Tech Note 925
Configuring Alarm Hot Backup Using Galaxy Provider

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Introduction

Alarm Hot Backup Manager can use InTouch, Galaxy, or Galaxy_ as alarm providers when configuring an alarm Hot Backup Pair.

This *Tech Note* guides you through the procedure for configuring alarm hot backup using **Galaxy** and **Galaxy_** as the provider.

Application Versions

- ArchestrA System Platform 2012 R2.

The Hot Backup provides a single name (Hot Backup Pair name) that points to two alarm providers: The Primary and the Backup. The two machines are the Hot Backup Pair. The InTouch HMI alarm consumers can reference this single hot backup pair name and retrieve alarms from either the primary or the backup alarm provider.

When both provider nodes are operating normally, the alarm consumer receives alarm data from the primary provider. If the primary provider fails, however, the alarm consumer receives alarm data from the backup instead. The Hot Backup Manager synchronizes alarm acknowledgements between the primary and backup providers. If an alarm is acknowledged on the primary provider, the same alarm is acknowledged simultaneously on the backup provider.

To specify a Galaxy or Galaxy_<GalaxyName> alarm provider, you must configure AppEngine redundancy in the IDE.

> **Note:** The system does not support hot backup pairs for alarms generated from two different Galaxies.

Configuring Redundancy for Using GALAXY in the Alarm Hot Backup

> **Note:** The following configuration is just an example. Other supported OSs listed in the ReadMe file can be used for the GR, Primary, and Secondary nodes. Similarly, any other IP address may also be assigned for the nodes.

System Configuration

GR Node: 10.13.1.56

- OS: Windows Server 2008 R2 Standard

- SQL Server: SQL Server 2008

- No. of Network cards: 1

Primary Machine / Secondary Machine

- OS: Windows Server 2003 R2 Standard

- SQL Server: SQL Server 2008

- No. of Network cards: 2

Primary Machine: 10.13.9.141

Secondary Machine: 10.13.9.143

Complete the following steps on the Primary machine, after it is created from your VM:

1. Go to **Network Connections**.

2. Rename the network cards: **VMware Accelerated AMD PCNet Adapter** to **Primary** and **VMware Accelerated AMD PCNet Adapter #2** to **RMC**.
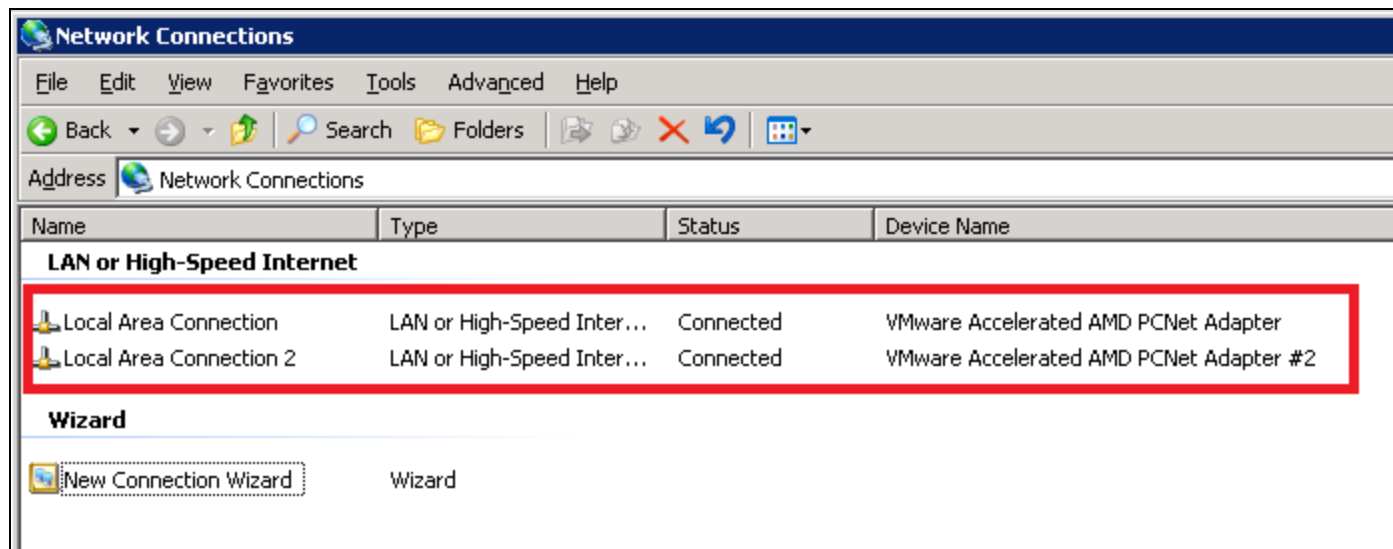
FIGURE 1: RENAME THE NETWORK DEVICE NAMES (CARDS)
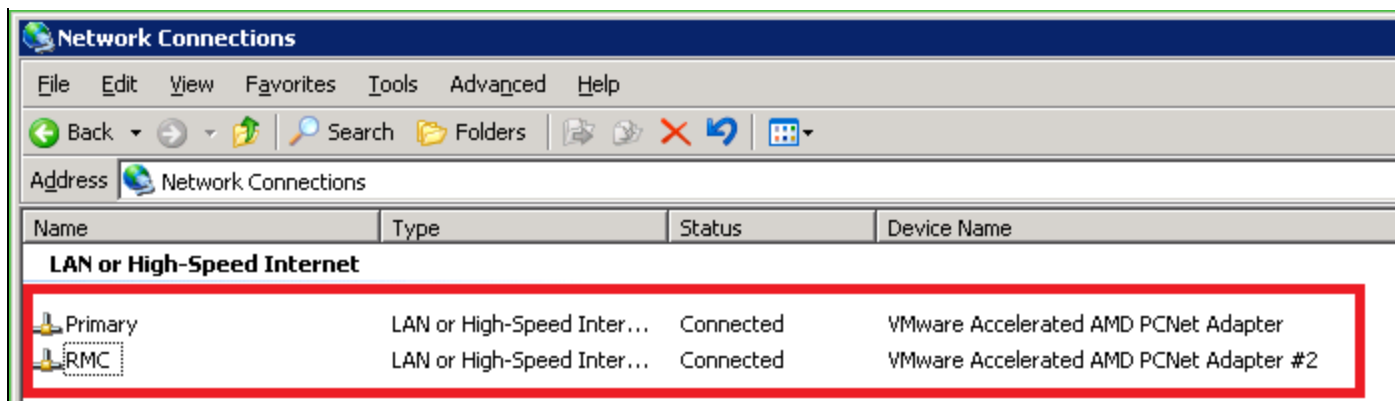
FIGURE 2: PRIMARY AND SECONDARY NETWORK CONNECTIONS

3. Change RMC Static IP Address to **192.168.101.101**.

4. Under **Advanced Settings -> DNS**, un-check **Register this connection's addresses in DNS** check box.
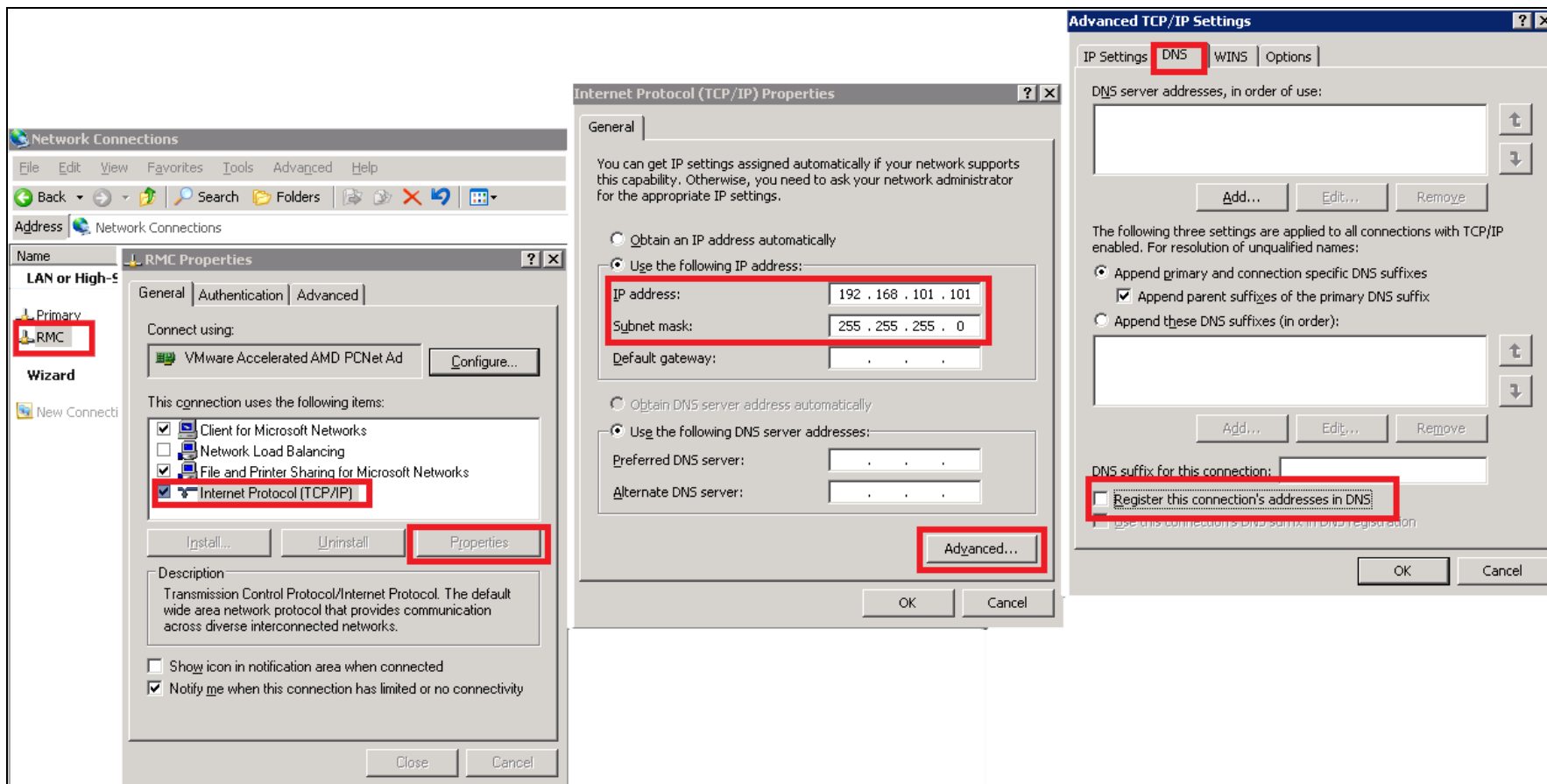
FIGURE 3: RMC > PROPERTIES > IP ADDRESS > ADVANCED > DNS

5. After the IP Address is setup, in **Network Connections** go to **Advanced > Advanced Settings** panel.

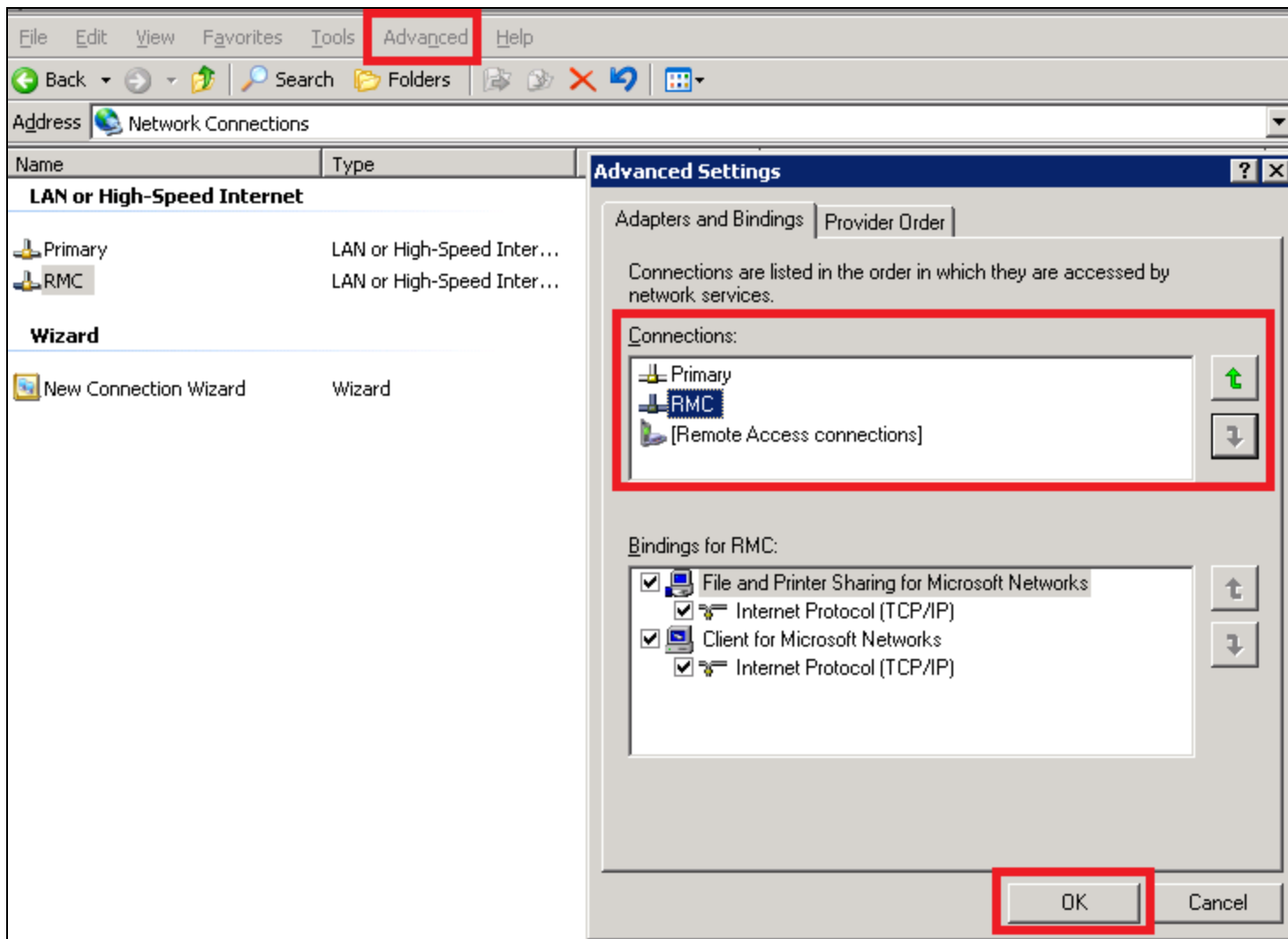6. In the **Adapter Bindings** tab, move the **Primary** connection to first in the list, and **RMC** to the second postion.

FIGURE 4: ADVANCED CONNECTION SETTINGS

7. Click **OK** and restart the computer.

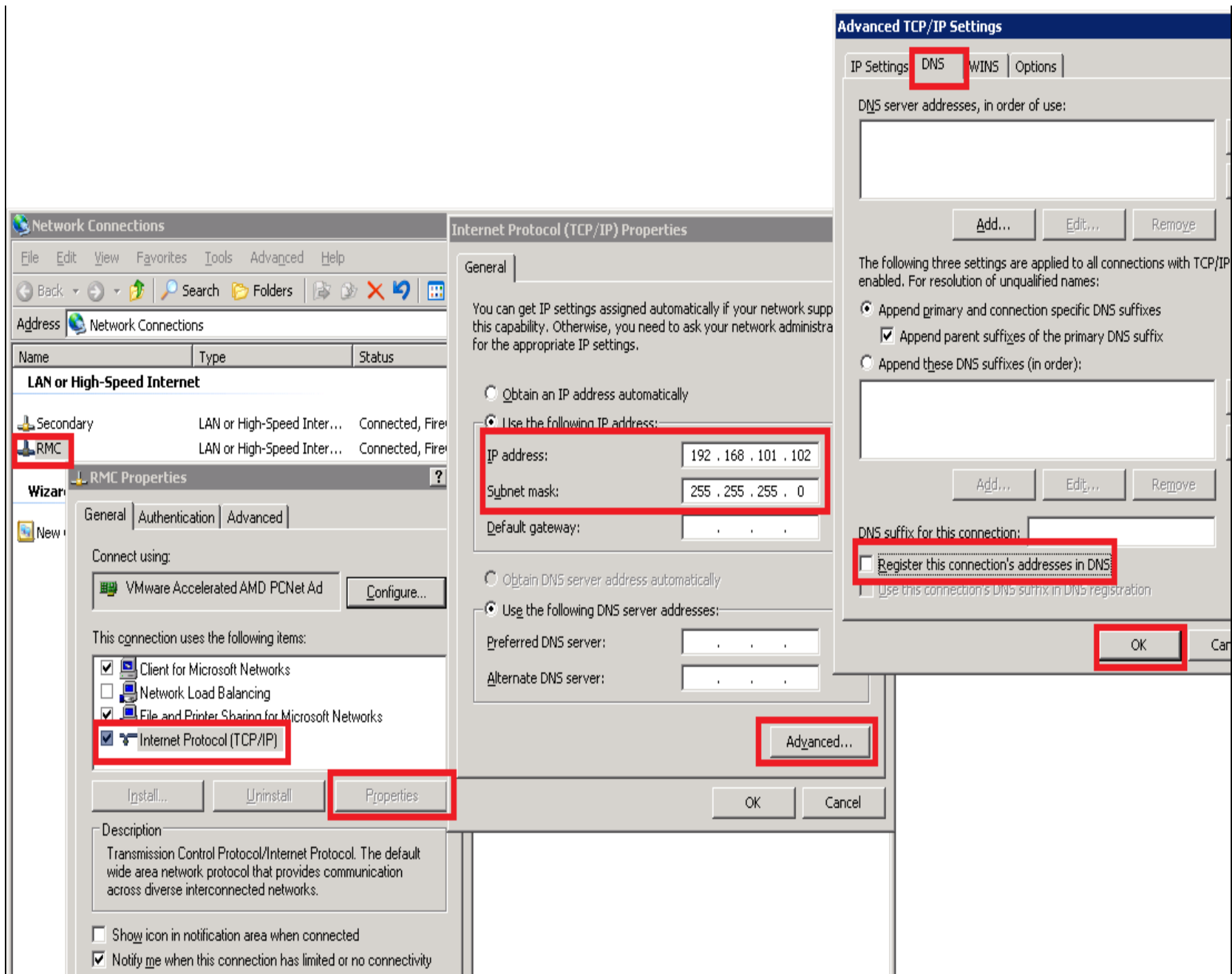8. Complete all the above steps for the **Secondary** machine except for Step 3. Configure that IP Address as **192.168.101.102**.

FIGURE 5: RMC PROPERTIES > GENERAL > ADVANCED DNS

9. Make sure that both the primary and backup machines are communicating by pinging each other using static IP addresses

(**192.168.101.101** and **192.168.101.102**).

Configure the Galaxy

The following product installations are required for proper configuration of Alarm Hot Backup.

GRNode

- AppServer: **Full installation**

Primary Machine / Backup Machine

- AppServer: **Bootstrap**

Complete the following steps on the GR Node to configure the Galaxy and set up an example Alarm object.

1. Create a galaxy called **AlarmHB**.

2. Create instances as shown:
   - **GR**
   - **Primary** (Platform)
     - AppEngine_001
       - Area_001
   - **Sec** (Platform)

3. Configure the **GR** object by doing the following:

   - Under the **General** tab, provide the **Network address** as the GR Node machine name, or an IP address (Figure 6 below).
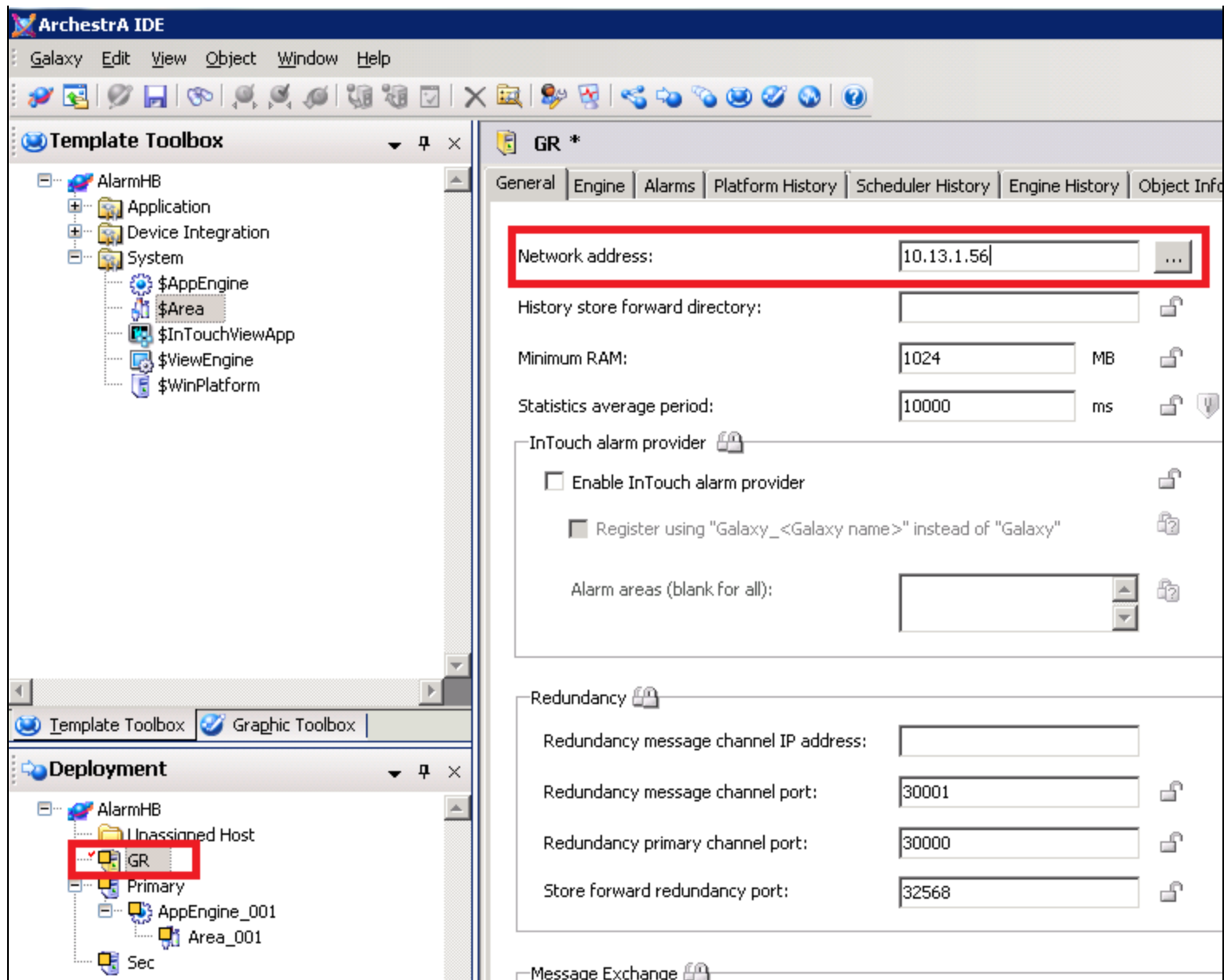
FIGURE 6: CONFIGURING THE GR OBJECT

4. Configure the **Primary** Object by doing the following:

   - In the **General** tab, provide **Network address** with the Primary machine's name or IP address.
   - Check **Enable Intouch alarm provider**.
   - Provide **Redundancy message channel IP address** as the primary machine's static IP Address (Figure 7 below).
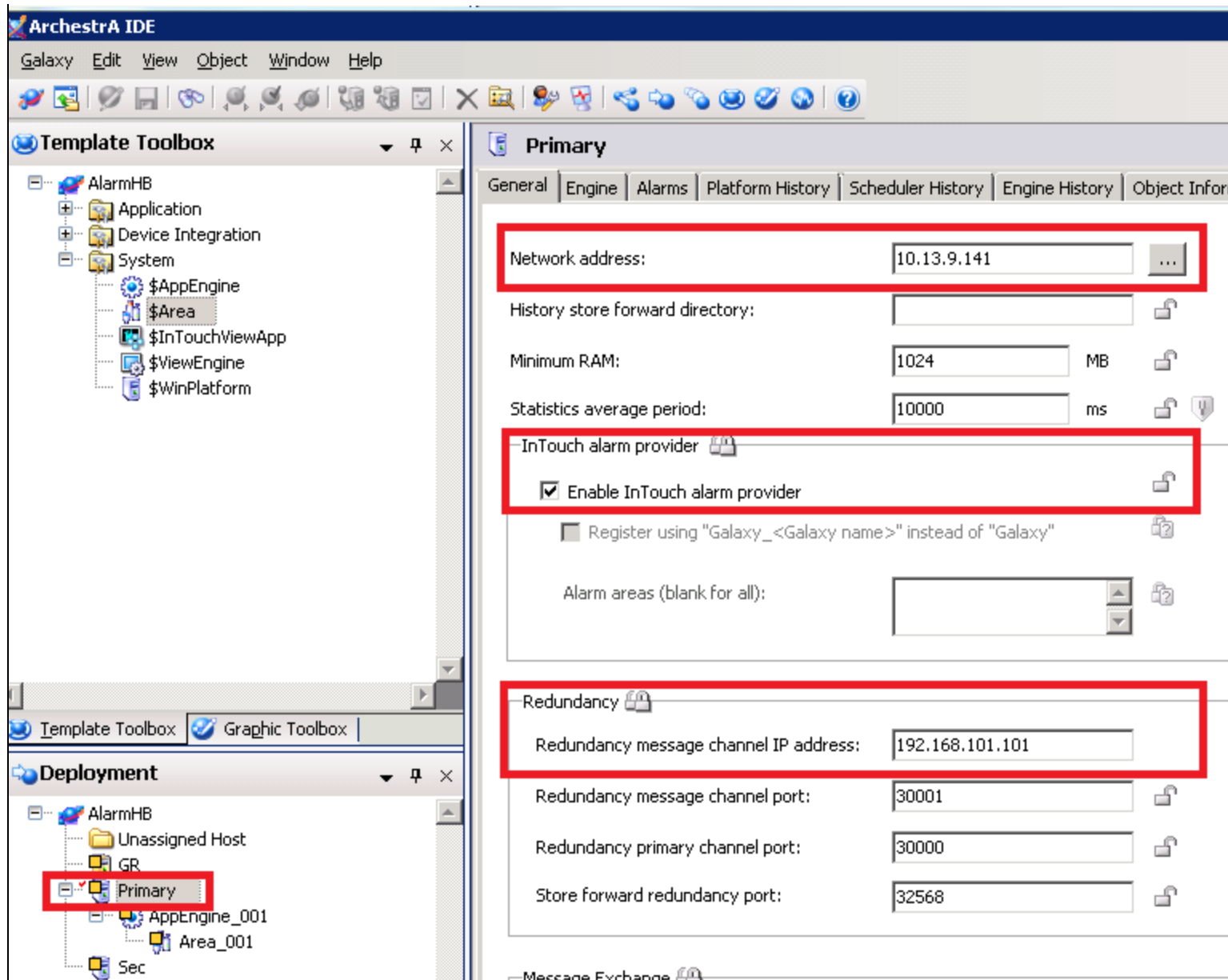
FIGURE 7: PRIMARY COMMUNICATION CHANNEL SETTINGS

5. Configure the **Sec** (Secondary) object by doing the following:

   • In the **General** tab, provide **Network Address** with the Secondary machine name or IP address.
   • Provide the **Redundancy message channel IP address** with secondary machine's static IP Address.
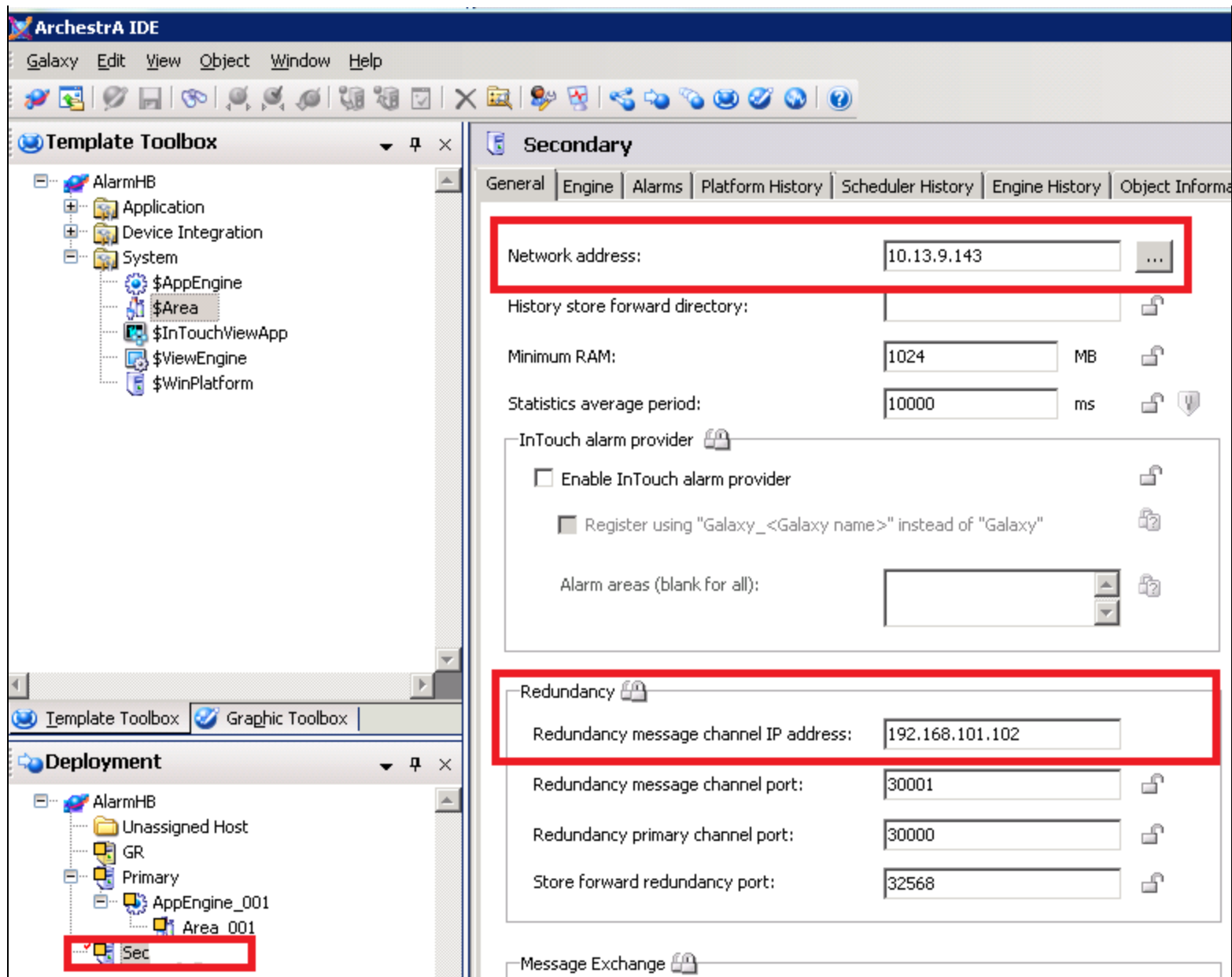
FIGURE 8: SECONDARY COMMUNICATION SETTINGS

6. Configure **AppEngine_001** by doing the following.

- In the **Redundancy** tab, check the **Enable Redundancy** option.
- Save and Close the editor.
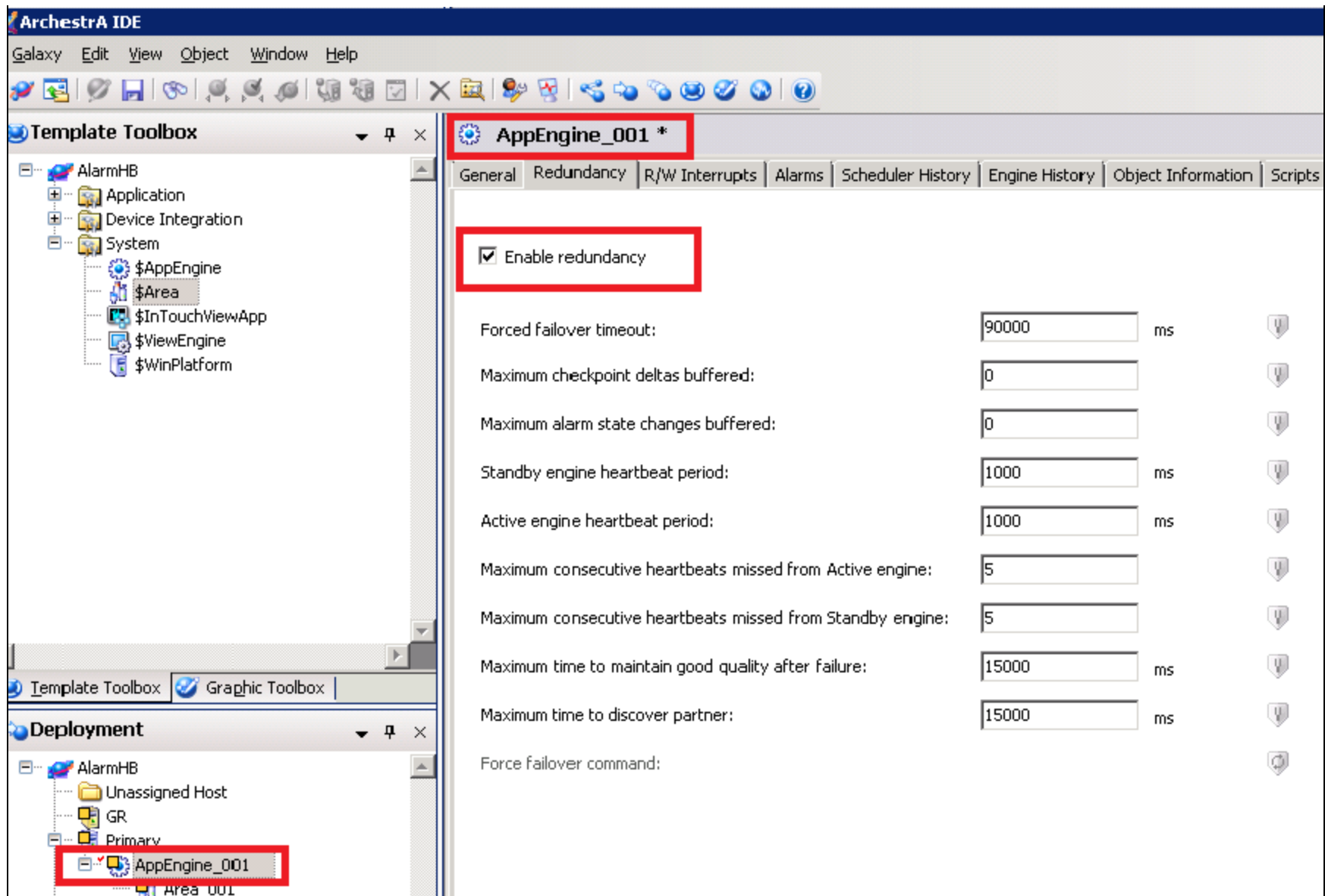
FIGURE 9: ENABLE REDUNDANCY FOR THE APPENGINE

7. A new AppEngine called **AppEngine_001 (Backup)** is created under **Unassigned Host**.
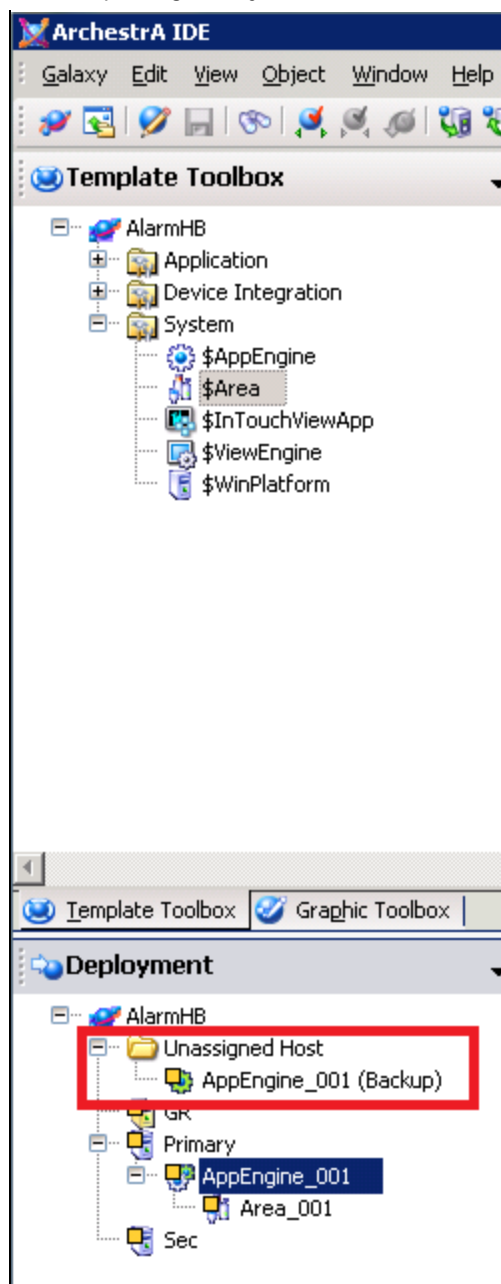
FIGURE 10: APPENGINE…(BACKUP)

8. Assign **AppEngine_001 (Backup)** to **Secondary**.

9. Create a new $UserDefined template called **$Alarm**.

10. Create a UDA called **Alarm** with a Boolean data type.
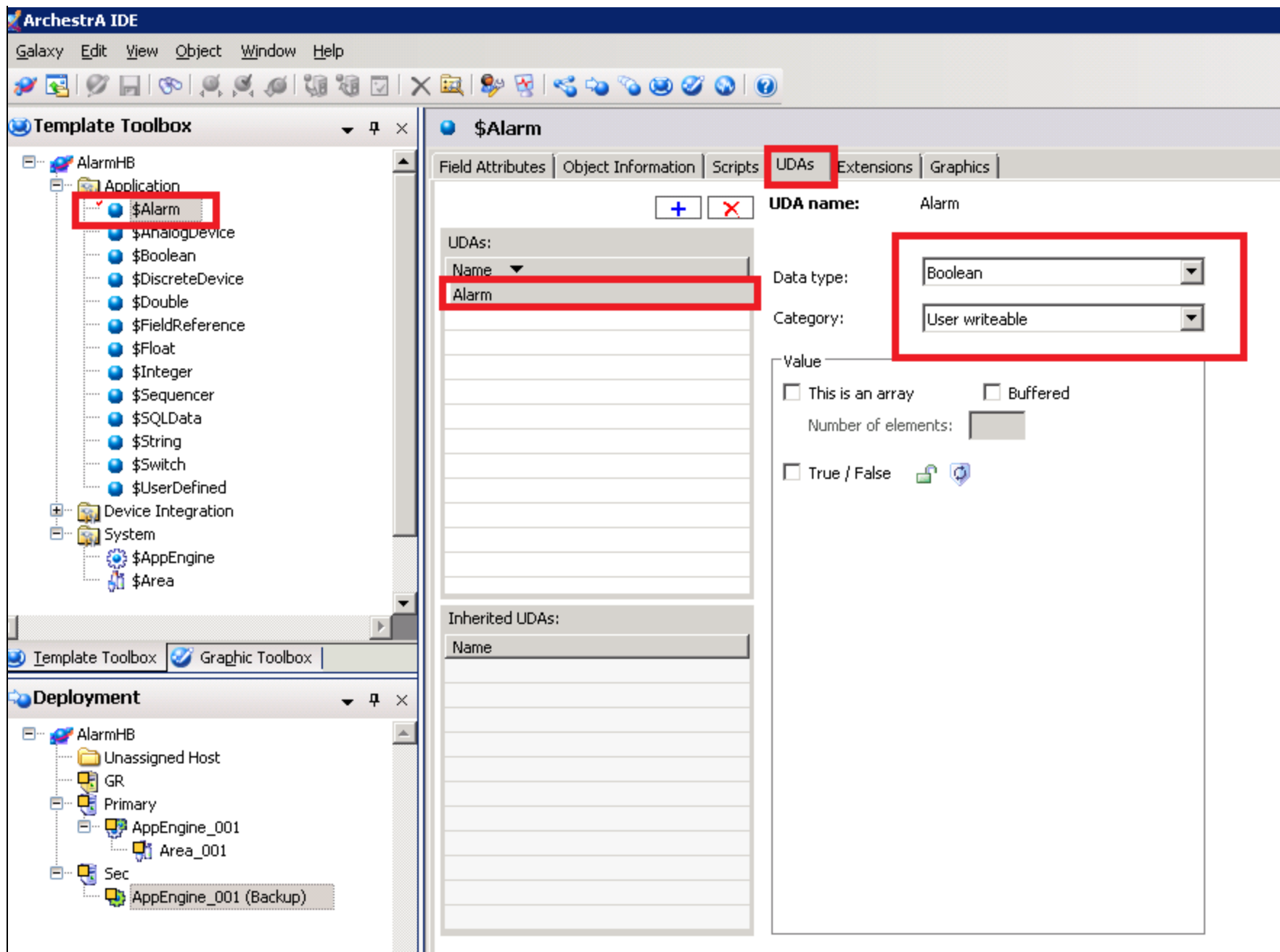
FIGURE 11: ALARM TEMPLATE AND BOOLEAN ALARM UDA

11. In the **Extensions** tab of $Alarm, check the **Alarm extension** option.
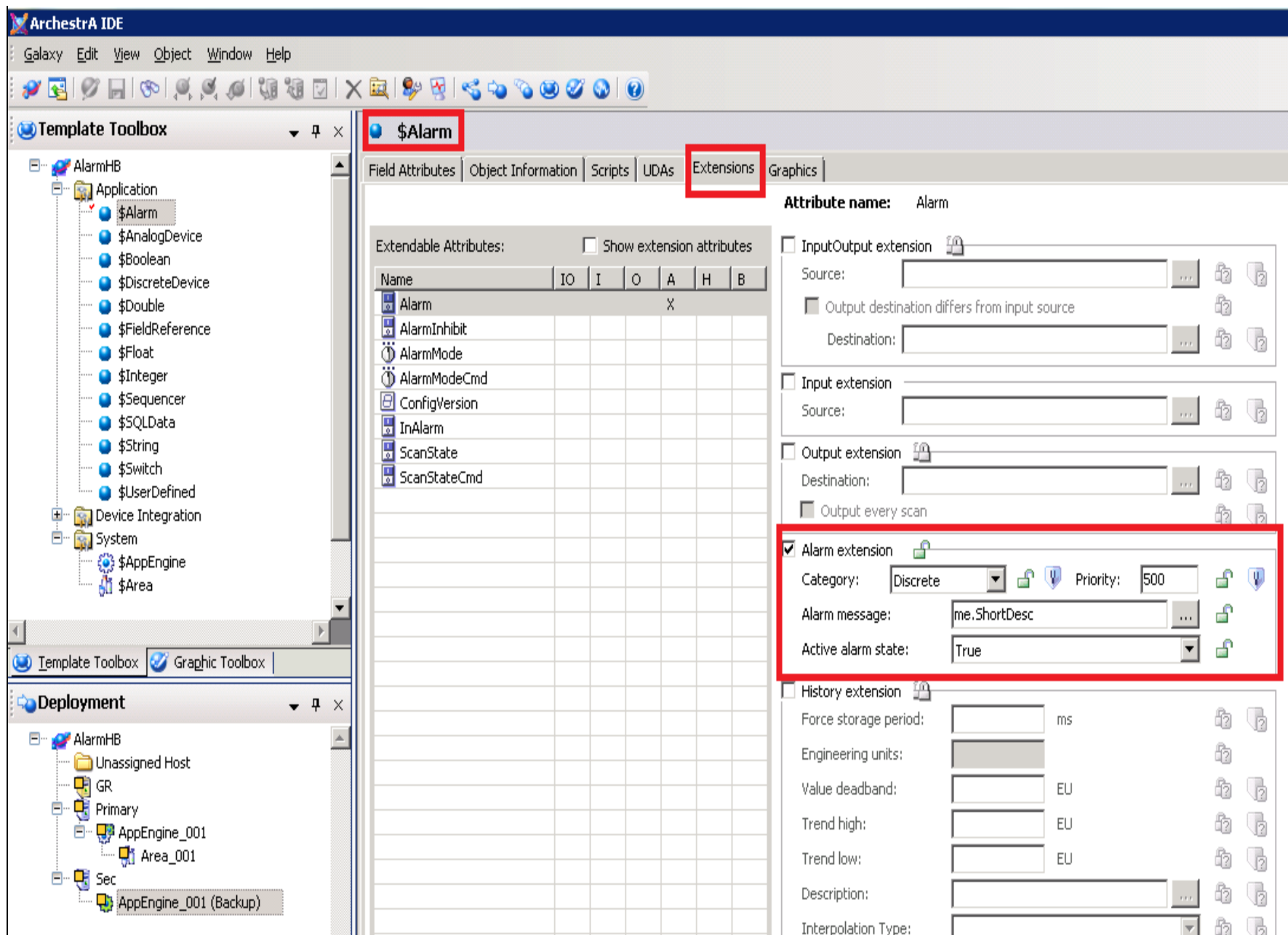
FIGURE 12: ALARM EXTENSION

12. Create an instance of $Alarm and place it under **Area_001.**
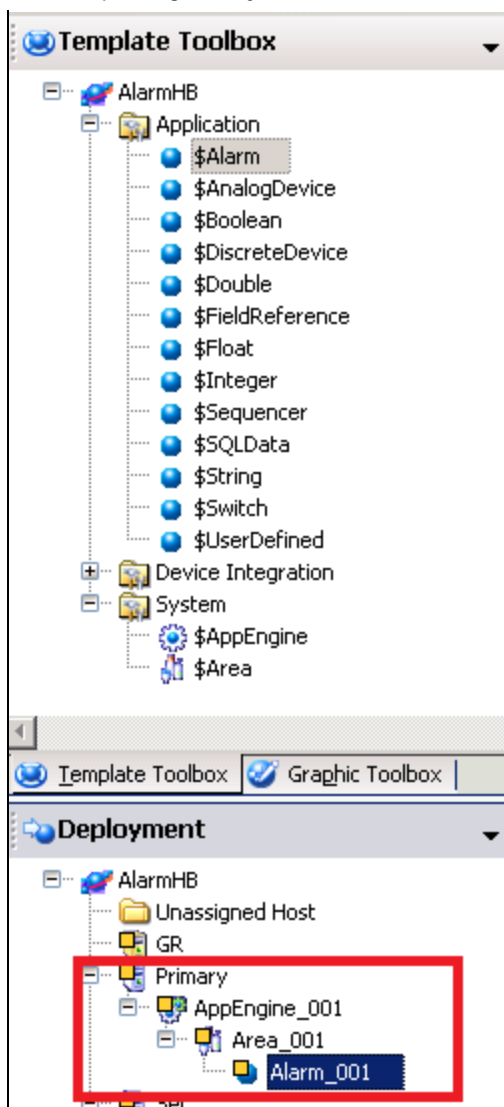
FIGURE 13: ALARM OBJECT INSTANCE IN AREA

13. Deploy all objects. Redundancy setup is ready for **Alarm_001**.
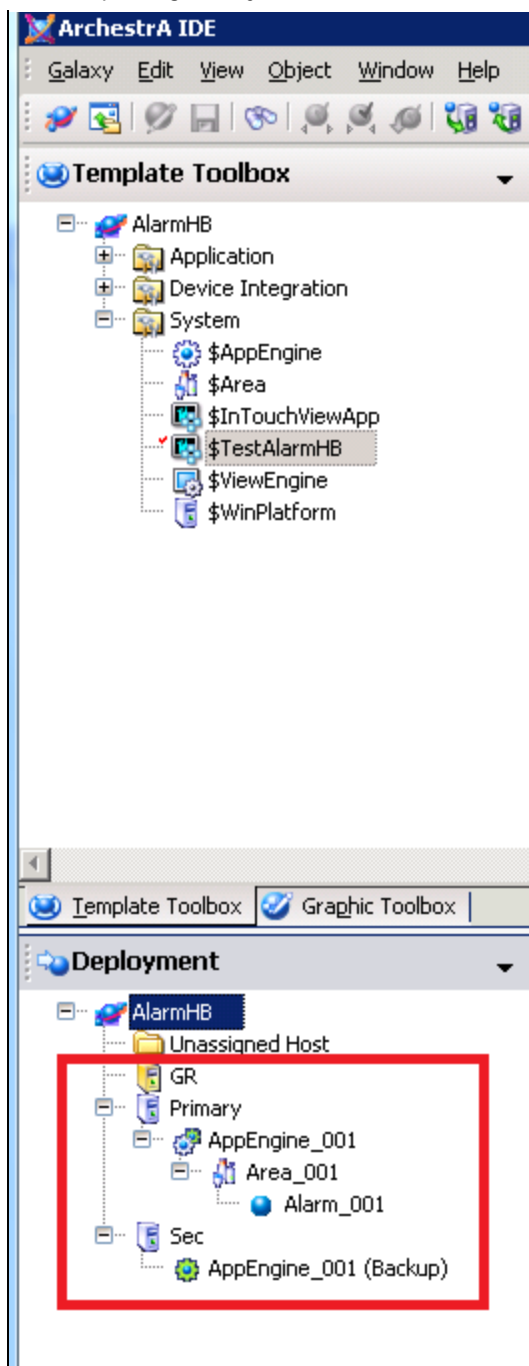
FIGURE 14: ALARM REDUNDANCY IS READY

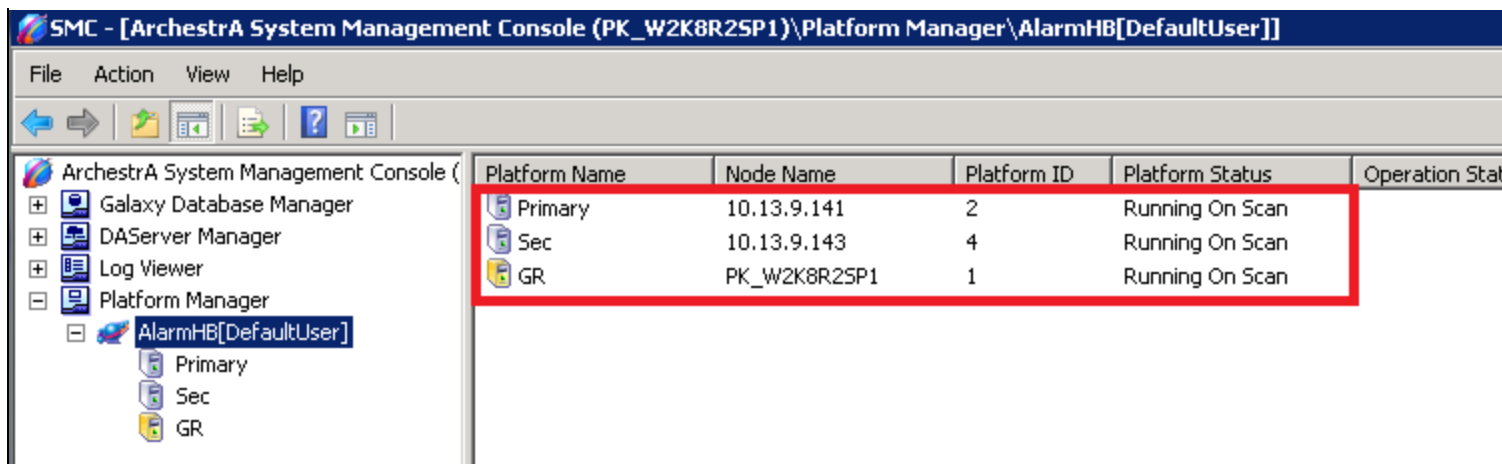You will notice all three platforms running successfully in the System Management Console (SMC).

FIGURE 15: OBJECTS RUNNING SUCCESSFULLY

Configuring InTouch for Alarm Hot Backup Using Galaxy

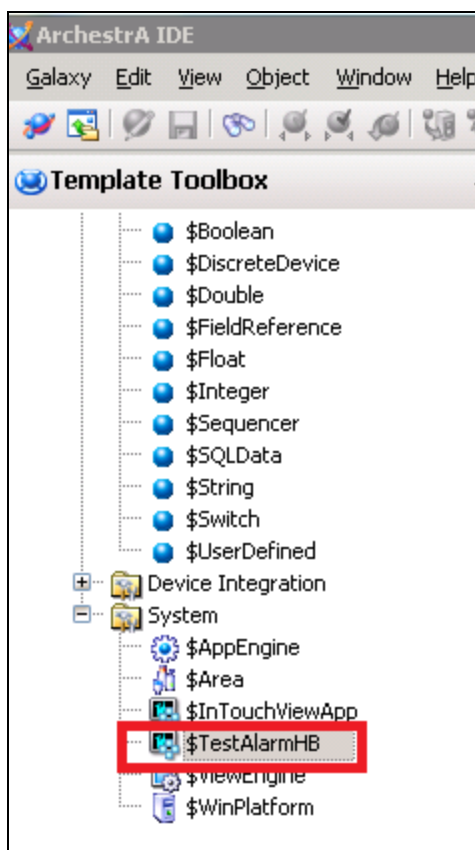- Create a new $InTouchView Application from the IDE and name it **$TestAlarmHB**.

FIGURE 16: $TESTALARMHB VIEW APPLICATION

> **Note:** Configuring the Alarm Hot Backup Pair must be done on a client machine that is not the Primary or Backup node.

1. Open the InTouchViewApp/$TestAlarmHB in InTouch WindowMaker.

2. Click **Tools** and expand **Applications**.
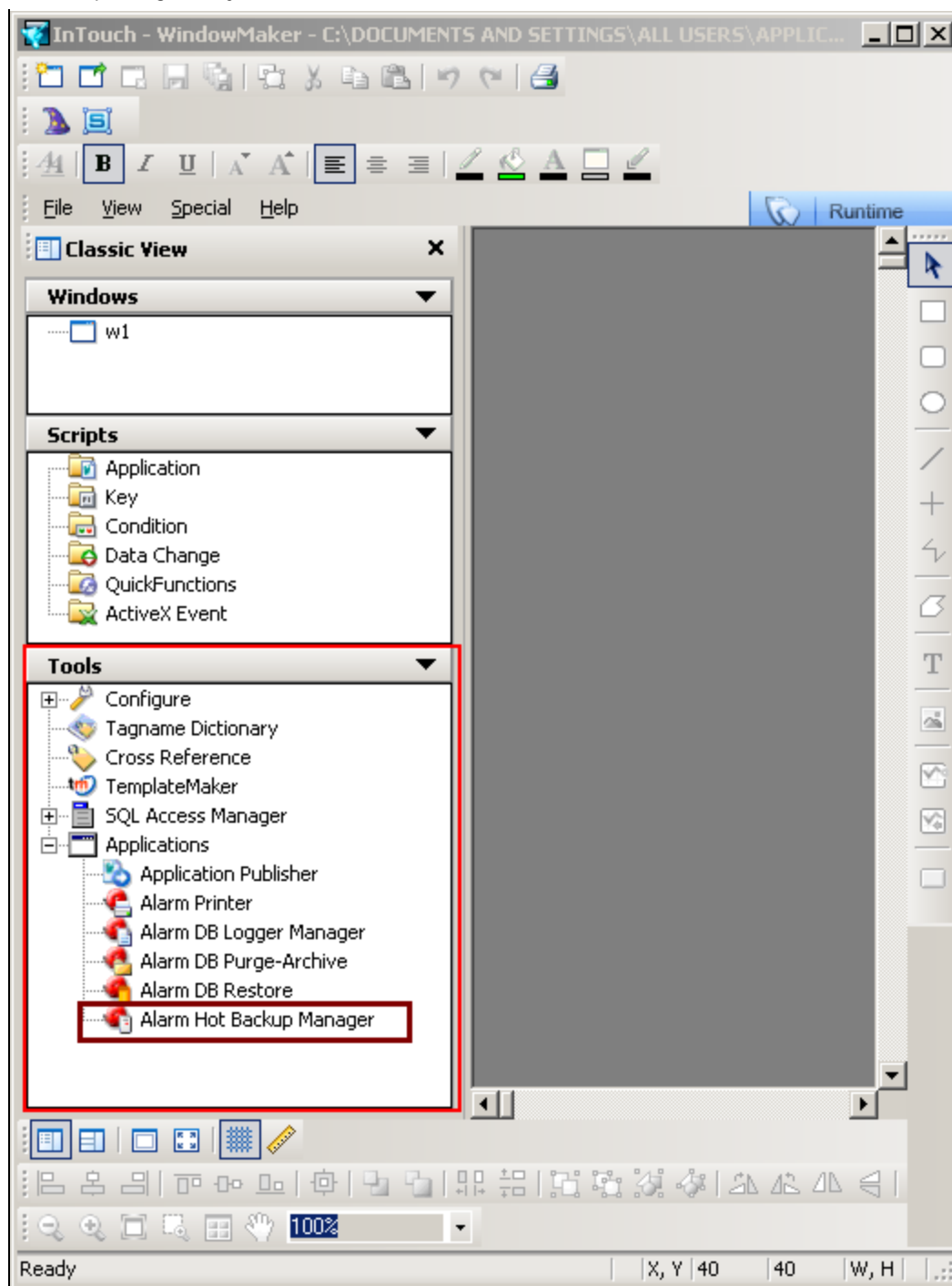
3. Double-click **Alarm Hot Backup Manager**.
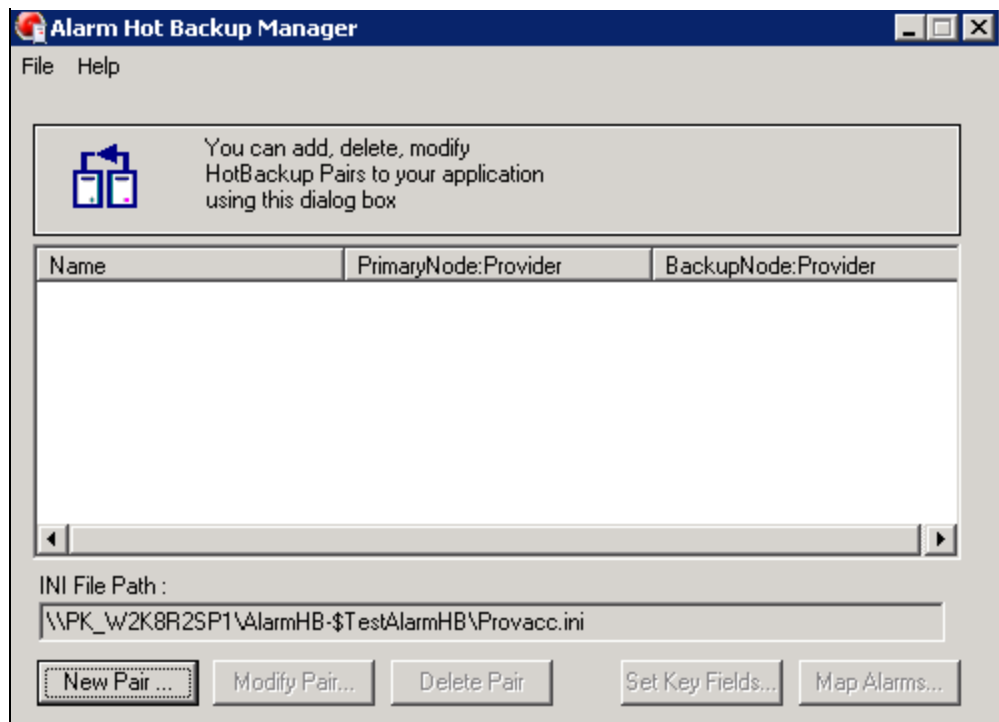
FIGURE 17: OPEN ALARM HOT BACKUP MANAGER

FIGURE 18: ALARM HOT BACKUP MANAGER
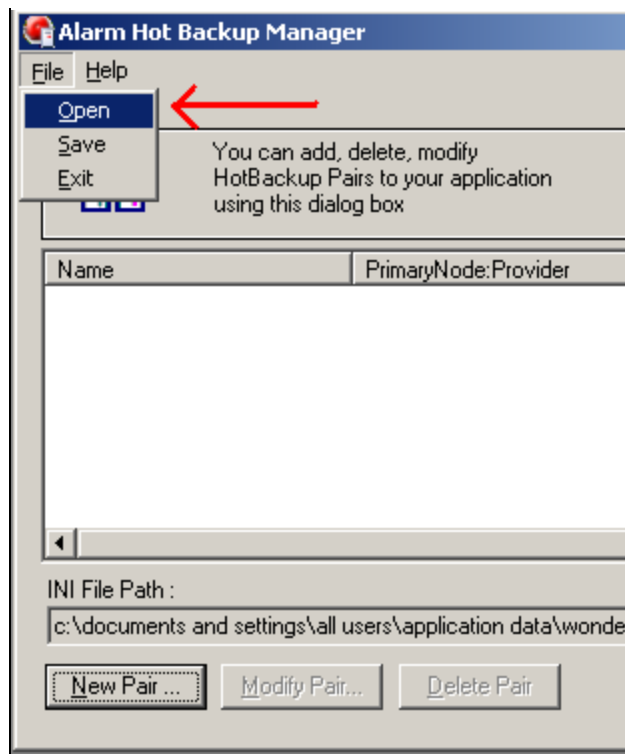
4. Click **File/Open**.

FIGURE 19: FILE/OPEN

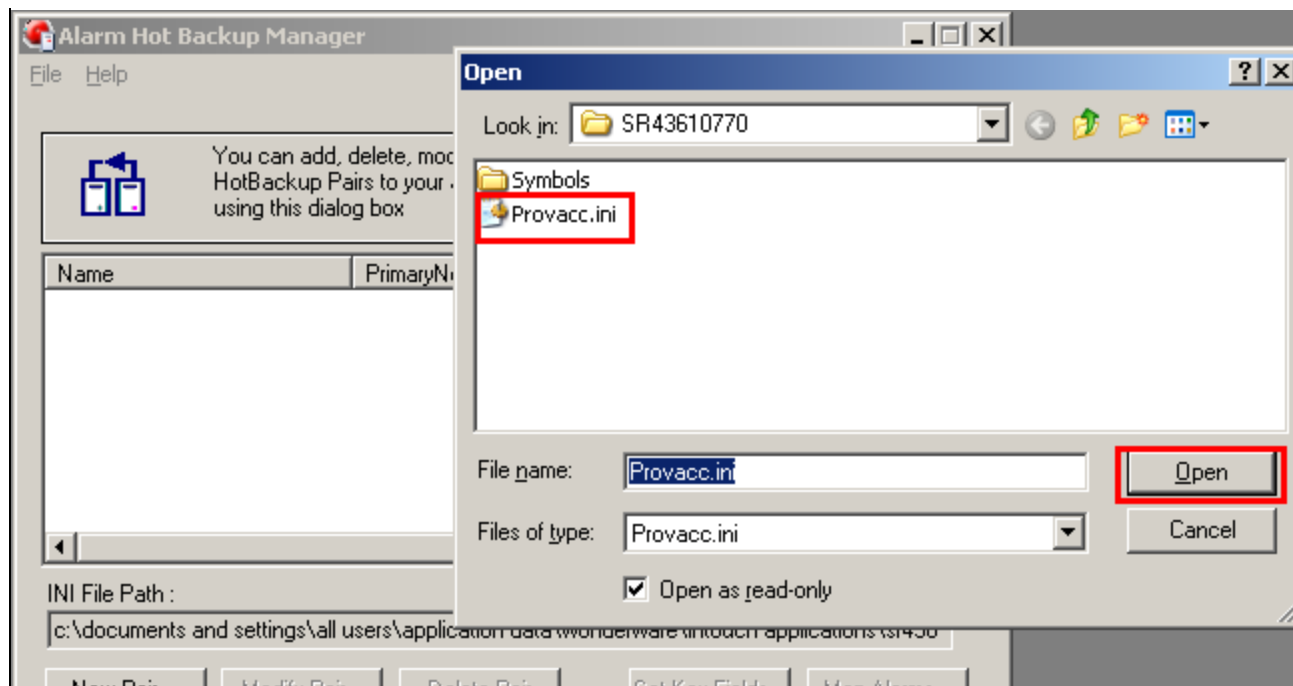5. Select the **Provacc.ini** file and click **OK**.

FIGURE 20: PROVACC.INI

By default, the Alarm Hot Backup Manager checks for the **Provacc.ini** file in the last opened InTouch application folder. You should use the **Provacc.ini** file located in the InTouch application's folder.

Otherwise, you can create a copy of the Provacc.ini file in another specified folder location and then select it for use with Hot Backup Manager.

6. Click **New Pair**. The **Add New Pair** dialog box appears.

FIGURE 21: ADD NEW PAIR

7. In the **Hot Backup Pair Name** box, type a unique name for the new backup pair.

   A pair name can be up to 32 alphanumeric characters long. You can use the dollar sign ($), pound sign (#), and underscore (_) character in a pair name.

   For the **Primary Node**, do the following:

8. In the **Name** box, type the node name of the computer running the primary provider application. The node name must be unique to Hot Backup Manager. An error message appears if you provide a non-existent node name, or if the node name is used in another hot backup pair.

9. In the **Provider** field, select the Galaxy alarm provider from the drop-down list. The default is **InTouch**.

10. In the **Group** field, type the name of the alarm group that queries alarms from the primary provider. In this example it is **Area_001**.

11. In the **Backup Node** area, do the following:

    • In the **Name** box, type the node name of the computer running the **Backup** provider application. This can be the same node that is running the Hot Backup Manager.

- In the **Provider** box, select **Galaxy** as backup provider.

- In the **Group** box, type the name of the alarm group that queries alarms from the backup provider. If you specified **Galaxy** or **Galaxy_<GalaxyName>** alarm providers, the backup node group must be the same as the primary node group, and cannot be edited.

FIGURE 22: HOT BACKUP PAIR CONFIGURATION

12. Click **OK**.

13. On the File menu, click **Save**.

14. Restart WindowMaker.

Configuring Alarm Hot Backup Using GALAXY_

When you specify Galaxy_<GalaxyName>, the Galaxy name must be the same for both the primary and the backup node. When you specify Galaxy or Galaxy_<GalaxyName> as the alarm provider, the provider of the backup node can be Galaxy or Galaxy_<GalaxyName>.

The alarm group of the backup node must be the same as that of primary node.

1. In the IDE, open the **Primary** Platform and check the **Register using Galaxy_<Galaxy Name> instead of Galaxy** option.
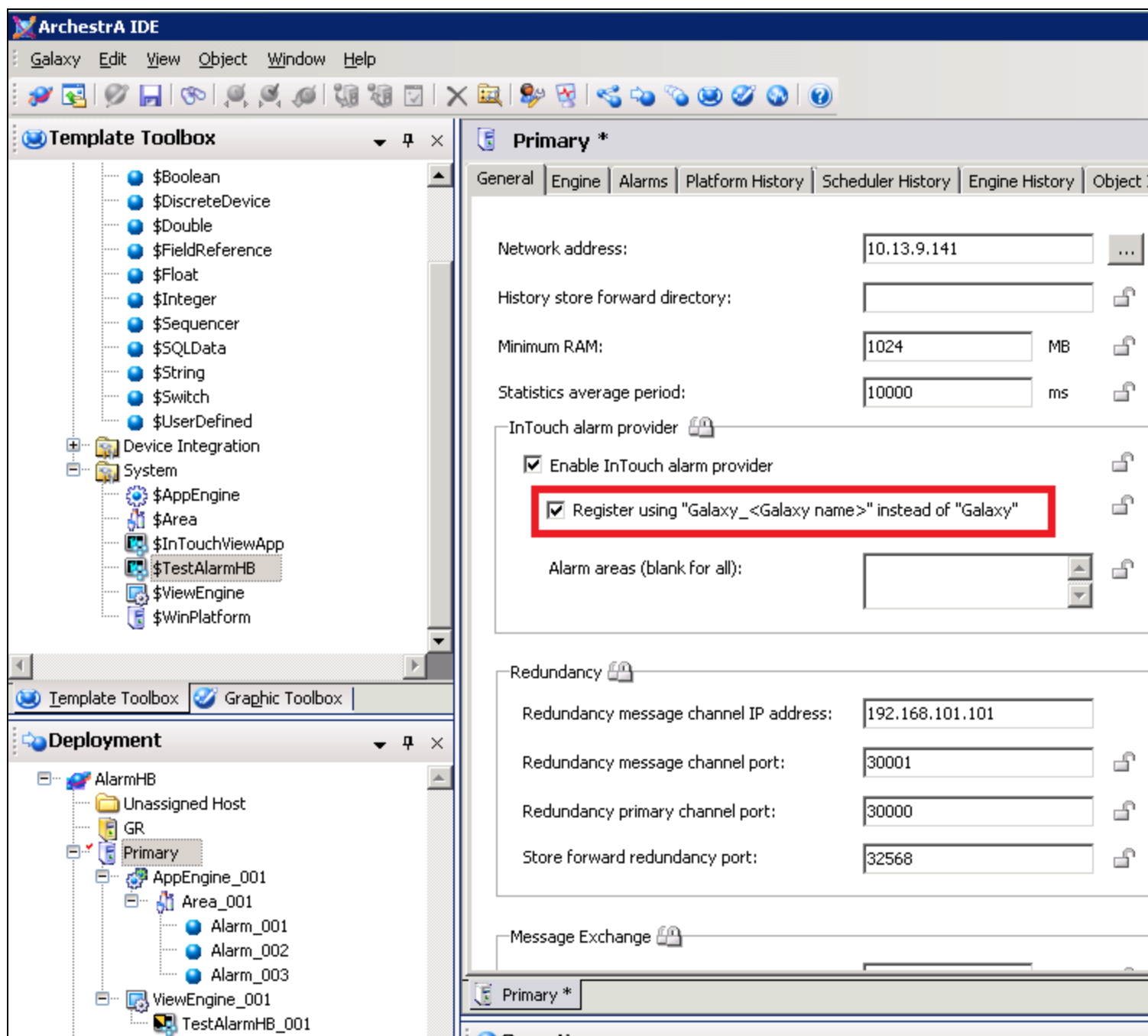

FIGURE 23: REGISTER USING "GALAXY..." OPTION

2. Modify the Alarm Hot Backup Pair in Window Maker to use **Galaxy_AlarmHB** instead of Galaxy.
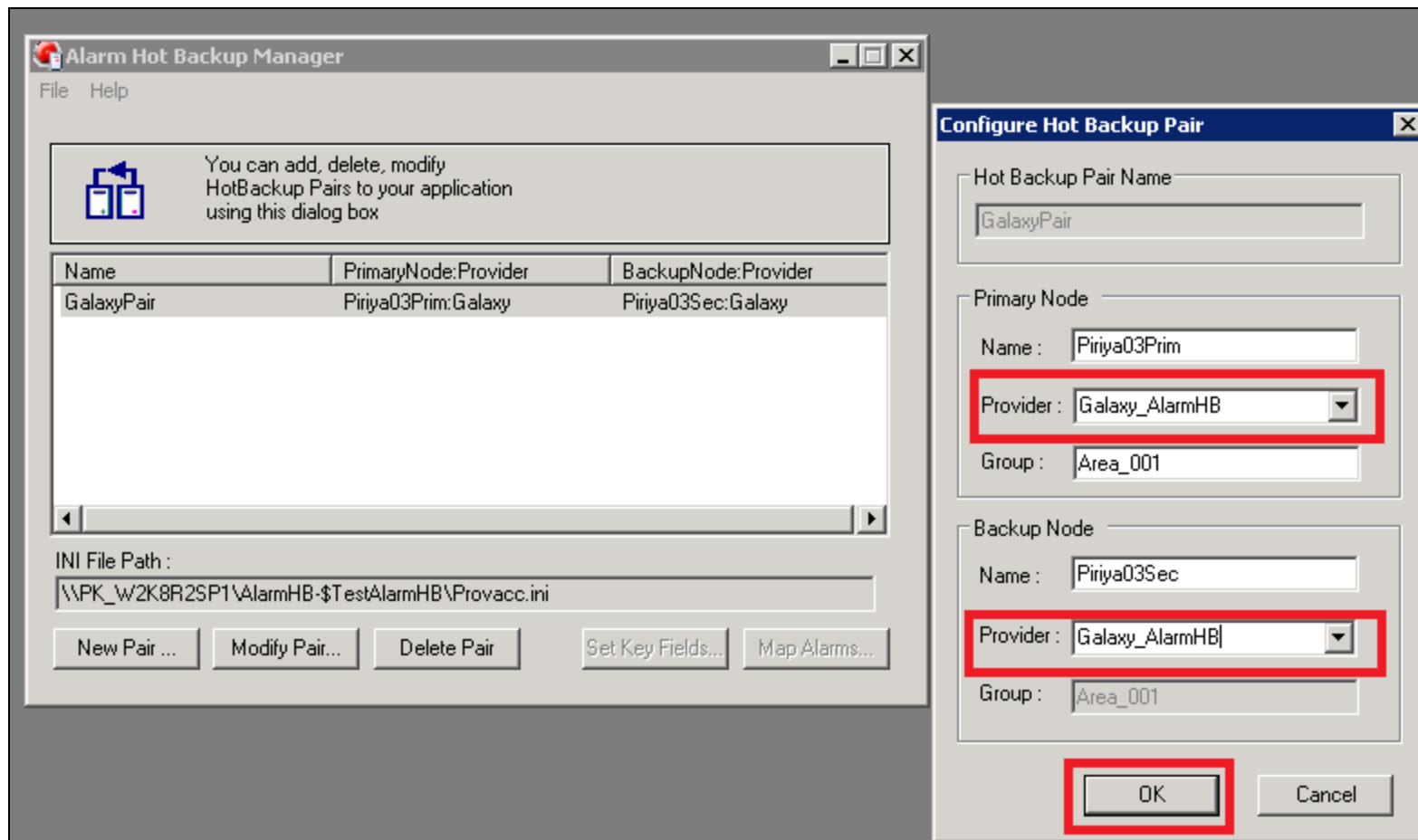
FIGURE 24: MODIFY THE ALARM BACKUP PAIR

3. Restart WindowMaker.

P. Karthikeyan

For technical support questions, send an e-mail to **wwsupport@invensys.com**.

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