Technical Guide

Moving a Virtual Centre Database from one SQL Server to another

> Written by Krystian Karia May 2008

Technical Guide Moving a Virtual Centre DB from one SQL Server to another

Table of Contents

Information	
Disclaimer	
Assumptions	3
Products & Versions Used	3
Naming Conventions Used	
Preparation Steps	4
Create Script for SQL User Account	4
Stop the Virtual Centre Server Services	5
Database Steps	6
Detach the Database	6
Copy Database Files to Destination Server	
Attach the Database	9
ODBC Steps	15
Reconfigure the ODBC Settings	
Final Steps	19
Start the Virtual Centre Server Services	19
Log into Virtual Centre	
č	

Information

Disclaimer

This guide was written because I, like many others, were asking the question: Can Virtual Centre's SQL Server Database be moved without breaking Virtual Centre? And if so, what is the best way to do this?

Unable to find a definitive answer I decided to go ahead and test it on a Dev environment. The results for me were successful, however, I nor RTFM Education will not be held responsible for any damage or loss of data or equipment that may arise from following this guide. Use this guide at your own risk!

It is generally best practise to test anything in a dev/test environment before doing it in your production environment.

Note that this may also not be the best or recommended process according to others but the views/opinions expressed herein are solely my own.

All names used in this guide are purely fictional and represent no company or body in real life

Assumptions

It is assumed that you have the necessary permissions to carry out these procedures, preferably Administrative rights in SQL Server, Windows Server and XP Pro

Products & Versions Used

The following products & versions were used in this guide

- Windows 2003 Standard R2
- SQL Server 2005 Standard
 - This was installed on Windows 2003 Std R2. This was done on 2 Servers.
- VMWare Virtual Centre 2.5
 - Virtual Centre, the ODBC Data Source and VMware Virtual Infrastructure Client (VIClient) were installed/configured on Windows 2003 Std R2
- Windows XP Professional SP2
 - The SQL Server Management Studio was installed on Windows XP Pro SP2

Although this guide is based on SQL 2005 it is possible that this will be relevant for SQL 2000 too, however, I have not tested this. Other product and version variations may also work, but again, I have not tested this.

Naming Conventions Used

The following naming conventions were used in this guide and will be different to your own conventions

- The Database name
 - VirtualCentre
 - The Database username
 - VMCentreAdmin
- The 2 servers names

•

- SQL-Server-Dev-01 Source SQL Database
- SQI-Server-Dev-02 Destination SQL Database
- The ODBC Data Source Name
 - VMCentre

Preparation Steps

Create Script for SQL User Account

In order to keep the same username and settings for the new Database, it is quicker and less error prone to crate a SQL script that will automatically create the user for you

- 1. Open SQL Server Management Studio
- 2. Connect to the Source SQL Server that contains the Database you want to move
- 3. Expand Security -> Select Logins



4. Over on the right, **right-click** on the **account** you want to create a script for -> Select **Script Login as** -> **CREATE To -> New Query Editor Window**

itors STEM	ĩ			13/02/2003 07/02/2003 07/02/2003 08/04/2003
Newlogin	1			or loo looo
New Login	1			25/03/200
Script Login as 🕨	CREATE TO	•	New Query Editor Window	
Rename Delete	ALTER To DROP To	•	File Clipboard	
Refresh Properties	SELECT TO INSERT TO UPDATE TO	2		_
	DELETE TO	F		
	Script Login as Rename Delete Refresh Properties	Script Login as CREATE To Rename ALTER To Delete DROP To Refresh SELECT To Properties UPDATE To DELETE To DELETE To	Script Login as CREATE To Rename ALTER To > Delete DROP To > Refresh SELECT To > Properties UPDATE To > DELETE To > >	Script Login as CREATE To New Query Editor Window Rename Delete ALTER To File Delete DROP To Clipboard Refresh Properties SELECT To INSERT To UPDATE To DELETE To EXECUTE To

5. This will open the Query Editor Window and show the script that can create this account again by running it



6. Copy the script to Notepad and save it for later

Note: When creating a script of a user account it will not create the password and will set the account as disabled. Ensure you know what the password is as you will need it later

Stop the Virtual Centre Server Services

Before being able to detach the Database you will need to stop all the Virtual Centre services. You may want to temporarily set all these services to disabled to prevent accidental starting.

- 1. On your Virtual Centre Server, Select Start -> Control Panel -> Administrative Tools -> Services
- 2. Right-click the VMware VirtualCenter Server service, choose Stop, and wait for it to stop
- 3. Repeat step 2 for the following services:
 - a. VMware Update Manager Service
 - b. VMware Converter Enterprise Service
 - c. VMware Capacity Planner Service
 - d. VMware Infrastructure Web Access
 - e. VMware License Server
- 4. Close the Services dialog box

Database Steps

Detach the Database

- 1. Make a note of the File locations for the .MDF and .LDF SQL Data and Log files as follows
- 2. Right-Click your Virtual Centre Database -> Select **Properties**



3. When the Database Properties window appears, click the Files option on the left



4. Over on the right side, scroll across to note the path of the file locations

elp				
5	/irtualCentre			
N	/MCentreAdmi	n		
exing				<u></u>
File Type	Filegroup	Initial Size	Autogrowth	Path
Data	PRIMARY	100	By 1 MB, unrestricted growth	S:\Microsoft SQL Server\MSSQL.1\MSSQL\DATA
Log	Not Appli	25	By 10 percent, restricted growth t	S:\Microsoft SQL Server\MSSQL.1\MSSQL\DATA
	elp	eking File Type Data PRIMARY Log Not Appli	Pip VirtualCentre VMCentreAdmin exing File Type Filegroup Initial Size Data PRIMARY 100 Log Not Appli 25	eking File Type Filegroup Initial Size Autogrowth Data PRIMARY 100 By 1 MB, unrestricted growth Log Not Appli 25 By 10 percent, restricted growth t

5. Close the Database Properties box

Note:

Before proceeding to the next step you should confirm that there are no users or services connected to this database, otherwise it will fail. (if you have followed this guide in the correct order, you should already have stopped all the Virtual Centre services, just confirm there are no other users connected to the Database)

6. Right-Click your Virtual Centre Database -> Select Tasks -> Detach...

File Edit View Project	Tools Window C	ommunity Help
😫 New Query 📑 📷	强 强 📴 🛃	🖉 🚯 🖻 降 🚰
Object Explorer	👻 Д	Summary
Connect 🕶 📑 📄 🍸		1 2 2 7 11
 SqLserver-dev-02 (SqL sqLserver-dev-01 (SqL Databases Databases Database Snap Inforeach WirtualCentre Database Tables Wiews 	Server 9.0.2047 ses shots New Database New Query Script Database as	Name Database Diagram Tables
🗄 🚞 Synonym	Tasks 🕨	Detach
	Rename Delete	Take Offline Bring Online
E 🧰 Security	Refresh	Shrink
Server Objects Replication	Properties	Back Up Restore
 	s	Mirror Ship Transaction Logs
		Generate Scripts Import Data Export Data
		Copy Database

7. At the Detach Database window leave all defaults -> Click OK

🧊 Detach Database						
Select a page Page General	Script - The Help					
	Database Name	Drop	Updat	Keep	Status	Message
	VirtualCentre			V	Ready	

Copy Database Files to Destination Server

There are many methods to achieve the same result of copying the .MDF and .LDF files to the destination server. I chose to explain this method by physically connecting to the Source server and then opening a UNC path to the Destination server, however, you can do this anyway you prefer

- 1. Log onto the Source SQL Server that you just detached the database from
- 2. Open Windows Explorer
- 3. Locate the files from the location you made a note of earlier
- 4. Copy both the .MDF and .LDF files
- 5. Click Start -> Run
- 6. Type in the UNC path to the Destination servers folder location that you store your SQL Server data files in, i.e. \\SQL-SERVER-DEV-02\S\$\Microsoft SQL Server\MSSQL.1\MSSQL\Data
- 7. When the window opens, **Paste** the files in it
- 8. Log out the SQL Server

Attach the Database

- 1. Go back to the SQL Server Management Studio
- 2. Connect to the destination SQL Server
- 3. Right-Click on Databases -> Attach...



4. At the Attach Database window -> Click Add

🔋 Attach Databases						
Select a page Providencial	🔄 Script 🔻 🛐 Help					
	Databases to attach:					
	MDF File Location	Database	Attach As	Owner	Status	Message
	Database de <u>t</u> ails: Original File Name File T	ype Current	File Path	<u>A</u> dd	lessage	<u>R</u> emove

5. At the Locate Database Files window -> Locate the .MDF file you copied over and select it -> Click OK

📕 Locate Databa	se Files -	
Select the file:		
Restore Sc temp SQL_Ba SQL_Da SQL_Da SqL_logs System System R	ckups ta alCentre.mdf /olume Information	
Selected path:	D:\SQL_Data	
Files of type:	Database Files(*.mdf)	*
File <u>n</u> ame:	VirtualCentre.mdf	DK Cancel

6. This takes you back to the Attach Databases window

📑 Attach Databases								
Select a page	Cont + D Halo							
🚰 General	20 scribt . 🖸 Helb							
	Databases to attach:							
	MDF File Location	Datab.	Attach	Ow Sta	Messag)e		
	D:\SQL_Data\	Virtual.	. Virtual	DB				
	1			7				
				l	Add		Bemove	
	"VirtualCentre" databas	se dețails:					1	
	Original File Name	File Type	Current Fil	e Path		Mes	sage	
Connection	VirtualCentre.mdf	Data	D:\SQL_D	Data/WirtualCe	entre.mdf			
Server	VirtualCentre_log.ldf	Log	D:\SQL_D	Data/VirtualCe	entre_log.ldf			
sql-server-dev-02								
Connection								
View connection properties								
Progress								
Beadu								
() Hoday	े हैं।						Damana	
254							пещоле	
						OK	Cancel	

8. Back at the main Management window click on the **New Query** button

🍢 Microsoft SQL Server Management Studio	
Eile Edit View Project Tools Window Comm	iunity Help
Connect + 🛃 🖬 🍸	Summary
 □ sql-server-dev-02 (SQL Server 9.0.2047 - DBLCAF □ Databases □ Database Snapshots □ Altiris □ Altiris Incidents 	Databases SQL-SERVER-DEV-02\Databases

9. Paste in the Script you copied to notepad earlier

🍢 Microsoft SQL Server Manag	ement Studio		
<u>File Edit Yiew Query Projec</u>	t <u>T</u> ools <u>W</u> indow	v <u>⊂</u> ommunity <u>H</u> elp	Paste Script in Here
😫 New Query 📑 📸 📸	🔓 📴 🖬 🗿	1 🚯 🗐 📴 📴 😤	The same and
🔢 🖳 🗽 master	🝷 🕴 E <u>x</u> e	cute 🧹 = 📅 🆐 🛓	2 🖓 🎵 🖷 🗖 🦉
Object Explorer	→ ₽ ×	sql-server-detQLQ	uery ql* sql-server-dev
Connect - 🛃 🔳 🗿 🝸		/****** Objed	ct: Login [VMCent ity reasons the lo

10. Click on the little Green Tick icon in the toolbar to confirm the script is correct

🍢 Microsoft SQL Server Manag	ement Studio
<u>File E</u> dit <u>V</u> iew Query Project	<u>I</u> ools <u>W</u> indow <u>C</u> ommunity <u>H</u>
🔝 New Query 📄 📸 📸	G 😂 🖬 🖉 📴 📴 🖡
💷 🖳 📆 master	🔹 🕴 Execute
Object Explorer	→ ┦ × sql-server-de
Connect 🕶 🔩 🔳 📝 👕	/ ******

11. Click !Execute icon in the toolbar

This creates your account from the previous database but it is disabled and has a randomly generated password which we will change in the next steps

🍢 Microsoft SQL Server Management St	udio	
<u> Eile Edit Yiew Query Project Iools</u>	Window	⊆omm
🔁 New Query 📑 📸 📸 📴 🖆		B (
🔢 🛃 🙀 master 👻	🥊 E <u>x</u> eci	ute 🧹
Object Explorer 🗸 🗸	Ŧх	sql-se
Connect 🕶 🖳 💼 👩 🍸		1/*

12. Navigate to **Security -> Logins ->** Double-Click your account name

🍢 Microsoft SQL Server Management Studio	
File Edit View Tools Window Community H	elp 🖡 📴 📴 🥻 🏄 🛣 🖕
Object Explorer 🗸 🗸 🗙	Summary
Connect 🕶 💐 🔳 🖻 🍸	🔁 🗟 🦨 🍸 🕅 List 🗸 🔙 Report 👻
 Image: sql-server-dev-01 (SQL Server 9.0.2047 - Image: sql-server-dev-02 (SQL Server 9.0.2047 - Image: mage: sql-server 9.0.2047 - Image: mage: sql-server 9.0.2047 - Image: s	SQL-SERVER-DEV-02\Security\Logins
Security Security Security Server Roles Gredentials Server Objects Replication Management	Name admin BUILTIN\Administrators NT AUTHORITY\SYSTEM Sa VMCentreAdmin

13. At the login Properties window select **General** on the left -> Set the password exactly as it was originally and re-type it

🖥 Login Properties - V	/MCentreAdmin	
Select a page Providential General	🔄 Script 🝷 🚺 Help	
 Server Roles User Mapping Securables Status 	Login <u>n</u> ame: <u>W</u> indows authentication <u>S</u> QL Server authentication	VMCentreAdmin Search
	Password: <u>C</u> onfirm password:	

14. Select **Status** on the left -> Change the Login to **Enabled**

📕 Login Properties - V	MCentreAdmin
Select a page General Server Roles User Mapping Securables Status	Settings Permission to connect to data © Grant © Deny Login: © Enabled © Disabled Status SQL Server authentication: © Login is locked out

15. Click OK

We will now test that the user account can authenticate ok

16. Click anywhere inside the Query window if it is still open, otherwise click the New Query button again 17. Click on **Query** on the Menu bar -> **Connection** -> **Change Connection**

nect nect All Queries	Jer
nect nect All Queries	Jer
nect All Queries	Jer
e Connection	

- 18. Under Server Name type the Destination Server name
- 19. Under Authentication select SQL Server Authentication

Microsoft [®]	base Engine	tem
Server <u>t</u> ype: Server name:	Database Engine	~
Authentication:	SQL Server Authentication Windows Authentication SQL Server Authentication	~
Password:	Remember password	_
	ct Cancel Help Options >>	

- 20. Enter the Username and Password
- 21. Click Connect to confirm the account works ok

🛃 Connect to Data	ıbase Engine	E 🛛
SQL Ser	ver.2005	Windows Server System
Server type:	Database Engine	~
<u>S</u> erver name:	sql-server-dev-02	~
Authentication:	SQL Server Authen	ntication 🛛 💽
<u>L</u> ogin:	VMCentreAdmin	
Password:	******	
	Remember pa	assword
<u><u>C</u>onn</u>	ect Cancel	Help Options >>

ODBC Steps

Reconfigure the ODBC Settings

- 1. Log into your Virtual Centre Server
- 2. Click Start -> Control Panel -> Administrative Tools -> Data Sources (ODBC)
- 3. When the ODBC Data Source Administrator window appears, click the System DSN tab

lame MCentre	Driver SQL Native Client	Add
		<u>C</u> onfigure.

4. Select your Data Source Name -> Click **Configure**

Name	Driver	Add
VMCentr	SQL Native Client	<u>R</u> emove Configure
a	An ODBC System data source stores information a the indicated data provider. A System data source	bout how to connect to e is visible to all users

5. Change the Server name to your Destination Server: (the other settings should already be correct)

Name Driver	Add
VMLentre SQL Nativ	ve Client <u>R</u> emove
rosoft SQL Server D	OSN Configuration
	This wizard will help you create an ODBC data source that you can a connect to SQL Server
Microsoft SQL Server 2005	What name do you want to use to refer to the data source?
	Name: VMCentre
	How do you want to describe the data source?
	Description: VMWare Management Centre Server
	Which SQL Server do you want to connect to?
	Server: sql-server-dev-01

- 6. Click Next
- 7. Select With SQL Server Authentication...
- 8. Check the Connect to SQL Server to obtain default settings...
 - a. Login ID = **<your username>**
 - b. Password = **<your password>**

1 and 1	How should SQL Server verify the authenticity of the login ID?
Microsoft SQLServer 2005	Mith Integrated Windows authentication.
	 With <u>SQL</u> Server authentication using a login ID and password entered by the user.
	Connect to SQL Server to obtain default settings for the additional configuration options.
	Login ID: VMCentreAdmin

Moving a Virtual Centre DB from one SQL Server to another

- 9. Click Next
- 10. Check the Change the default database to11. From the list, Select your VirtualCentre Database

Attach database filename:
I ✓ Use ANSI quoted identifiers. ✓ Use ANSI nulls, paddings and warnings.

- 12. Leave all other settings as default
- 13. Click Next
- 14. Leave all settings as default

Microsoft [®] SQLServer 2005	English
	Use strong encryption for data
	 Perform translation for character data Use regional settings when outputting currency, numbers, dates and times.
	Save long running queries to the log file:
	C:\DOCUME~1\KKARIA~1\LOCALS~1\Temp\1\ Browse
	Long query time (milliseconds):
	Log ODBC driver statistics to the log file:
	C:\DOCUME~1\KKARIA~1\LOCALS~1\Temp\1\S Browse

15. Click Finish

16. Click the Test Data Source button to check if all settings are correct

A new ODBC data source will be created with the following configuration:	
Configuration: Microsoft SQL Native Client Version 09.00.1399 Data Source Name: VMCentre Data Source Description: VMWare Management Centre Server Server: Ion-mem-app-002 Use Integrated Security: No Database: VirtualCentre Language: (Default) Data Encryption: No Trust Server Certificate: No Multiple Active Result Sets(MARS): No Mirror Server: Translate Character Data: Yes Log Long Running Queries: No Log Driver Statistics: No Use Regional Settings: No Use ANSI Quoted Identifiers: Yes	
Image: Test Data Source OK Candidate Source	cel

17. If all settings are correct you should see the Tests Completed Successfully message

Microsoft SG Running cor Attempting c	L Native Client Version 09.00.1399 Innectivity tests	*
Verifying opt Disconnecti	established ion settings ng from server	
TESTS CON	IPLETED SUCCESSFULLY	
		*

18. Click OK

Final Steps

Start the Virtual Centre Server Services

Note: This is the reverse of the stopping services process above. If you disabled any services, then set them back to their original start-up settings

- 1. Select Start > Control Panel > Administrative Tools > Services
- 2. Right-click the VMware License Server, choose Start, and wait for it to Start
- 3. Repeat step 2 for the following services:
 - a. VMware Infrastructure Web Access
 - b. VMware Capacity Planner Service
 - c. VMware Converter Enterprise Service
 - d. VMware Update Manager Service
 - e. VMware VirtualCenter Server
- 4. Close the Services dialog box

Log into Virtual Centre

- 1. Log into your Virtual Centre Server
- 2. Open VMWare Infrastructure Client (VIClient)



3. Providing everything went smoothly, you should be presented with a log on box

🕝 VMware Infrastructure C	lient	
🗊 vm ware [.]		
VMware Infra	structure Client	
To directly manage a singl	e host, enter the IP address or hos	st name.
To manage multiple hosts, VirtualCenter Server.	enter the IP address or name of a	
IP address / Name:	ral conver dev 02	-
Liser name:	SqL-Server-dev-02	_
Oser manie.	1	
Password:	I.	
		1 1
	Login <u>C</u> lose	Help

- 4. Log in with the normal details
- 5. Confirm that all Hosts and Guests are visible and everything else is working as expected