Tech Note 230
Troubleshooting the Browser-Based Window's Live-data Issues

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Introduction

This *Tech Note* describes the mechanisms involved in moving live data from an InTouch® application, running and acquiring plant-floor data, to a SuiteVoyager browser-based window. In addition, troubleshooting techniques for determining why there is no data being displayed in the window are covered.

Several areas can be checked in the event that no data is present in a browser-based window. The first indicator to check is the live-data-update indicator bar. This bar resides in the lower left-hand portion of the browser window and appears to move back and forth. The update indicator bar should appear within approximately 15 seconds of opening a browser-based window containing live data. The data-source location must be correct. This can be verified by checking the windowset properties in the Win-XML exporter.

All browser-based window data is delivered by the Wonderware® **RdbHandler** Service. Communication between InTouch WindowViewer, or the data source, and the RdbHandler is done via SuiteLink.

This communication link, just as the link between InTouch and an I/O Server, can be tested using the WWClient. However, there is a small variation in the setup of WWClient for checking communication through the RDB Handler versus through an I/O Server; that difference is covered in this document. It is also imperative that the execute permissions be correctly set for the SuiteVoyager installation within Internet Information Services.

Application Versions

This Tech Note was updated using the following application versions:

- Wonderware Information Server 3.0
- InTouch 9.0 Patch 2 (9.0.002 0757.0084.0112.0002)

Providing Data for Factory Clients

The following is an excerpt from the SuiteVoyager Administrator's Guide. It discusses the engine that supplies data from the factory floor to the portal.

SuiteVoyager is a data portal that aggregates information from plant-floor data sources. It does not replicate information. It takes users of the thin clients directly to the source of the data. But, no matter how many people are connected to the portal, the additional network load will be that of only one InTouch node. Therefore the plant-floor network engineer can rest assured that this product will not cause him to upgrade his bandwidth to handle the 300 concurrent users the

portal can support.

Between the Internet/Intranet clients and the portal, the protocol is HTTP. From the portal to the plant-floor data sources such as View, InControl, or I/O Servers, the protocol is SuiteLink. SuiteVoyager uses ADO and OLE DB from the Active Server Pages to access information from databases such as InSQL™, AlarmSuite™, or InTouch™ 7.1 Alarm Logger. Data sources for the portal must be located in and accessible via the same LAN (Local Area Network) as the portal. All clients must have access through the Internet or the Intranet.

The SuiteVoyager Portal uses a set of data handlers that speak HTTP on one side and the plant-floor protocols on the other. These handlers run as services within the IVFW framework, an ISAPI application that interacts directly with the Internet Information Server and re-directs messages to the appropriate data handlers. In addition, its task is to establish and maintain a session between the client and the handler. The data handler itself manages and maintains connections to the data sources.

Viewing Live Data Over the Internet

To view live data over the Internet, the Web server must be accessible by the client. For example, when viewed from within the Web server's domain or locally data updates as expected. When viewed from an "external" Internet client, the data does not update.

It is critical that the published WindowSets (which require Internet access) be published to the correct Web server URL.

The WWClient utility is used to troubleshoot data update issues.

When configuring SuiteVoyager to provide this capability it is advised that you involve your IS or IT department, or any personnel who handle these responsibilities.

Checking the Data Source and RunTime DB Handler Service Status

Checking the Data Source

The data source for a WindowSet will normally be the InTouch View application, but it can also be an I/O Server or another application that is running somewhere on the domain. The location of the data source is included in the converted window's XML code as well as the WindowSet configuration file. It can also be verified through the WinXMLExporter.

The following section demonstrates checking the data source using the WinXMLExporter utility.

It is important that the data source be verified. Is it in the location where it should be?

1. Start **WinXMLExporter** (Figure 1 below).

   The data source location can be verified from this utility.

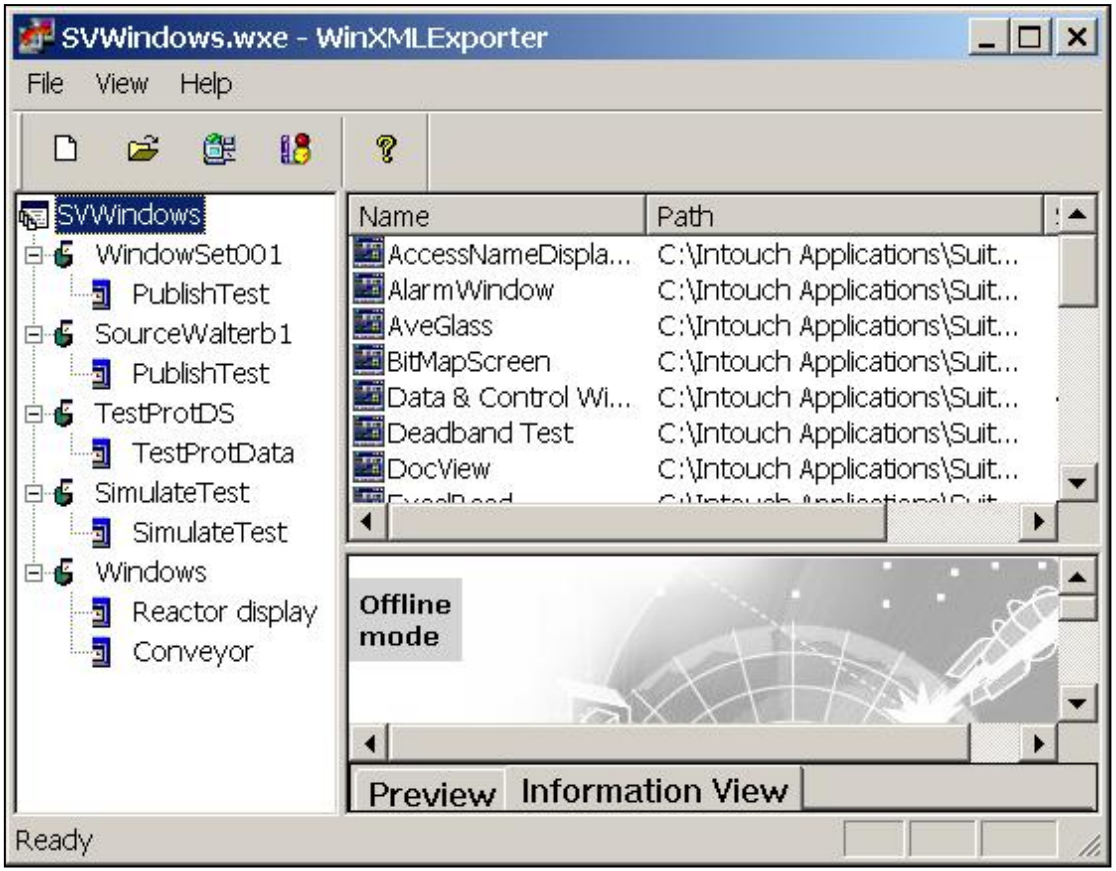

Figure 1: SVWindows.wxe - WinXML Exporter

The following example shows the properties for **WindowSet001** (Figure 2 below).

2. Right-click **WindowSet001** and select **Properties**.

   The **WindowSet Properties** dialog box appears (Figure 2 below).

3. This dialog box shows that SuiteVoyager is installed on computer **KEVINN26**.

   The **Data Node Name** (the node that InTouch View resides on) is also **KEVINN26**.

   Note the similarity to configuring a tagname server Access Name in InTouch:

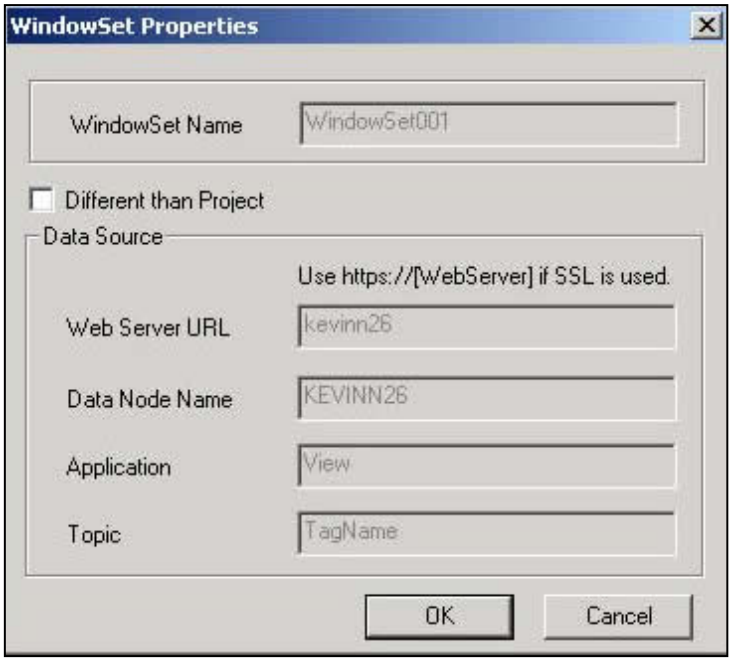

Figure 2: WindowSet Properties Dialog Box - The WindowSet001 Properties

To change the WindowSet properties:

4. Select/check the **Different than Project** option. This option enables configuration of the Web Server URL and Data Node names.

   Figure 3 (below) shows the modified WindowSet properties. This is an example of an implementation where the data node is different from the SuiteVoyager node. In this example, SuiteVoyager is installed on computer **KEVINN26**, and InTouch View resides on **KEVINN42**.

5. Make any changes and click the **OK** button:

Figure 3: WindowSet Properties
Where data Node is different from Suitevoyager Node

Checking the RunTime DB Handler Service

1. To verify that the **RunTime DB Handler** service is running, open the Services window (on the Server node) and locate the Service in the list. In a Windows 2000 Server environment, it appears similar to Figure 4 (below).

   Note that the Status in this figure is **Started**.

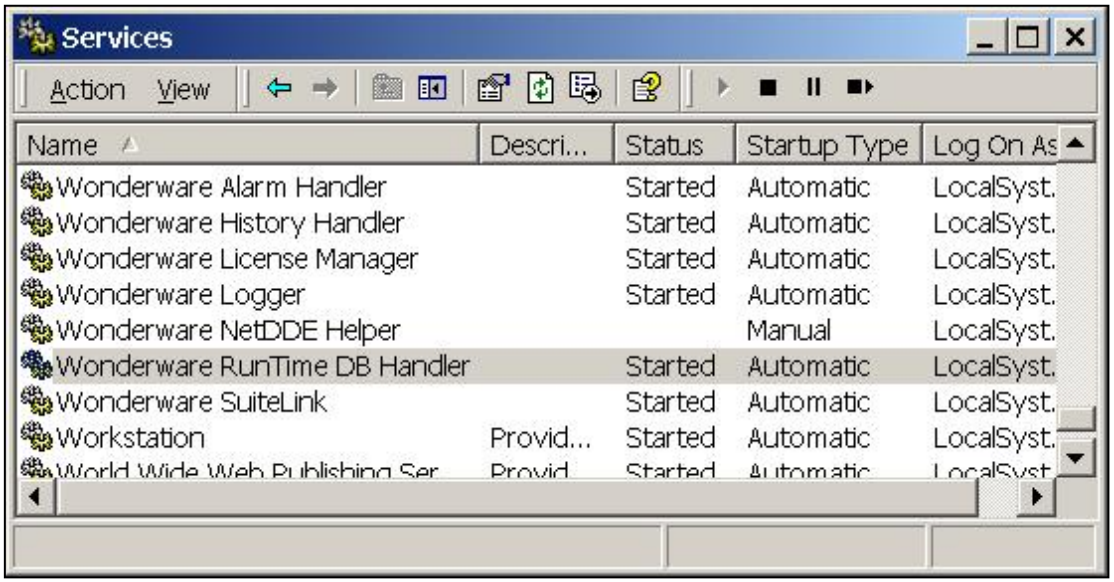

Figure 4: Services Window

2. If the service is not started, start it and try to reestablish a connection.

Once the data source is confirmed as correct and the RunTime DB Handler service is running, the next troubleshooting task can be performed.

> **Note:** Data will not update on the browser-based window if data is not being delivered by the RunTime DB Handler service.

Using the WWClient to Verify InTouch Data Transmission

WWClient is used to check communication from the data source, either locally, or remotely (over a LAN). A connection must established from WWClient to the data source. The data source can be InTouch View, an I/O Server, or a different data provider.

Tech Note 48 provides detailed instructions for using WWClient in this way.

> **Note:** WWClient is installed as part of InTouch 7.11 and earlier versions. However, WWClient is not installed when installing the FactorySuite A² Common Components with InTouch 8.0 or later.

To use WWClient with InTouch 8.0 and later, extract/install the **wwclient.exe** from the zip file to the directory containing the file **wwclintf.dll**, which is where the FactorySuite A² Common Components are installed (Figure 5 below).

1. Download WWClient for InTouch 8.0 and FactorySuite A² Common Components (**WWClient8.0.zip**).

   Complete installation details are included in **WWClient Utility for InTouch® 7.11 and InTouch 8.0**.

2. On the Web Server node, select **Start / Programs / Wonderware Factory Suite / Common** as shown in Figure 5 (below):

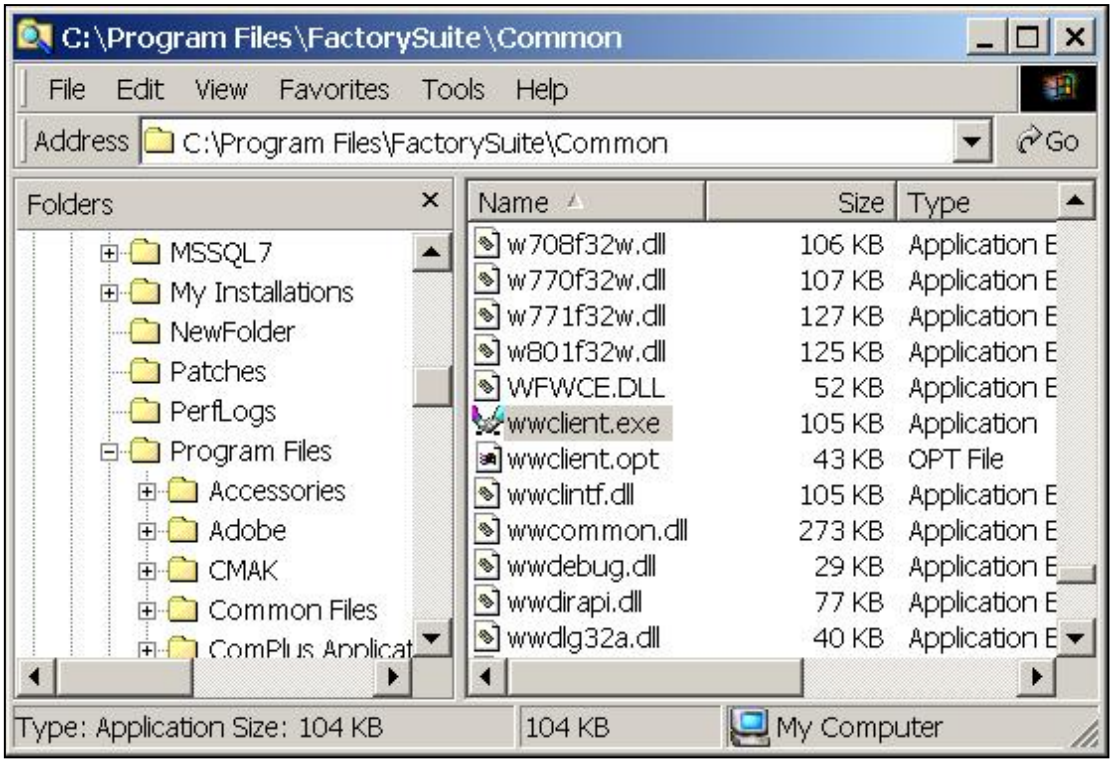

Figure 5: WWClient Installation Location

3. Follow the connection procedure from **Tech Note 48**. Note that in this case, InTouch View will normally be addressed instead of an I/O address.

   Figure 6 (below) shows the **Create Connection** dialog box. The **Node** entry is **kevinn26**, which is the node running the InTouch application.

   An IP address can also be used instead of Node name.

4. The Node name also be IP address or " [Web Server Name / IP address] @ [Data node Name / IP address] like [212.200.56.239@192.168.1.5]

   Also notice that **IOT** (SuiteLink) is selected. IOT/SuiteLink is the communication protocol between SuiteVoyager and the RunTime DB Handler service.

   If the data source is not View, enter the appropriate Application and Topic.

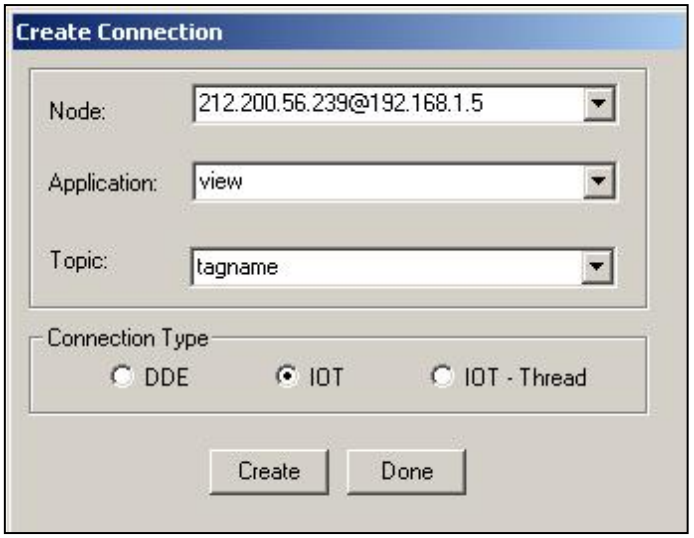

Figure 6: Create Connection Dialog Box

When a successful connection is established, an entry appears, similar to the one displayed in Figure 7 (below):

Figure 7: Wonderware Client Window Showing a Successful Connection

The next task is to check an item to determine whether data is streaming through the SuiteLink service.

If the data source is View, **$Second** is a good item to advise.

If a different data source is used, select an item that is changing regularly.

5. Once the item name is entered, click **AdviseEx** (Figure 8 below).

   The item value should be displayed as seen in Figure 8 (below). It should agree with the actual value in the data source.

6. If the item does not advise, the item value does not appear in the window.

   An item may not be advising because the SuiteLink service on the data source node is not running.

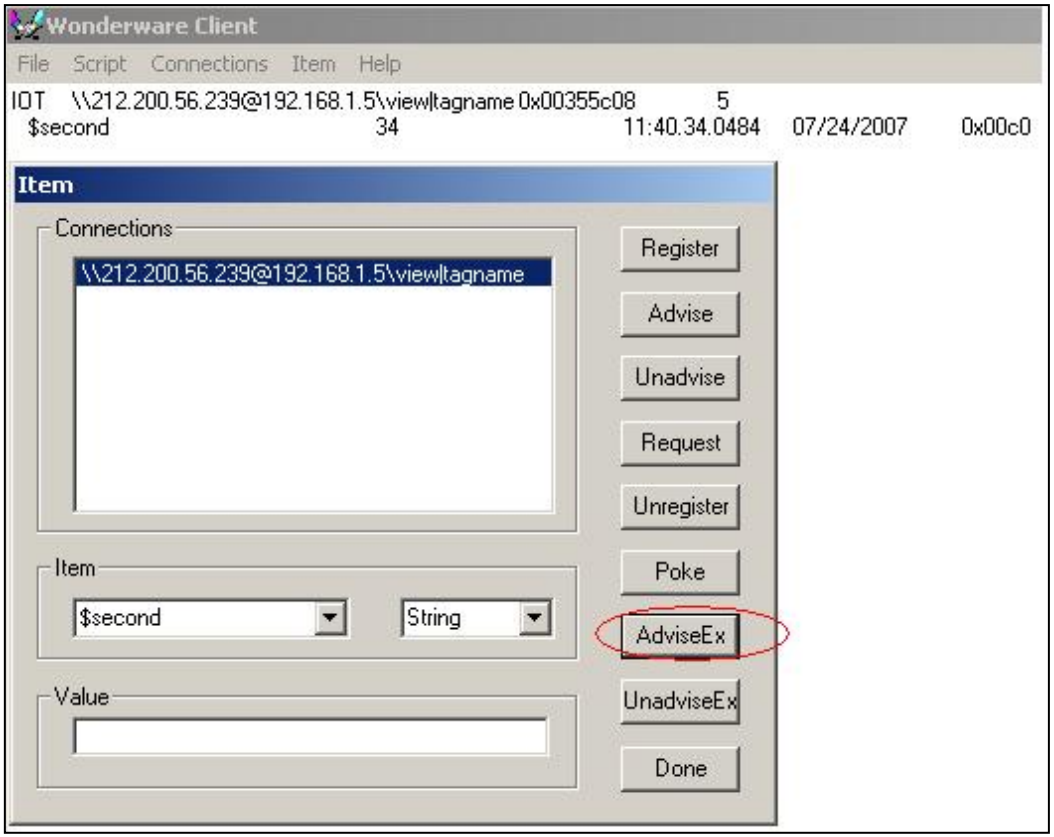

Figure 8: The Item Dialog Box - Checking the Data Source

If the item did not advise, verify that the SuiteLink service on the data source node is started.

1. To verify that the Wonderware SuiteLink service is running, open the Services window and check its **Status**.

   In a Windows 2000 Server environment, it will appear as in Figure 9 (below).

   Note that the Status is **Started**.

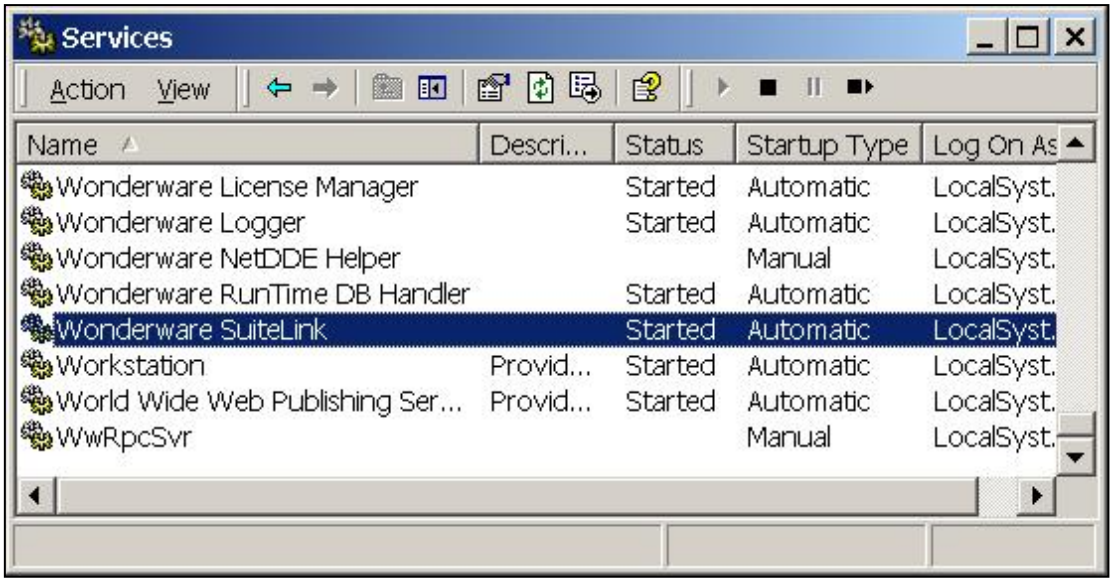

Figure 9: The Services Window Confirming that SuiteLink is Started

2. If the service is not started, restart it and try to advise the item again.

3. If the Wonderware SuiteLink service is running and a item cannot be advised, contact Wonderware Technical Support for further assistance.

Determining if Data is Streaming through the RunTime DB Handler Service

The next task is to check an item to determine whether data is streaming through the RunTime DB Handler service.

The Logger and Log Viewer are automatically installed on any computer on which you install an ArchestrA-enabled component.

To start the Log Viewer:

1. Select **Start / Programs / Wonderware**, and then **System Management Console**.

   The typical RunTime DB Handler-related items are logged every time the Published window is browsed from SuiteVoyager portal (Figure 10 below). Note that the Log Viewer entry is **rdbhandler**:

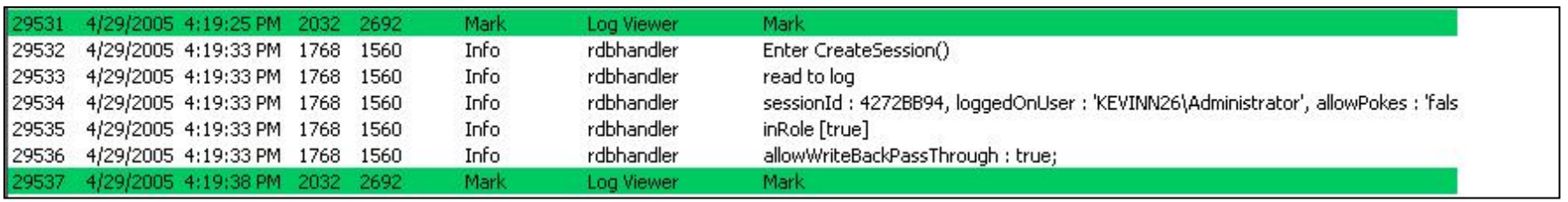

Figure 10: Logging The typical RDB Handler-related items

   You can customize which messages you want to log with the Log Flag Editor. Log flags are message

categories that can be switched on and off to control which messages are logged by the Logger.

When a log flag is switched on, messages of that log flag category are logged by the Logger. When it is switched off, they are not logged.

Use the Log Flag Editor as a troubleshooting tool. By default, most log flags are switched off because most potential messages are not required during normal operation of ArchestrA components. Also, switching on log flags (especially globally) can affect the selected node's performance and consume significant network bandwidth.

2. Use a specific component. For this example, the **Trace** log flag for **rdbhandler** is selected/enabled as is shown in Figure 11 (below):

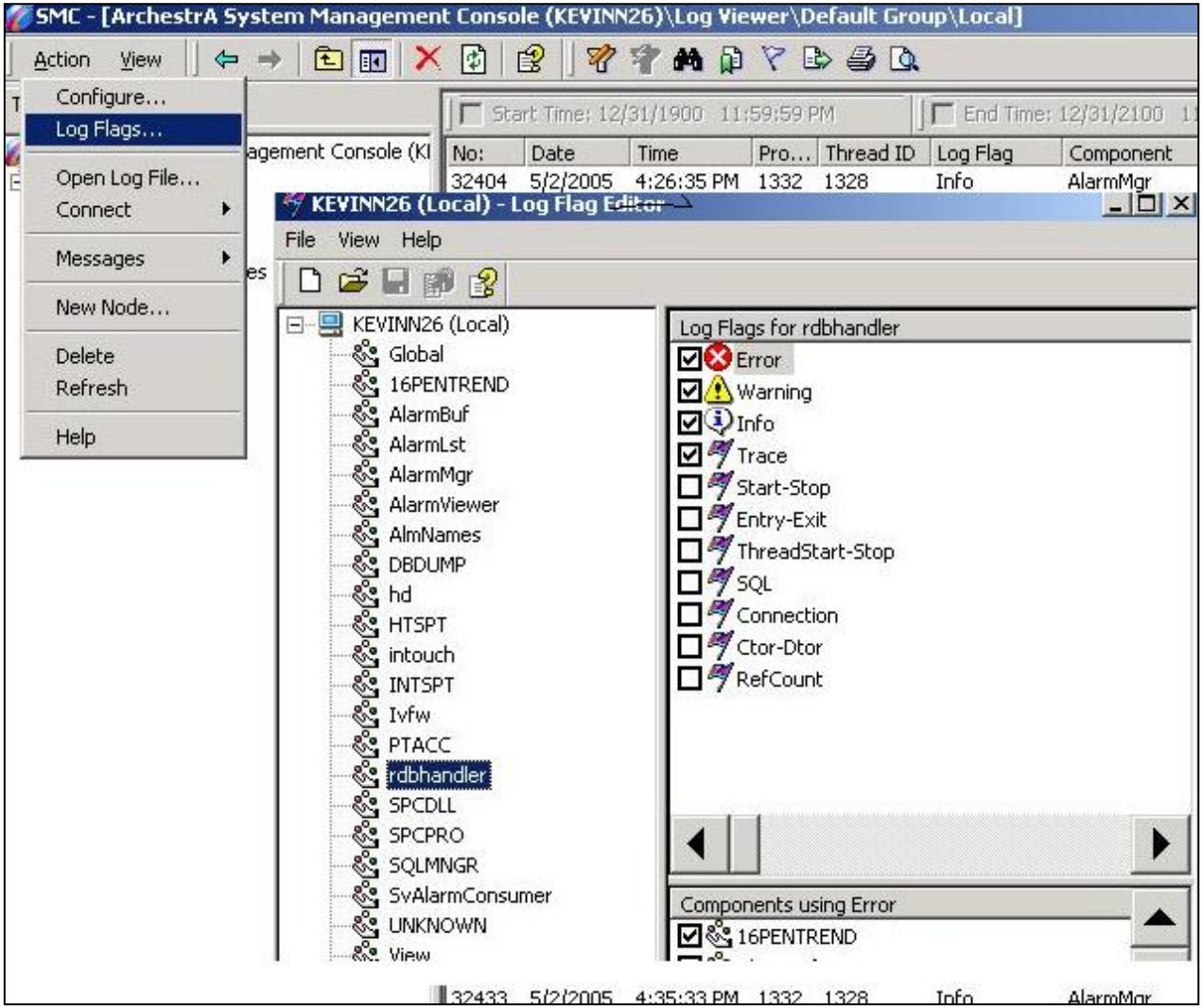

Figure 11: Trace log flag for the rdbhandler option is enabled

3. The typical RunTime DB Handler-related items are logged every time the Published widow is browsed

from Suitevoyager portal, and the **Trace** Log Flag is enabled (Figure 12 below):

30061	4/29/2005	4:32:09 PM	2032	2692	Mark	Log Viewer	Mark
30062	4/29/2005	4:32:17 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnCreateSession - uniqueSessionID = 1114815382, loggedO
30063	4/29/2005	4:32:17 PM	1768	2864	Info	rdbhandler	Enter CreateSession()
30064	4/29/2005	4:32:17 PM	1768	2864	Info	rdbhandler	read to log
30065	4/29/2005	4:32:17 PM	1768	2864	Info	rdbhandler	sessionId : 4272BB96, loggedOnUser : 'KEVINN26\Administrator', allowPokes : 'fals
30066	4/29/2005	4:32:17 PM	1768	2864	Info	rdbhandler	inRole [true]
30067	4/29/2005	4:32:17 PM	1768	2864	Info	rdbhandler	allowWriteBackPassThrough : true;
30068	4/29/2005	4:32:18 PM	1768	292	Trace	rdbhandler	in ioconnection□
30069	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30070	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30071	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 8
30072	4/29/2005	4:32:18 PM	1768	292	Trace	rdbhandler	IOConnection::Callback() - CLI_CONNECTED.
30073	4/29/2005	4:32:18 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30074	4/29/2005	4:32:18 PM	1768	2864	Trace	rdbhandler	ConnectionHandle::GetChangedData - CLI_CONNECTED [ConnId:062420C8, Thre
30075	4/29/2005	4:32:18 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30076	4/29/2005	4:32:18 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 20
30077	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30078	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30079	4/29/2005	4:32:18 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 44
30080	4/29/2005	4:32:19 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30081	4/29/2005	4:32:19 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30082	4/29/2005	4:32:19 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 8
30083	4/29/2005	4:32:19 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30084	4/29/2005	4:32:19 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30085	4/29/2005	4:32:19 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 97
30086	4/29/2005	4:32:20 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30087	4/29/2005	4:32:20 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30088	4/29/2005	4:32:20 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 8
30089	4/29/2005	4:32:20 PM	1392	1360	Info	AlarmMgr	Attempting to Connect to Provider '\\$kevinn1\intouch'
30090	4/29/2005	4:32:20 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30091	4/29/2005	4:32:20 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30092	4/29/2005	4:32:20 PM	1768	1560	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 67
30093	4/29/2005	4:32:21 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::AcquireSession 1114815382
30094	4/29/2005	4:32:21 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - SessionManager::ReleaseSession 1114815382
30095	4/29/2005	4:32:21 PM	1768	2864	Trace	rdbhandler	RdbHandlerListerner::OnData() - ReplySize = 8

Figure 12: Logging the typical RDB Handler-related items with Trace enabled

Note: Using Log Flags is not the same as using the filter function of the Log Viewer utility. With Log Flags, messages whose log flag has been turned off are not logged at all. With the Log Viewer filter, messages that are filtered are just hidden from view. See Log Viewer documentation for further information about filtering messages.

Troubleshooting the Problems related to Data Streaming through the RunTime DB Handler Service

Several conditions can stop data from streaming through the RunTime DB Handler service:

The Wonderware Runtime DB Handler Service is not Running

The service should have been checked and started, if necessary, as explained in the **RuntimeDB** section of this Tech Note.

The Portal's Execute Permissions for the Web-Site Scripts are not Set Properly

If the Runtime DB Handler service is started, the reason for the connection failure could be the Execute permissions for the Web-site scripts.

The Connection Configuration is Incorrect

The data source location must be correct. This can be verified by checking the WindowSet properties in the Win-XML Exporter.

A Network Problem Exists Between the Web Server and the Data Source

To check the previous problem sources:

1. Open the **Computer Management** window (on the Web Server/SuiteVoyager Node):

   Right-click on **My Computer** and select **Manage**; or select **Start/Programs/Administrative Tools/Computer Management**.

   The **Computer Management** window appears (Figure 13 below):

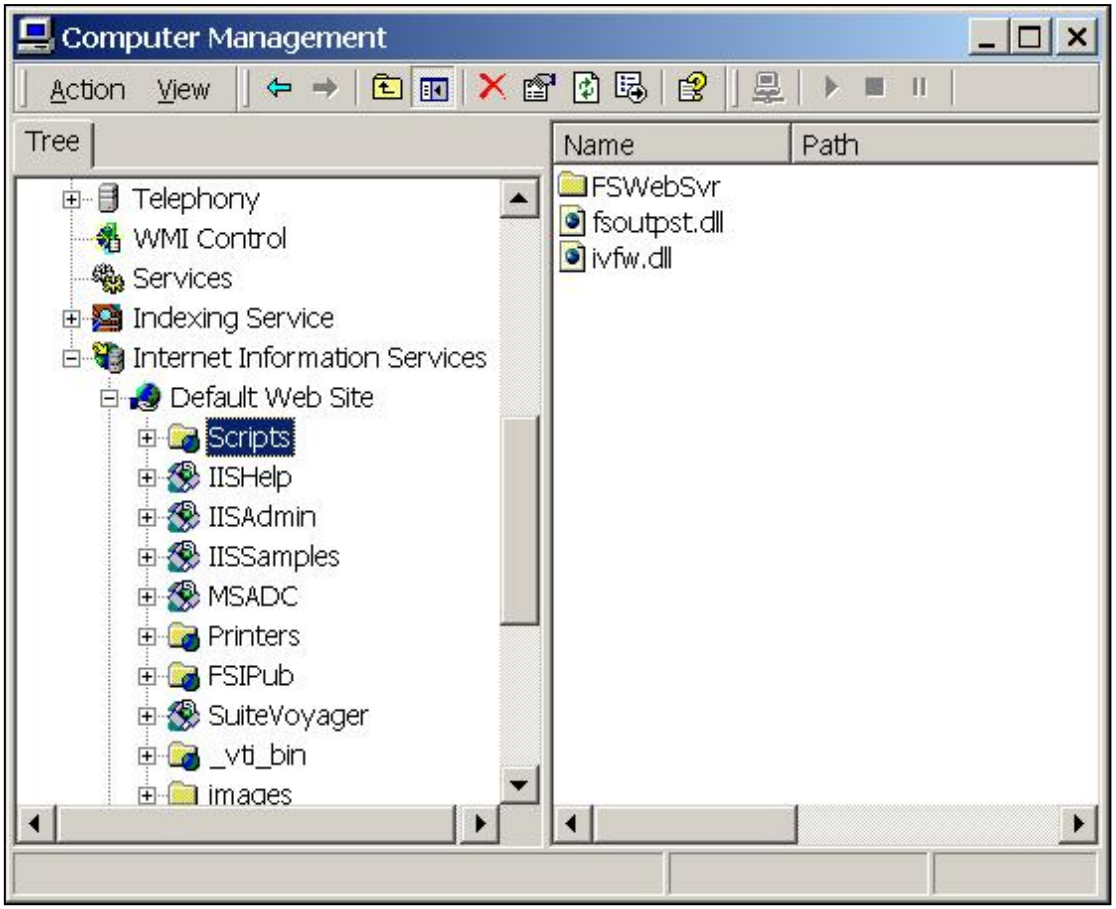

Figure 13: The Computer Management Window

2. Right-click **Scripts** and select **Properties** from the sub-menu.

   The **Scripts Properties** box appears (Figure 14 below):

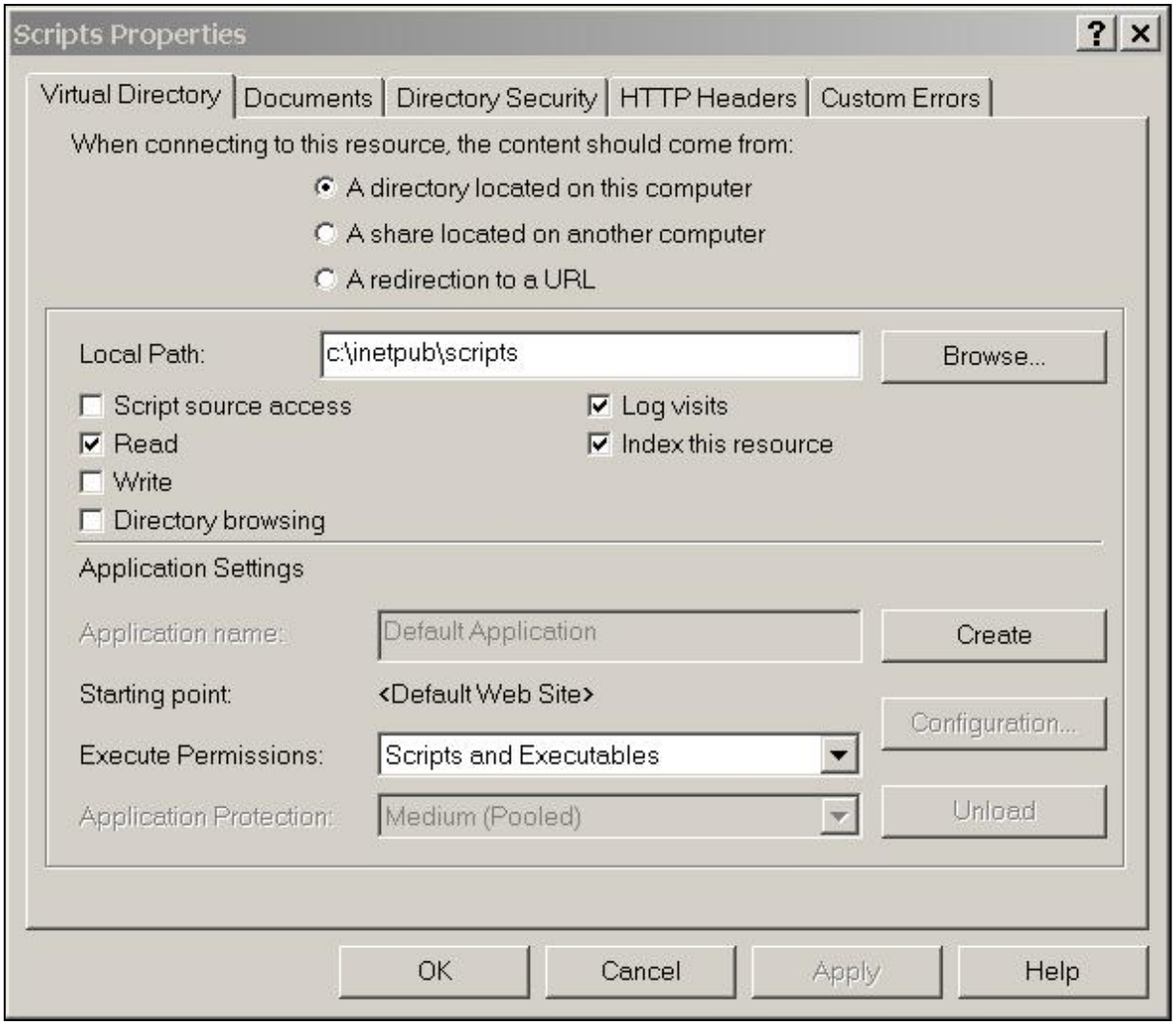

Figure 14: The Scripts Properties Dialog Box

The **Execute Permissions** entry should match the configuration shown in Figure 14.

3. If **Scripts and Executables** is not displayed in the **Execute Permissions** box, select it from the drop-down menu.

   The RunTime DB Handler executable file as well as other executables are contained in the **FSWebSvr** folder, which is a sub-folder under **Scripts**.

   For this reason the permissions shown are required.

4. Try to reestablish a connection. The reconnection should now be successful.

   If a connection still could not be made, there may be a network-related issue.

5. Contact Wonderware Technical Support for further assistance.

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