Moving a Database to a New Location

This document covers how to back-up and restore a database, including moving the database to a new server or location. Also included are the requirements for moving and/or upgrading the main Communication/Event Server and GCS Services (System Galaxy software).

GENERAL REQUIREMENTS

1. GENERAL REQUIREMENTS:

• You will obtain the *correct version** of the System Galaxy install media (USB/ISO), to install the MSSQL Server Express and Database Management Studio onto the new server.

Optionally, you can install an Enterprise version of MSSQL Server and DBMS software onto the new server.

* This can be the same or a newer version of SQL Server.

• You will obtain the *correct version** of the System Galaxy install media (USB/ISO), for the System Galaxy software ONLY IF you are either ...

(a) upgrading the existing System Galaxy software on the original server.

(b) or moving System Galaxy software & GCS Services to the new server.

* This can be the same or a newer version of System Galaxy as needed.

- If the DB backups are automated, you need to find out where the backup files are located. If the admins use the <u>Galaxy GCS Service Manager utility</u> to create automated backups, then you can find the backup path in the <u>SQL Backup Configuration screen</u> of the GCS Service Manager utility.
- BACKING UP SYSTEM ASSETS: Before you perform a move or upgrade the SG Software, you should back up all system assets. System assets include system logs, reports, badge templates, biometric data, photographs, images, icons, logos, etc. You should do this if you are moving or upgrading or both.

2. MOVING BUT NOT UPGRADING SYSTEM GALAXY:

- If you are also moving the *main Communication/Event Server*, make sure that the version of System Galaxy installed on the new target server is the same as the original server.
- Remember to back up your system assets.
- 3. MOVING AND UPGRADING SYSTEM GALAXY: Product registration must be valid (not expired).
 - Before moving the database to the target SQL Server, you must verify that the maintenance expiration date is valid (not expired). Open the System Galaxy Product Registration screen from the menu: Configure
 > Options > Registration > System.
 - After updating the maintenance date, you should perform back-ups of the databases before and after an upgrade. The first backup protects your data in case the upgrade fails. The second backup creates a backup of everything after the upgrade is done.
 - Remember to back up your system assets.

UPDATING THE SYSTEM REGISTRATION (Maintenance Expiry)

These steps are only needed if you are upgrading System Galaxy software.

- 1. Log in to System Galaxy with a dealer login.
- 2. Open the *Product Registration screen* from the menu: Configure > Options > Registration > System.
- 3. Enter the new **Expiration Date** and the **Registration Code** you obtained from.

stem Registration		
Current System ID: Registered System ID: 2560383631 2560383631 Customer Name: 2560383631 CER INC 360ftware License: AST1H -[EL3OR] - [DL1V3] - [ISUB2] - [1YE Product Level: -	Created Date/Time: Work 3/15/2023 12:31:45 PM 2 Authorized Galaxy Dealer Name: GCS DEALER 3 Register via the	station Count: Dealer Phone Number: 1-800-222-999
Corporate System-Wide Features: CCTV Control Card Data Import/Export/Replication Event Log Output (RS-232/TCP/IP/File) S.G. Time & Attendance User Status/ Who's In Galaxy DVR Galaxy DVR VR VAam Panel Support Guard Tour Passback & Door Groups Graphic Device Status 508i & 502 Support Glommited Card Capacity (600 only) Access Rule Override (600 only)	Software Maintenance Settings: Expiration Date: 2/29/2024 Maximum Version: 11xx Limits: Maximum Clients: 5 Maximum Readers: # Used: 128 2 Maximum Biometric Readers: 0 0 Maximum DSI-Based Readers: 0 0	Web Client Options Web Module/LaunchPoint (ASP Model) Support Photo ID Badge Printing * * Web Module Requires Card Exchange * LaunchPoint Requires idPRODUCER Badge Printing System: No Badging System * Basic Visit GCSOnline Web Registration Site Registration Code: GH6W2HGY Report Last Registered Date/Time:

System Galaxy > Product Registration screen

CREATING DATABASE BACKUPS

You can use the **GCS Service Manager utility** to create database backup files using the following steps. The backup files (*.BAK files) will be moved/copied to the new SQL Server location.

- 1. Open the GCS Service Manger from the System Galaxy folder: c:\GCS\System Galaxy\Utilities
- 2. Right-click on GCSServiceManager.exe and choose "Run as Administrator" from the menu.



System Galaxy\Utilities > GCS Service Manager.exe

- 3. Click YES on the Windows 'User Account Control' message box.
- 4. Select (highlight) "MSSQL\$GCSSQLEXPRESS" and click the [Configure SQL Backup] button.



GCS Service Manager > showing MSSQL Service selected

5. Notice the designated *backup path* and click the [Run/Test Backup] button.

Configure SQL Server Backup	X
Database Backup Settings: Select folder where the backup files sh [C:\Program Files\Microsoft SQL Serve - Security Settings: Use Integrated Login User ID: Password: [gcs_client] Massessesses	ould be placed: AMSSQL15.GCSSQLEXPRESSYMSSQL\f Choose Databases To Backup: Ø Backup SysGal database Ø Backup SysGalArc database Backup idProducer database Create Backup Files Run/Test Backup
Schedule Daily Backup Task: Start time: Run as: 11:00:00 PM CANDACEVM\De Save Scheduled	Password: Password: Backup Task

GCS Service Manager > Configure SQL Backup screen

6. A confirmation file named "SGBackupResults.txt" should automatically open in Notepad.



RunTest Backup > SG Backup Results

7. Browse to the *backup folder path* that was designated in the Backup Configuration screen. The **SysGal** and **SysGalArc (.bak)** files will be located in there with the SGBackupResults.txt.



RunTest Backup > Timestamped Database Backup files

Copying Database Backup Files to Target Server

This topic describes the requirements and steps to copy your database files to the target SQL Server.

PREREQUISITES

- You must install the appropriate *system components* on the *target SQL Server* before you can copy the backup database files *shown in step 1 below*.
- These instructions use industry-standard terminology to describe copying or moving files. The old server is called the *original server* or *source server*. The new server location is the *target server*.
 - 1. On the new *target server*, install the necessary System Galaxy components from the Galaxy Installation Disk (USB/ISO) by clicking **Setup** to launch the Installer Program:
 - a. (required) Install Part-1 Prerequisites
 - b. (required) Install Part-2 SQL Server Components (choose New Install)
 - c. (optional) Install Part-3 SG Client Software (choose Option-A Client & GCS Services) only if the *target server* will also be running the main Communication/Event server.
 - Copy the database backup files (.bak files) onto the target server.
 Best Practice: Copy files into the *MSSQL Backup folder* on the target server or onto a portable drive that you use to transfer the files (i.e., not the server desktop). Always retain a safe copy
 - 3. Stop the appropriate Galaxy services as follows ...
 - a. Before stopping GCS Services, make a note of which services are running (green icon) so the correct services can be restarted.
 - b. On the Communication server, stop all of System Galaxy services that begin with "GCS". Do not stop any service that starts with MSSQL\$ see image below.
 - c. Also shut down all System Galaxy clients (close the SG Software).



GCS Service Manager > showing GCS Core Services Stopped

- 4. (conditional) If you are moving the main Communication Server to the new target server, then you must disable the GCS Services on the *original server*. *You do not need to do this if the main Communication Server is not moving*.
 - a) To disable a GCS Service using the GCS Service Manager Utility, select (highlight) the service name and click the **Properties** button.
 - b) In the Properties screen, change the **Start Up Type** to "Disabled" and click OK to save/close the Properties screen.

Pathname: "C:\GCS\System Galaxj	AGCSClientGW.exe''		
Start type: Disabled 🛛 💌	ependencies: GCSComm		
User account: LocalSystem	Password:	☐ Interact with desktop	
- Recovery Settings:	Choose Recovery Action:	Dalay (millipacondo)	
First Failure: Second Failure: Third Failure:	Restart the Service Take No Action Take No Action	0 0	
Reset Failure Count:	0		_
Reboot Message:			
Program to Run:			ОК

GCS Service Manager > Properties screen: disabling service

RESTORING DATABASE BACKUPS (Moving to new Server)

These instructions describe how to restore the database backup files to a new SQL Server location.

REQUIREMENTS

- You must have already backed up your database files and copied/moved them to the new target server before you can begin these steps.
 - 1. From the Windows start menu, open the SQL Server Management Studio.
 - 2. In the SQL Server connection window, connect as follows ...
 - a. Choose the correct machine\SQL instance name
 - b. Choose 'SQL Server Authentication'
 - c. Enter valid login credentials: "sa" and the password
 - d. Click the **Connect** button.

모 ^를 Connect to Server		×
	SQL Server	
Server type:	Database Engine	\sim
Server name:	CANDACEVM\GCSSQLEXPRESS	\sim
Authentication:	SQL Server Authentication	\sim
Login:	sa	\sim
Password:		
	Connect Cancel Help Options >>	

MSSQL Server SA Login

- 3. In the Object tree, expand the "Databases" branch.
- 4. Right-click the database you want to restore and select Tasks > Restore > Database.



- 5. Click the **Device** radio button in the *Source* section of the General page.
- 6. Click the Browse [...] button to browse to the SysGal.bak file location.

(When you repeat these steps for the SysGalArc database, you will see the SysGalArc database name.)

💀 Restore Database - SysGal					- 0	×
🐼 No backupset selected to be restored	d.					
Select a page	🗊 Script 👻 😯 Help					
General Files Options	Source					
	O Database:	SysGal				
	O Device:					
	Database:					~
	Destination					
Connection	Database:	SysGal				~
CANDACEVM\GCSSQLEXPRES S [sa]	Restore to:				Time	eline
	Restore plan					
	Backup sets to restore:					
View connection properties	Restore Name Compon	ent Type Server	Database Position	First LSN Last LSN	Checkpoint LSN	Full LS
Progress				_		
Ready	٢				Verify Backup	> Media
				OK	Cancel I	Help

SQL Studio > Restore Database: General page

7. Click Add to open the Backup folder.

🖛 Select backup devices					\times
Specify the backup media and its loc	ation for your restore operation.				
Rackup media tupe:	File	~			
Backup media:	The	•			
			A	Add	
				move	
			Cor	ntents	
	ОК	Cancel		Help	
					.:

Restore Database General > Add Devices

8. Select (highlight) the SysGal.bak filename and click OK to return to the General page. (When you repeat these steps for the SysGalArc database, you will see the SysGalArc database name.)

E Locate Backup File - CAND	ACEVM\GCSSQ	QLEXPRESS				Х
Backup File location:	SQL15.GCSSQ	LEXPRESS\MSSQL\Backup	C			\mathcal{Q}
Common Files	Services rer SSQLEXPRE p	SysGal bak				
File name: SysGa	l.bak		Back	bak;*.tm;*.log		\sim
			ОК		Cancel	

Restore Database General > Select Backup file

9. Click **OK** to open the Backup folder.

NOTE: the backup path (shown below) is the MSSQL15 backup path on the local server for SQL Server v2019. Your backup path could vary, but should display correctly in this screen.

📟 Select backup devices			_		×
Specify the backup media and its loc	ation for your restore o	peration.			
Backup media type:	File	~			
Backup media:					
C:\Program Files\Microsoft SQL Serv	er\MSSQL15.GCSSQ	LEXPRESS		Add	
				Remove	
		[C	ontents	
<		>			
	ок	Canc	el	Help	

Restore Database General > Add Backup Path

10. In the *General page*, the **Source** and **Destination** fields will be populated with the designated backup path and the **SysGal** database filename. (When you repeat these steps for the SysGalArc database, you will see the SysGalArc database name.)

Ŗ Restore Database - SysGalArc							_	
🕕 Ready								
Select a page & General & Files & Options	Script • 😯 Help Source O Database:	SysGalArc						~
	Device: Database Destination	C:\Program I SysGal	Files \Microsoft	SQL Ser	ver\MSSQL15.GCSSQLEXPRESS\M	SSQL\Backu	ıp∖SysGal.b	ak
Connection	Database:							~ ~
	Restore plan Backup sets to rest	ore:	kup taken (Frid	ay, Marc	sh 10, 2023 2:55:59 PM)			limeline
1	Restore Name		Component	Туре	Server	Database	Position	First LSN
Progress	SysGal-	Full Database Backup	Database	Full	CANDACEVM\GCSSQLEXPRESS	SysGal	1	14731000000
Oone Done							Verify	Backup Media
						ОК	Cancel	Help

11. The Restore column checkbox should be "checked".

Restore Database > General page: Full Database Backup

12. In the lefthand pane, click the **Options page** and enable the **Overwrite checkbox** and click **OK**.

💀 Restore Database - SysGalArc		- 🗆 X
🕕 Ready		
Select a page & General & Files & Options	Script Help Restore options Overwrite the existing dat Preserve the replication s Restrict access to the reet	tabase (WITH REPLACE) aetinga (WITH KEEP_REPLICATION) stored database (WITH RESTRICTED_USER)
	Recovery state:	RESTORE WITH RECOVERY V
	Standby file:	C:\Program Files\Microsoft SQL Server\MSSQL15.GCSSQLEXPRESS\MSSQL\Backup\Syst
Connection # CANDACEVM/GCSSQLEXPRES S [63]	Tail-Log backup Tail-Log backup before Take tail-log backup before Leave source data (WITH NORECOV Backup file: Server connections Close existing connection	are restore thates in the restoring state (ERY) [C.\Program Files\Microsoft SQL Server\MSSQL15.GCSSQLEXPRESS\MSSQL\Backup\Sys] are to destination database
View connection properties Progress Done Done	Prompt Prompt before restoring e Prompt before restoring e The Full-Text Upgrade	ach backup server property controls whether full text indexes are imported, rebuilt, or reset for the restored database.

SQL Studio > Restore Database: Options page

13. Repeat all the steps in this section for the sysgalarc database.

RESTORING GCS CLIENT LOGINS

This section describes recreating the gcs_client & gcs_web_client logins for both databases (sysgal/sysgalarc).

The instructions cover the following actions ...

- 1. Deleting the client logins under the Security>Users branch of both databases.
- Restoring the client logins in the Security>Logins branch under the SQL Instance. Remapping the client logins in the Properties screen under the Logins branch will automatically recreate all the client logins under the User branches for both databases, all at once.
- 3. Restart the GCS Services.

DELETING GCS CLIENT LOGINS

- 1. On the new *target server*, open SQL Management Studio and login/connect to your GCSSQL Instance using the SA password.
- 2. Expand Databases > <u>SysGal</u> > Security > Users branch delete the existing *gcs logins* ...
 - a. Right-click on gcs_client login and choose Delete.
 - b. Right-click on gcs_web_client login and choose Delete.
- 3. Expand Databases > <u>SysGalArc</u> > Security > Users branch delete the existing *gcs logins* ...
 - a. Right-click on gcs_client login and choose Delete.
 - b. Right-click on gcs_web_client login and choose Delete.



Continue on next page ...

RESTORING GCS CLIENT LOGINS

You can restore the *gcs client logins* for both databases, by remapping the client logins from the Properties screen under the Logins branch.

- 4. Expand the **Security** > **Logins** branch that is under the <u>GCSSQL Instance</u> (i.e., not the security branch under the database).
- 5. Under the **Logins branch**, right-click on the **gcs_client** login and select *Properties* from the menu.



- 6. In the Properties screen, select the Mapping page (found in the lefthand menu).
- 7. Configure the User Mapping for the gcs_client login as follows ...
 - a. place a checkmark by the database names (both SysGal & SysGalArc)
 - b. type "dbo" into the Schema field for both databases
 - c. assign the membership roles for ☑ db_backupoperator, ☑ db_reader, and ☑ db_writer, as shown in the image below. Do this for both SysGal & SysGalArc databases.
- 8. Click **OK** to save the **gcs_client** mapping for both databases.

Login Properties - gcs_client				-		×			
Select a page P General	🕼 Script 👻 😧 Help								
Server Roles User Mapping	Users mapped to this login:								
P Securables P Status	Map	Database master model modb SysGal SysGalAre tempdb	User gcs_clent gcs_clent	Default Schema dbo dbo					
Connection Server	Guer	account enabled for	SysGatAre						
Connection:		coessadmin ackupoperator atareader	79.48.45						
Programs	00000 00000 00000 00000 00000 00000 0000	dadmen lenydatareader lenydatawater wher ecuityadmin 0							
				ОК	Ca	ncel			

MSSQL Instance Login Properties for client & web client

- 9. Return to the Logins branch, and right-click the gcs_web_client and open the Properties screen.
- 10. Select the **Mapping page** and complete the mapping for **gcs_web_client** login as follows ...
 - a. place a checkmark by the database names (both SysGal & SysGalArc)
 - b. type "dbo" in the schema field for both databases
 - c. assign the membership roles for ☑ db_backupoperator, ☑ db_reader, and ☑ db_writer. Do this for **gcs_web_client** in both SysGal & SysGalArc databases.
- 11. Click **OK** to save the **gcs_web_client** mapping for both databases.

- 12. Return to the database level and expand **Security** > **Users** branch for both databases (SysGal / SysGalArc).
- 13. You should see the **gcs_client** and **gcs_web_client** logins have been restored in both the SysGal and SysGalArc databases.



RESTARTING GCS SERVICES

You will start the GCS Services on the server wherever the main Communication/Event Server is operating.

If you moved the *main Communication/Event Server* to a new location, you should make sure the GCS Services are disabled on the original server only.

- 14. Restart the GCS Services on the main Communication Server using the GCS Service Manager utility.
 - a. GCS ClientGW Service
 - b. GCS Comm Service
 - c. GCS DataLoader Service
 - d. GCS DBWriter Service
 - e. GCS Event Service
 - f. GCS.WebAPI Service
 - g. also restart any GCS service that was running before you started the database migration.

Constant Description	Chabas		
Service Description	Status	^	Start
GCS.WebApi.WindowsS	Running		
GCSCCTV	Stopped		Stop
GCSClientGW	Running		
GCSComm	Running		Properties
GCSCommanderService	Stopped		
🗩 GCSD ataLoader	Running		
GCSDBWriter	Running		
GCSEventServer	Running		Configure SQL
GCSLogDistributor	Stopped		Server Backup
CCCC II II D IC I	Stopped		
📕 GLSSchindlerPortService			

This completes the section on restoring the logins and starting services.

UPDATE THE DATA SOURCES ON EACH CLIENT

- 1. On 64 bit machines, access the **32 bit ODBC Administrator** by entering "**odbcad32**" in the Windows Search field.
- 2. Open the "ODBC Data Sources (32 bit)" desktop application from the search results.



3. In the ODBC Data Source Administrator, select the System DSN tab and click Add.



4. In the DSN Configuration screen, select the appropriate target server (i.e., the *machine name\GCSSQL Instance name*) ... and click NEXT.

Microsoft SQL Server DS	N Configuration	Х
SQL Server 2008 62	This wizard will help you create an ODBC data source that you can us connect to SQL Server. What name do you want to use to refer to the data source? Name: SynCsl How do you want to describe the data source? Description: Thich SQL Server do you want to connect to? Server: W810710-TECH2\GCSSQLEXPRESS1	e to
	Finish Next > Cancel Help	

- 5. Select SQL Server authentication and enter the **gcs_client** login and password.
- 6. Also select/check the option to "Connect and obtain default settings ...", and click NEXT.

Microsoft SQL Server DS	N Configuration	Х
80	How should SQL Server verify the authenticity of the login ID?	
SQL Server 2008 R2	○ <u>Wi</u> th Integrated Windows authentication.	
	S <u>P</u> N (Optional):	
	$\textcircled{With \underline{SQL}}$ Server authentication using a login ID and password entered by the user.	
	Login ID: gcs_client	٦
	Password:	
	Connect to SQL Server to obtain default settings for the additional configuration options.	
	< Back Next > Cancel Help	

7. Select/check the option to "Use ANSI quoted identifiers", and click NEXT.

Microsoft SQL Server DSN Confi	uration	×
SQL Server 2008 RZ	ge the default database to: Gal r server: for mirror server (Optional): h database filename: ANSI quoted identifiers. ANSI nulls, paddings and warnings,	
	< <u>B</u> ack <u>N</u> ext > Cancel Help	

8. Select/check the option to "Perform translation for character data", and click FINISH.

Microsoft SQL Server DS	N Configuration	×
SQL Server 2008 R2	Change the language of SQL Server system messages to: English Use strong encryption for data Eefform translation for character data Eefform translation for character data Save long running queries to the log file: C:\Users\boyle\AppData\Local\Temp\QUERYL Econg query time (milliseconds): 3000 Clog QDBC driver statistics to the log file: C:\Users\boyle\AppData\Local\Temp\STATS.L E	dates and kowse 10
	< Back Finish Cancel	Help

9. Click [Test Data Source] button.



10. Click OK when you receive "TEST COMPLETED SUCCESSFULLY".

QL Server ODBC Data Source Test		×
Test Results		
Microsoft SQL Server Native Client Version 10.50.4000 Running connectivity tests Attempting connection Connection established Verfying option settings	^	
TESTS COMPLETED SUCCESSFULLY!		
ОК	~	