Tech Note 794

Troubleshooting Wonderware Information Server (WIS)
Part Three: Workarounds for Factory Alarms Issues in Windows Server 2008

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Introduction

This troubleshooting guide is the third in a projected series.

In Windows 2008, WIS History and Current Factory Alarms will no longer work by using the same configuration steps of the Windows 2003 if WIS and InTouch are installed on the same node.

Note: The workarounds mentioned in this Tech Note have been tested for un-managed InTouch applications.

Application Versions

- WIS 4.0 and later
- Windows 2008 Server 32 and 64-bit

Let's start by discussing the following two issues and the workarounds. Click on the following links to read details.

- **No Current Factory Alarms when WIS and InTouch Viewer are on the Same Node**
- **No History Factory Alarms when WIS and InTouch Viewer are on the Same Node and the Alarm DB Logger Manager is Running as a Windows Service**

No Current Factory Alarms when WIS and InTouch Viewer are on the Same Node

In this scenario, WIS and InTouch are running on the same node.

Recall in Windows 2003 environment, when you define a distributed alarm query in WIS Factory Alarm Manager with the local node name, you will get the current Factory Alarms which come from the local InTouch Viewer.

However, this well-known setting for the Current Factory Alarms is no longer TRUE in the Windows 2008 environment. No matter what is used for the server name, **localhost**, **local machine name** or a fully-qualified domain name or IP Address of the local computer do not work (Figure 1 below).

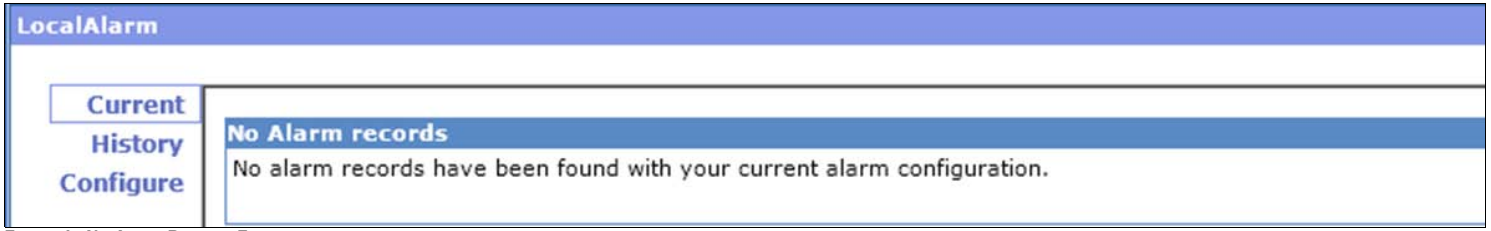

Figure 1: No Alarm Records Found

Can you make Current Factory Alarms work in the Windows 2008 environment? Yes, but you need to do some extra work. This section contains a detailed procedure for the workaround.

Overview

Windows 2008 introduces the **Session 0 Isolation** concept. This means the operating system isolates services in **Session 0** and runs applications in other sessions, so services are protected from attacks that originate in the application code.

This security mechanism impacts the WIS **Current Factory Alarms** implementation. As a result, WIS's Factory Alarm Consumer (Windows service) and InTouch Viewer (application) always stay in different sessions (0 and non-zero) and both of them launch their own instance of the Alarm Manager (AlarmMgr.exe).

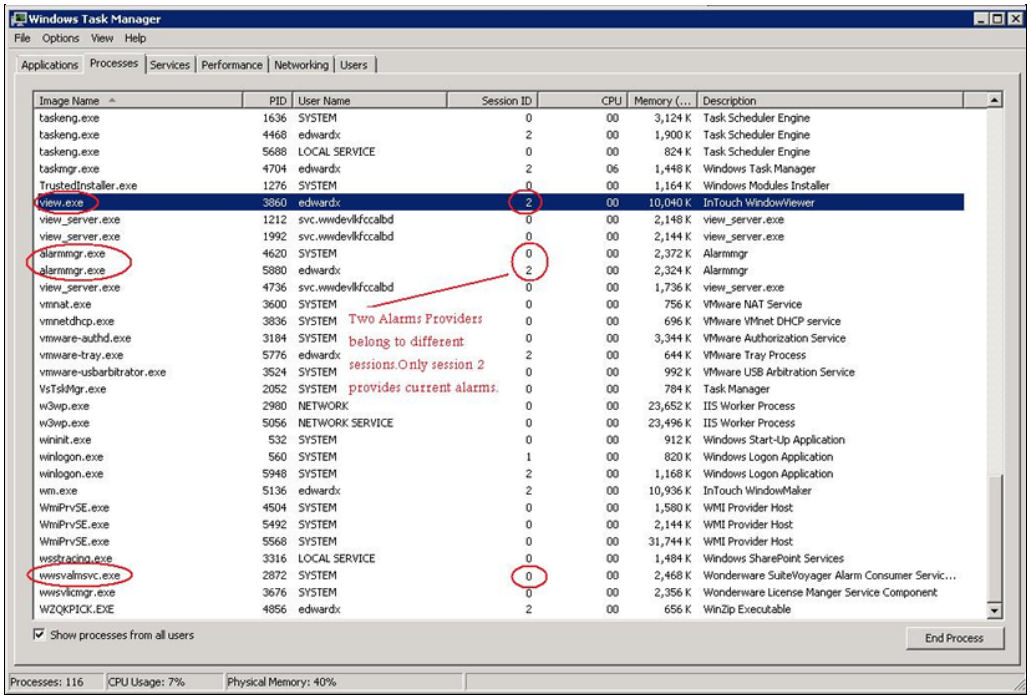

Figure 2: View and WIS Alarms Consumer Service Are In Different Sessions

Workaround

Currently, the SuiteLink Name Service (**slssvc.exe**) does not register multiple instances of AlarmMgr with the same name. However, the real source of the Current Factory Alarms is the instance of AlarmMgr that is launched by **InTouch Viewer**. Your job is to determine the true source of the Current Factory Alarms in the WIS Distributed Alarm Query.

To discover the source of the Current Factory Alarms

1. In the WIS node, terminate the process of the InTouch Viewer if there is any. The instance **alarmmgr.exe** in Session 2 (Figure 2 above) will disappear.
2. In the WIS node, clear or insert a couple of **Fast Mark Flags** in the SMC **Local** Log Viewer (Figure 3 below). This will make the Local Log Viewer easier to read.

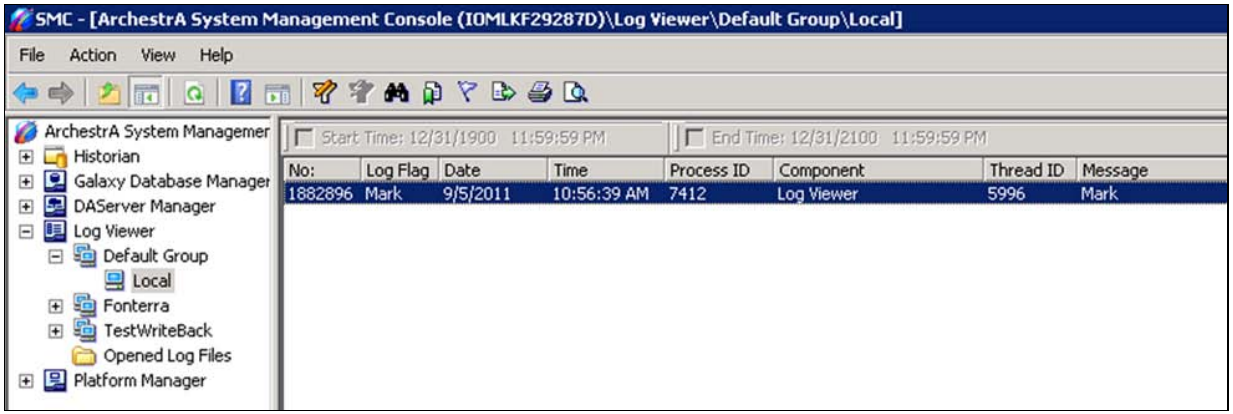

Figure 3: Local Mark Log Flags

3. From a remote node, use Remote Desktop Connection to log on to the WIS node.

   Use **Run / mstsc** with another **admin** user for your session logon.

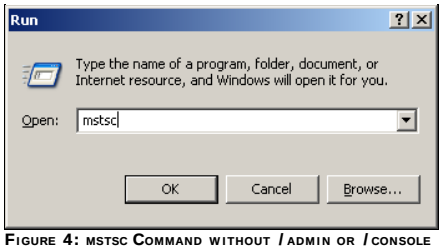

Figure 4: mstsc Command without /admin or /console

4. Launch InTouch Viewer from the Remote session.

   In SMC Log Viewer of the WIS node, you will see similar data to Figure 5 (below). The graphic is truncated for clarity.

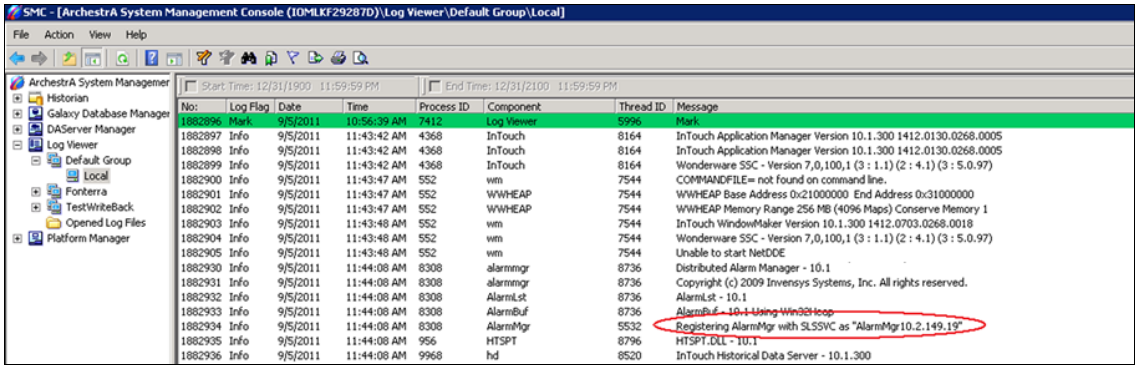

Figure 5 Important Log Entry: Registering AlarmMgr

This line provides the key for WIS to get the Current Factory Alarms. It is written by the InTouch Viewer **AlarmMgr**.

In this example, the string **AlarmMgr10.2.149.19** contains the IP address of the *client machine* where the remote logon user logs in from.

Now, we have two distinguishable Alarm Managers (AlarmMgr).

On the WIS node, you can use the following explicit **Distributed Alarm Query** string to tell WIS that you want to retrieve the current Factory Alarms from the AlarmMgr *process* that is launched by the InTouch Viewer.

```
\\localhost:##.#.###.##\intouch!$system
```

Figure 6: New Distributed AlarmMgr Query

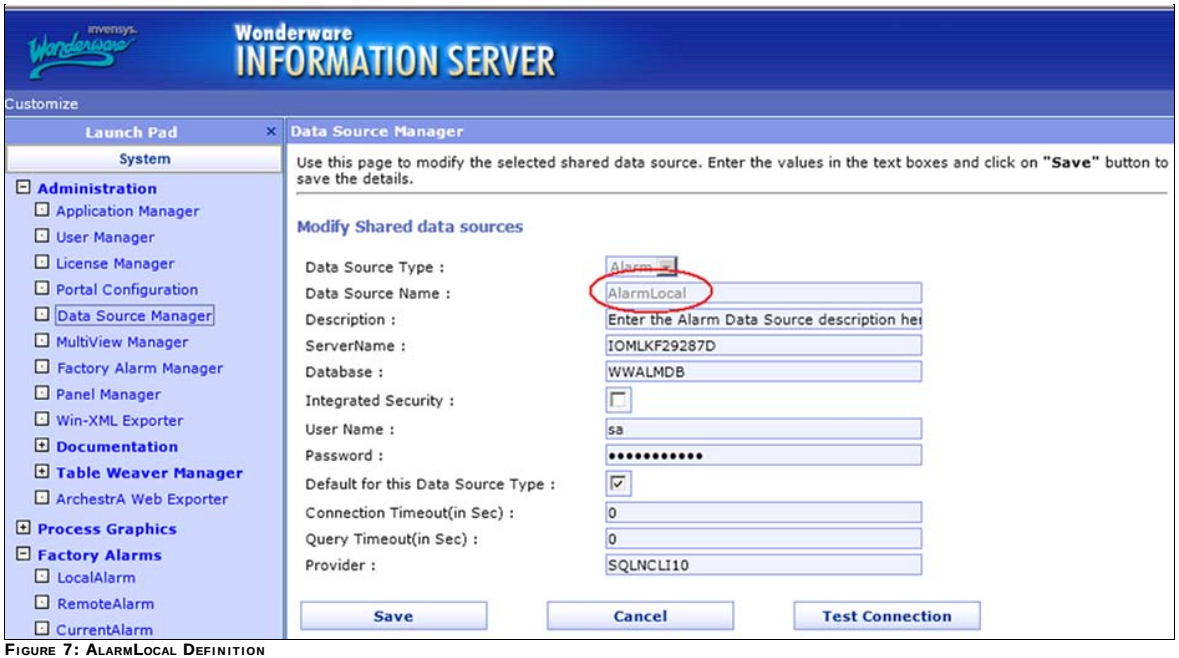

Figure 7: AlarmLocal Definition

4. Restart the WIS Alarm Consumer Service (Figure 8 below).

Figure 8: Restart the Wonderware SuiteVoyager Alarm Consumer Service

Now, the current Factory Alarms are showing

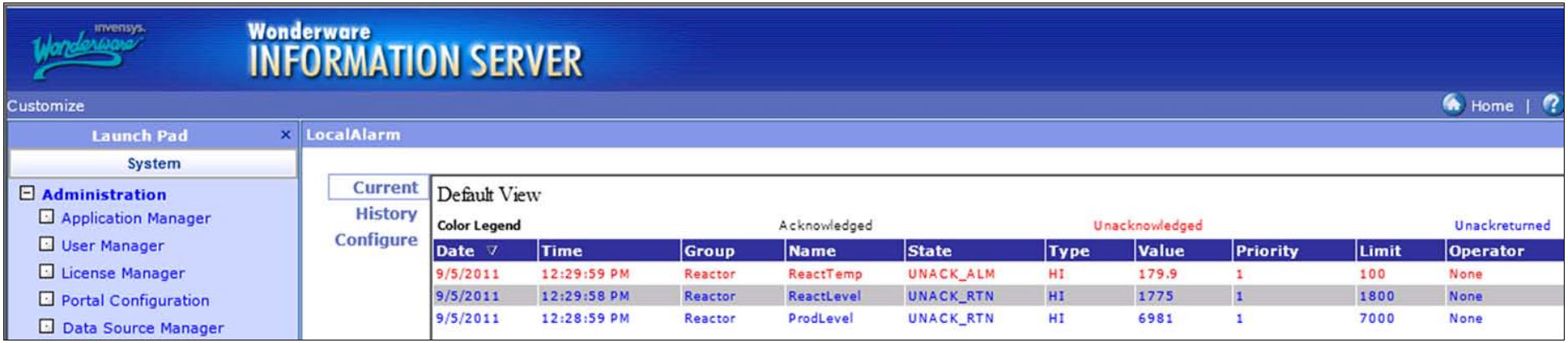

Figure 9: Current Factory Alarm

Note: You must re-start WIS Alarm Consumer service whenever you make changes in the WIS Factory Alarm Manager.

No History Factory Alarms when WIS and InTouch Viewer are on the Same Node and the Alarm DB Logger Manager is Running as a Windows Service

Overview

In InTouch 10.1 SP 3 Patch 01, Alarm DB Logger Manager can run as a Windows service. When this is the case, WIS cannot obtain the History Factory Alarms if you don't apply the workaround in this section (Figure 10 below).

Figure 10: No History Alarms

Workaround

The workaround for this scenario is to use the same procedure to retrieve the **AlarmMgr10.2.149.19** process address/source, then to include the IP address in the Alarm DB Logger Manager settings. See the **previous section** for details about capturing the process' IP address.

To Assign the IP Address into Alarm DB Logger Manager's Alarm Query

1. Click **Start > All Programs > Alarm DB Logger Manager**.
2. Click **Settings**, then **Next**.
3. Include the IP address in the Alarm DB Logger **Alarm Query** (Figure 11 below).

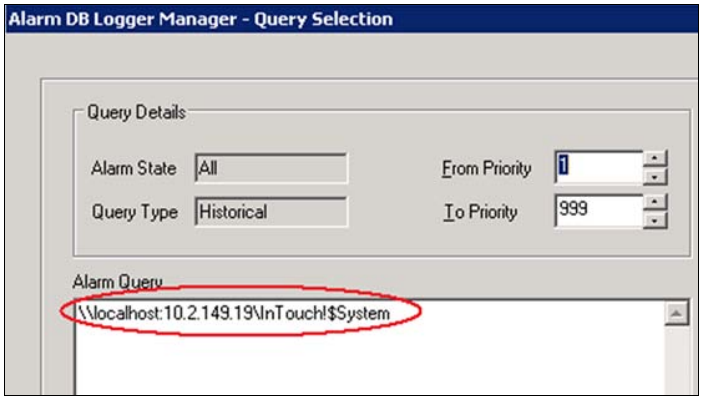

Figure 11: Assign the IP Address to the Alarm Query String

2. Click **Next**.
3. Ensure the **Running Logger As** option is set to **Windows Service**. This will start Alarm DB Logger Manager as windows service.

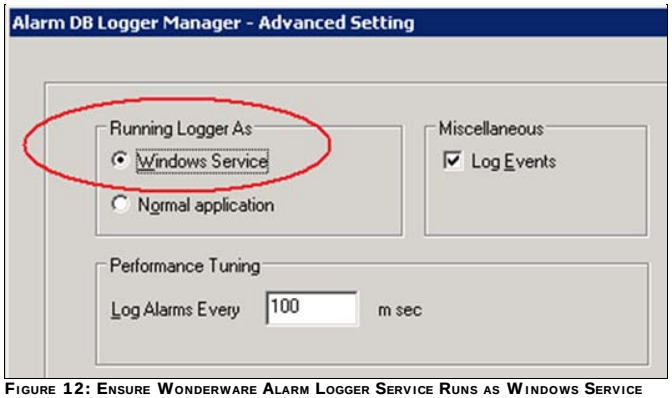

Figure 12: Ensure Wonderware Alarm Logger Service Runs as Windows Service

4. Click **Finish**.
5. Include the IP Address in the WIS Distributed Alarm Query.

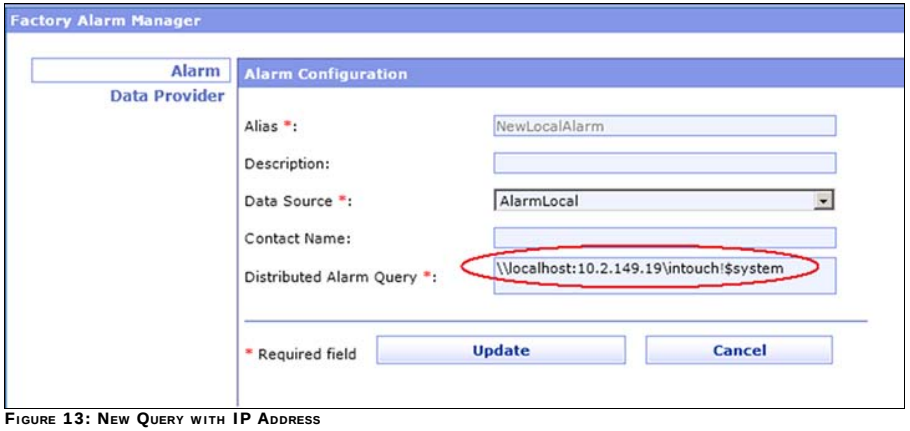

Figure 13: New Query with IP Address

6. Confirm you can see the History Factory Alarms (Figure 14 below).

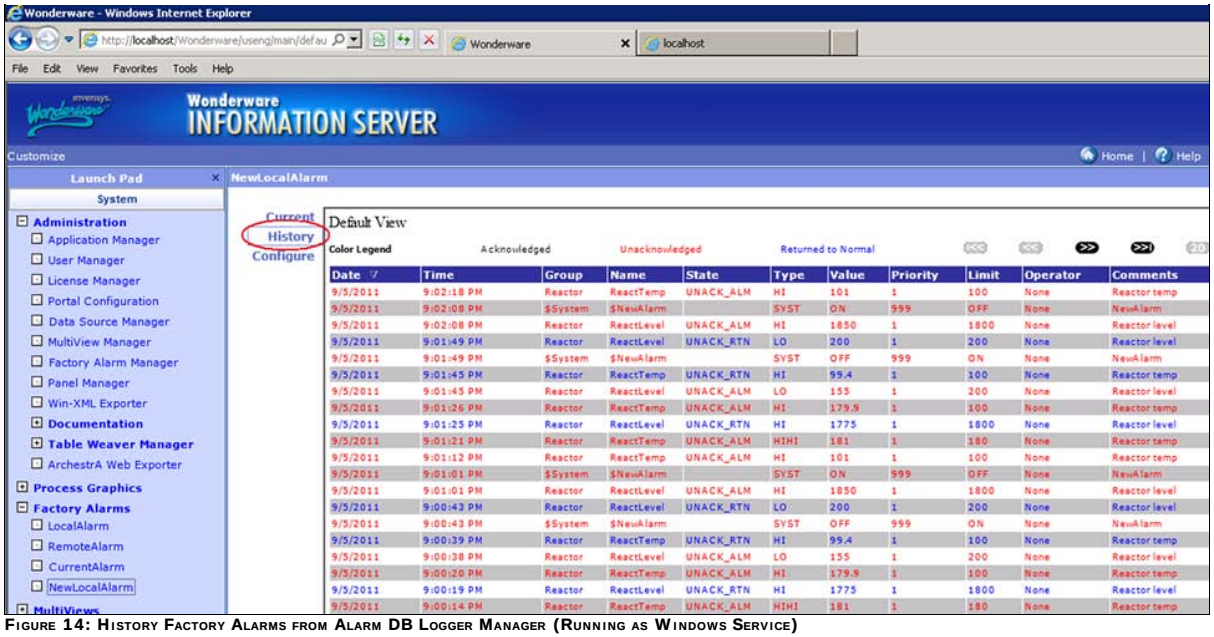

Figure 14: History Factory Alarms from Alarm DB Logger Manager (Running as Windows Service)

Note: If you still don't see the History Factory Alarms after completing the workarounds, contact **Wonderware Technical Support** for further troubleshooting.

Conclusion

Microsoft Windows 2008 (and Vista and Windows 7.0) includes the **Session 0 Isolation** mechanism, which causes WIS Factory Alarms to work incorrectly in some scenarios. Using the workaround procedure in this *Tech Note*, you should be able to restore the alarms to WIS.

References

- **Tech Note 786 Troubleshooting Wonderware Information Server (WIS) Part One: HTTP Error 500**
- **Tech Note 790 Troubleshooting Wonderware Information Server (WIS) Part Two: Factory Alarms**

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