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Introduction

It is sometimes necessary to move a Runtime database from one Historian Server computer to another. This *Tech Note* provides step-by-step procedures to guide you through this process.

Application Versions

- Historian Server 10 or later
- Microsoft SQL Server 2005 SP3 (32-bit) -or-
- Microsoft SQL Server 2008 (32-bit)

Note: This *Tech Note* assumes that you are familiar with Wonderware Historian Server and Microsoft SQL Server Management Studio. If you have any questions regarding the Microsoft SQL Server, contact Microsoft Technical support at www.microsoft.com for further assistance.

This process consists of the following tasks:

- Back up the Runtime Database
- · Restore the Runtime Database to the New Server
- Complete the Configuration on the New Server

Back Up the Runtime Database

The first task is to back up the Runtime Database on the existing server.

- 1. Start Microsoft SQL Server Management Studio (Figure 1 below). Make sure to login to the SQL Server using either the **sa** login or your Windows-Authenticated account with local administrative privileges.
- 2. Expand the tree on the left panel until you see Databases + Runtime.



FIGURE 1: SQL SERVER MANAGEMENT STUDIO

3. Right-click the Runtime Database and click Tasks/Back Up (Figure 2 below).



FIGURE 2: DATABASE TASKS/BACK UP

4. When the **Back Up Database - Runtime** dialog box (Figure 3 below) appears, make note of the Destination path for the backup file. The default is ...\Microsoft SQL Server\MSSQL 10.MSSQLSERVER\MSSQL\BACKUP\Runtime.bak. Your location might be different.

elect a page	🖾 Script 👻 🚺 Help				
General Options	Saurca				
	Source				
	Database:		Runtime		
	Recovery model:		SIMPLE		
	Backup type:		Full		
	Copy Only Backup				
	Backup component:				
	Oatabase				
	Files and filegroups:				
	Backup set				
	Name:	Runtime-Full	Database Backup		
	Description:				
	Backup set will expire:				
	After	0	ē	davs	
onnection	@ On:	1/ 3/2012		days	
	Destination			A	
Connection	Back up to:	Disk	0	Tape	
CORP\briannu	rosoft SQL Server\MSSQL10.MS	SQLSERVERIMS	SQL\Backup\Runtime	e.bak	Add
View connection properties					A <u>d</u> d
					Remove
rogress					3.072
Ready					Contents
4.4.5 ⁵	•	1	1	· · ·	
			_		0 I

FIGURE 3: SQL SERVER BACKUP DATABASE - GENERAL PAGE

- 5. Click the Options item. In the Overwrite media section, click Back up to the existing Media set and Append to the existing backup set.
- 6. In the **Reliability** section, click the **Verify backup when finished** option.
- 7. Click **OK** to continue.

Select a page	🖾 Script 🔻 🚺 Help				
P Options	Overwrite media				
	Back up to the existing media set				
	Append to the existing backur	n set			
	Overwrite all existing backup	sets			
	Check media set name and backup set expiration				
	Media set game:				
	Back up to a new media set, and	erase all existing backup sets			
	New media get name:				
	New media set description				
	Reliability				
	Verify backup when finished				
	Perform checksum before writing	to media			
Connection	Continue on error				
Server:	Transaction log				
BRIANN7	⑦ Truncate the transaction log				
Connection: CORP\briannu	Back up the tail of the log, and le	rave the database in the restoring state			
View connection properties	Tape drive				
	Unload the tape after backup				
Progress	Rewind the tape before unlo	eding			
Pendy Rendy	Compression				
Reduy	Set backup compression:	Use the default server setting			

FIGURE 4: SQL SERVER BACKUP DATABASE - OPTIONS PAGE

8. After several moments a confirmation message appears (Figure 5 below). Click OK.

Microsoft	SQL Server Management Studio	×
1	The backup of database 'Runtime' completed successfully.	
B		ок

FIGURE 5: BACKUP COMPLETED SUCCESSFULLY

Restore the Runtime Database to the New Server

This section describes the steps to restore the Runtime database onto the new destination server.

This Tech Note assumes that Historian Server is installed on the new machine.

- 1. Open the SMC, and expand the ArchestrA System Management Console + Historian.
- 2. Expand the Historian Group/<LocalMachine>/Management Console.
- 3. Right-click Status and click All Tasks/Shutdown (and Disable) Historian.

💋 SMC - [ArchestrA Syst	em Management (Console (TSLIAS65)\His	torian\His	torian Group\TSLIAS65\M	lanagement Console\Status]	_ 🗆 🗵	
File Action View Help)							
🗢 🔿 🖄 🔂 🙆								
🧭 ArchestrA System Manaç	gement Console (TSLI	AS65)	Item		Value	Module	Status	
🖃 🔄 Historian			System tim	e	1/4/2012 4:19:50 PM	Storage	Started	
🖃 📑 Historian Group			Time of las	t start	12/14/2011 3:28:28 AM	Manual storage	Started	
E SLIAS65	and Grands		Elapsed tin	he since last start	3 wks 0 dys 12 hrs 51 mins 12/14/2011 2:27:20 AM	Tier-2 storage	Started	
			Time of las	t reconfiguration	12/14/2011 3:27:39 AM	Replication	Started	
Dat	Start Historian		Configurat	ion status	Normal	Event system	Started	
Ret	Stop Historian		System sta	itus	Running	Retrieval	Started	
Clie			License sta	itus In of tags in database	Valid	Indexing	Started	
🚫 Hisl	All Tasks 🕨	Start Historian		censed tags in database	6	OLE-DB provider	Started	
🕀 🐺 Configu	View 🕨	Stop Historian		count	150,000	Historian I/O server	Started	
🛨 🖳 Galaxy Database M		Start Module		r of data values received	161,132,132	MDAS Server	Started	
🕀 🛃 DAServer Manager	Refresh	Stop Module		rate (per sec.)	94.64	System driver	Started	
🛨 🛄 Log Viewer	Help	Server Startup Options.		s	0	Data acquisition on \\TSLIAS65	Started	
🛛 🕀 🔡 Platform Manager 🗆		View Lissense Tefermation	_		0			
		Defrech Lissense Teferma	n in		1			
		Shutdown (and disable)	Historian	Brror reset	12/14/2011 3:27:39 AM			
		Shutdown (and disable)	historian	ble on circular path ble on alternative nath	48.9 GB Undefined or invalid path	1		
		Enable (allow to run) His	scorian	ble on huffer nath	48.9 GB	I		

FIGURE 6: SHUTDOWN (AND DISABLE) HISTORIAN

- 4. Start the Microsoft SQL Server Management Studio. Make sure to login to SQL Server using either the **sa** login or your Windows-Authenticated account with local administrative privileges.
- 5. Open a new query window and copy/paste the following Transact-SQL code into the query area and execute it. This query will rename the existing Runtime database on the destination server to **Runtime_old** for safety purposes.

```
USE Master
GO
EXEC sp_dboption 'Runtime', 'single user','true'
GO
EXEC sp_renamedb 'Runtime', 'Runtime_old'
GO
```

- 6. Copy the Runtime backup file from the path in Step 4 in the previous section to a folder on the destination Server.
- 7. From the MS SQL Server Management Studio, right-click on the Database folder and click **Restore Database**. The Restore Database dialog appears.
- 8. Type the database name **Runtime** in the **To database** field.
- 9. Click **From device** then click on the ellipsis button (Figure 7 below) to browse to the folder where you copied the **Runtime.bak** file (Step 6 in this procedure).
- 10. The **Specify Backup** dialog box appears. Click the **Add** button to locate the folder where the backup file Runtime backup file resides (Figure 7 below).

🛃 📑 Restore Database - Runtir	ne				
F Select a page	🔄 Script + 🚺 Help				
C Options	Destination for restore				
10	Select or type the name of a ne	v or existing database for your restore operation.			
	To database:	Runtime			
	To a point in time:	Most recent possible			
	Source for restore				
	Specify the source and location	of backup sets to restore.			
	C From database:	1		🚺 Locate Backup File - TSLIAS65	
	From device:			Select the file:	
	Select the backup sets to resto	Specify Backup		Archesta	-
	Restore N Comp T.	S Dat. Specify the backup media and its location for your restore or	extion	Common Files	
				B G McAfee	
Connection		Backup media: File		Can McAfee Security Scan End Microsoft Analysis Services	
TSLIAS65		Backup location:		Generation CAPICOM 21.0.2	1.1
Connection: TSLIASEShumanter			- Poor	B C Microsoft SDKs	
Service connection properties			Culote to the	Generation of the second	
			Lorxenta	1 100	
Progress				€ 5 90	
C Ready				MSAS10.MSSQLSERVER MSRS10.MSSQLSERVER	
				MSSQL10.MSSQLSERVER	_
				Backup	
		<u>ОК</u>	Cancel Help	Buntime.bak	
				DATA	
				i JOBS	
				E Cog	-
				Selected gath: C:VProgram Files (x86)/Mix	crosoft SQL ServerVM!
				Files of type: Backup Files(".bak,".tm)	
				File pame: Runtime bak	
Ready	jim.			0)	K Cancel
1000775					111

FIGURE 7: RESTORE DATABASE – RUNTIME AND LOCATE RUNTIME BACKUP FILE

- 11. Click OK, then OK again to return to the Restore Database Runtime panel.
- 12. Click the **Restore** option to select the Runtime database backup (Figure 8 below).

Select a page	Script - 🖪 Help						
Elect a page	Destination for restore Select or type the name of a new To database:	w or existing database for yo Buntime Most recent possible	ur restore	e operation.			
	Source for restore Specify the source and location	of backup sets to restore.					
	Source for restore Specify the source and location	of backup sets to restore.	6)\Micro:	oft SQL Serve	er\MSSQL10.	MSSQLSE	
	Source for restore Specify the source and location C From database: C From gevice: Select the backup sets to restore	of backup sets to restore. C:\Program Files (x8	6)\Micro:	oft SQL Serve	er\MSSQL10.	MSSQLSE	
	Source for restore Specify the source and location From database: From gevice: Select the backup sets to restore Restore Name	of backup sets to restore. C:\Program Files (x8 e: Component	6)\Micros	oft SQL Serve	erVMSSQL10. Database	MSSQLSE	

FIGURE 8: RESTORE DATABASE – RUNTIME DIALOG BOX

- 13. On the **Restore Database Runtime** panel, click **Options**.
- 14. In the **Restore options** area, click the **Restore options** shown in Figure 9 (below):

🧐 Restore Database - Runtin	ne		
Select a page	Script - 🚺 Help		
Ceneral Options	Restore options	REPLACE) KEEP_REPLICATION) e (WITH RESTRICTED_USER)	
	Original File Name	File Type	Restore As
	Run100Dat	Rows Data	C:\Program Files (x86)\Microsoft SQL Server\MSSQL10.MSSQLSE
	Run100Log	Log	C:\Program Files (x86)\Microsoft SQL Server\MSSQL10.MSSQLSE
Connection Server: TSLIAS65	C Leave the database non-operational, an	nd do not roll back uncommitted transactions. Additional	transaction logs can be restored.(RESTORE WITH NORECOVERY)
Connection: TSLIAS65\www.ser	C Leave the database in read-only mode.	Undo uncommitted transactions, but save the undo act	ions in a standby file so that recovery effects can be reversed. (RESTORE WITH STANDBY)
View connection properties Progress	Standby file		
Ready	i The Full-Text Upgrade Option server	property controls whether full-text indexes are imported,	rebuilt, or reset.
			OK Cancel

FIGURE 9: RESTORE DATABASE/OPTIONS PANEL

- 15. If necessary, modify the path for the Data file (LDF) and Log file (MDF) in the Restore As column.
- 16. Click **OK** to begin the restore process.
- 17. After the restore operation completes successfully, execute the following Transact-SQL script from the MS SQL Server Management Studio to ensure that all of the Historian Server's pre-configured user accounts and roles are properly connected.

```
USE Runtime
EXEC sp_change_users_login 'Auto_Fix', 'wwAdmin'
go
EXEC sp_defaultdb 'wwAdmin', 'Runtime'
go
EXEC sp_change_users_login 'Auto_Fix', 'wwUser'
go
EXEC sp_defaultdb 'wwUser', 'Runtime'
go
EXEC sp_change_users_login 'Auto_Fix', 'wwPower'
go
EXEC sp_defaultdb 'wwPower', 'Runtime'
go
EXEC sp_changedbowner wwdbo, true
```

file:///Cl/inetpub/wwwroot/t002607/t002607.htm[2/16/2012 12:54:28 PM]

EXEC sp_change_users_login 'Auto_Fix', 'aaAdmin' go EXEC sp_defaultdb 'aaAdmin', 'Runtime' go EXEC sp_change_users_login 'Auto_Fix', 'aaUser' go EXEC sp_defaultdb 'aaUser', 'Runtime' go EXEC sp_change_users_login 'Auto_Fix', 'aaPower' go EXEC sp_defaultdb 'aaPower', 'Runtime' go EXEC sp_changedbowner aadbo, true go

Complete the Configuration on the New Server

The final task is to update the Node Name and Data Paths on the new machine.

Once the Runtime Database has been moved, you must modify the Runtime configuration settings to reflect the node name where the new installation resides. Also, if the drive or path where the History Blocks are stored has changed from the old existing node, these configuration settings must also be modified.

- 1. Make sure the Historian Server is still shutdown and disabled.
- 2. Copy and modify the following Transact-SQL statements for the Historian Server to run on the new node. Substitute **NewNodeName** and **OldNodeName** with the appropriate computer names where necessary.
- The **ComputerName** field in the StorageNode table contains the node name where the Historian Server data is logged.

```
UPDATE StorageNode
SET ComputerName = 'NewNodeName'
WHERE ComputerName = 'OldNodeName
```

• The ComputerName field in the ServerList table also contains the node name where the Historian Server resides.

```
UPDATE ServerList
SET ComputerName = 'NewNodeName'
WHERE ComputerName = 'OldNodeName
```

• The MachineName field in the InTouchNode table contains the names of all nodes from which the InTouch tagname databases have been imported. You only need to modify this table if the Historian Server tags were imported from an InTouch application that was local to the Historian Server on the old computer and has also been moved to this new computer.

UPDATE InTouchNode SET MachineName = 'NewNodeName' WHERE MachineName = 'OldNodeName'

• The **ComputerName** field in the IOServer table contains the node names where the internal System Driver (SysDrv) and various I/O Servers or DAServers for IDAS data collection are installed. If any I/O sources that were running locally to the Historian Server on the old node are not going to be running locally on the new node, you will need to manually modify the IOServer entries afterward using Historian Server Configuration Editor (SMC).

UPDATE IOServer SET ComputerName = 'NewNodeName' WHERE ComputerName = 'OldNodeName'

• Run the following statements only if the drive or path selected for the Historian Server storage locations (Circular, Buffer, Permanent, Alternate) was changed with the new installation. Before making any modifications to the StorageLocation paths, run the following SELECT statement and use Windows Explorer to confirm the paths listed.

SELECT * FROM StorageLocation

If necessary, use the statements below to modify any paths that are different on this node. Replace the drive letter " \mathbf{x} " in the following code with the drive letter that is appropriate for your installation.

UPDATE StorageLocation SET path = 'x:\Historian\DATA\Circular' WHERE StorageType = 1 UPDATE StorageLocation SET path = 'x:\Historian\DATA\Buffer' WHERE StorageType = 3 UPDATE StorageLocation SET path = 'x:\Historian\DATA\Permanent' WHERE StorageType = 4

- 3. Enable and restart the Historian Server from the SMC by right-clicking Status and clicking All Tasks/Enable (allow to run) Historian.
- 4. If the System Parameter for AutoStart is not enabled, right-click Status and click Start Historian.

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