Tech Note 641
Troubleshooting Internet Information Services (IIS) Configuration Issues for Wonderware Information Server (WIS)

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OpsManage09 Session#: TS111
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Introduction

Important!: This document and its links to the utility have been moved to the **Wonderware Developers Network**. You must be a Customer First Subscriber to download the utility.

One of the most common problems you can encounter with WIS is the **401 Access Denied** message. There are many possible reasons for this IIS Error. Many articles and suggestions are available from the Internet. Further, researching the correct cause is time-consuming if we dig for the cause from one SR to another.

This *Tech Note* explains using Microsoft IIS **Backup/Restore Configuration** and the Wonderware IIS Configuration Comparison Utility to quickly troubleshoot WIS issues related to IIS Settings.

Application Versions

- Wonderware Information Server 3.0 and 3.1
- Internet Information Services 6.0

This *Tech Note* contains the following sections:

Summary Examples

The following examples are provided for context and then used for troubleshooting.

Example 1: Factory Alarm History "Fail to retrieve data from data provider."

This error message is common (Figure 1 below).

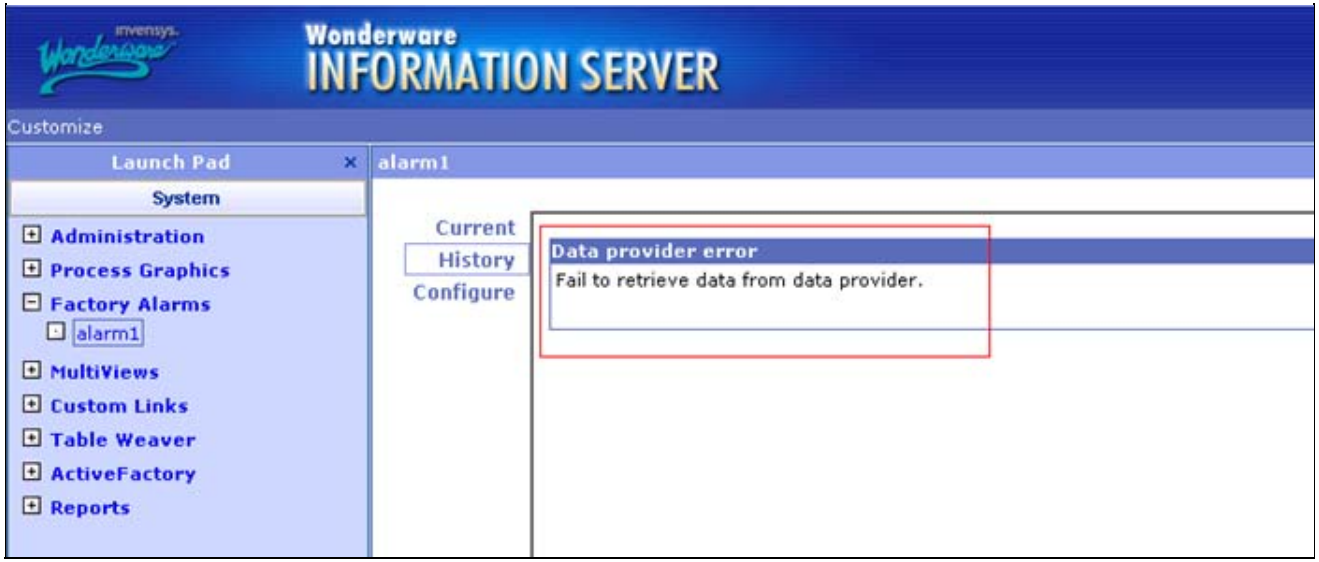

FIGURE 1: DATA PROVIDER ERROR MESSAGE

After analyzing the IIS log files, and debugging the source code, the root cause of this problem is that **one** IIS Setting was modified for some reason. By correcting the single IIS setting, the **401 Access Denied** error no longer appears in the IIS Log file and the normal Alarm History page is visible.

Example 2: WIS Launch Pad Panel is Empty

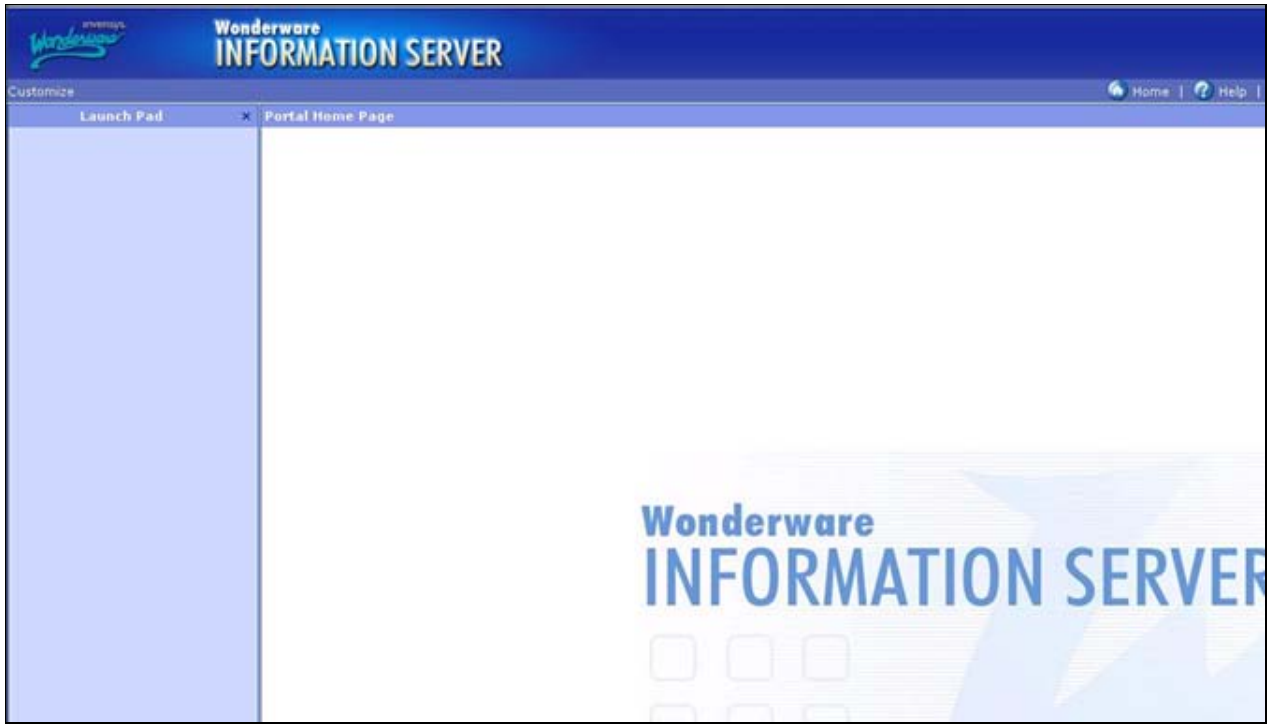

FIGURE 2: EMPTY LAUNCH PAD PANEL

After analyzing the IIS Log file, the **401 Access Denied** is the root cause of the problem.

Creating the IIS Backup

You can use IIS Backup/Restore operation to diagnose/troubleshoot problems. Before you can troubleshoot the problems, you must

- **Create a Backup Configuration for the machine on which you see the problem**, then
- **Restore the file on a different machine that is running WIS without problems**.

The following information explains the Backup/Restore procedure using IIS Backup.

Backup the IIS Meta Database on the WIS Server Machine that Cannot Run WIS Portal Normally

1. Click Start > Run and type **inetmgr**, then click **OK**. The **Internet Information Services Manager** window appears.
2. Right-click the root Computer Name Tree node.
3. Click the **All Tasks > Backup/Restore Configuration** (Figure 3 below).

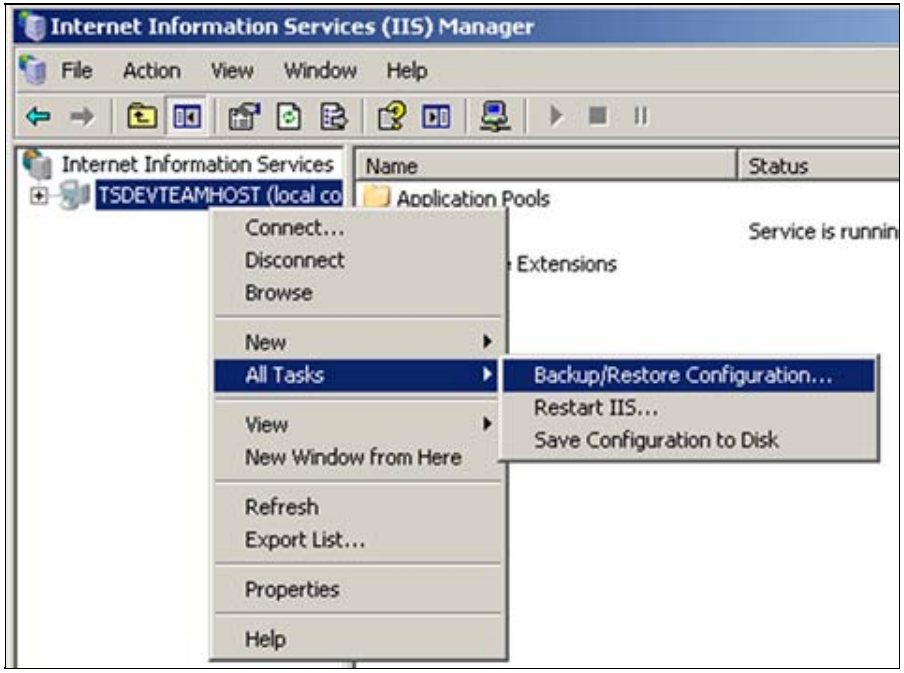

Figure 3: Start IIS Backup/Restore Configuration

4. Click the **Create Backup** button (Figure 4 below).

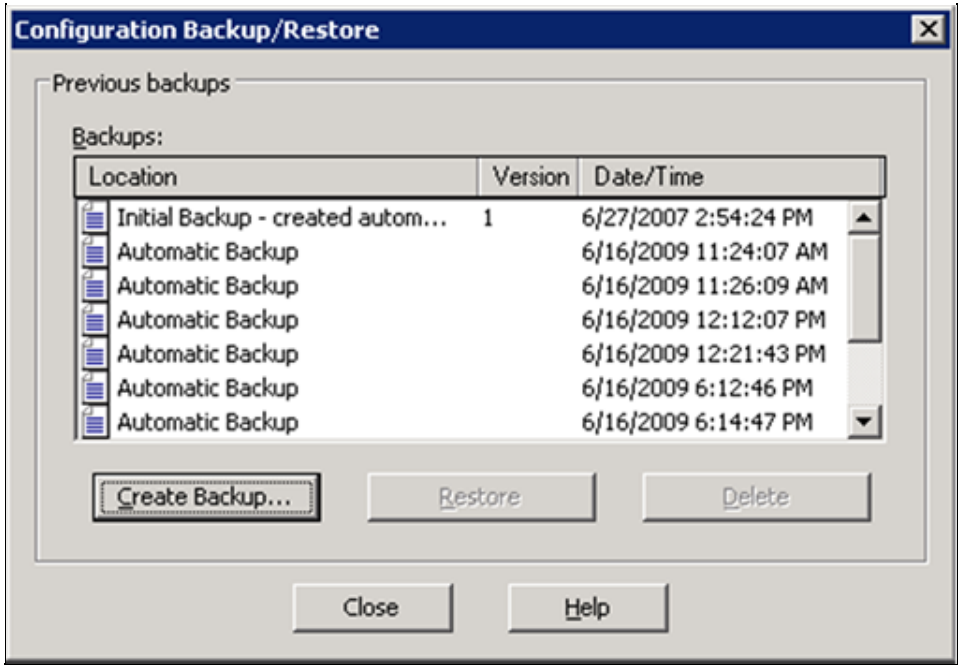

Figure 4: Create Backup

5. Type a backup name (Figure 6 below).

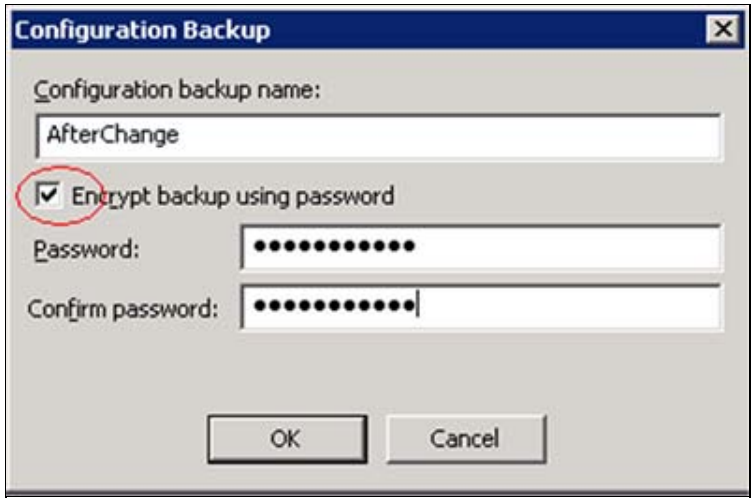

Figure 5: Name Backup and Encrypt Using Password

6. Click the **Encrypt backup using password** option and type/confirm your Password.

Important: If you do not check this checkbox, other IIS on a different server cannot restore the Meta database backup.

7. Click **OK**.

   You should now find a pair of backup files that match the given name at **C:\WINDOWS\system32\inetsrv\MetaBack**. For this example, the files are **AfterChange.MD0** and **AfterChange.SC0**. This extension is "**.MD** - .**SC<number>Zero**.

8. Request the following IIS Backup elements from the customer:
    - The two backup files. In this example **AfterChange.MD0** and **AfterChange.SC0**.
    - The Password.

Restore IIS Meta Database on a WIS Server Machine That Can Run the WIS Portal

Note: Always backup IIS Configuration before doing any modifications.

1. Repeat the steps in the above backup section to backup the local machine's IIS Meta database *without* selecting the Encrypt option.
2. Copy the two backup files **AfterChange.MD0** and **AfterChange.SC0** to the WIS troubleshooting node to this directory: **C:\WINDOWS\system32\inetsrv\MetaBack**.
3. Repeat the steps for the Configuration Backup/Restore Dialog.
4. Highlight the **AfterChange** (.SC0 named file) line and click the **Restore** button (Figure 6 below).

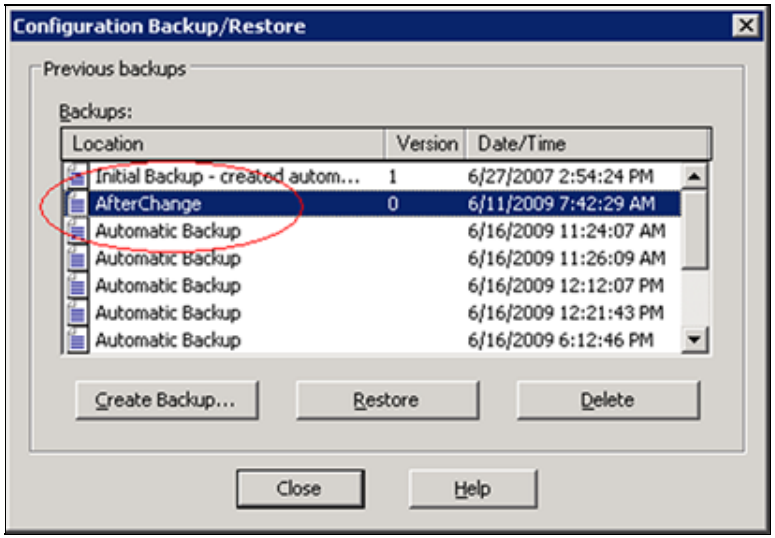

Figure 6: Restore Configuration From Backup

5. Click **Yes** when you see the subsequent message.
6. After several moments you are prompted for the Backup password (Figure 7 below).

Figure 7: Type Password to Restore the Metabase

7. Type the Backup password you provided in the Backup Operation.

8. Click **OK** and acknowledge the **Success** message.

   You are now ready to begin troubleshooting.

Troubleshooting IIS WIS Virtual Directories Using the Backup File

Use the IIS Window to drill down into the files in order to determine differences between the original IIS settings and any later changes.

You can compare the two nodes: One has the customer's IIS configuration, and the other has the standard WIS IIS Configuration.

The following table contains the WIS Virtual Directories you need to compare.

WIS Virtual Directory	Description
Wonderware	WIS Home Page
SVSQLProvider	Factory Alarm History
Scripts	Live Data, Current Alarm, and License
ArchestrA Reports	ArchestrA Reports
MultiViews	Web Part Manager
SDSManager	Common Data Source Manager
aaFlexLicWebService	ArchestrA License Manager
AFWeb	Active Factory Web Edition

Example 1 and 2 Assessments

Example 1: Factory Alarm History "Fail to retrieve data from data provider."

Use the table above to focus your efforts on a specific Virtual Directory. In this example, the error message is related to **SvSQLProvider** virtual directory.

After you browse the IIS Settings in **SvSQLProvider** you can determine the root cause for the failure.

Figure 8 (below) shows the difference between the user's IIS Configuration and the standard WIS IIS Configuration. The **Enable anonymous access** option must be checked in order to make SvSQLProvider Web Service work correctly.

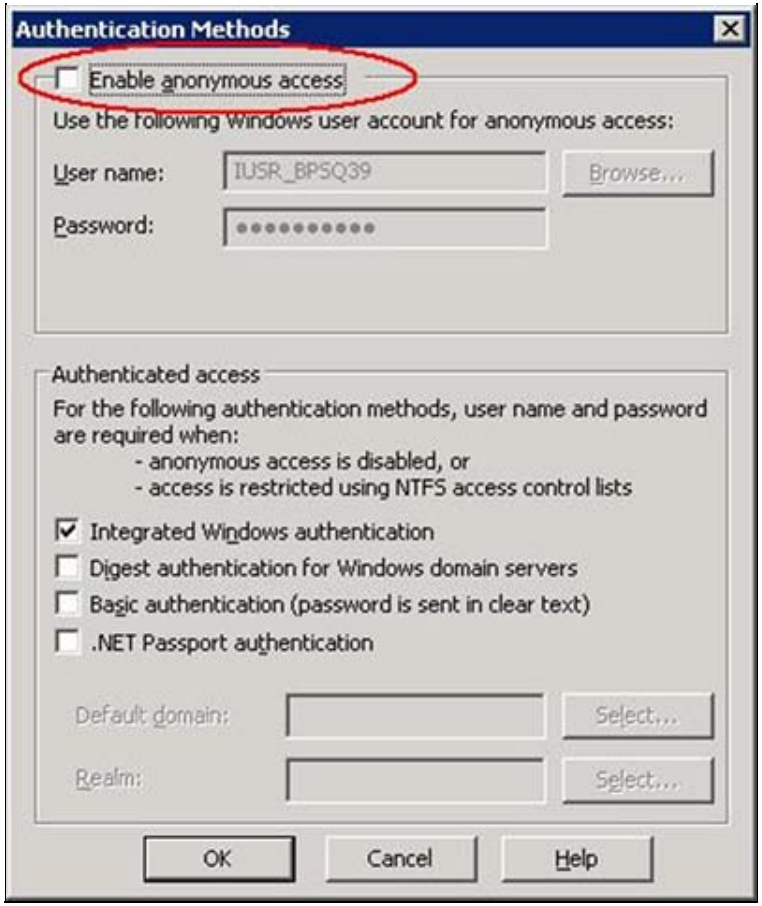

Figure 8: Enable Anonymous Access Setting

Example 2: WIS Launch Pad is Empty

When the WIS Portal URL is provided by the browser, the corresponding ASP pages retrieve the XML data from one of the WIS COM+ components and fill in the Launch Pad Tree.

- By analyzing the IIS Log file from the problem node, you can determine that the WIS Start ASP page has *not* been called.
- You can determine that there can be some setting(s) in IIS that block the WIS Start ASP page from being called.

Check the **Default Web Site**, the Web Site that holds the WIS Portal virtual directory. Figure 9 (below) shows the Default Web Site **Advanced Web Site Identification** Window.

Normally, you should only see the top line without the Host header value in the list. This setting could be the reason for the empty WIS Launch Pad.

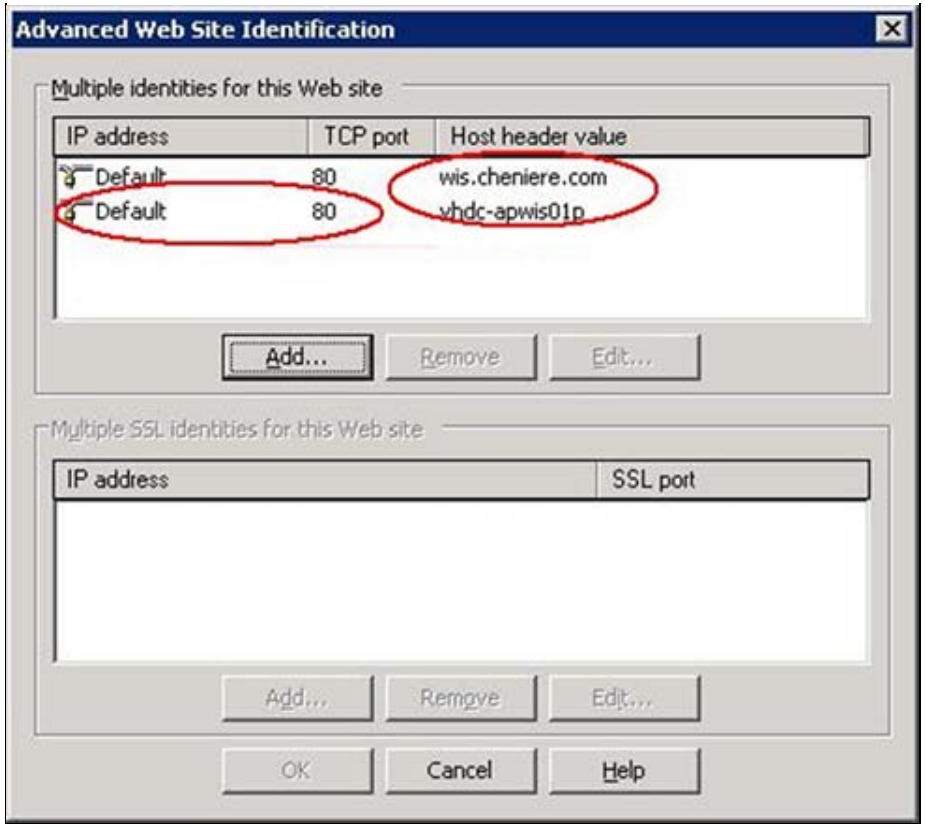

Figure 9: Differing Host Header Values

Microsoft KB Q3081163 states:

"Do not assign a host header name to the default Web site. Many programs expect the default Web site to use an IP address of (All Unassigned), TCP Port 80, and no host header name."

After you correct the settings in this dialog box, you will see the WIS Launch Pad populated correctly, without any other changes.

Summary

By analyzing the two cases, you can see that IIS Configuration Backup plays an important role in WIS Portal troubleshooting.

This approach is valuable because you do not need to change any other IIS setting(s) in the production WIS Portal machine during troubleshooting.

However, this approach needs you to browse and compare the IIS settings manually.

Troubleshooting Using the Wonderware IIS Configuration Comparison Utility

Wonderware Technical Support provides a Utility that can help you find the differences between the "bad" IIS configuration and the WIS standard IIS configuration much more quickly. **Download the Utility here**.

Use the Utility to:

- See the various WIS **Standard** IIS Configurations, such as WIS 3.0 and WIS 3.1.

- Compare your customer's IIS configuration with its WIS standard counterpart and see the difference side by side.
- Filter the view in order to see the difference on WIS, Active Factory or on all settings.

We can use the Utility to analyze Case 1 and Case 2.

Case 1: Factory Alarm History "Fail to retrieve data from data provider."

Use the Utility to browse the configuration backup file and compare it with the WIS standard configuration backup.

Figure 10 (below) shows the comparison.

- The green color indicates all the standard WIS IIS folders.
- The orange color shows the setting differences.
- The second column contains customer settings.
- The third column contains Wonderware standard settings.
- The red circle shows the difference in the IIS folder **SvSQLProvider**. It matches the analysis we did in the previous section.

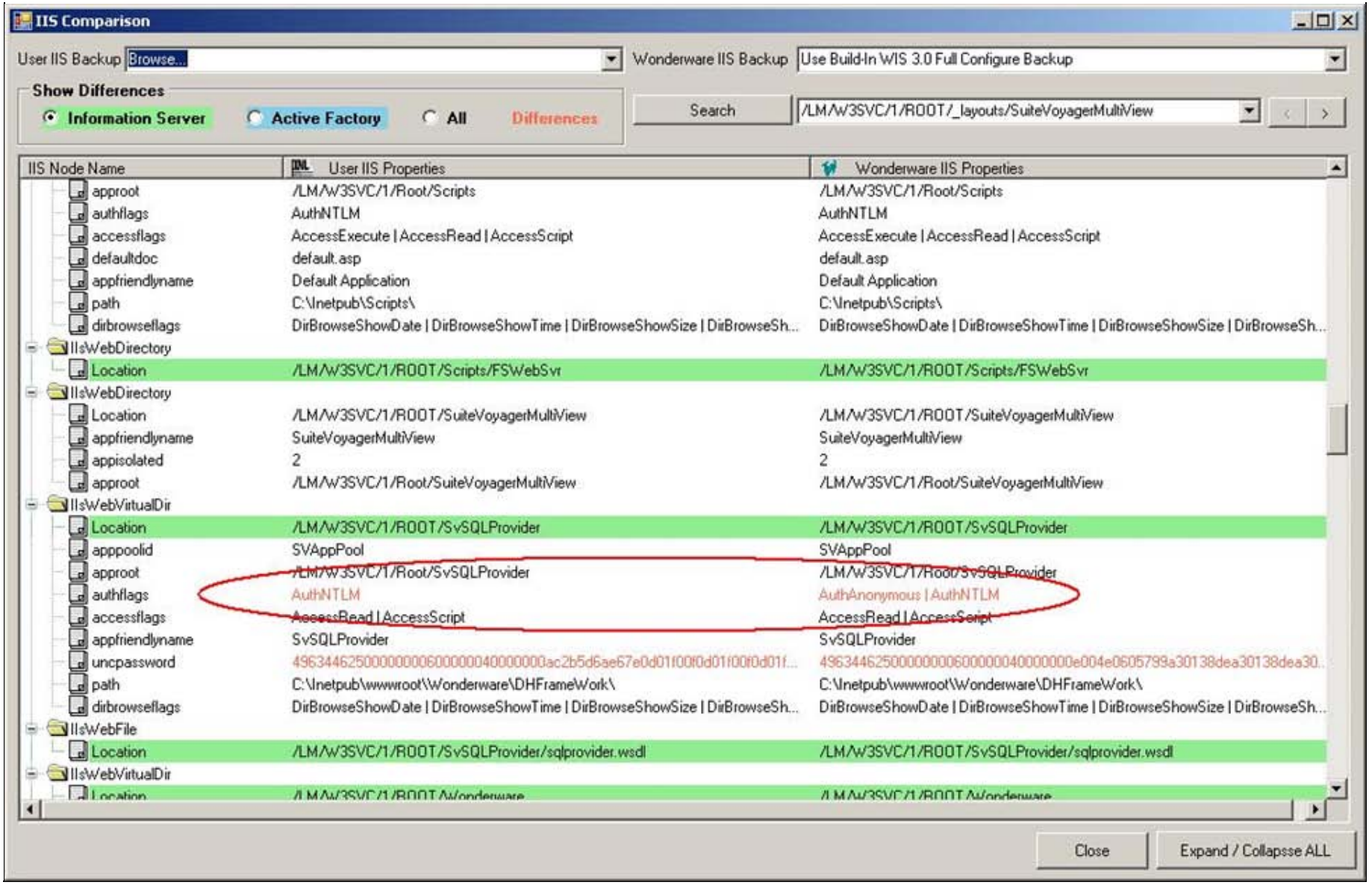

Figure 10: Wonderware IIS Comparison Utility: Diffs in SvSQLProvider Root Directories

Case 2: WIS Launch Pad is Empty

Figure 11 (below) shows the comparison. The **All Differences** filter option is selected so there is no Green color highlighted in the comparison pane. The red circle shows the difference in the Default Web Site.

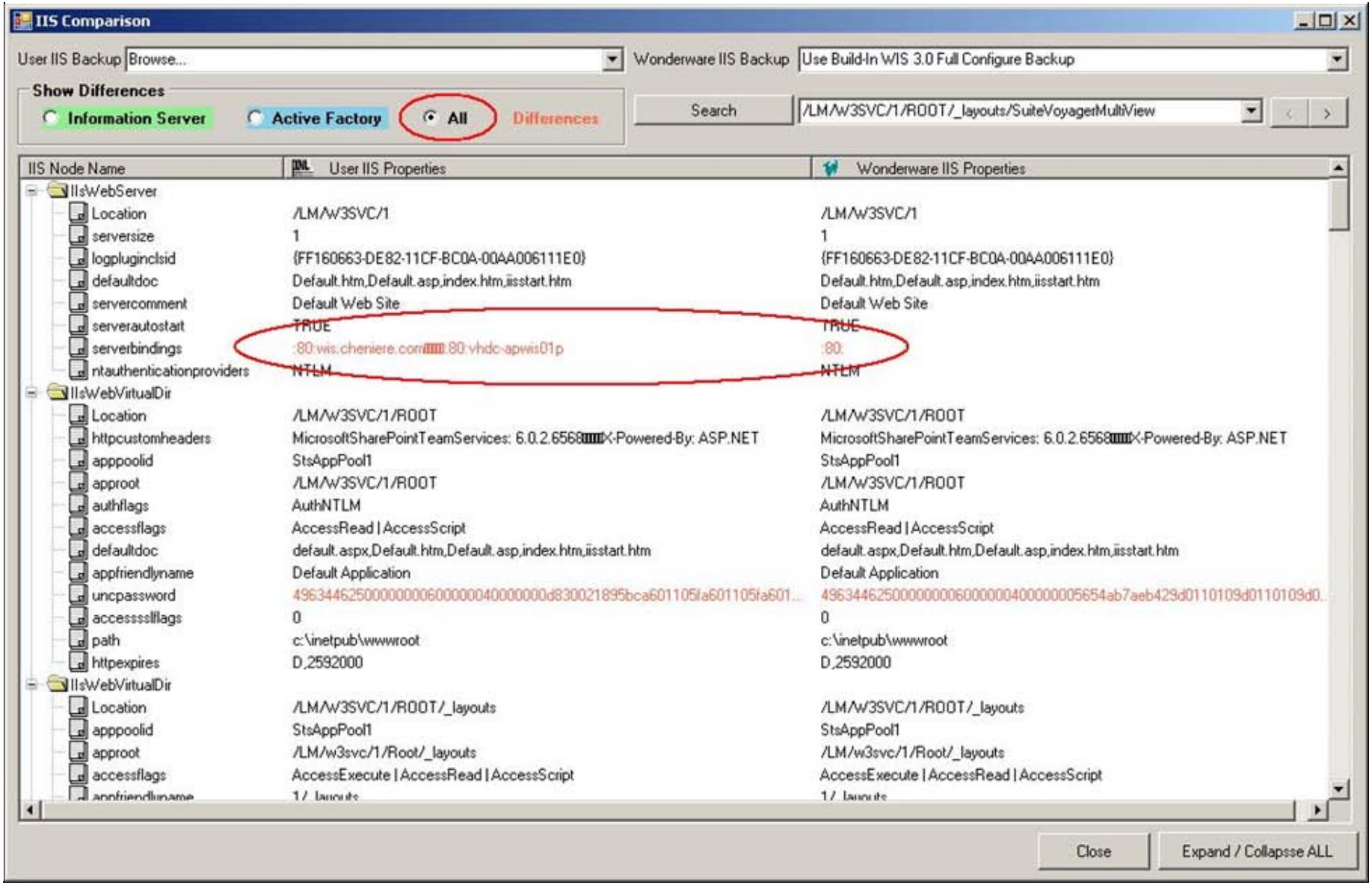

Figure 11: All Differences for Comparison

Summary

WIS Troubleshooting involves many technical areas, such as Web implementation, Windows security, IIS Configuration and settings, Sharepoint Services, Report Services, SQL Server etc. The problems in IIS Configuration settings are often the root causes for many of the technical areas reported in Service Requests. This document provides an efficient approach to help you locate and repair the root cause of possible WIS problem more quickly.

Additionally, this approach does not require changing the production WIS's IIS Configuration settings during the procedure. There is no impact on the WIS Portal during the troubleshooting procedure.

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