Schneider Electric Software

Knowledge & Support Center

Doc Туре	Tech Notes
Doc Id	TN2863
Last Modified Date	08/15/2017

Migrating InSQL 9.0 and later to Historian 2014 R2 SP1 on a new machine

SUMMARY

This *Tech Note* provides the procedure to migrate earlier versions of Historian (InSQL 9.0 onward) to Historian 2014 (V11.5) and Historian 2014 R2 SP1 (V11.6) on a new machine with the same name.

Migration from InSQL V9.0 and below requires upgrading to Historian 2012 (V10.0) first.

Migration to Historian 2017 from Historian 2012 (V10.0) requires upgrading to Historian 2014 R2 SP1 first.

SITUATION

Because Microsoft is phasing out support for earlier versions of Microsoft Operating Systems, you must migrate to a new machine with a newer Operating System version. With this move, older versions of Wonderware products must be migrated as well. This article describes the steps to migrate to the new Historian version.

SYMPTOMS

In order for the new Historian machine to have the same configuration as the old machine, and to be able to read the History blocks, the Runtime database has to be migrated correctly.

For System Platform 2012 and earlier versions, you must perform a "same machine" upgrade. This means you install the new version on the same machine as the old version, so that the Runtime database can be upgraded, and in turn, can backup and restore the upgraded database to the new machine. The reason for this is that when you run the Historian configurator, it deletes the Runtime database and creates a new default one.

With Historian 2014 and Historian 2014 R2, there is no need for this process. The Historian configurator verifies the Runtime database and performs an upgrade as long as it is a valid Historian Runtime database, even when it is an earlier version. Any custom tables in the Runtime database are preserved.

ACTION

Please read through the documentation as least once before proceeding with the steps.

- 1. On the new machine, make sure the machine name is exactly the same as the machine to be migrated. Install the required Microsoft SQL version and Historian.
- 2. Open Historian administrator to make sure the new installed Historian is running without any problem.

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File Action View Help					
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 ArchestrA System Management Console (WIN 	R Stous Item System time Time of last start Elapsed time since last start Time of last stop Total number of tags in dat. Number of last stop Total number of tags in dat. Number of last rate (per sec.) Fatal errors Critical errors Erro	Value 6/19/2017 25632 PM 6/13/2017 11:02:16 AM 6/03 brts 54 mins 6/13/2017 11:02:00 AM 6/13/2017 11:02:00 AM 7/17 11:02:00 AM Normal Running Valid 1,251 500,000 232,164,981 1,254,981 1,254,66 GB 11,6,13100,000	Module Storage Gasic data redirector Replication Gasic event system Gasic event storage Gasic	Status Started Started	
	Time Mess 6/19/2017 2:08:37.7 Pleas 6/19/2017 10:30:52 Creat	age e update Historian Server propertie ed new history block:C:\Historian\E	es with valid cred Data\Circular\A17		
	pc/19/2017 Usubs				
< III	6/13/2017 11:02:17 Confi	quring real-time data acquisition			

Figure 1: Historian running without any problem

3. By default, all History blocks are stored in C:\Historian\Data\. Check that the old machine are using the same path. If not, create the folder that is being used by the old Historian before proceeding. Older versions of Historian have the default path of C:\InSQL\Data\.

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File Action View Help					
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💋 ArchestrA System Management Console (WIN-1R	Storage Locations				
4 🍪 Historian	Storage Location Type	Path	Deletion Threshold (MB)	Maximum Size (MB)	Age Three
4 🗊 Historian Group	Gircular	C:\Historian\Data\Circular	1024	0	0
WIN-1RSTSFH5MMI	Alternate	rr:\OverflowData	1024	0	0
4 🔩 Management Console	Buffer	C\Historian\Data\Buffer	1024	0	0
di Status	Permanent	C\Historian\Data\Perman	1024	0	0
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4 Configuration Editor					
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Storage Locations					
Imported Nodes					
Tag Configuration					
Replication					
Public Groups					
Private Groups					
🕨 🖳 Galaxy Database Manager					
Derations Integration Server Manager					
Log Viewer					
🕨 🖳 Platform Manager					

Figure 2: Default History block location

4. On the old machine, open Microsoft SQL Server Management Studio. Right-click on the Runtime database and click Task -> Backup.



Figure 3: Example MS SQL 2008 backup menu

5. On the new machine, Shutdown and disable Historian. Make sure all modules are stopped before you proceed to next step.

File Action View	Help				
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Historian Historian Grup Historian Grup Historian Grup Management Console Grup Stort Historian Grup Stort Historian Grup Kefresh Grup Data Acquisition A Storage Data Acquisition A Storage Locations F Storage Locations F Tag Configuration B Refrestion Data Acquisition	Item System time Time of last start Elapsed time since last start Time of last stop Time of last stop Time of last reconfiguration Configuration status Start Historian Stop Historian Stop Module Stop Module Stop Module Reset Error Counts View License Information Refresh License Information Shutdown (and disable) Historian Evable (Alows to grup) Historian	Value 6/19/2017 4/0845 PM 6/13/2017 11:02:16 AM 6 dys 5 hrs 6 mins 6/13/2017 11:02:00 AM 6/13/2017 11:02:00 AM Normal Running Valid 1,444 1,251 500,000 237,582,293 1,126.36 0 0 1 1	Module Storage Classic data redirector Classic data redirector Classic event system Retrieval Classic event system Retrieval Classic event system Classic event system Classic event storage System driver Data acquisition on \\WIN-1RSTSFH5MMI	Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started	
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Figure 4: Shutdown and disable Historian

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3 Data Acquisition	Time of last reconfiguration	6/19/2017 4:37:52 PM	Classic event system	Unknown	
Replication	Configuration status	Normal	Retrieval	Unknown	
Re Clients	System status	Disconnected	⊠ Indexing	Unknown	
🚱 History Blocks	License status	Valid	OLE-DB provider	Unknown	
Configuration Editor	Total number of tags in dat	1.444	Historian I/O server	Unknown	
Galaxy Database Manager	Number of licensed tags in	1,251	Client access point	Unknown	
Operations Integration Server Manager	License tag count	500,000	Metadata server	Unknown	
🕨 🔚 Log Viewer	Total number of data value	4,779	Event storage	Unknown	
Platform Manager	Overall data rate (per sec.)	0.00	System driver	Unknown	
	Fatal errors	0	ZData acquisition on \\WIN-1RSTSFH5MMI	Unknown	
	Critical errors	0			
	Errors	0			
	Warnings	1			
	Time of last error reset	6/19/2017 4:37:52 PM			
	Space available on circular	26.6 GB			
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	6/10/2017 4:41:08.1 Stopper	d Event Storage			
	6/19/2017 4:40:55.0 Config	ration senice shutting down			
	6/19/2017 4:40:55.0 Stop se	stem command received:\System	mlocal		
	6/19/2017 4:40:53.0 Stoppin	ig service Historian Replication	(cood)		
	6/19/2017 4:40:52.7 Stoppin	g Data Import			
< III >	6/19/2017 4:40:52.5 Stoppin	o Classic Data Redirector			\sim
Error on server WIN-1RSTSFH5MMI - the Historian is	disabled.				



6. Open Microsoft SQL Management Studio and restore the backup Runtime database to the new machine.

9 5			Restore Da	tabase - Ri	untim	e				I X
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Select a page	🖾 Script 🔸 🚺	🖥 Help								
General Files Options	Source —									
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Connection										
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View connection properties										
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Figure 6: Restore Runtime database from the backup file

%	F	Restore Database - Runtime							
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Select a page	🖾 Script 🔹 🚺 Help								
Files	Restore options	Restore options							
T Options	 Overwrite the existing data 	✓ Overwrite the existing database (WITH REPLACE)							
	Preserve the replication settings (WITH KEEP_REPLICATION)								
	Restrict access to the res	Restrict access to the restored database (WITH RESTRICTED_USER)							
	Recovery state:	Recovery state: RESTORE WITH RECOVERY 🗸							
	Standby file:	C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\E							
	Leave the database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.								
	Tail-Log backup								
	Take tail-log backup bei	fore restore							
	□ Leave source data (WITH NORECOVE	base in the restoring state :RY)							
	Backup file:	C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\E							
	Server connections								
	Close existing connectio	ins to destination database							
Connection 뫧 WIN-1RSTSFH5MMI [WIN-1RSTSFH5MMI\A dministrator]	Prompt								
View connection properties	Prompt before restoring	each backup							
Progress Restore of database	(i) The Full-Text Upgrad	The Full-Text Upgrade server property controls whether full-text indexes are imported, rebuilt, or reset for the restored database.							
		OK Cancel Help							

Figure 7: Enable options "Overwrite the existing database" and click "OK"

- 7. After the runtime database is restored without error, close Microsoft SQL Management Studio.
 8. Run the Historian Configurator. It will update the Runtime database to the latest version.

6	Configurator	×
File Help		
Historian	Database Information Database Path C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQL	
	Data Path C:\InSQL\Data Existing Database Conflict Drop and Create New Database Alarms & Events Storage	
	Iraditional: SQL Server, store up to 100 messages/second (recommended) High-speed: History blocks, store up to 1,000 messages/second	
	Service Configuration Start Applications Historian TCP port 32568 Auto Start Historian Launch InTouch Tag Importer	
	SQL Login Information • Windows Authentication • SQL Authentication User Name	
	Password Configuration Messages	
	Version 3.5.30729.4926 Version 4.0.0.0 Version 4.5.51641	^
	Pre-Requisite:SQLServer Condition met Historian prerequisite check completed Successfully Connected the SQL Server	=
Refresh All Messages	Configure Clos	e

Figure 8: Update the Data Path noted in step 3 and click 'Configure'.

9. Start Historian administrator. Enable (allow to run) Historian.

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File Action View	Help				
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4 🗞 Historian		Item		Value	Module
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10 D	Start Historian				
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Re C	All Tasks 🔸	Start Historian			
_ G ⊢	View 🕨	Stop Historian			
▶ 🖷 Colars Datat	Refresh	Start Module			
Galaxy Datat	Help	Stop Module			
I Log Viewer		Server Startup Options.			
👂 🖳 Platform Manag	ger	View License Informati	90		
		Refresh License Information	ation		
		Shutdown (and disable) Historian		
		Enable (allow to run) H	istorian		
		Time	Message		
1					

Figure 9: Enable (allow to run) Historian

10. Notice that not all modules are started. This is normal.

SMC - [ArchestrA System Management Console (WIN-1RSTSFH5MMI)\Historian\Historian Group\WIN-1RSTSFH5MMI\Management Console\Status]							
File Action View Help							
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ArchestrA System Management Console (WIN-1	IR: Status						
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▷ 🖼 Platform Manager	Space available on burier p Space available on perman System version	27.0 GB 27.0 GB 11,6,13100,000					
	6/19/2017 5:04:47.4 Started E 6/19/2017 5:04:47.0 Started S	e Event Storage Storage					
Figure 10: Not all modules a	re started	-					

11. Go to Configuration Editor -> Parameters. Update all log paths to point to the same folder as the History Block for easy administration.

🥔 SMC - [ArchestrA System Managemen	t Console (WIN-1RSTSFH5MM	I)\Historian\Historian Group\WIN-1RSTS	FH5MMI\Configuration Editor\System Config 💶 🗖
File Action View Help			
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ArchestrA System Management Console (WIN-1F	R Parameters		
4 🍪 Historian	Parameter Name	Parameter Value	Parameter Description
4 🗾 Historian Group	AllowOriginals	0	Allow/Disallow manual original data insert for IO
A B WIN-TRSTSFHOMMI	AnalogSummaryTypeAbbreviati		Type abbreviation to be used in generating Analo
A Status	AutoStart	0	When set to 1 the system starts automatically
Data Acquisition	ConfigEditorVersion	11,6,000,000	Minimum required Configuration Editor version
Benlication	A CounterDeadband	10	Percentage (0-100) of the rollover value used to d
Clients	atabaseVersion	11,6,13100,000	Runtime database version
S History Blocks	atalmportPath	C:\InSQL\Data\DataImport	File path for CSV files containing old data
4 🖷 Configuration Editor	and DataIndexLogPath	C:\Historian\Data\Logs\DataIndex	Path for storing write-ahead logs for tag data ind
4 🚞 System Configuration	CatalndexPath	C:\Historian\Data\DataIndex	Path for storing tag data index
🛃 Parameters	🛃 DBID	{6AC8D890-82D9-45A3-8C6D-E684A5015CE5}	Runtime database identifier
Data Acquisition	By EventStorageDuration	168	Max Event History Storage Duration (hours)
A 🛄 Storage	By EventStorageLogPath	C:\Historian\Data\Logs\EventStorage	Path for storing logs for event tag data
Storage Locations	GroupedPrivateNamespace	1	Enables or disables domain users having private n
Imported Nodes	By HistorianPartner		Machine name of the partner Historian
P and Tag Configuration b Replication	An Historian Version	11,6,13100,000	Historian system version
Public Groups	HistoryCacheSize	0	Allocated memory for history block information (
Private Groups	HistoryDaysAlwaysCached	0	Duration for which history block information is al
Galaxy Database Manager	HoursPerBlock	24	History block duration (hours)
Derations Integration Server Manager	AnterpolationTypeInteger	0	Interpolation type for integers (0=Stair, 1=Linear)
Log Viewer	InterpolationTypeReal	1	Interpolation type for reals (0=Stair, 1=Linear)
Platform Manager	A LateDataPathThreshold	125	Control SF for Late data
	By License Remotel DASCount	65535	Number of allowed remote IDAS, read from Licen
	By License TagCount	500000	Number of allowed tags, read from License
	Anual DataPath Threshold	125	Control SF for Old data
	MaxCyclicStorageTimeout	0	Maximum allowed time in seconds after which va
	A MaxSnapshotSize	128	Maximum snapshot size in memory (MB)
	ModLogTrackingStatus	0	Configures modification logging
	oldDataSynchronizationDelay	60	Time period in seconds describing how often the
	de QualityRule	0	Use Good and Uncertain points (0), or Good point
	RealTimeWindow	60	Maximum delay, relative to current time, for whic

Figure 11: Optional - Update log path to use the same folder as History Block

12. Go back to Status and Start Historian.



Figure 12: Start Historian

All modules should be started now

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4 🔃 Historian Group	nem		Value	Module	Status	
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4 🎫 Management Console	Time of last start		6/19/2017 5:23:18 PM	Lassic data redirector	Started	
Status	Elapsed time since las	st start	U mins	Data import	Started	
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Replication	Configuration status	lauon	0/19/2017 3.17.10 PM	Retrievel	Started	
Lients	Suctem status		Rupping	Dindexing	Started	
History Blocks	License status		Valid	D OLE-DB provider	Started	
4 Configuration Editor	Total number of tags	in dat	218	D Historian I/O server	Started	
4 System Configuration	Number of licensed to	ans in	0	Client access point	Started	
Parameters	License tag count		500.000	Metadata server	Started	
Data Acquisition	Total number of data	value	702	Event storage	Started	
4 Storage	Overall data rate (per sec.)		30.89	System driver	Started	
b Storage Locations	Fatal errors		0	Data acquisition on \\ WIN-1RSTSFH5MMI	Started	
b Storage Educations	Critical errors		2			
Find the second seco	Errors		1			
Parlication	Warnings		1			
P and Replication	Time of last error rese	t	6/19/2017 5:17:16 PM			
P ablic Groups	Space available on cir	rcular	27.0 GB			
Colmer Database Manager	Space available on al	ternati	Undefined or invalid path			
Dia Galaxy Database Manager	Space available on bu	uffer p	27.0 GB			
D Contractions integration server Manager	Space available on pe	erman	27.0 GB			
	System version		11,6,13100,000			
Platform Manager						
	-					
	lime	Messag	e			
	6/19/2017 5:23:39.3	Created	new history block;C:\InSql\Data	\Circular\A170619_001		
	6/19/2017 5:23:31.0	Started	data acquisition on;VS2012			
	6/19/2017 5:23:24.2	Started	system driver on;WIN-1RSTSFH5	MMI		
	6/19/2017 5:23:21.0	Unable	to configure real-time data acqu	isiuon		
	6/19/2017 5:23:18.8	Configu	ring real-time data acquisition			
	6/10/2017 5:23:18.7	Rogister	ing system anver			
	6/19/2017 5:23:18.7	Confirm	mormation acquired			
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Continu	neki en inferne ki en ern ined			

Figure 13: All modules should be started

NOTES:

- Make sure the new computer name is the same as the old computer name

- Take note of the History Block path becaues it is the same folder that is required to be created on the new computer.

- Moving the History Blocks from the old computer to the new computer simply involves copying over the block files.

- For Historian 2014, please execute **Rescan History Blocks** after the blocks have been copied over. Historian 2014 R2 does not require executing this step.

- Older Historian versions create a new History Block when you restart Historian. Because of this it is possible to have many blocks for 1 day. But Historian 2014 R2 does not create a new block even when you restart. It creates a new block based on the **HoursPerBlock** parameter, which is 24 hours by default. In order to minimize the data gap or data lost, Wonderware Technical Support recommens switching over from the old machine to the new machine after midnight.

SUPPORTING INFORMATION

- TN544 Migrating IndustrialSQL Server 9.0 to Historian 2012 R2
- TN432 Moving the Historian Runtime Database from One Machine to Another
- TN676 Moving the Historian runtime Database to Another Machine Using SQL 2012