files), then run the configuration manager on the reference host. The reference host can not only be used on the new target machine, but can also be used on other machines as needed. The configuration manager provides the upgrade wizard to upgrade to Content Manager EE V8.4.3.

For more information, see:

<http://pic.dhe.ibm.com/infocenter/cmgmt/v8r5m0/topic/com.ibm.installcm.doc/dcmup109.htm>

Step 1: Upgrade to Content Manager EE V8.5

<http://pic.dhe.ibm.com/infocenter/cmgmt/v8r5m0/topic/com.ibm.installcm.doc/dcmup109.htm>

Step 2: Validate the upgrade with a client

Configure client applications to access the new library server database, and run some acceptance tests to validate that the system is functioning properly. Ensure that all business processes work as they did prior to the upgrade.

10. Samples for the system move

The following details and screenshots show two Content Manager EE system move and upgrade examples:

Table 10-1 samples

	DB2 sample		Oracle sample	
	Source system	Target system	Source system	Target system
Content Manager EE version	Content Manager EE V8.4.3.3	Content Manager EE V8.5	Content Manager EE V8.4.3.3	Content Manager EE V8.4.3.3
HW	x86	x86	x86	x86
OS version	Win 2k3 32-bit	Win 2k8 R2	Win 2k3 32-bit	RHEL 6.1 64-bit
DB version	V9.5 fp9 32-bit	V9.7 fp7 64-bit	Oracle 10.2.0.5 32-bit	Oracle 11.2.0.3 64-bit
WebSphere Application Server version	WebSphere Application Server 6.1 32-bit	WebSphere Application Server 8.0 64-bit	WebSphere Application Server 6.1 32-bit	WebSphere Application Server 8.0 64-bit
Tivoli Storage Manager	6.3 32-bit	6.3.2 64-bit	N/A	N/A
NSE	V9.5 fp9 32-bit	V9.7 fp7 64-bit	N/A	N/A

10.1 DB2 sample

This sample outlines the process for moving a Content Manager EE Version 8.4.3.3 system from a Microsoft Windows Server 2003 32-bit environment to a Microsoft Windows Server 2008 R2 environment with a Content Manager EE software version upgrade to Version 8.5 on the new server.

10.1.1 Collecting the configuration information of source system

Collect the source machine information on your source system as outlined in table 10-2.

Table 10-2 basic information on source

Software information on source system	
OS version	Windows server 2003 32-bit
Hostname	vmwin2k3-32bit
DB2 version	DB2 v9.5fp9 ESE 32-bit
DB2 Product Home	C:\Program Files\IBM\SQLLIB
DB2 Instance	DB2

DB2 Instance admin	db2admin
DB2 NSE version	DB2_v95fp9 GA
WebSphere version	IBM WebSphere Application Server 6.1.0.33
WebSphere profile	AppSrv01
Content Manager EE system information on source system	
Content Manager EE version	8.4.3.3
Database components	Library server Resource manager
Other components	Resource manager application server System administration client Connectors Toolkits and samples Web services
Directory name (IBMCROOT)	C:\Program Files\IBM\db2cmv8
Working directory (Working DIR)	C:\Program Files\IBM\db2cmv8
Resource manager count	1
Library server configuration information on source	
Library server Name	icmnlsdb
Schema name	icmadmin
Administration ID	icmadmin
Password	password
Connection ID	icmconct
Password	password
Enable unicode	YES
Enable for LDAP (optional)	NO
Library server ID	1
Library server transaction ID duration	180
Database port	50000
NSE enable	YES
NSE index directory	C:\Program Files\IBM\SQLLIB\db2ext\indexes\node0000
Resource manager database configuration information	
Resource manager database name	rldb
Administration ID	rmadmin
Password	password
Tivoli Storage Manager volume	DISK
Tivoli Storage Manager client installation path	C:\Program Files\Tivoli\TSM
Tivoli Storage Manager option file	C:\Program Files\Tivoli\TSM\baclient\dsm.opt
File System volume	C_nolabel
File System volume location	C:\bosdata
Resource manager application configuration information	
Resource manager Web application	icmrm

name	
Resource manager Web application context root	/icmrm
HTTP port	9080
WebSphere Application Server administrative user	SYSTEM
HTTPS port	9443
Web services configuration information	
Web services application name	cmwebsvc
HTTP port	9081
HTTPS port	9444
eClient configuration information	
eClient name	eClient
HTTP port	9082
HTTPS port	9445

10.1.2 Preparing and setting up the target system

10.1.2.1 System setting

Prepare the operating system

Table 10-3 Base information on target system

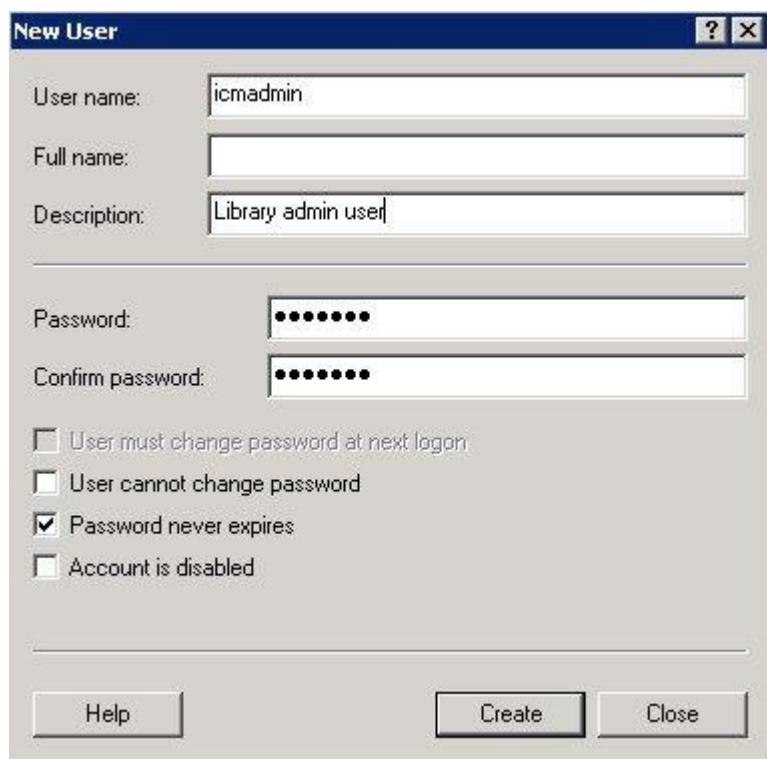
Operating system version	Windows server 2008 R2
Host name	vmwin2k8r2

Create the icmadmin, rmadmin, and icmconct users

Create users as described in the following steps, and make sure they have the same passwords used on the source system (ensure that user ID case sensitivity also matches the source system):

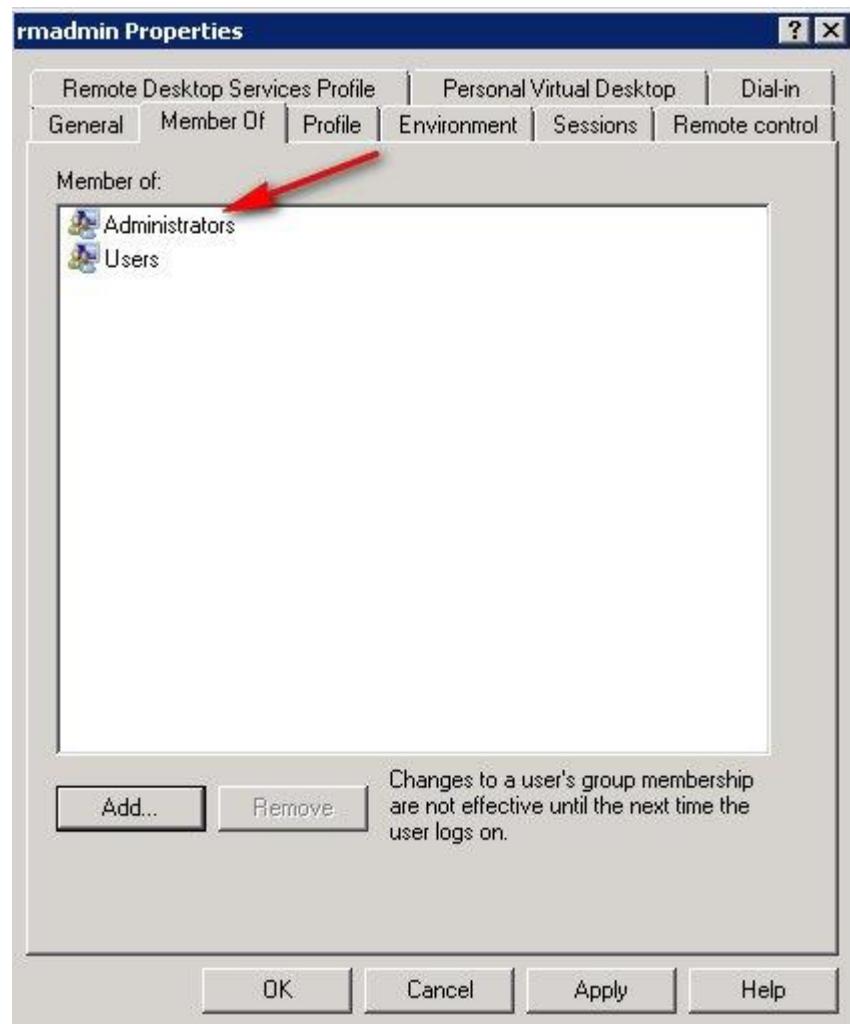
Right click the **My computer->Server->Manager->Configuration->Local Users and Groups->Users->New User**, and create the icmadmin, rmadmin, icmconct users as seen in figure 10-1. Use the same passwords as the source system.

Fig 10-1 create icmadmin user example.



After users have been created, add the icmadmin and rmadmin users to the administrators group as seen in figure 10-2.

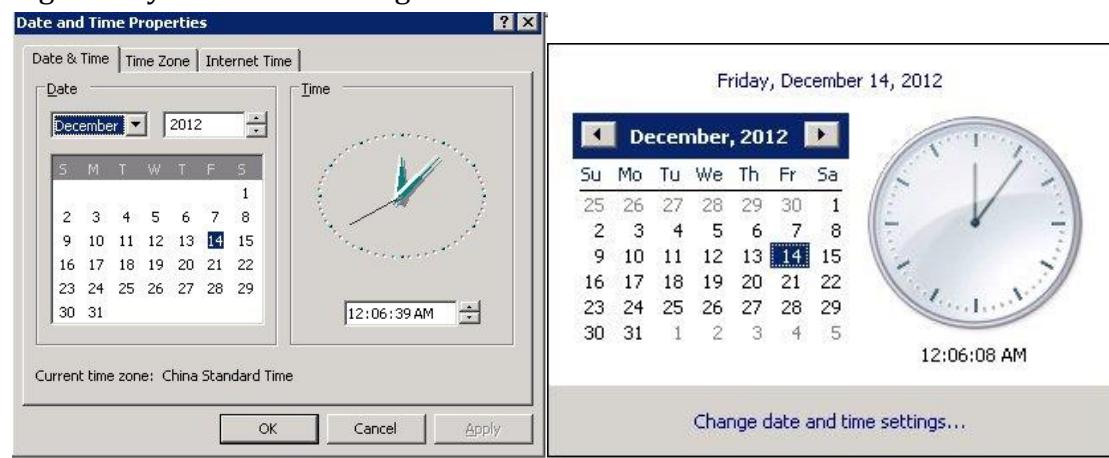
Fig 10-2 add icmadmin as administrators user



Synchronize system time

Make sure the system time is synchronized between the target and source servers. A time difference of one minute or less is acceptable.

Fig 10-3 Synchronize the target time with the source



Source

Target

10.1.2.2 DB2 Net Search Extender and Tivoli Storage Manager settings

Install DB2 NSE and Tivoli Storage Manager client on the target, and keep the configuration consistent with what was used on the source.

Table 10-4 DB2 NSE and Tivoli Storage Manager client configuration information from the target.

DB2 version	DB2 v9.7fp7 ESE 64-bit
DB2 product home	C:\Program Files\IBM\SQLLIB
DB2 instance	DB2
DB2 instance administrator	db2admin
Database port	50000
DB2 NSE version	DB2 v97fp7 GA
DB2 NSE home	C:\Program Files\IBM\SQLLIB\db2ext
Tivoli Storage Manager client installation path	C:\Program Files\Tivoli\TSM

10.1.2.3 WebSphere Application Server settings

Install WebSphere Application Server on the target, and use the same HTTP and HTTPS ports as the source.

Table 10-5 WebSphere Application Server configuration information on target

WebSphere Application Server version	IBM WebSphere Application Server 8.0.0.4
WebSphere Application Server home	C:\Program Files (x86)\ibm\WebSphere\AppServer
Application server profile home	C:\Program Files (x86)\ibm\WebSphere\AppServer\profiles\AppSrv01 C:\Program Files (x86)\ibm\WebSphere\AppServer\profiles\AppSrv02
HTTP port number	9080 9081
HTTPS port number	9443 9444
Administrative user	SYSTEM

10.1.2.4 Installing Content Manager EE V8.4.3.3 files on the target

Because the target system level is Content Manager EE 8.5, the unsupported components (connectors, toolkit and samples for Federated and OnDemand, eClient, and Information Center) will not be moved. Their files will not be installed during this step.

Install Content Manager EE V8.4.3 base files:

1. Run install_CM.bat.

2. Respond to the screen prompts as indicated in table 10-6..

Table 10-6 Content Manager EE V8.4.3 base installation

Screen	Action
Install IBM Content Manager EE V8.4.03	Select: " I accept both the IBM and the non-IBM terms " Click Next
Install Destination	C:\Program Files\IBM Click Next
Product Components	Select: Library server Resource manager Resource manager application System administration client Click Next
Server Database Type	Select: DB2 Universal Database™ Click Next
Installation Summary	Click Next
Installation Complete	De-select: Run the configuration wizard Click Finish

Install Information Integrator for Content V8.4.3 base files

1. Run `install_II4C.bat`.

2. Respond to the screen prompts as indicated in table 10-7..

Table 10-7 Information Integrator for Content V8.4.3 base install

Screen	Action
Install IBM Content Manager EE v8.4.03	Select: " I accept both the IBM and the non-IBM terms " Click Next
Install Destination	Click Next

Product Components	Select: Web services server Connectors: IBM Content Manager Version 8 connector ImagePlus for OS/390 IBM Content Manager for AS/400 Connector
	Toolkits and Samples IBM Content Manager Version 8 Java connector toolkit IBM Content Manager Version 8 C++ connector toolkit Web Services java connector toolkit ImagePlus for OS/390 Java connector toolkit ImagePlus for OS/390 C++ connector toolkit IBM Content Manager for AS/400 V5 Java connector toolkit
	Click Next
Server Database Type	Select: DB2 Universal Database™
	Click Next
Installation Summary	Click Next
Installation Complete	De-select: Run the configuration Wizard
	Click Finish

Apply Content Manager EE 8.4.3 Fix Pack 3

1. **Run installUpdate.bat.**
2. Respond to the screen prompts as indicated in table 10-8.

Table 10-8 FP3 install

Screen	Action
Welcome	Click Next
Install IBM Content Manager EE v8.4.03.300	Select: " I accept both the IBM and the non-IBM terms " Click Next
Products to components	Click Next
Ready to Begin Install	Click Next
Installation Summary	Click Finish

Enter the CMLEVEL command as shown in figure 10-4.

Fig 10-4 CMLEVEL for Content Manager EE V8.4.3.3 installation only

```
C:\Users\Administrator>cmlevel -l

Products installed:
Content Manager          + 8.4.03.300 253_840303
lsrte + 8.4.03.300 253_840303
rmdb + 8.4.03.300 253_840303
rmas + 8.4.03.300 253_840303
sadm + 8.4.03.300 253_840303
ictr + 8.4.03.300 253_840303
conn + 8.4.03.300 253_840303
icn + 8.4.03.300 253_840303
Information Integrator for Content + 8.4.03.300 253_840303
wsrv + 8.4.03.300 253_840303
vi400 + 8.4.03.300 253_840303
icn + 8.4.03.300 253_840303
ip390 + 8.4.03.300 253_840303
icmj + 8.4.03.300 253_840303
icmc + 8.4.03.300 253_840303
vi400j + 8.4.03.300 253_840303
vi400c + 8.4.03.300 253_840303
ip390j + 8.4.03.300 253_840303
ip390c + 8.4.03.300 253_840303
wsrvj + 8.4.03.300 253_840303
wsrvvc + 8.4.03.300 253_840303
conn + 8.4.03.300 253_840303

Products configured:
C:\Users\Administrator>_
```

10.1.3 Moving data from the source system to the target system

10.1.3.1 Stop all Content Manager EE system services on source

Make sure all resource manager migrator, replicator, and deletion tasks have already completed so that no tasks are pending. Make sure all results are 0 before proceeding.

Migrator:

Enter the following commands to check for pending resource manager migration tasks.

```
> db2 connect to rmdb user rmadmin using password
> db2 "SELECT COUNT(*) FROM RMADMIN.RMMIGRATIONTASKS"
```

fig 10-6: Migrator check result

```
C:>db2 "SELECT COUNT<*> FROM RMADMIN.RMMIGRATIONTASKS"
1
-----
0
1 record(s) selected.
```

Replicator:

Enter following commands to check for pending resource manager replication tasks:

```
> db2 connect to rmdb user rmadmin using password
> db2 "SELECT COUNT(*) FROM RMADMIN.RMREPLICATION"
```

Fig 10-7 Replicator check result

```
C:\>db2 "SELECT COUNT(*) FROM RMADMIN.RMREPLICATION"
1
-----
0
1 record(s) selected.
```

Deletion:

Enter the following commands to check for pending deletion tasks:

```
> db2 connect to icmnlsdb user icmadmin using password
> db2 "SELECT COUNT(*) FROM ICMADMIN.ICMSTITEMSTODELETE"
```

Fig 10-8 Deletion check results from library server database

```
C:\>db2 "SELECT COUNT(*) FROM ICMADMIN.ICMSTITEMSTODELETE"
1
-----
0
1 record(s) selected.
```

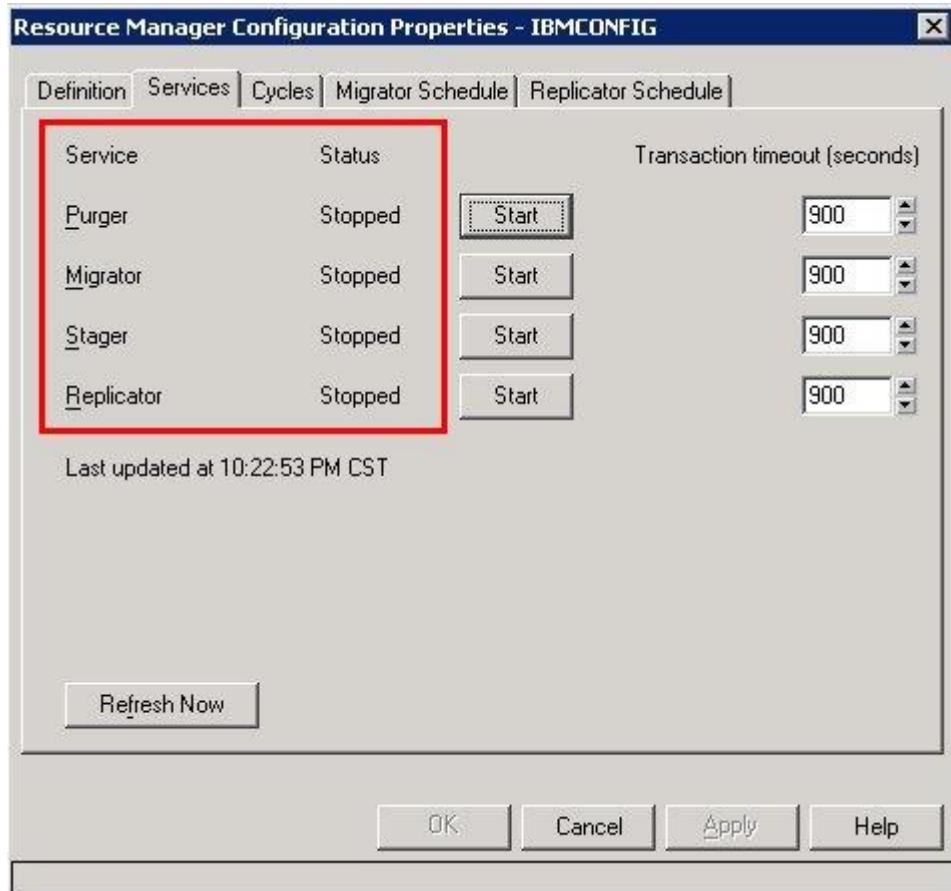
```
> db2 connect to rmdb user rmadmin using password
> db2 "SELECT COUNT(*) FROM RMADMIN.RMOBJECTS WHERE
OBJ_STATUS='D'"
```

Fig 10-9 Deletion check results from resource manager database

```
C:\>db2 "SELECT COUNT(*) FROM RMADMIN.RMOBJECTS WHERE OBJ_STATUS='D'"
1
-----
0
1 record(s) selected.
```

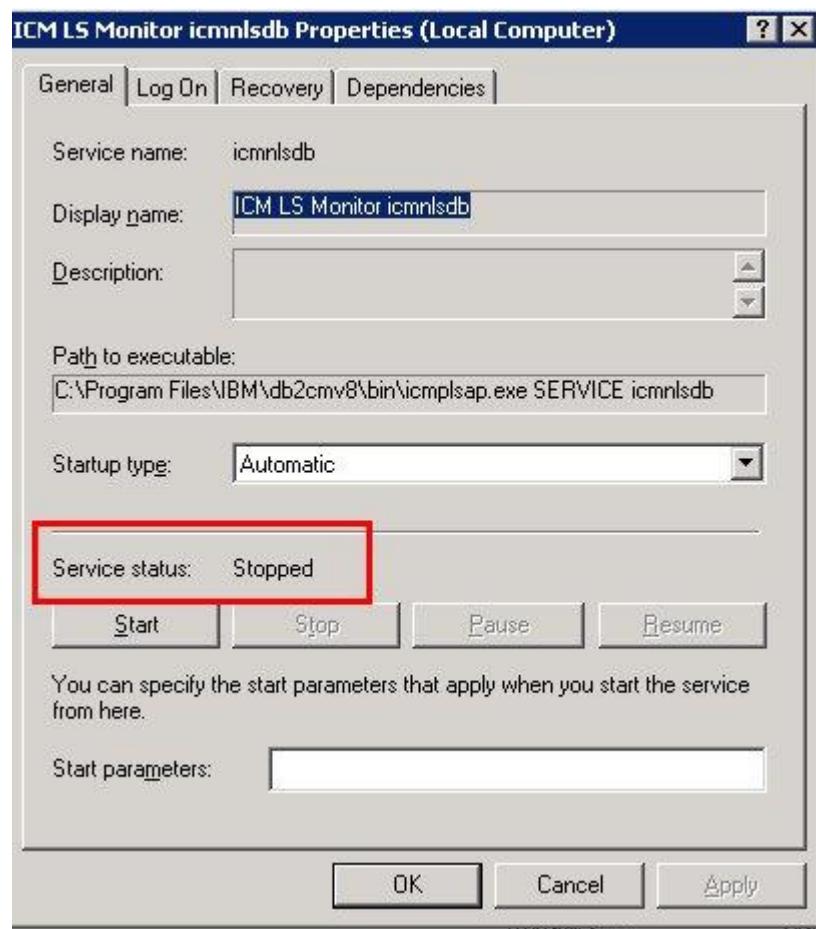
Stop resource manager services using the Content Manager EE system administration client

Fig 10-10 stopping resource manager purger, migrator, stager, and replicator services.



Make sure that the library server monitor service is stopped.

Fig 10-11 Library server monitor service stopped



1. Enter the following commands to get the DB2 Net Search Extender index table names:

```
> db2 "SELECT LOGTABLENAME from DB2EXT.TTEXTINDEXES"
```

Fig 10-12 Text index log table names

```
C:\>db2 "SELECT LOGTABLENAME from DB2EXT.TTEXTINDEXES"  
LOGTABLENAME  
-----  
TLOGIX025423  
TLOGIX034423  
TLOGIX064923  
TLOGIX075523  
TLOGIX094923  
TLOGIX134923  
TLOGIX154923  
TLOGIX194923  
TLOGIX234923  
TLOGIX264923  
TLOGIX334923  
TLOGIX374923  
TLOGIX414923  
TLOGIX454923  
TLOGIX455123  
TLOGIX494923  
TLOGIX564823  
TLOGIX594823  
  
18 record(s) selected.
```

2. Enter the following command for each LOGTABLE to make sure that the results are 0.

```
> db2 "SELECT COUNT(*) from DB2EXT.TLOGTABLE"  
Example: db2 "SELECT COUNT(*) from DB2EXT.TLOGIX594823"
```

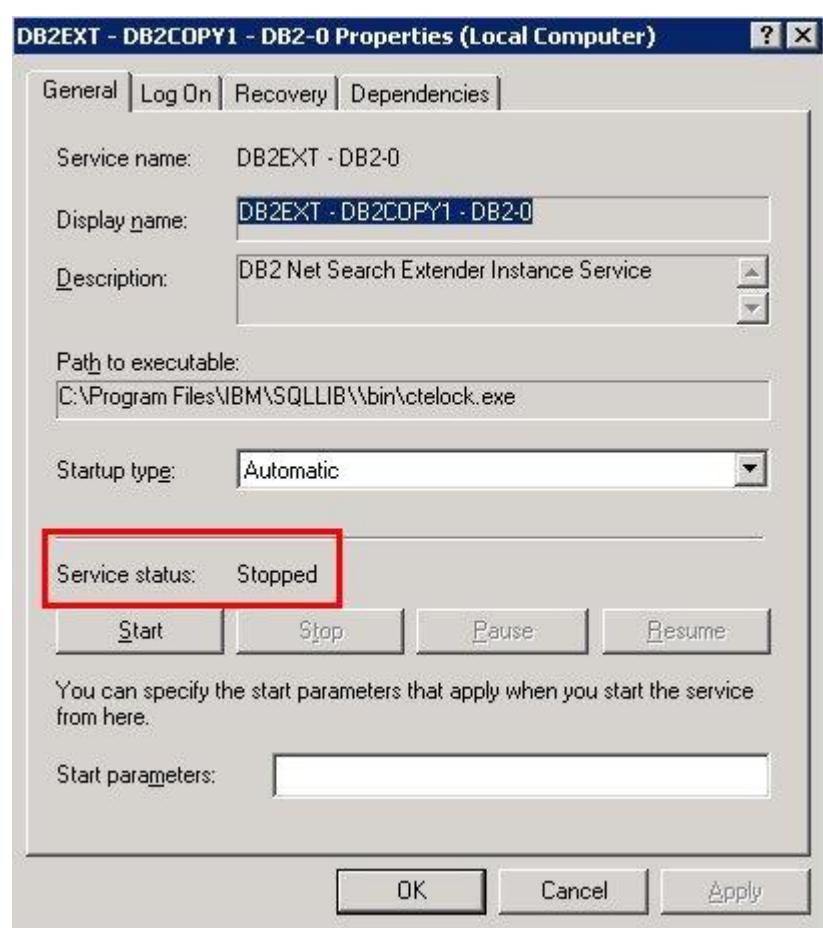
Fig 10-13 Text index task record

```
C:\>db2 "SELECT COUNT(*) from DB2EXT.TLOGIX594823"  
1  
-----  
0  
1 record(s) selected.
```

Make sure that the DB2 Net Search Extender service is stopped.

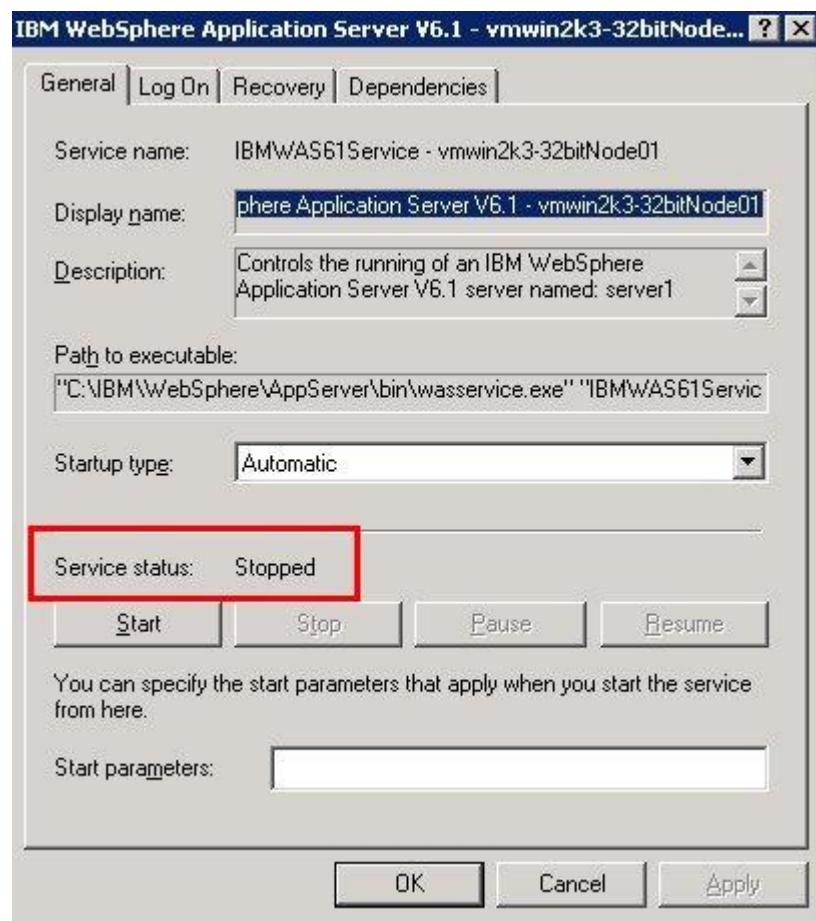
3. Stop the DB2 NSE service:

Fig 10-14 DB2 NSE service stopped



Stop the WebSphere Application Server application server service:

Fig 10-15 WebSphere Application Server application server service stopped



10.1.3.2 Back up the library server and resource manager databases on the source server

Enter the following commands on a DB2 command line:

```
> db2 force application all
DB20000I  The FORCE APPLICATION command completed successfully.
DB21024I  This command is asynchronous and might not be effective immediately.
> db2 terminate
DB20000I  The TERMINATE command completed successfully.
> db2stop
SQL1064N  DB2STOP processing was successful.
> db2start
SQL1063N  DB2START processing was successful.
> db2 restart database icmnlldb
DB20000I  The RESTART DATABASE command completed successfully.
> db2 restart database rmdb
DB20000I  The RESTART DATABASE command completed successfully.
Backup the library server database
> db2 backup db icmnlldb to C:\database_backup
```

```
Backup successful. The timestamp for this backup image is : 20130114213937
```

```
Backup the resource manager database
```

```
> db2 backup db rmdb to C:\database_backup
```

```
Backup successful. The timestamp for this backup image is : 20130114214231
```

Now the library server and resource manager databases have been backed up in the C:\database_backup directory.

10.1.3.3 Copy data files

1. Copy the DB2 NSE text index files from the source C:\Program Files\IBM\SQLLIB\db2ext\index directory to the target C:\Program Files\IBM\SQLLIB\db2ext\index directory.
2. Copy the database backups from the source C:\database_backup directory to the target C:\database_backup directory.
3. Copy File System volume C_nolabel data from the source C:\lbosdata directory to the target C:\lbosdata directory.
4. Copy the Tivoli Storage Manager option file from the source C:\Program Files\Tivoli\TSM\baclient\dsm.opt directory to the target C:\Program Files\Tivoli\TSM\baclient\dsm.opt directory.

10.1.3.4 Restore the library server database and resource manager database

Enter the following commands to restore the databases on the target:

```
> db2 force application all
```

```
DB20000I The FORCE APPLICATION command completed successfully.
```

```
DB21024I This command is asynchronous and might not be effective immediately.
```

```
> db2 terminate
```

```
DB20000I The TERMINATE command completed successfully.
```

```
> db2stop
```

```
SQL1064N DB2STOP processing was successful.
```

```
> db2start
```

```
SQL1063N DB2START processing was successful.
```

```
> db2 restore db icmnlldb from C:\database_backup
```

```
DB20000I The RESTORE DATABASE command completed successfully.
```

```
> db2 restore db rmdb from C:\database_backup
```

```
DB20000I The RESTORE DATABASE command completed successfully.
```

Enter the following commands to migrate the NSE text search indexes on the target:

```
> db2text stop
```

CTE0001 Operation completed successfully.

> db2text start

CTE0001 Operation completed successfully.

> db2extmdb icmnlsdb

DB2EXTMDB - DB2 Net Search Extender migration

CTE0922 The migration log file is "C:\PROGRA~1\IBM\SQLLIB\db2ext\db2extmicmnlsdb.log".

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CTE0350 Instance "DB2" uses DB2 Net Search Extender code release "db2_v97fp7 GA"

with level identifier "s121002 itlR3-90 COSLibR5-29" and informational tokens "

10/02/12" "16:42:10".

CTE0923 Migration from "NSE V9.5.0" to "NSE V9.7.0".

CTE0936 The database "ICMNLSDB" has been migrated to the current release.

10.1.3.5 Tivoli Storage Manager server connection verification

Start the Tivoli Storage Manager Administrative Command Line utility on the target and provide the Tivoli Storage Manager user ID and password:

IBM Tivoli Storage Manager

(c) Copyright by IBM Corporation and other(s) 1990, 2007. All Rights Reserved.

Enter your user id: admin

Enter your password: *****

Session established with server VMREG2: Windows

Server Version 6, Release 2, Level 0.0

Enter the following SQL command to verify that the objects can be accessed:

tsm: VMREG2>select * from contents where FILE_NAME like '%DISK%'

The results should be similar to the following:

VOLUME_NAME: C:\TIVOLI\Tivoli Storage Manager\SERVER1\2GBDISK.DATA

NODE_NAME: CLIENTNODE02

TYPE: Bkup

FILESPACE_NAME: /ICM/rmdb/00003/DISK

FILE_NAME: \DISK\1.A1001001A11C15A11705B59430.V1

AGGREGATED: No

FILE_SIZE: 349

SEGMENT:

CACHED: YES

FILESPACE_ID: 2

FILESPACE_HEXNAME: 2F49434D2F726D64622F30303030332F4449534B

FILE_HEXNAME:
5C4449534B5C4C312E41313030313030314131314331354131313730354-235393433302E5631
BITFILE_ID: 1026
OBJECT_ID: 1026
COPIED: No
DAMAGED: No

10.1.4 Configuring Content Manager EE on the target system

10.1.4.1 Configuring Content Manager EE

Open a command prompt and switch into C:\Program Files\IBM\db2cmv8\bin. Then start the Content Manager configuration wizard batch file:

1. Run config_CM.
2. Respond to the screen prompts as follows:

Table 10-9 Content Manager EE 8.4.3.3 configuration

Screen	Action
Configure IBM Content Manager EE v8.4.03.000	Select: “ Add configuration ” Click Next
Product Components	Select: Library server Resource manager Resource manager application System administration client Click Next
Server Database Type	Select: DB2 Universal Database™ Click Next
Working Directory	Working Directory: C:\Program Files\IBM\db2cmv8 Click Next
System Information	Host name : vmwin2k8r2 Click Next
DB2 Database Product Directory	DB2 Database Product Directory: C:\Program Files\IBM\SQLLIB Click Next
Library server database	Select: Use existing database Click Next
Library server database	Library server database name: icmnlldb Library server schema name: icmadmin Use existing user: Select Use existing user Library server administration ID: icmadmin Password: password Confirm password: password Database port: 50000

	Click Next
Bit Width	Select: 64 bit
	Click Next
Resource manager database	Select: Use existing database
	Click Next
Resource manager database	<p>Resource manager database name: rldb</p> <p>Resource manager schema name: rmadmin</p> <p>Use existing user: Select Use existing user</p> <p>Resource manager administration ID: rmadmin</p> <p>Password: password</p> <p>confirm password: password</p> <p>Database port: 50000</p>
	Click Next
Resource manager application	<p>Application server home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer</p> <p>Application profile home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer\profiles\AppSrv01</p> <p>Unselect: Application server security enable</p>
	Click Next
Resource manager application	<p>Resource manager application name: icrmr</p> <p>Resource manager application context root: /icrmr</p> <p>Select: specify the JDBC path for the WebSphere application Server variable</p> <p>Unselect: Enable LDAP</p>
	Click Next
WebSphere Application Server variables	<p>WebSphere variable value for DB2_UNIVERSAL_JDBC_PATH: C:\Program Files\IBM\SQLLIB\java</p>
	Click Next
Resource manager application deployment target	<p>Select: Application Server</p>
	Click Next
Application server information for resource manager application	<p>Application server node name or application server name: Select : vmwin2k8r2Node01/server1</p>
	Click Next
HTTP connection information for resource manager application	<p>Hostname: vmwin2k8r2</p> <p>HTTP port: 9080</p> <p>HTTPS port: 9443</p>
	Click Next
Resource manager database	<p>Resource manager volume mount point: C:\</p> <p>Resource manager staging directory: C:\staging</p>
	Click Next
System administration client	<p>Select: Local</p>
	Click Next

System administration client connection	Library server name: icmnlsdb Library server host name: vmwin2k8r2 Library server operating system: Windows Authentication Type: Server Clear all checkboxes Click Next
System administration client connection	Library server connection ID: icmconct Password: password
	Click Next
Start Configuration	Click Next
Configuration Complete	Click Finish

10.1.4.2 Configuring Information Integrator for Content

Open a command prompt and switch into C:\Program Files\IBM\db2cmv8\bin. Then run the Information Integrator for Content configuration wizard batch file:

1.Run config_II4C.

2. Respond to the screen prompts as follows:

Table 10-10 Information Integrator for Content 8.4.3.3 configuration

Screen	Action
Configure IBM Information Integrator for Content v8.4.03.000	Select: “ Add configuration ” Click Next
Product Components	Select: Web Services server Connectors: IBM Content Manager Version 8 connector ImagePlus for OS/390 IBM Content Manager for AS/400 Connector Click Next
Server Database Type	Select: DB2 Universal Database™ Click Next
Working Directory	Click Next
System Configuration files	Select: Local Click Next
IBM Content Manager Version 8 Connector	Library server name: icmnlsdb Library server host name: vmwin2k8r2 Library server operating system: Windows Authentication Type: Server Clear all checkboxes Click Next
IBM Content Manager Version 8 Connector	Library server database name: icmnlsdb Library server schema name: icmadmin Database port: 50000 Clear all checkboxes

	Click Next
IBM Content Manager Version 8 Connector	IBM Content Manager Version 8 connection ID: ic-mconct Password: password
	Click Next
Content Manager for AS/400 Connector	Server name: VI400 Host name of IP address: vi400 Port: 29000
	Click Next
Resource manager database	Select: Use existing database
	Click Next
Web services	Application server home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer Application profile home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer\profiles\AppSrv02 Unselect: Application server security enable
	Click Next
Web services	Web services application name: cmwebsvc
	Click Next
Web services deployment target	Select: Application Server
	Click Next
Application server information for Web services	Application server node name or application server name: Select : vmwin2k8r2Node02/server1
	Click Next
Start Configuration	Click Next
Configuration Complete	Click Finish

10.1.5 Matching configuration on the new system

The host name is changed between the target and source, so is necessary to check and update the hostname in the library server and resource manager databases.

Connect to the library server database as the Content Manager EE administrator,. Then run the following SQL command to check the current hostname in the library server database.

```
> db2 "SELECT INETADDR from ICMADMIN.ICMSTRESOURCEMGR where
RMNAME='rmdb'"
vmwin2k8r2
```

Connect to the resource manager database as the resource manager administrator,. Then run the following SQL command to check the current hostname in the resource manager database.

```
> db2 "SELECT SVR_HOSTNAME from RMADMIN.RMSERVER where
SVR_SERVERTYPE ='LS'"
```

vmwin2k3-32bit

The result does not match the new target system, as expected.

While still connected to the resource manager database as RMADMIN, run the following SQL command to update the resource manager hostname value:

```
> db2 "UPDATE RMADMIN.RMSERVER SET SVR_HOSTNAME='vmwin2k8r2'  
where SVR_SERVERTYPE ='LS'"  
> db2 "SELECT SVR_HOSTNAME from RMADMIN.RMSERVER where  
SVR_SERVERTYPE ='LS'"  
vmwin2k8r2
```

10.1.6 Upgrade the target system to Content Manager EE V8.5

10.1.6.1 Building the Content Manager EE V8.5 base configuration repository

Open a command prompt and switch into the Content Manager EE V8.5 base product package directory. Then run the install batch file:

1. C:\drivers>install.bat

2. Respond to the screen prompts as follows:

Table 10-11 Content Manager EE V8.5 configuration repository install

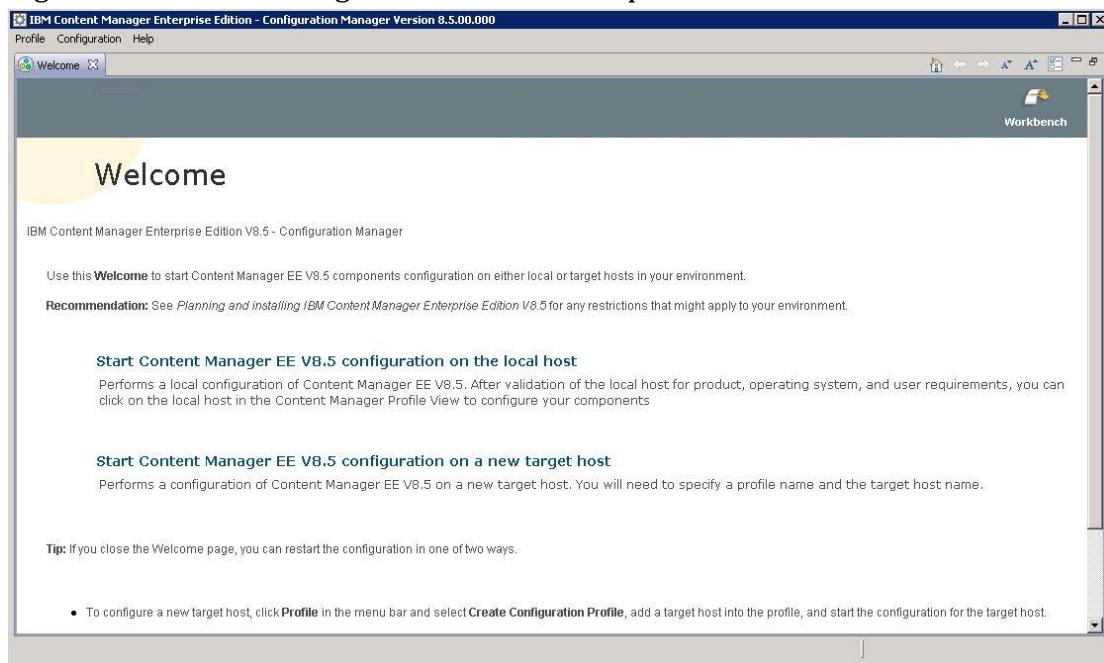
Screen	Action
IBM Content Manager EE V8.5 Language	Select: “ English ” Click OK
License Agreement	Select: “ I accept both the IBM and the non-IBM terms ” Click Next
Install Destination	C:\Program Files\IBM\cmrepository Click Next
Install Destination	Click Next
Pre-Installation Summary	Click Next
Installation Complete	De-select: Run the configuration wizard Click Done

10.1.6.2 Upgrade the target to Content Manager EE V8.5 base

Start the Content Manager EE V8.5 configuration manager and upgrade the Content Manager EE system

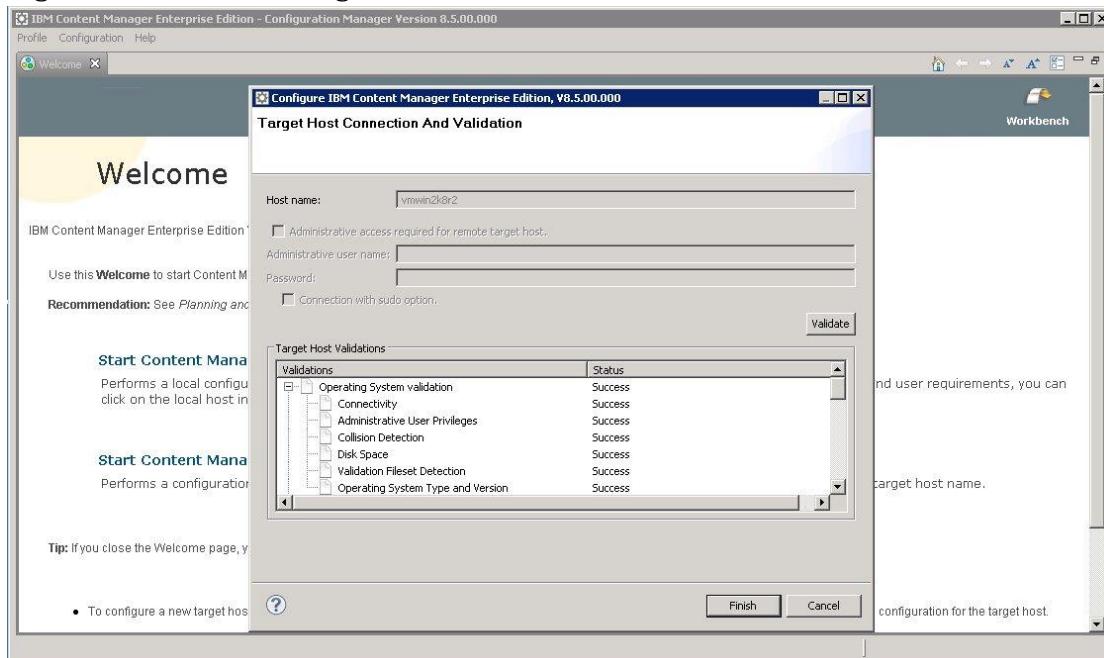
1. Run C:\Program Files\IBM\cmrepository\8.5.00.000\bin\cmcfgmgr_CM.bat.
2. Click “Start Content Manager EE V8.5 configuration on the local host” as seen in figure 10-16.

Fig 10-16 Content Manager EE V8.5 Welcome panel



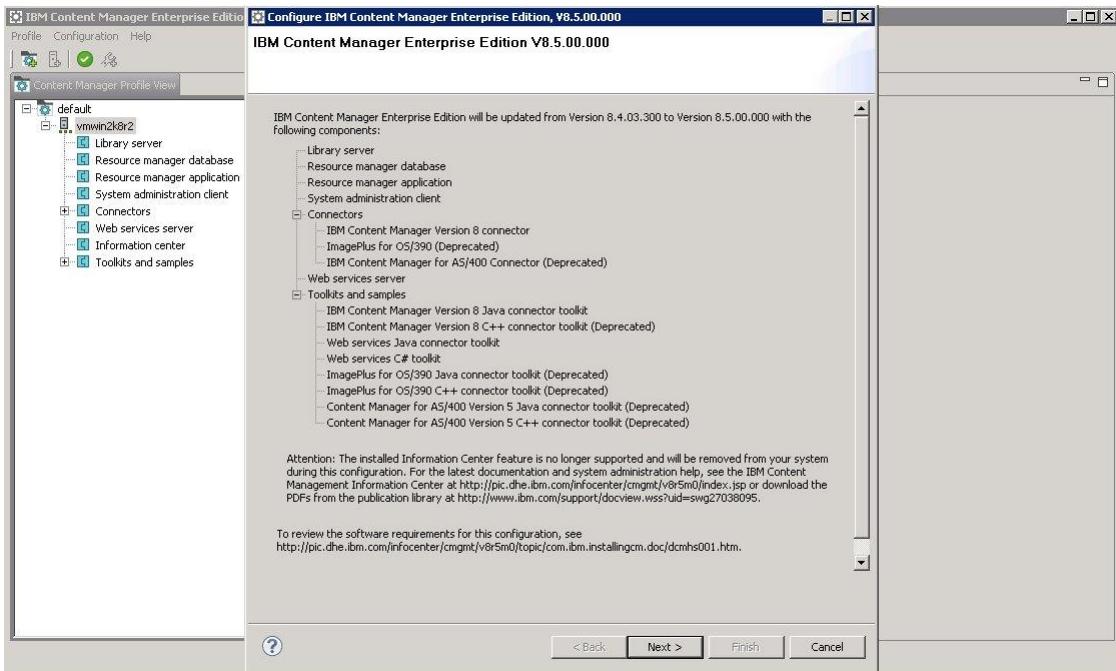
3. After the target machine validation as seen in figure 10-17, click **Finish**.

Fig 10-17 Content Manager EE v8.5 host validation



4. The configuration manager panel and upgrade wizard appears next, as seen in figure 10-18

Fig 10-18 Content Manager EE V8.5 configuration manager panel and upgrade wizard



5. Respond to the wizard prompts as follows:

Table 10-11 Content Manager EE V8.5 upgrade

Screen	Action
Features detected list	Click Next
License Type	Select Authorized User (UVU) Click Next
DB2 Database Product Directory	DB2 Database Product Directory: C:\Program Files\IBM\SQLLIB Click Next
Library server database	Library server database name: icmnlsdb Database port: 50000 Library server administration ID: icmadmin Password: password Click Next
Library server information	Library server connection ID: icmconct Password: password Click Next
Resource manager database	Resource manager database name: rmdb Database port: 50000 Resource manager admin ID: rmadmin Password: password Click Next
Resource manager application server tab	Application server home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer Application profile home directory: C:\Program Files

	(x86)\ibm\WebSphere\AppServer\profiles\AppSrv01 Unselect: Application server security enable
Resource manager application tab	Resource manager application name: icrmr Resource manager application context root: /icrmr Select: specify the JDBC path for the WebSphere application Server variable WebSphere variable value for DB2_UNIVERSAL_JDBC_PATH: C:\Program Files\IBM\SQLLIB\java Click Next
Resource manager application deployment target Tab	Select: Application Server Application server node name or application server name: Select : vmwin2k8r2Node01/server1
HTTP connection information tab	Hostname: vmwin2k8r2 HTTP port: 9080 HTTPS port: 9443 Click Next
Resource manager database	Resource manager volume mount point: C:\ Resource manager staging directory: C:\staging Click Next
Web Services Application Server Tab	Application server home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer Application profile home directory: C:\Program Files (x86)\ibm\WebSphere\AppServer\profiles\AppSrv02 De-select: Application server security enable
Web services application tab	Web services application name: cmwebsvc Click Next
Start Configuration	Click Finish
Configuration Report and Complete	Click Done

6. Enter the CMLEVEL command as shown in figure 10-19:

Fig 10-19 Content Manager EE v8.5 cmlevel result

```
C:\Users\Administrator>cmlevel -l

Products installed:
Content Manager + 8.5.00.000 321_850000
    ls rte + 8.5.00.000 321_850000
    r mdb + 8.5.00.000 321_850000
    r mas + 8.5.00.000 321_850000
    s adm + 8.5.00.000 321_850000
    c onn + 8.5.00.000 321_850000
    i cm + 8.5.00.000 321_850000
    ip390 + 8.5.00.000 321_850000
    ws rv + 8.5.00.000 321_850000
    vi400 + 8.5.00.000 321_850000
    ic m + 8.5.00.000 321_850000
    ic mc + 8.5.00.000 321_850000
    ws rv j + 8.5.00.000 321_850000
    ws rv c + 8.5.00.000 321_850000
    ip390j + 8.5.00.000 321_850000
    ip390c + 8.5.00.000 321_850000
    vi400j + 8.5.00.000 321_850000
    vi400c + 8.5.00.000 321_850000

Products configured:
Content Manager + 8.5.00.000 321_850000
    ls rte + 8.5.00.000 321_850000
    r mdb + 8.5.00.000 321_850000
    r mas + 8.5.00.000 321_850000
    s adm + 8.5.00.000 321_850000
    c onn + 8.5.00.000 321_850000
    i cm + 8.5.00.000 321_850000
    ip390 + 8.5.00.000 321_850000
    ws rv + 8.5.00.000 321_850000
    vi400 + 8.5.00.000 321_850000
```

7. Restart the Resource manager application and Web services application Web-Sphere application “server1.”

This completes the DB2 sample upgrade of the Content Manager EE system to version 8.5.

10.2 Oracle sample

This sample shows how to move a Content Manager EE 8.4.3.3 system on Windows Server 2003 32-bit and Oracle 10.2.0.5 to a new system running on Red Hat Enterprise Linux 6.1 and Oracle 11.2.0.3.

10.2.1 Collect the configuration information of source system

Collect the source machine information on source system as seen in table 10-11:

Table 10-11 basic information on source

Software information on source system	
Operating system version	Windows server 2003 32-bit
Hostname	vmwin2k3-32bit
Oracle version	Oracle 10.2.0.5 32-bit
Oracle Home	C:\oracle\product\10.2.0\db_1
WebSphere Application Server ver-	IBM WebSphere Application Server 6.1.0.33

sion	
WebSphere Application Server profile	AppSrv01
Oracle Database Information: icmnlldb	
The icmnlldb was created with Content Manager EE V8 library server DBCA template ICM_Library_Server.dbt, which is shipped with the Content Manager EE V8.4.3 product installation package. All database definitions used the predefined DBCA template with the exception of the character set.	
Database Character Set	AL32UTF8
National Character Set	AL16UTF16
Oracle Database Information: rmdb	
The rmdb was created with Content Manager EE V8 resource manager DBCA template ICM_Resource_Manager.dbt, which is shipped with the Content Manager EE V8.4.3 product installation package. All database definitions used the predefined DBCA template with the exception of the character set.	
Database Character Set	AL32UTF8
National Character Set	AL16UTF16
Content Manager EE system information on source system	
Content Manager EE version	8.4.3.3
Database components	Library server Resource manager
Other components	Resource manager application System administration client
Directory name (IBMCROOT)	C:\IBM\db2cmv8
Working directory (Working DIR)	C:\IBM\db2cmv8
Resource manager count	1
Library server configuration information on source	
Library server name	icmnlldb
Oracle listener port for library server instance	1521
Oracle net service name	icmnlldb.cn.ibm.com
Library server database administrative user	icmadmin
Password	password
Library server database connection user	icmconct
Password	password
Frequently queried large objects	ICMVFQ04
Moderately queried large objects	ICMLFQ32
Rarely queried large objects	ICMLNF32
Frequently queried small objects	ICMSFQ04
Table indexes	ICMLSNDX
Enable for LDAP (optional)	NO
Library server ID	1

Library server transaction ID duration	180
Enable text search	YES
Resource manager database configuration information	
Resource manager name	icmrm
Oracle listener port for Resource manager instance	1521
Oracle net service name	rmdb.cn.ibm.com
Resource manager administrator user	rmadmin
Password	password
Frequently queried large objects	OBJECTS
Collections	SMS
Large objects (BLOBS)	BLOBS
Specify DBREPLICAS table space information	REPLICAS
Tracking system transactions	TRACKING
Item validation	VALIDATEITM
Table Indexes	OBJIDX
File System volume	C_nolabel
File System volume location	C:\bosdata
Resource manager application configuration information	
Resource manager WebSphere Application Server application name	icmrm
Resource manager WebSphere Application Server application context root	/icmrm
HTTP port	9080
HTTPS port	9443
WebSphere Application Server administrative user	SYSTEM
Federated database configuration information	
Shared database with library server	YES
System admin database name	icmnlldb
Oracle listener port for system administrative database instance	1521
Oracle net service name	icmnlldb.cn.ibm.com
System admin database administrative user	icmadmin
Password	password
System administrative database connection user	icmconct
Password	password
Frequently queried large objects	ICMVFQ04

Moderately queried large objects	ICMLFQ32
Rarely queried large objects	ICMLNF32
Frequently queried small objects	ICMSFQ04
Table indexes	ICMLSNDX

10.2.2 Prepare and set up the target system

10.2.2.1 System setting

Prepare the operating system

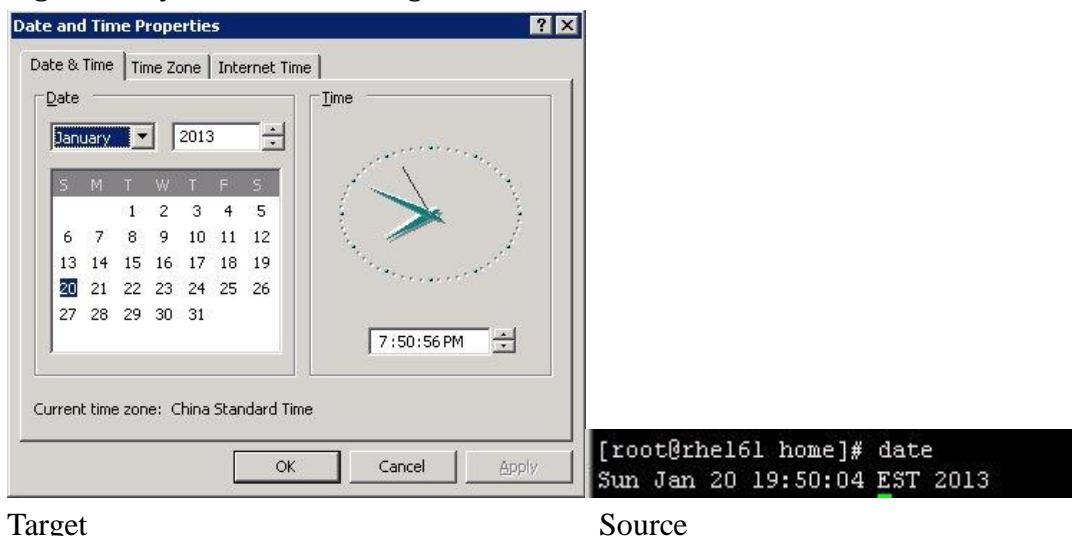
Table 10-12 Base information on target system

Operating system version	Red Hat Enterprise Linux 6.1 64-bit
Hostname	rhel61

Synchronize system time

Make sure the system time is synchronized between the target and source systems. A time difference of 1 minute or less is acceptable.

Fig 10-20 Synchronize the target time with the source



10.2.2.2 Oracle setting

Install Oracle version 11.2.0.3 64-bit on the target, and create the databases icmnlldb and rmdb to match the source database names.

Table 10-13 Oracle setting on the target.

Oracle version	Oracle 11.2.0.3 64-bit
Oracle Home	/oracle/product/11.2.0.3
Oracle user	oracle
Oracle group	dba
Oracle Database Information: icmnlldb	
Create the icmnlldb database using the DBCA ICM_Library_Server_11g.dbt tem-	

plate, which is shipped with the Content Manager EE V8.4.3 product installation package. All database definitions use the predefined DBCA templates with the exception of the character set.

Database Character Set	AL32UTF8
National Character Set	AL16UTF16
Oracle net service name	icmnlsdb.cn.ibm.com
All users' Password	password

Oracle Database Information: rmdb

Create the resource manager database using the DBCA ICM_Resource_Manager_11g.dbt template, which is shipped with the Content Manager EE V8.4.3 product installation package. All database definitions use the predefined DBCA templates with the exception of the character set.

Database Character Set	AL32UTF8
National Character Set	AL16UTF16
Oracle net service name	rmdb.cn.ibm.com
All users' Password	password

10.2.2.3 WebSphere Application Server setting

Install WebSphere Application Server on the target.

Table 10-14 WebSphere Application Server configuration information on target

WebSphere Application Server version	IBM WebSphere Application Server 8.0.0.4
WebSphere Application Server home	/opt/IBM/WebSphere80/AppServer
Application server profile home	/opt/IBM/WebSphere80/AppServer/profiles/AppSrv01
Http port number	9082
Https port number	9445
Admin user	root

10.2.2.4 Installing Content Manager EE V8.4.3.3 files on the target

Install the Content Manager EE V8.4.3 base files:

1. # install_CM

2. Respond to the screen prompts as seen in table 10-15 below:

Table 10-15 Content Manager EE V8.4.3 base installation

Screen	Action
Install IBM Content Manager EE V8.4.03	Select: " I accept both the IBM and the non-IBM terms "
	Click Next
Install Destination	C:\Program Files\IBM
	Click Next

Product Components	Select: Library server Resource manager Resource manager application System administration client
	Click Next
Server Database Type	Select: Oracle Database
	Click Next
Installation Summary	Click Next
Installation Complete	De-select: Run the configuration wizard
	Click Finish

Install Information Integrator for Content V8.4.3 base files

1. `# install_II4C`

2. Respond to the screen prompts as seen in table 10-16 below:

Table 10-16 Information Integrator for Content V8.4.3 base installation

Screen	Action
Install IBM Content Manager EE V8.4.03	Select: " I accept both the IBM and the non-IBM terms "
	Click Next
Install Destination	Click Next
Product Components	Select: System Administration Database System Administration Client Connectors: IBM Content Manager Version 8 connector Toolkits and Samples IBM Content Manager Version 8 java
	Click Next
Server Database Type	Select: Oracle Database
	Click Next
Installation Summary	Click Next
Installation Complete	De-select: Run the configuration wizard
	Click Finish

Apply Content Manager EE V8.4.3 Fix Pack 3

1. `# installUpdate`

2. Respond to the screen prompts as seen in table 10-17 below:

Table 10-17 FP3 install

Screen	Action
Welcome	Click Next
Install IBM Content Manager EE v8.4.03.300	Select: " I accept both the IBM and the non-IBM terms "
	Click Next
Products to components	Click Next
Ready to Begin Install	Click Next
Installation Summary	Click Finish

Create ICMPORSP

1. Enter the following command as the root user to create the required ICMPORSP link:

```
[root@rhel61 lib]# ln -f -s /opt/IBM/db2cmv8/lib/lib64/ora11g/ICMPORSP  
/opt/IBM/db2cmv8/lib/ICMPORSP
```

Confirm that the link is correct by issuing the following command:

```
[root@rhel61 lib]# ls -l /opt/IBM/db2cmv8/lib/ICMPORSP  
lrwxrwxrwx. 1 root root /opt/IBM/db2cmv8/lib/ICMPORSP ->  
/opt/IBM/db2cmv8/lib/lib64/ora11g/ICMPORSP
```

2. Create the ICMPORSP library

Enter the following command from the PL/SQL command line as the Oracle administrative user:

```
SQL>create or replace library icmporsp as '/opt/IBM/db2cmv8/lib/ICMPORSP';  
SQL>/
```

10.2.3 Moving data from the source system to the target system

10.2.3.1 Stop all Content Manager EE system services on the source server

See the steps in section 10.1.3.1.

10.2.3.2 Export library server and resource manager database tables on source

Enter the following command to export the library server tables in user mode. The user name is icmadmin, and the dmp file name is icmadmin.dmp:

```
C:\data>exp icmadmin/password owner=icmadmin rows=y indexes=y compress=n  
buffer=65536 feedback=100000 file=icmadmin.dmp log=icmadmin.log
```

Export results:

Export terminated successfully with warnings.

Enter the following command to export the resource manager database tables in user mode. The user name is rmadmin, and the dmp file name is rmadmin.dmp:

```
C:\data>exp rmadmin/password owner=rmadmin rows=y indexes=y compress=n
```

```
buffer=65536 feedback=100000 file=rmadmin.dmp log=rmadmin.log
```

Export results:

```
Export terminated successfully with warnings.
```

Fig 10-21 Database Export Output

Name	Size	Type	Date Modified	Attributes
rmadmin.log	6 KB	Text Document	1/30/2013 1:17 AM	A
rmadmin.dmp	202 KB	DMP File	1/30/2013 1:17 AM	A
icmadmin.log	44 KB	Text Document	1/30/2013 1:13 AM	A
icmadmin.dmp	24,746 KB	DMP File	1/30/2013 1:13 AM	A

10.2.3.3 Transfer the data files from source to target

1. Transfer the icmadmin.dmp and rmadmin.dmp files from the source server's C:\data directory into the target server's /home/oracle/data directory. The data transfer type is binary. The /home/oracle/data directory owner is oracle, and its group is dba. Change the icmadmin.dmp and rmadmin.dmp file owner to oracle, the group is dba, and set file permissions to 755.
2. Transfer File System volume C_nolabel data from the source server's C:\lbosdata directory to the target server's /home/lbosdata directory. The data transfer type is binary.

10.2.3.4 Import library server and resource manager database tables on target

Enter the following command to import the library server tables in user mode. The user name is icmadmin, and the dmp file name is icmadmin.dmp:

```
[oracle@rhel61 ~]$ imp icmadmin/password fromuser=icmadmin touser=icmadmin  
rows=y indexes=y commit=y buffer=65536 feedback=100000 ignore=n  
file=/home/oracle/data/icmadmin.dmp log=icmadminimp.log
```

Export results:

```
Import terminated successfully with warnings.
```

Enter the following command to import the resource manager database tables in user mode. The user name is rmadmin, and the dmp file name is rmadmin.dmp:

```
[oracle@rhel61 ~]$ imp rmadmin/password fromuser=rmadmin touser=rmadmin
rows=y indexes=y commit=y buffer=65536 feedback=100000 ignore=n
file=/home/oracle/data/rmadmin.dmp log=rmadminimp.log
```

Import results:

Import terminated successfully with warnings.

10.2.4 Configure Content Manager EE on the target system

10.2.4.1 Configure Content Manager EE

Switch into the /opt/IBM/db2cmv8/bin directory and enter the Content Manager EE configuration wizard shell script command as root user:

1. # config_CM

2. Respond to the screen prompts as seen in table 10-18 below:

Table 10-18 Content Manager EE 8.4.3.3 configuration

Screen	Action
Configura IBM Content Manager EE v8.4.03.300	Select: " Add configuration " Click Next
Product Components	Select: Library server Resource manager Resource manager application System administration client Click Next
Server Database Type	Select: Oracle Database Click Next
Oracle Database Version	Select: 11g Click Next
Create or identify an administrative user	Select: Create new user Administrative user name: ibmcadm Password: password confirm password: password Administrative user group: ibmcgrp Click Next
Information popup	Click OK
System Information	Host name: rhel61 Click Next
Oracle Home Directory	Oracle Home Directory: /oracle/product/11.2.0.3 Click Next
Library server information	Library server name: ICMNLSDB Oracle listener port for library server instance: 1521 Oracle service name: icmnlldb.cn.ibm.com De-select: Share the database with the resource manager

	Click Next
JDBC Information	JDBC connection string: jdbc:oracle:thin:@//rhel61:1521/icmnlldb.cn.ibm.com Library server administrative user: icmadmin Password: password
	Click Next
Library server connection user information	Library server database connection user: icmconct Password: password
	Click Next
Share database warning popup	Click: YES
Oracle Table Space Parameters	Frequently queried large objects: ICMVFQ04 Moderately queried large objects: ICMLFQ32 Rarely queried large objects: ICMLNF32 Frequently queried small objects: ICMSFQ04 Table indexes: ICMLSNDX
Resource manager information	Resource manager name: icrmr Oracle listener port for library server instance: 1521 Oracle service name: rmdb.cn.ibm.com
	Click Next
JDBC Information	JDBC connection string: jdbc:oracle:thin:@//rhel61:1521/rmdb.cn.ibm.com Library server administrative user: rmadmin Password: password
	Click Next
Oracle Table Space Parameters	Frequently queried large objects: OBJECTS Collections: SMS Large objects (BLOBS): BLOBS Specify DBREPLICAS table space information: REPLICAS Tracking system transactions: TRACKING Item validation: VALIDATEITM Table Indexes: OBJINDX
Resource manager application	Application server home directory: /opt/IBM/WebSphere80/AppServer Application profile home directory: /opt/IBM/WebSphere80/AppServer/profiles/AppSrv01 De-select: Application server security enable
	Click Next
Resource manager application	Resource manager application name: icrmr Resource manager application context root: /icrmr Select: Specify the JDBC path for the WebSphere application Server variable De-select: Enable LDAP

	Click Next
WebSphere Application Server variables	WebSphere variable value for ORACLE_JDBC_PATH: /oracle/product/11.2.0.3/jdbc/lib
	Click Next
Resource manager application deployment target	Select: Application Server
	Click Next
Application server information for resource manager application	Application server node name or application server name: Select : rhel61Node03/server1
	Click Next
HTTP connection information for the resource manager application	Hostname: rhel61 HTTP port: 9082 HTTPS port: 9445
	Click Next
Resource manager database	Resource manager volume mount point: /home Resource manager staging directory: /home/staging
	Click Next
System administration client	Select: Local
	Click Next
System administration client connection	Library server connection NAME: ICMNLSDB Library server host name: rhel61 Library server operating system: Linux Authentication Type: Server Clear all checkboxes
	Click Next
Start Configuration	Click Next
Configuration Complete	Click Finish

10.2.4.2 Configuring Information Integrator for Content

Switch into the /opt/IBM/db2cmv8/bin directory and execute the Information Integrator for Content configuration wizard shell script command as root user:

1. # config_II4C

2. Respond to the screen prompts as seen in table 10-19 below:

Table 10-19 Information Integrator for Content V8.4.3.3 configuration

Screen	Action
Configure IBM Information for Content V8.4.03.300	Select: “ Add configuration ”
	Click Next

Product Components	Select: System Administration Database System Administration Client Connectors: IBM Content Manager Version 8 connector Toolkits and Samples IBM Content Manager Version 8 java connector toolkit
	Click Next
Server Database Type	Select: Oracle Database
	Click Next
Oracle Database Version	Select: 11g
	Click Next
Working Directory	Click Next
System Information	Host name: rhel61
	Click Next
Oracle Home Directory	Oracle Home Directory: /oracle/product/11.2.0.3
	Click Next
System Administration Database	Select: Configure Information Integrator for Content in an existing IBM Content Manager database
	Click Next
Oracle Server Information	System Administration Database name: ICMNLSDB Oracle listener port for System Administration Database instance: 1521 Oracle service name: icmnlsdb.cn.ibm.com
	Click Next
JDBC Information	JDBC connection string: jdbc:oracle:thin:@//rhel61:1521/icmnlsdb.cn.ibm.com Library server administrative user: icmadmin Password: password
	Click Next
Share database warning popup	Click: YES
Connection User Information for System Administration Database	Library server database connection user: icmconct Password: password
	Click Next
System Configuration files	Select: Local
	Click Next
Library server information	Library server name: ICMNLSDB Library server administration ID: icmadmin Oracle listener port for library server instance: 1521 Oracle service name: icmnlsdb.cn.ibm.com
	Click Next

JDBC Information	JDBC connection string: jdbc:oracle:thin:@//rhel61:1521/icmnlldb.cn.ibm.com Library server database connection user: icmconct Password: password
	Click Next
Federated database information	Administration database connection name: FEDDB Federated server administrative user: icmadmin Oracle listener port for System Administration Database instance: 1521 Oracle service name: icmnlldb.cn.ibm.com
	Click Next
JDBC Information	JDBC connection string: jdbc:oracle:thin:@//rhel61:1521/icmnlldb.cn.ibm.com Library server database connection user: icmconct Password: password
	Click Next
Start Configuration	Click Next
Configuration Complete	Click Finish

10.2.5 Match source configuration on target system

10.2.5.1 Confirm hostname in target databases

Check the resource manager hostname in library server database:

Enter the following SQL command in PL/SQL after connecting to the library server database as the Content Manager EE administrative ID:

```
SQL> SELECT INETADDR from ICMADMIN.ICMSTRESOURCEMGR where
```

```
RMNAME='icmrm';
```

Output:

```
INETADDR
```

```
-----
```

```
rhel61
```

Verify that it matches the target host name and does not require an update.

Check the library server hostname in the resource manager database:

Enter the SQL command in PL/SQL after connecting to resource manager database as the resource manager administrative ID:

```
SQL> SELECT SVR_HOSTNAME from RMADMIN.RMSERVER where
```

```
SVR_SERVERTYPE ='LS';
```

Output:

```
SVR_HOSTNAME
```

```
-----
```

vmwin2k3-32bit

The host name is from the source server, and requires updating to match the target server host name. Enter the SQL command below to update the target hostname to ‘rhel61’:

```
SQL> UPDATE RMADMIN.RMSERVER SET SVR_HOSTNAME='rhel61' where  
SVR_SERVERTYPE ='LS';
```

Check the resource manager hostname in the resource manager database:

```
SQL> SELECT SVR_HOSTNAME from RMADMIN.RMSERVER where  
SVR_SERVERTYPE ='resource manager';
```

Output:

SVR_HOSTNAME

localhost

Verify that it matches and does not require updating.

10.2.5.2 Confirm the target HTTP/HTTPS ports in the library server database

Check the port values in the library server database:

Enter the following SQL command from PL/SQL after connecting to the library server database as the Content Manager EE administrator:

```
SQL> SELECT RMACCESSTYPE,PORT FROM ICMAD-  
MIN. ICMSTRMACCESSTYPES where RMCODE='1';
```

Output:

RMACCESSTYPE	PORT
-----	-----
1	9082
6	9445

Verify that the values match and do not require updating.

Check the port values in the resource manager database:

Enter the following SQL command from PL/SQL after connecting to the resource manager database as the resource manager administrator:

```
SQL> SELECT SVR_PORT from RMADMIN.RMSERVER where  
SVR_SERVERTYPE ='resource manager';
```

SVR_PORT

9082

Verify that it matches and does not require updating.

10.2.5.3 Update the target IBMCMROOT and other directory values in the library server database:

Update the library server log file directory and log file name

Enter the following SQL command in PL/SQL after connecting to the library server database as the Content Manager EE administrator to retrieve the current values:

```
SQL> SELECT TRACEFILENAME FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
TRACEFILENAME
```

```
-----  
C:\IBM\db2cmv8\log\ls\ICMNLSDB\ICMSERVER.log
```

Enter the following update SQL command to update the target file directory and name:

```
SQL> UPDATE ICMADMIN.ICMSTSYSCONTROL SET TRACEFILE-  
NAME='/home/ibmcadm/log/ls/icmnlldb/ICMSERVER.log';
```

Confirm that the value was updated:

```
SQL> SELECT TRACEFILENAME FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
TRACEFILENAME
```

```
-----  
/home/ibmcadm/log/ls/icmnlldb/ICMSERVER.log
```

It should now be correct.

Verify the IBMCMROOT path value

Enter the following SQL command in PL/SQL while still connected to the library server database:

```
SQL> SELECT PATHICMROOT FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
PATHICMROOT
```

```
-----  
C:\IBM\db2cmv8
```

Enter the following SQL command to update the target IBMCMROOT path value:

```
SQL>UPDATE ICMADMIN.ICMSTSYSCONTROL SET PATH-  
ICMROOT='/opt/IBM/db2cmv8';
```

Confirm that the value was updated:

```
SQL> SELECT PATHICMROOT FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
PATHICMROOT
```

```
-----  
/opt/IBM/db2cmv8
```

It should now be correct.

Verify the ICMDLL path value:

Enter the following SQL command in PL/SQL to retrieve the current value:

```
SQL> SELECT PATHICMDLL FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
PATHICMDLL
```

```
-----  
C:\IBM\db2cmv8\cmgmt\ls
```

Enter the following SQL command in PL/SQL to update the target ICMDLL path:

```
SQL> UPDATE ICMADMIN.ICMSTSYSCONTROL SET PATH-  
ICMDLL='/home/ibmcmadm/cmgmt/ls';
```

Confirm that the value was updated:

```
SQL> SELECT PATHICMDLL FROM ICMADMIN.ICMSTSYSCONTROL;
```

Output:

```
PATHICMDLL
```

```
-----  
/home/ibmcmadm/cmgmt/ls
```

It should now be correct.

Verify the UDF trace file name:

Enter the following SQL command in PL/SQL to retrieve the current value:

```
SQL> SELECT UDFTRACEFILENAME FROM ICMAD-  
MIN.ICMSTSYSCONTROL;
```

Output:

```
UDFTRACEFILENAME
```

```
-----  
C:\IBM\db2cmv8\log\ls\ICMNLSDB\UDFTRACE
```

Enter the following SQL command in PL/SQL to update the target UDF trace file name:

```
SQL> UPDATE ICMADMIN.ICMSTSYSCONTROL SET UDFTRACEFILE-  
NAME='/home/ibmcmadm/log/ls/icmnlldb/UDFTRACE';
```

Confirm that the value was updated:

```
SQL> SELECT UDFTRACEFILENAME FROM ICMAD-  
MIN.ICMSTSYSCONTROL;
```

Output:

```
UDFTRACEFILENAME
```

```
-----  
/home/ibmcmadm/log/ls/icmnlldb/UDFTRACE
```

It should now be correct.

At this point, all IBMCMROOT and working directory related records have been updated to match the target environment's values.

10.2.5.4 Update disk volume information

Retrieve the mount points from the resource manager database

Enter the following SQL command in PL/SQL after connecting to the resource manager database with the resource manager administrative ID:

```
SQL> SELECT VOL_MOUNTPOINT from RMADMIN.RMVOLUMES where  
VOL_LOGICALNAME='C_nolabel';
```

Output:

```
VOL_MOUNTPOINT
```

```
-----  
C:\
```

Enter the following SQL command in PL/SQL to update the target mount point:

```
SQL> UPDATE RMADMIN.RMVOLUMES SET VOL_MOUNTPOINT='/home'  
where VOL_LOGICALNAME=' C_nolabel ';
```

Enter the ‘df -h’ command to retrieve the logical name of the ‘/home’ directory structure:

```
[root@rhel61 ~]# df -h
```

Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/mapper/vg_rhel61-lv_home	6.4G	147M	5.9G	3%	/home

Enter the SQL statement below to update the target mount point’s logical name:

```
UPDATE RMADMIN.RMVOLUMES SET  
VOL_LOGICALNAME='/dev/mapper/vg_rhel61-lv_home' where  
VOL_LOGICALNAME='C_nolabel';
```

Retrieve the current volume’s total size and free space values:

```
SQL> SELECT VOL_SIZE, VOL_FREESPACE from RMADMIN.RMVOLUMES  
where VOL_MOUNTPOINT='/home';
```

Output:

VOL_SIZE	VOL_FREESPACE
-1	-1

-1 indicates that the values will be re-calculated after RM application server is restarted.

Update the staging path in the resource manager database

Enter the following SQL command in PL/SQL SQL after connecting to the resource manager database with the resource manager administrative ID:

```
SQL> SELECT STA_PATH from RMADMIN.RMSTAGING;
```

Output:

```
STA_PATH
```

```
-----  
C:\staging
```

Enter the following SQL command in PL/SQL to update the target staging path:

```
SQL> UPDATE RMADMIN.RMSTAGING SET STA_PATH='/home/staging';
```

Confirm that the value was updated:

```
SQL> SELECT STA_PATH from RMADMIN.RMSTAGING;
```

Output:

```
STA_PATH
```

```
-----  
/home/staging
```

It should now be correct.

10.2.5.5 Verify WebSphere Application Server server administrative user

Enter the following SQL command in PL/SQL after connecting to the resource manager database with the resource manager administrative ID:

```
SQL> SELECT PROPERTYVALUE from RMADMIN.RMCONFIGURATION  
where PROPERTYNAME='ICMRM_USER';
```

Output:

```
PROPERTYVALUE
```

```
-----  
SYSTEM
```

Enter the following SQL command in PL/SQL to update the target WebSphere Application Server administrative ID:

```
SQL> UPDATE RMADMIN.RMCONFIGURATION SET PROPER-  
TYVALUE='root' where PROPERTYNAME='ICMRM_USER';
```

Update the LBOSDATA folders and files permission to match the new administrative ID. Change all folders and files owner and group to root. Change all folders' permission to 700, and all files' permissions to 400.

10.2.5.6 Restart the WebSphere Application Server application server server1

Enter the following commands to stop and start the WebSphere Application Server application server server1:

```
[root@rhel61 bin]# ./stopServer.sh server1
```

```
[root@rhel61 bin]# ./startServer.sh server1
```

Verify that the volume size and free space have been re-calculated by entering the following SQL command in PL/SQL after connecting to the resource manager database with the resource manager administrative ID:

```
SQL> SELECT VOL_SIZE, VOL_FREESPACE from RMADMIN.RMVOLUMES  
where VOL_MOUNTPOINT='/home';
```

Output:

```
VOL_SIZE VOL_FREESPACE
```

```
----- -----  
6811901952 6312402944
```

10.2.6 Recreating text search indexes

10.2.6.1 Configure the Oracle Text Search option

Enter the command:

```
[root@rhel61 ~]# su - oracle -c "cd /opt/IBM/db2cmv8/config;sqlplus /nolog  
@icmlsoratxt.sql icmnlssdb icmadmin password"
```

Output:

```
SQL*Plus: Release 11.2.0.3.0 Production
```

```
Copyright (c) 1982, 2011, Oracle. All rights reserved.
```

```
SP2-0606: Cannot create SPOOL file "icmlsoratxt_10g.sql.log"
```

```
Connected.
```

```
Dropping old Content Manager EE-system preference if it exists (error is OK)...
```

```
BEGIN ctx_ddl.drop_preference('ICMFETCHCONTENT'); END;
```

```
*
```

```
ERROR at line 1:
```

```
ORA-20000: Oracle Text error:
```

```
DRG-10700: preference does not exist: ICMFETCHCONTENT
```

```
ORA-06512: at "CTXSYS.DRUE", line 160
```

```
ORA-06512: at "CTXSYS.CTX_DDL", line 40
```

```
ORA-06512: at line 1
```

```
PL/SQL procedure successfully completed.
```

```
PL/SQL procedure successfully completed.
```

```
PL/SQL procedure successfully completed.
```

```
1 row updated.
```

```
Commit complete.
```

```
not spooling currently
```

```
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 - 64bit
```

```
Production
```

```
With the Partitioning, OLAP, Data Mining and Real Application Testing options
```

10.2.6.2 Retrieve the text search index information from the library server database using the following SQL command in PL/SQL after connecting to the library server database with the Content Manager EE administrative ID:

```
SQL>SELECT INDEXID, COMPONENTTYPEID, INDEXNAME, COLUMN-  
NAME FROM ICMADMIN.ICMSTTEXTINDEXES;
```

Output

INDEXID	COMPONENTTYPEID	INDEXNAME	COLUMNNAME
1	1007	ICMUU01007001002	ATTR0000001025
2	1009	ICMUU01009001002	ATTR0000001025

3	1010	ICMUU01010001002	ATTR0000001025
4	1011	ICMUU01011001002	ATTR0000001025
5	1013	ICMUU01013001002	ATTR0000001025
6	1013	ICMUU01013001004	ATTR0000001024
7	1015	ICMUU01015001002	ATTR0000001025
8	1017	ICMUU01017001002	ATTR0000001025
9	1018	ICMUU01018001002	ATTR0000001025
10	1025	ICMUU01025001TIE	TIEREF
11	1027	ICMUU01027001TIE	TIEREF
12	1028	ICMUU01028001002	ATTR0000001025
13	1031	ICMUU01031001002	ATTR0000001025
14	1032	ICMUU01032001TIE	TIEREF
15	1037	ICMUU01037001TIE	TIEREF
16	1114	ICMUU01114001002	ATTR0000001126
17	1131	ICMUU01131001001	ATTR0000001140
18	1132	ICMUU01132001TIE	TIEREF

10.2.6.3 Drop and recreate text search indexes one by one

Enter the following commands in PL/SQL to drop and recreate the individual text search indexes:

```
SET SERVEROUTPUT ON
```

```
--1
```

```
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 1');
DROP INDEX ICMUU01007001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01007001002 ON IC-
MUT01007001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS(NOPOPULATE');
```

```
BEGIN UPDATE ICMADMIN.ICMUT01007001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
```

```
/
```

```
--2
```

```
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 2');
DROP INDEX ICMUU01009001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01009001002 ON IC-
MUT01009001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS(NOPOPULATE');
```

```
BEGIN UPDATE ICMADMIN.ICMUT01009001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
```

```
/
```

```
--3
```

```
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 3');
DROP INDEX ICMUU01010001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01010001002 ON IC-
```

```
MUT01010001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01010001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--4
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 4');
DROP INDEX ICMUU01011001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01011001002 ON IC-
MUT01011001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01011001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--5
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 5');
DROP INDEX ICMUU01013001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01013001002 ON IC-
MUT01013001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01013001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--6
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 6');
DROP INDEX ICMUU01013001004 FORCE;
CREATE INDEX ICMADMIN.ICMUU01013001004 ON IC-
MUT01013001(ATTR0000001024) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01013001 SET
ATTR0000001024=ATTR0000001024 ; COMMIT; END;
/
--7
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 7');
DROP INDEX ICMUU01015001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01015001002 ON IC-
MUT01015001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01015001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--8
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 8');
DROP INDEX ICMUU01017001002 FORCE;
```

```
CREATE INDEX ICMADMIN.ICMUU01017001002 ON IC-
MUT01017001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01017001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--9
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 9');
DROP INDEX ICMUU01018001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01018001002 ON IC-
MUT01018001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01018001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--10
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 10');
DROP INDEX ICMUU01025001TIE FORCE;
CREATE INDEX ICMADMIN.ICMUU01025001TIE ON IC-
MUT01025001(TIEREF) INDEXTYPE IS CTXSYS.CONTEXT PARAME-
TERS('DATASTORE ICMADMIN.ICMFETCHCONTENT NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01025001 SET TIEREF=TIEREF ; COM-
MIT; END;
/
--11
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 11');
DROP INDEX ICMUU01027001TIE FORCE;
CREATE INDEX ICMADMIN.ICMUU01027001TIE ON IC-
MUT01027001(TIEREF) INDEXTYPE IS CTXSYS.CONTEXT PARAME-
TERS('DATASTORE ICMADMIN.ICMFETCHCONTENT NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01027001 SET TIEREF=TIEREF ; COM-
MIT; END;
/
--12
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 12');
DROP INDEX ICMUU01028001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01028001002 ON IC-
MUT01028001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01028001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--13
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 13');
```

```

DROP INDEX ICMUU01031001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01031001002 ON IC-
MUT01031001(ATTR0000001025) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01031001 SET
ATTR0000001025=ATTR0000001025 ; COMMIT; END;
/
--14
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 14');
DROP INDEX ICMUU01032001TIE FORCE;
CREATE INDEX ICMADMIN.ICMUU01032001TIE ON IC-
MUT01032001(TIEREF) INDEXTYPE IS CTXSYS.CONTEXT PARAME-
TERS('DATASTORE ICMADMIN.ICMFETCHCONTENT NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01032001 SET TIEREF=TIEREF ; COM-
MIT; END;
/
--15
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 15');
DROP INDEX ICMUU01037001TIE FORCE;
CREATE INDEX ICMADMIN.ICMUU01037001TIE ON IC-
MUT01037001(TIEREF) INDEXTYPE IS CTXSYS.CONTEXT PARAME-
TERS('DATASTORE ICMADMIN.ICMFETCHCONTENT NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01037001 SET TIEREF=TIEREF ; COM-
MIT; END;
/
--16
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 16');
DROP INDEX ICMUU01114001002 FORCE;
CREATE INDEX ICMADMIN.ICMUU01114001002 ON IC-
MUT01114001(ATTR0000001126) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01114001 SET
ATTR0000001126=ATTR0000001126 ; COMMIT; END;
/
--17
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 17');
DROP INDEX ICMUU01131001001 FORCE;
CREATE INDEX ICMADMIN.ICMUU01131001001 ON IC-
MUT01131001(ATTR0000001140) INDEXTYPE IS CTXSYS.CONTEXT PA-
RAMETERS('NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01131001 SET
ATTR0000001140=ATTR0000001140 ; COMMIT; END;
/
--18

```

```
EXECUTE DBMS_OUTPUT.put_line(' Index ID = 18');
DROP INDEX ICMUU01132001TIE FORCE;
CREATE INDEX ICMADMIN.ICMUU01132001TIE ON IC-
MUT01132001(TIEREF) INDEXTYPE IS CTXSYS.CONTEXT PARAME-
TERS('DATASTORE ICMADMIN.ICMFETCHCONTENT NOPOPULATE ');
BEGIN UPDATE ICMADMIN.ICMUT01132001 SET TIEREF=TIEREF ; COM-
MIT; END;
/

```

10.2.6.4 Update text indexes in Content Manager EE using the Java sample API

Switch into the directory /opt/IBM/db2cmv8/samples/java/icm and compile the sample API STextIndexUpdateICM.java. Then update the indexes with the following command:

```
[root@rhel61 icm]# java STextIndexUpdateICM.class icmlsdb icmadmin password
```

Appendix A Content Manager EE full backup performance reference

The document “IBM Content Manager V8.4.3 Performance using Table Partitioning ON IBM DB2 Universal Database v9.7FP5 and AIX v6.1” published a Content Manager EE full backup performance result. This result can be considered as the backup performance reference of a billion level Content Manager EE data.

See:

[http://w3-03.ibm.com/support/techdocs/atsmastr.nsf/3af3af29ce1f19cf86256c7100727a9fb8fe58281f692a8186257a9900020936/\\$FILE/Content%20Manager%208.4.3%20Performance%20using%20DB2%20Table%20Partitioning%20on%20DB2V97FP5_v5.pdf](http://w3-03.ibm.com/support/techdocs/atsmastr.nsf/3af3af29ce1f19cf86256c7100727a9fb8fe58281f692a8186257a9900020936/$FILE/Content%20Manager%208.4.3%20Performance%20using%20DB2%20Table%20Partitioning%20on%20DB2V97FP5_v5.pdf)

For the results, see the **Section 5. Results:** Maintenance performance: "Figure 5 Full Backup" in the link. For its test environment, see the **Section 6. Test Environment Details** in the link.