Tech Note 988

Wonderware System Platform 2014 AlarmMgr Support for InTouch® and AppServer on Windows Vista and Later Operating Systems

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Introduction

This *Tech Note* outlines the process of configuring the Distributed Alarm System to support alarms from both InTouch and AppServer on the same computer node running with Windows Vista, Windows 7, Windows 2008 and later.

Below are two typical scenarios:

- You have the AlarmViewerControl or the Embedded Alarm Control in InTouch configured to display BOTH alarms from InTouch and AppServer but it doesn't display all the alarms: It either shows alarms from AppServer but not InTouch, or vice versa.
- You have AlarmDBLogger and InTouch running on the same node, but AlarmDBLogger is not logging any InTouch alarms.

If you see the following message in the logger from component **AlarmMgr**:

```
Unable to register. SLSSVC does not support two instances of AlarmMgr with the same name. Please see the Tech Note about configuring Windows Vista and later to support both InTouch and AppServer alarms on the same computer.
```

Use this *Tech Note* to resolve that issue.

Application Versions

- Wonderware Application Server 4.0 and later
- Wonderware InTouch 11.0 and later
- Microsoft Windows Vista, Windows 7, Windows 2008 and later

Background

Starting with Microsoft Windows Vista, the operating system imposes **Session 0 Isolation** as a security enhancement. All Windows Services and associated programs are required to run in Session 0, and no GUI applications are allowed to run in Session 0. This is to protect important system programs from being hacked by malware running in a user's log-in session.

The consequence is that programs that used to run in the same Windows Session -- such as Wonderware Application Server and InTouch

WindowViewer -- now run in separate Windows Sessions. Alarms that are reported by the Galaxy are handled by the **Session 0** instance of AlarmMgr, which is now different from the Console Session instance of AlarmMgr that handles InTouch alarms. A simple alarm query in an InTouch alarm display such as

\InTouch!$System \Galaxy!Area_001

is now serviced by two separate instances of AlarmMgr -- one running in the Console Session for InTouch, another running in Session 0 for the Galaxy.

When Windows Vista was released in 2006, Invensys made modifications to AlarmMgr so that all alarm queries for Galaxy alarms are directed to the instance of AlarmMgr in Session 0. However, to preserve backward compatibility with previous versions of Windows, the instances of AlarmMgr in both the Console Session and Session 0 retained the same name **AlarmMgr** when registering with the **SuiteLink Name Service** (SLSSVC.exe). This is a "discovery service" that one instance of AlarmMgr can use to make contact with another instance of AlarmMgr, either on a remote computer or on the same computer, but in a different Session.

SLSSVC.exe allows only ONE registration for each unique program name -- so if **AlarmMgr.exe** is launched in both the Console Session and Session 0 and both of those register with the name **AlarmMgr**, only the FIRST instance to start up is able to register successfully with SLSSVC.exe and the other instance is "invisible" to attempts to connect with it.

You may have noticed that if you start up InTouch Window Viewer on a computer BEFORE you start up the WinPlatform, the alarm displays are unable to show the Galaxy alarms. And if you start up the WinPlatform first and InTouch second, alarm displays on remote computers are able to show the Galaxy alarms, but not the InTouch alarms.

A similar problem occurs on an InTouch-only system where you configure Alarm DB Logger to run as a Windows Service. If Alarm DB Logger is running as an ordinary application, it can log the InTouch alarms -- but if it's running as a Service, it cannot access the InTouch alarms.

This inability to access alarms is because the second instance of **AlarmMgr.exe** that starts up (which contains the InTouch alarms) is unable to register successfully with SLSSVC.exe and as a result is invisible to attempts to connect from outside the Session.

If you inspect the SMC Logger output for when the WinPlatform Starts up and when InTouch View.exe starts up, you will see a message from the component AlarmMgr:

```
Registering AlarmMgr with SLSSVC as "AlarmMgr"
```

In Wonderware Application Server 4.0 and InTouch 11.0 and later you will also see a message indicating whether this attempt was successful or if it failed. Failure occurs because **SLSSVC.exe** does not accept registration of two programs with the same name. However, this problem occurs even with earlier versions of AppServer and InTouch when you are running on Windows Vista or later.

Starting with Wonderware Application Server 4.0 and InTouch 11.0, you can configure the AlarmMgr so it uses separate names for Session 0 and the Console Session -- the Session 0 instance of AlarmMgr registers with the name **AlarmMgr0** and the Console Session continues to register as **AlarmMgr**. As a result, BOTH instances of AlarmMgr are able to register successfully and are visible to external alarm clients. Also, AlarmMgr automatically handles your existing alarm queries to direct them to the appropriate sessions for Galaxy alarms and InTouch alarms.

Configuring the AlarmMgr Using Separate Names for Session 0

You can set up the AlarmMgr in the following ways:

Manual Configuration

1. Go to the **Start** menu or open a Command window and run the Registry editor using

   regedit

   You will need to have administrator privileges to edit the Registry.

2. Navigate to the Registry key for AlarmMgr.

   • On a 32-bit system, navigate to

   ```
   HKLM\Software\Wonderware\AlarmManager
   ```

   • On a 64-bit system, navigate to

   ```
   HKLM\Software\Wow6432Node\Wonderware\AlarmManager
   ```

3. Select the DWORD value named **Session0LegacyMode**. If this value does not exist, then you must create it.

4. Set this value to **0** to turn off legacy mode and enable the new functionality supporting alarms from both InTouch and AppServer on the same computer node.

5. Close **regedit**.

6. Shut down all alarm clients on the computer -- the WinPlatform, View.exe, Alarm DB Logger, etc. -- and re-start them.

   • It is NOT necessary to re-deploy any Wonderware Application Server objects.
   • You can use the SMC to shut down the WinPlatform and start it up again, or you can reboot the computer.
   • If you are not rebooting, you can use Task Manager to make sure that all alarm clients have been shut down. If there are no alarm clients running, the application alarmmgr.exe will not appear in Task Manager.

Batch File

1. Download the **Alarm Manager Batch Files.zip** file.

2. Extract the file and locate **AlarmMgr0.bat**.

3. Right-click the **AlarmMgr0.bat** file and click **Run as Administrator**.

   This will add the above registry key mentioned in the manual steps.

4. Shut down all Alarm clients on the computer -- the WinPlatform, View.exe, Alarm DB Logger, etc. -- and re-start them.
   • It is NOT necessary to re-deploy any Wonderware Application Server objects.
   • You can use the SMC to shut down the WinPlatform and start it up again, or you can reboot the computer.
   • If you are not rebooting, you can use Task Manager to make sure that all alarm clients have been shut down. If there are no alarm clients running, the application alarmmgr.exe will not appear in Task Manager.

This Registry change and re-start must be done on EVERY computer that is using alarmmgr.exe in your application

environment.

Returning to the Old (legacy) AlarmMgr Mode

Setting up the old (legacy) AlarmMgr operational can be done in the following ways:

Manual Configuration

1. Go to the **Start** menu or open a Command window and run the Registry editor using

   regedit

   You will need to have administrator privileges to edit the Registry.

2. Navigate to the Registry key for AlarmMgr.

   • On a 32-bit system, navigate to

   ```
   HKLM\Software\Wonderware\AlarmManager
   ```

   • On a 64-bit system, navigate to

   ```
   HKLM\Software\Wow6432Node\Wonderware\AlarmManager
   ```

3. You can delete the value named **Session0LegacyMode**, or alternatively you can set it to a non-zero value such as **1**. This will restore the legacy operation of AlarmMgr.

4. Shut down and re-start all alarm clients for the change to take effect.

Batch File

1. Download the **Alarm Manager Batch Files.zip** file.

2. Extract the file and locate **AlarmMgr.bat**.

3. Right-click the **AlarmMgr.bat** file and click **Run as Administrator**.

   This will add the above registry key mentioned in the manual steps.

4. Shut down all Alarm clients on the computer -- the WinPlatform, View.exe, Alarm DB Logger, etc. -- and re-start them.
   • It is NOT necessary to re-deploy any Wonderware Application Server objects.
   • You can use the SMC to shut down the WinPlatform and start it up again, or you can reboot the computer.
   • If you are not rebooting, you can use Task Manager to make sure that all alarm clients have been shut down. If there are no alarm clients running, the application alarmmgr.exe will not appear in Task Manager.

This Registry change and re-start must be done on EVERY computer that is using alarmmgr.exe in your application environment.

Running with the New AlarmMgr Mode

If you are using Wonderware Application Server 4.0 and later or InTouch 11.0 and later, and if you configure **Session0LegacyMode=0** on ALL the computers in your application environment, you do not need to change anything else to get full operability of the alarms in your application. AlarmMgr takes care of directing all your Galaxy alarm queries to Session 0 and all other queries to the Console Session, so you can visualize alarms from both InTouch and AppServer on the same computer and from all remote computers in the application.

Running with the Old AlarmMgr Mode

If you configure **Session0LegacyMode=1** (or any other non-zero value), or delete the value **Session0LegacyMode** from the Registry, on ALL the computers in your application environment, your applications will run in legacy mode.

This means that whether InTouch or Galaxy alarms are visible depends upon the order in which View.exe and the WinPlatform are started on each computer. If you run Alarm DB Logger as a Windows Service on the same node as InTouch, you can also experience problems logging InTouch alarms.

Running with Mixtures of the old AlarmMgr mode and the new AlarmMgr mode

Invensys does NOT support running AlarmMgr with some computers configured for the new mode and other computers configured for the old mode. You should update ALL the nodes in the environment for new-mode operation or leave ALL the nodes configured for legacy mode operation. Operation with the new AlarmMgr mode is supported ONLY for Wonderware Application Server 4.0 and InTouch 11.0 and later.

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