Tech Note 825
Industrial Application Server Redundancy: Troubleshooting Guidelines

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Introduction

This *Tech Note* assumes familiarity with the Redundancy set up in Application Server.

Application Versions

- Wonderware Application Server versions 3.1 SP3 P01 and greater.

Troubleshooting Redundancy Issues

The following items are derived from Tech Support best practices when troublshooting Application Server redundancy problems.

Ensure that UAC is OFF on all nodes.

Refer to the following tech notes for disabling UAC.

- **Tech Note 772 - Disabling UAC for Wonderware® Product Support on Windows 2008 Server R2 — 64 bit**

- **Tech Note 733- Disabling UAC for Wonderware® Product Support on Windows Server 2008 SP2**

Make sure Firewall is turned OFF on all machines.

Verify from the Add/Remove program that the .NET Framework versions on all machines are the same.

Check if AOSs and GR are time synched.

Ping Test: Ping one machine from another (try on both machines) and both machines from the GR using the CMD prompt.

1. Ping using IP address

2. Ping using machine name

Verify that all IP addresses are correct.

- Open a CMD prompt, then type `ipconfig /all` to see if the IP addresses are correct.

Verify the Hosts Files are correct.

- The Hosts file is at **C:\Windows\System32\drivers\etc\hosts** are current. The IP addresses of host names could change over time and the hosts file may not always be updated.

Uncheck IPv6 for Local Area Connections

On Windows Vista, Windows 7, and Windows Server 2008, sometimes un-checking IPv6 and only using **IPv4** has helped.

1. Go to the **Local Area Connection** properties.

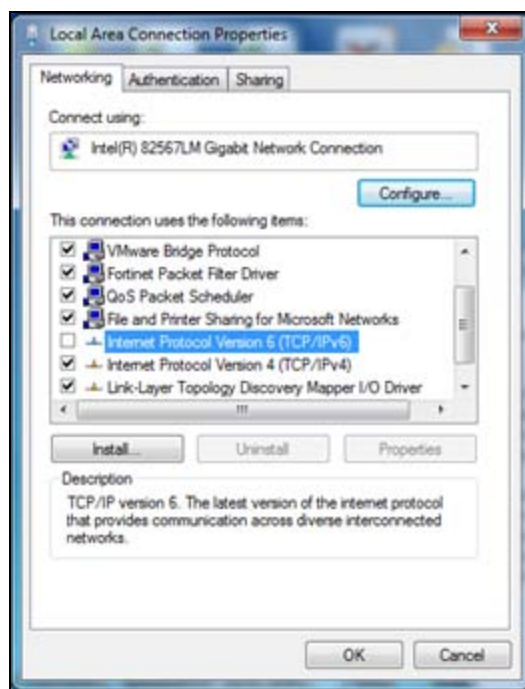2. Under the **Networking** tab, uncheck **IPv6**.

FIGURE 1: IPv6 IN LOCAL AREA CONNECTION

Check the binding order.

Refer to the following *Tech Notes*.

- **Tech Note 773 – Checking Binding Order on a Windows Server 2008 SP2 & R2.**

- **Tech Note 368 – Network Setup for AppEngine Redundancy.**

Check DCOM settings to ensure that Enable DCOM is checked on the machine.

For Windows 2000 Server and Windows Server 2003 with all Service Packs and Releases, refer to

- **Tech Note 461 – Troubleshooting Industrial Application Server Bootstrap Communications**.

To check DCOM Settings in Windows Server 2008 and Windows 7

1. Open **Component Services**.

2. In the console tree, click the Computers folder and right-click the computer for which you want to enable or disable DCOM.

3. Click **Properties**.

4. Click the **Default Properties** tab.

5. Click the **Enable Distributed COM on the computer** checkbox.
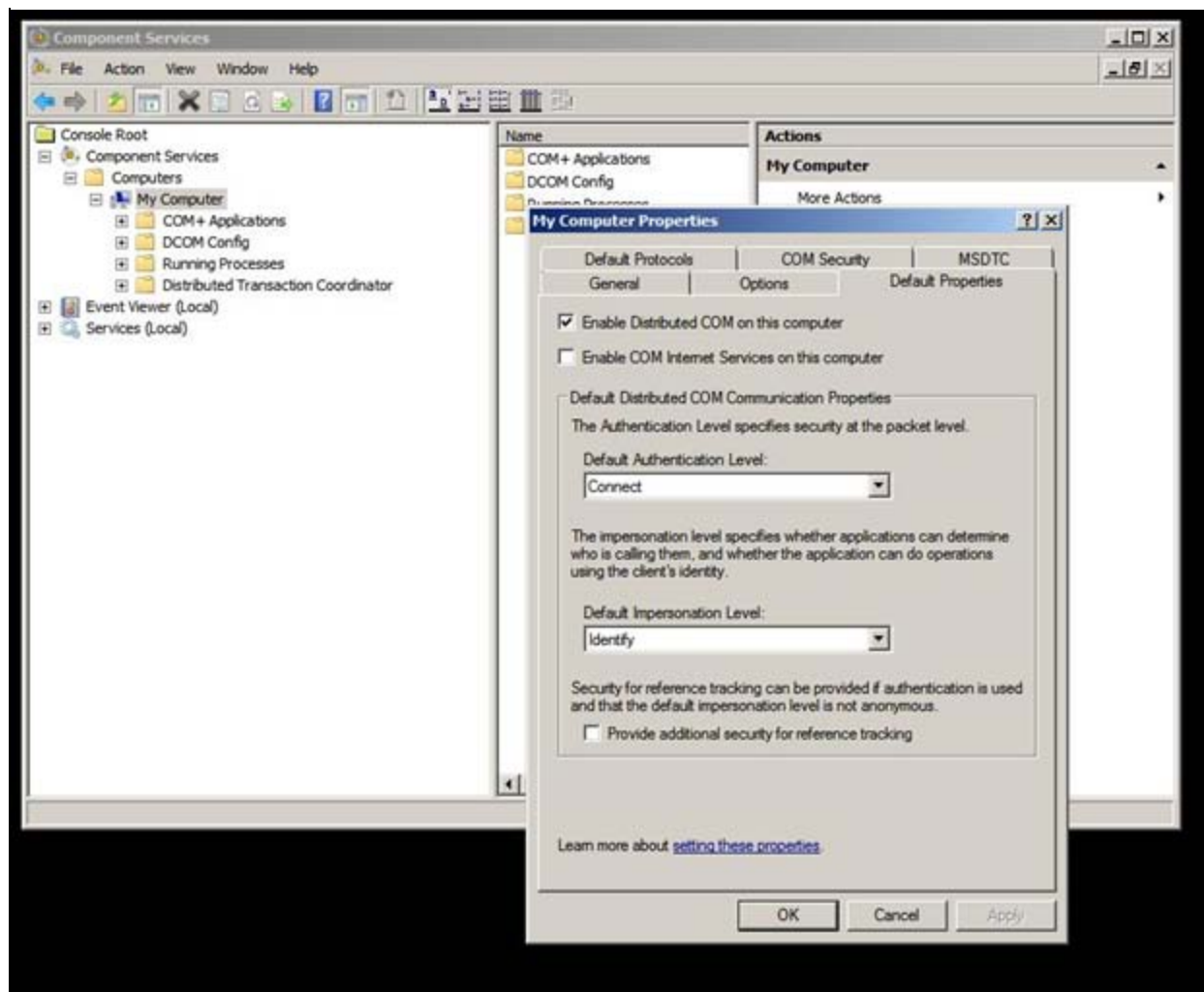
6. Click **OK**.

FIGURE 2: ENABLE DCOM ON WINDOWS 7 AND WINDOWS SERVER 2008

Check permissions for folders.

Check if the user logged on to the AOS client can access the following folders on the GR:

- **C:\Program Files\ArchestrA\Framework\Bin\CheckPointer**

- **C:\Program Files\ArchestrA\Framework\Bin\GalaxyData**

- **C:\Program Files\ArchestrA\Framework\Bin\GlobalDataCache**

To investigate further on the Permissions, refer to **Tech Note 461: Troubleshooting Industrial Application Server Bootstrap Communications**.

Ensure that simple file sharing is OFF for Windows XP, Windows Vista, and Windows 7.

1. Click the Start/Control Panel.

2. Do either of the following:
   • In XP, select **Appearance and Themes**.
   • In Vista/Windows 7, select **Appearance and Personalization**.

3. Click **Folder Options**.

4. Click the **View** tab.

5. Scroll to the bottom of the **Advanced settings: list** panel.
   • In XP, clear the Use simple file sharing (Recommended) check box.
   • In Vista/Windows 7, clear the Use Sharing Wizard (Recommended) check box.

6. Click **OK**.

7. Close all windows.

Verify that the Application Server versions on both platforms hosting the redundant engines are the same.

First deploy a Redundant Engine not Cascade Deploy and check "Include Redundant Partner". Verify failover and failback. Do this test first before deploying all of the objects in the Redundant Engine.

Check Platform Configuration Items

1. Verify that under platform configuration/General/ Network address: the node name must be used, and NOT the IP address.

2. Open the IDE, and click the Platform's **General** tab to verify that the Redundancy Message Channel IP address is set to *its own IP address of the RMC connection* and NOT to that of the partner node.
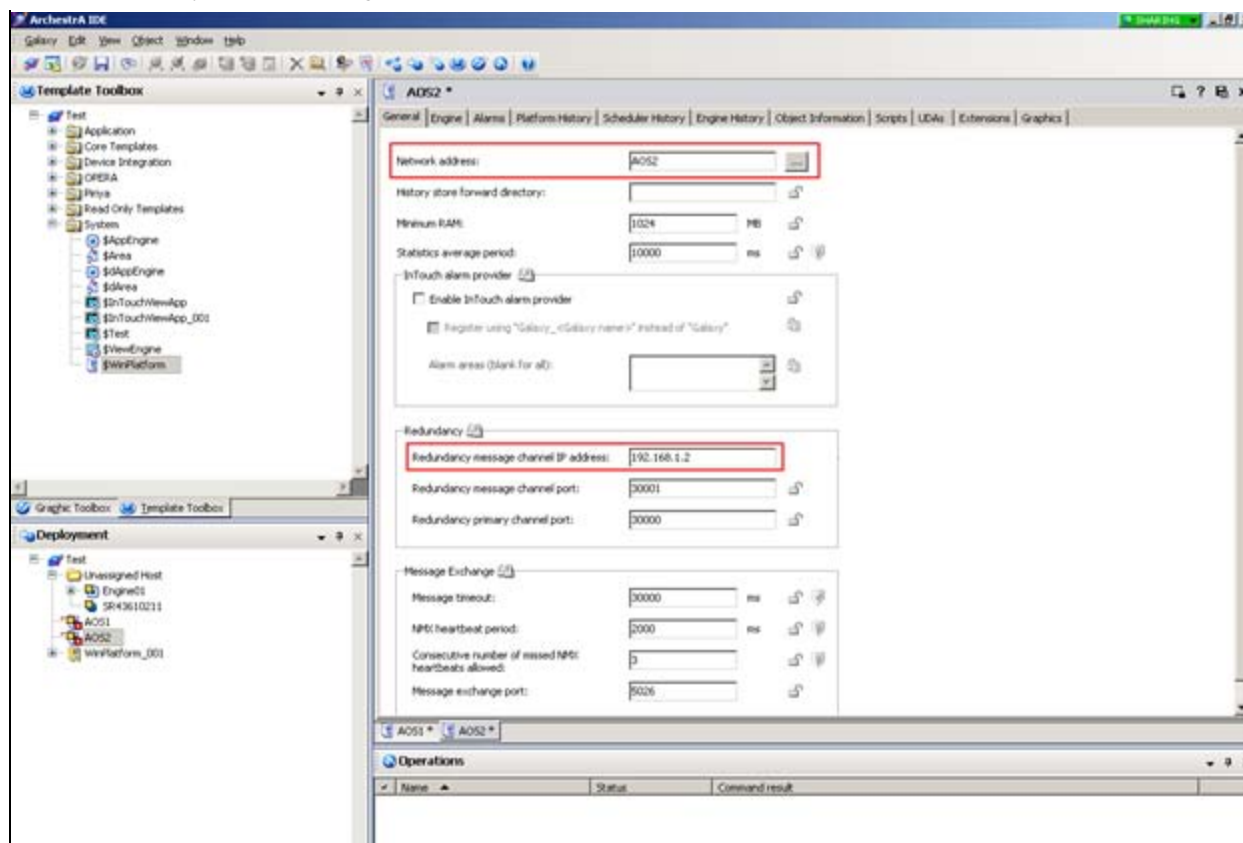
FIGURE 3: PLATFORM CONFIGURATION

Check Engine Configuration Items

- On the Engine's **General** tab, make sure that the **Restart the engine when it fails** checkbox is not locked.

- Under Engine's **General** tab set the **Scan Period** to a higher prime number. This will prevent multiple engines failing over at the exact same time.
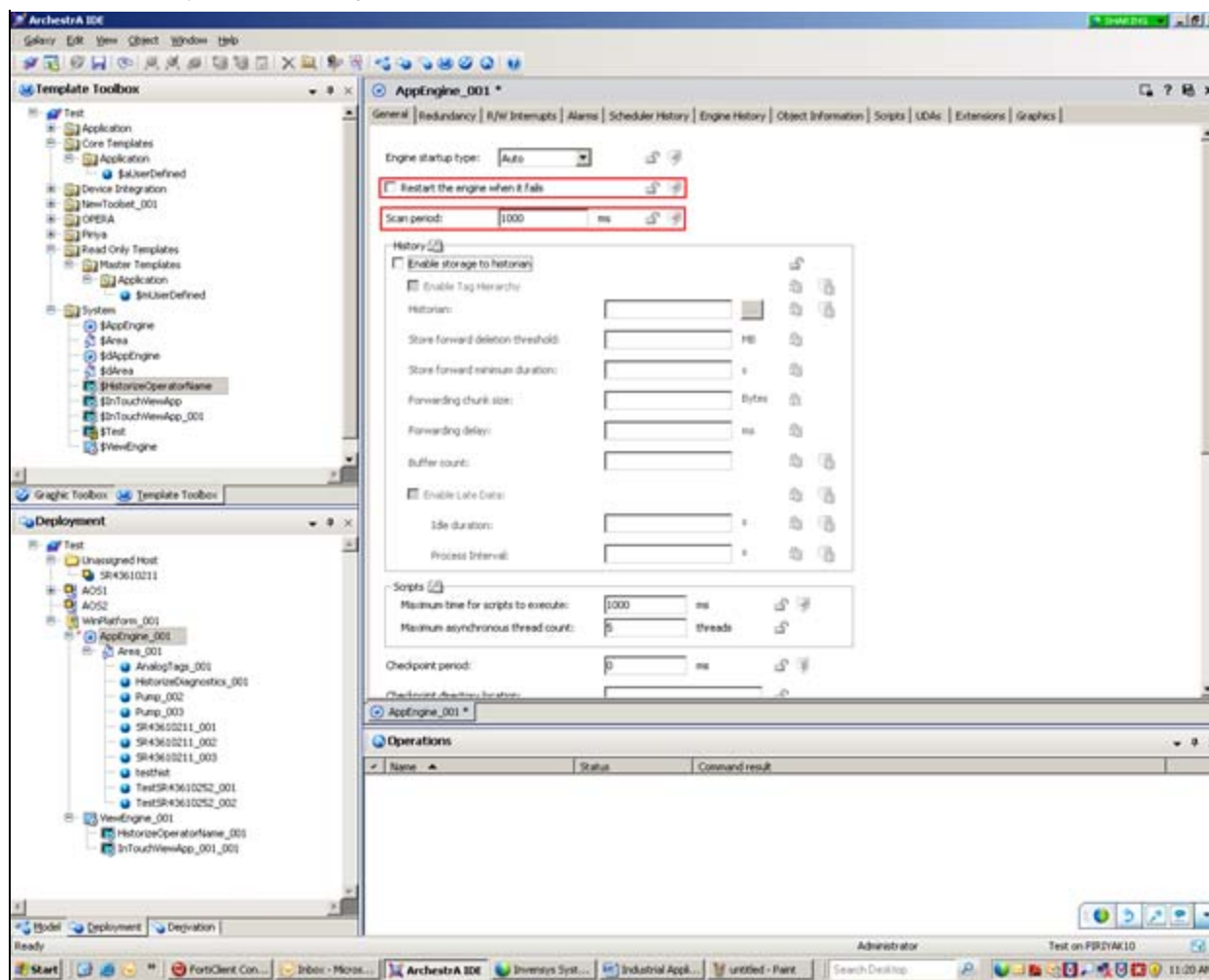
  Each engine should have a different number.

FIGURE 4: ENGINE CONFIGURATION ITEMS

- If the partners detect each other, but the fail over doesn't succeed, click the **Redundancy** tab and change the **Maximum time to discover partners** setting to **30000**.

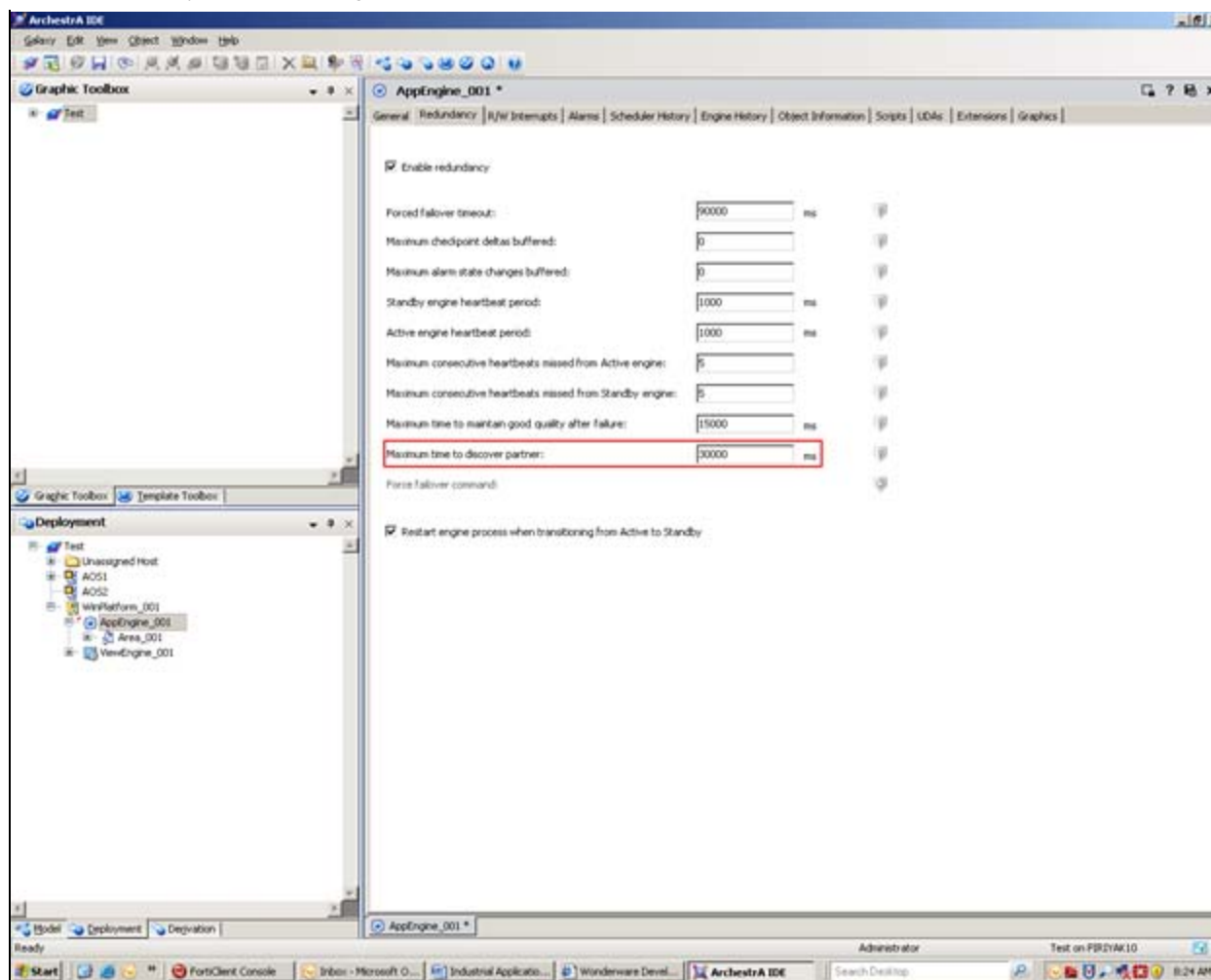 After saving the changes, check if the problem is resolved.

FIGURE 5: ENGINE REDUNDANCY CONFIGURATION

- If an engine has a high number of objects (several hundred on the same engine or overloaded objects), the load may have to be redistributed. Create new engines and move some of the objects to that engine to have equal load on all engines.

Use Object Viewer to verify that redundancy works properly.

Use the following engine redundancy attributes:

- **Redundancy.Status**

- **Redundancy.PartnerStatus**

- **Redundancy.Identity**.

- **Platform Engine.Objects** (optional but helpful).

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