

Tech Note 368

Network Setup for AppEngine Redundancy

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Introduction

This *Tech Note* explains the necessary network settings for the **Redundancy Message Channel (RMC)** for a redundant AppEngine configuration.

Network Setup for PCs Hosting a Redundancy-Enabled AppEngine

Each production system computer hosting a redundancy-enabled AppEngine must have a minimum of two network cards per computer.

The first card is for the supervisory network and the second one is for the **RMC** network (Redundancy Message Channel).

The RMC network is dedicated for redundancy monitoring and data synchronization between redundant AppEngine pairs.

It is setup with an Ethernet crossover cable between two computers (Figure 1 below).

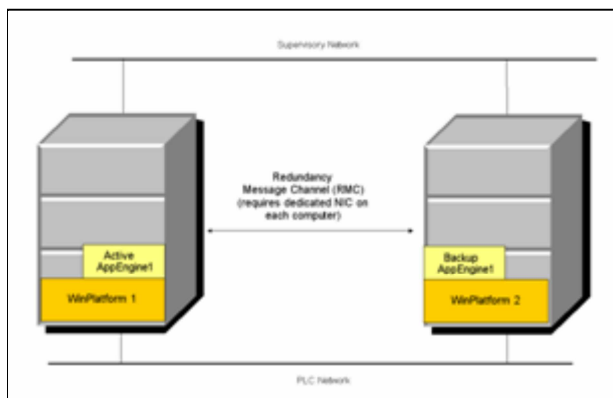


FIGURE 1: REDUNDANCY MESSAGE CHANNEL (RMC) DEPLOYMENT

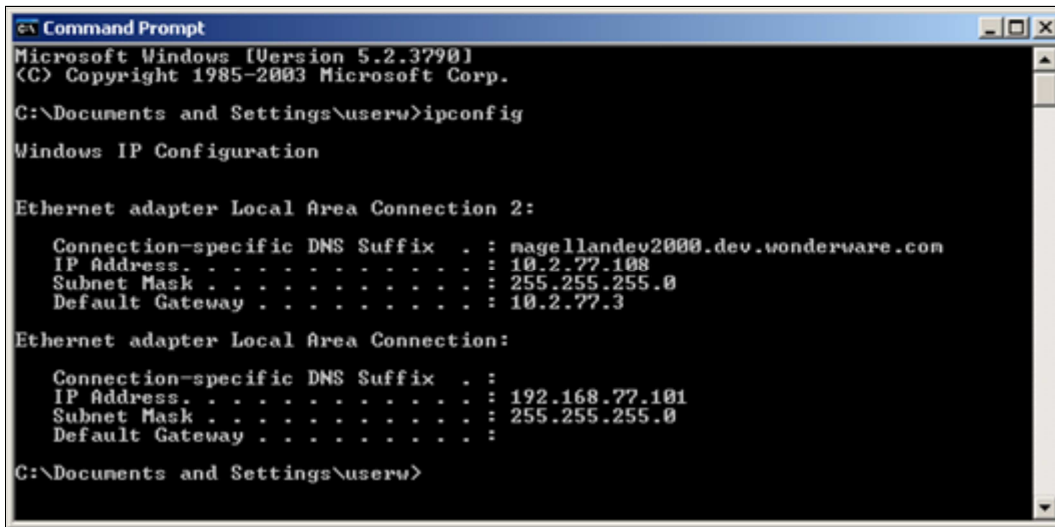
Detailed Setup

The following steps explain the network configuration setup for a PC hosting redundancy enabled AppEngine.

These steps are recorded using Windows 2003 Server Operating System and apply to other operating systems as well.

1. From the windows Taskbar, select **Start/All Programs/Accessories/CommandPrompt**.
2. Enter **ipconfig** at the command prompt and press **Enter**.

The Command Prompt returns the IP settings for both Ethernet connections (Figure 2 below):



```
Command Prompt
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

C:\Documents and Settings\useru>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection 2:

    Connection-specific DNS Suffix  . : magellandev2000.dev.wonderware.com
    IP Address. . . . .                : 10.2.77.108
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 10.2.77.3

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . :
    IP Address. . . . .                : 192.168.77.101
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          :

C:\Documents and Settings\useru>
```

FIGURE 2: COMMAND PROMPT AND MESSAGE

3. Document the **Local Area Connection** numbers along with IP Addresses to identify the **Primary** and **RMC** networks.
4. Select **Start/Settings/Network Connections**.
5. Select **Local Area Connection** in the **Network Connections** dialog box.
6. Right-click and rename each Local Area Connection Number to **Primary-** and **RMC Networks** as appropriate (Figure 3 below):

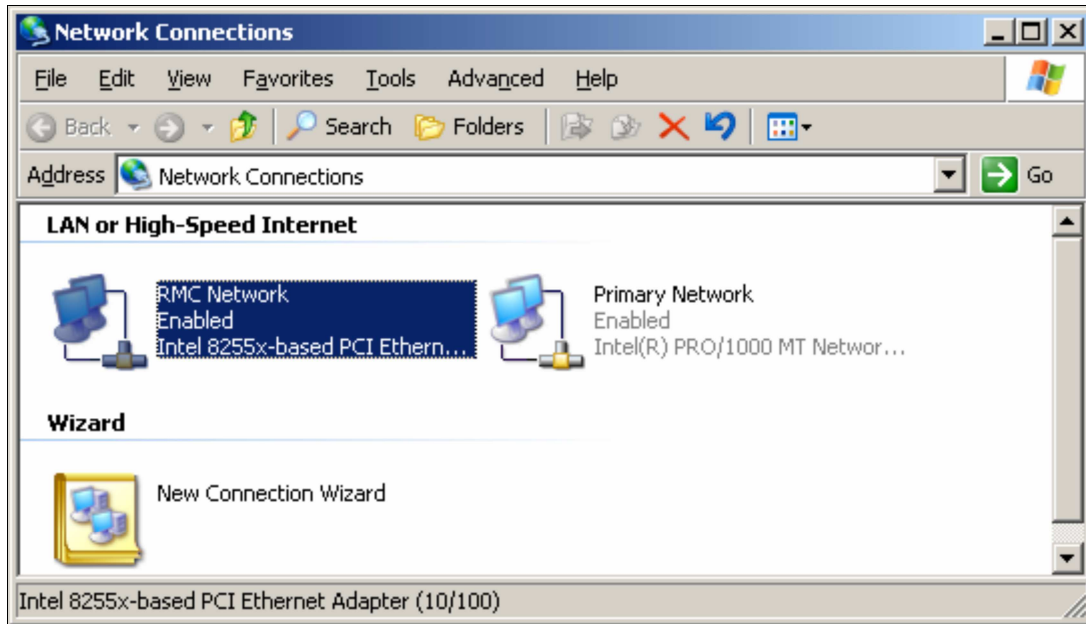


FIGURE 3: RENAME LOCAL AREA CONNECTIONS

7. Select **Advanced/Advanced Settings** from the main menu.
8. Set the binding order to ensure **Primary Network** is the first to be accessed by network services (Figure 4 below):

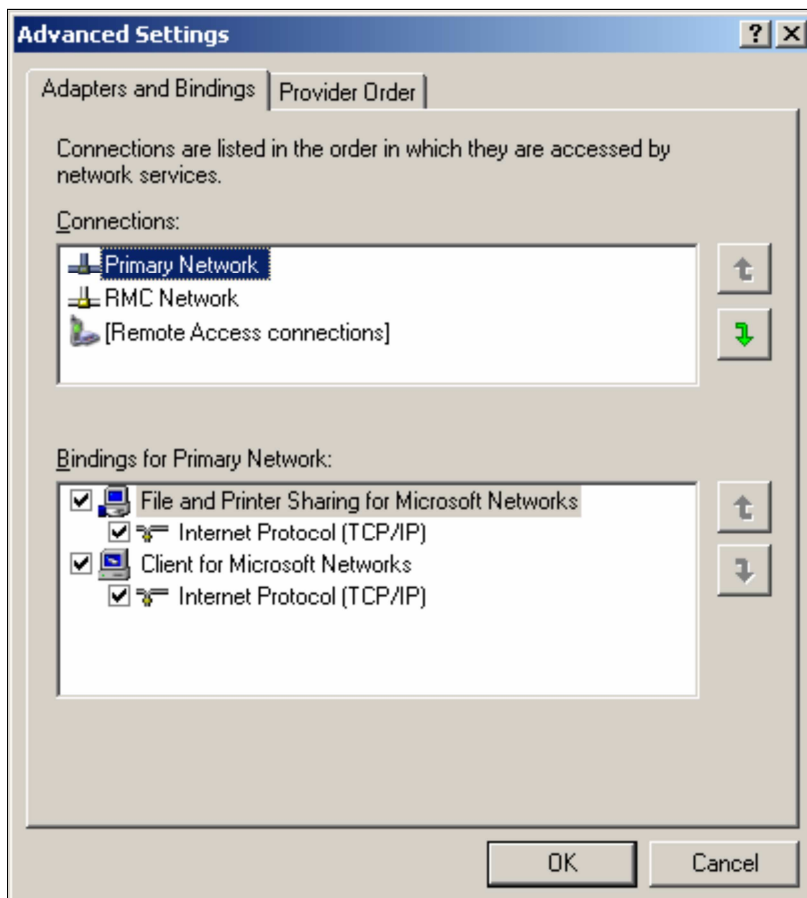


FIGURE 4: PRIMARY NETWORK ORDER

9. Click **OK** to exit the **Advanced Settings** dialog box.

Ensure the **Network Connections** window is still open.

10. Right-click on **Primary Network** and select **Properties**.

The **Primary Network Properties** dialog box appears (Figure 5 below):

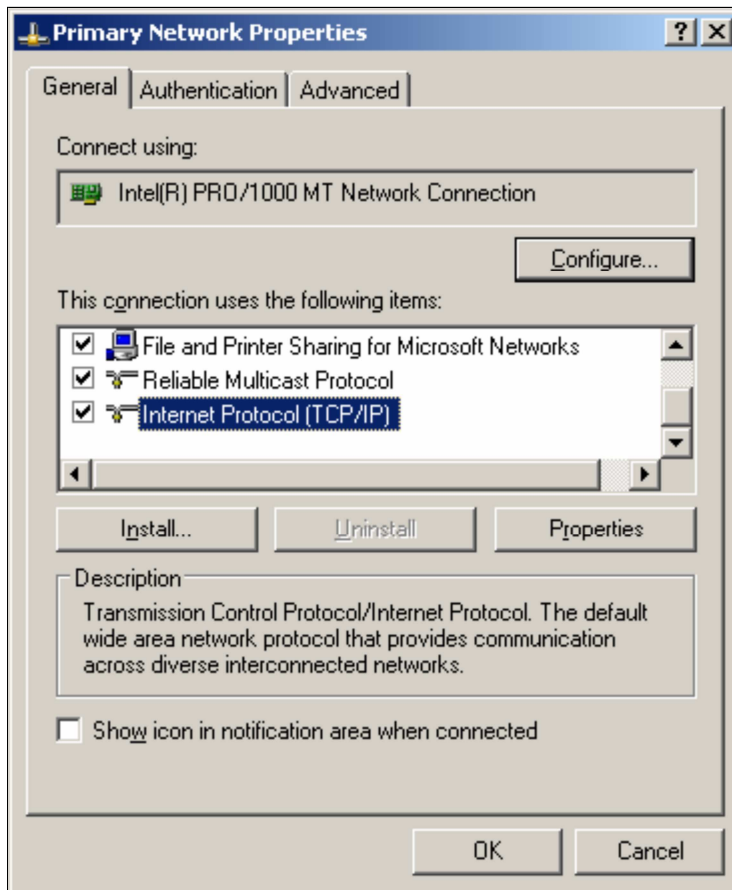


FIGURE 5: PRIMARY NETWORK PROPERTIES DIALOG BOX

11. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.

The **Primary** network may be configured to obtain dynamic or Static IP Addresses (Figure 6 below):

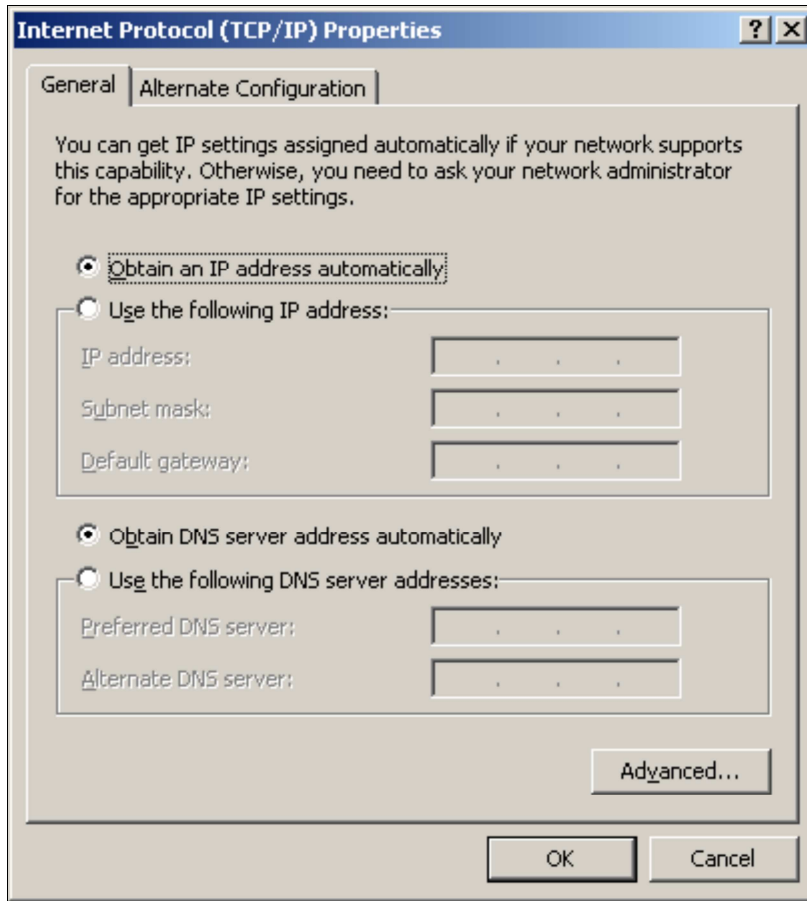


FIGURE 6: DYNAMIC OR STATIC IP SETTINGS

12. Click the **Advanced** button.

The **Advanced TCP/IP Setting** dialog box appears (Figure 7 below):

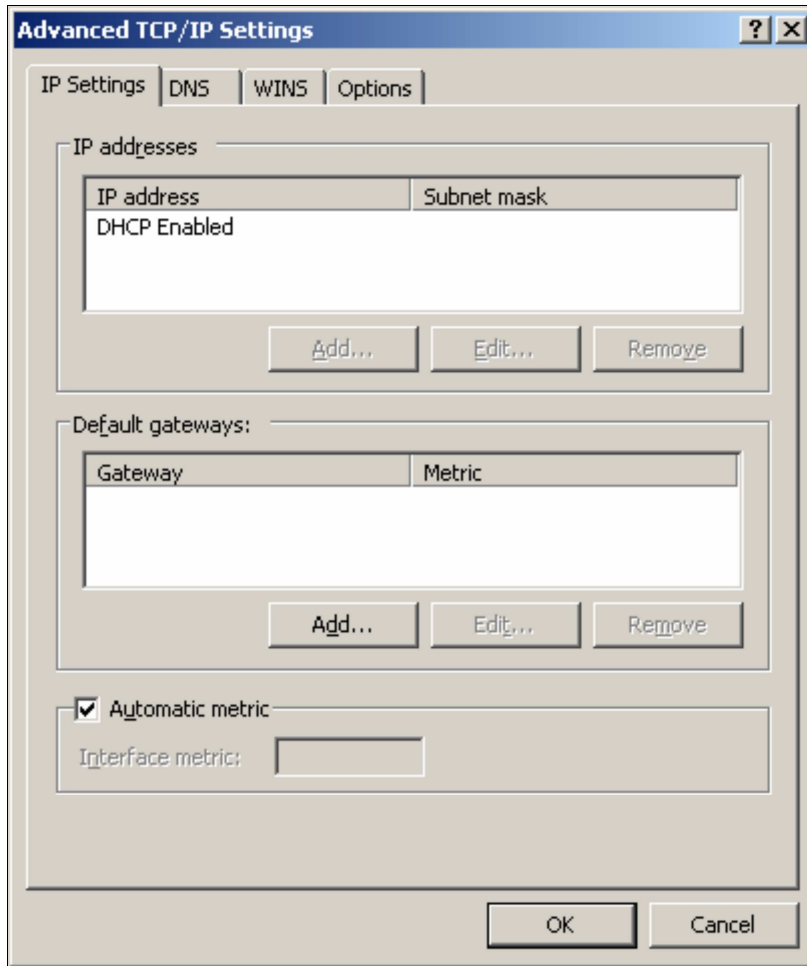


FIGURE 7: ADVANCED TCP/IP SETTINGS

13. Select the **DNS** tab.
14. Verify that the **Register this connection's addresses in DNS** option is selected and that the other settings are consistent (Figure 8 below):

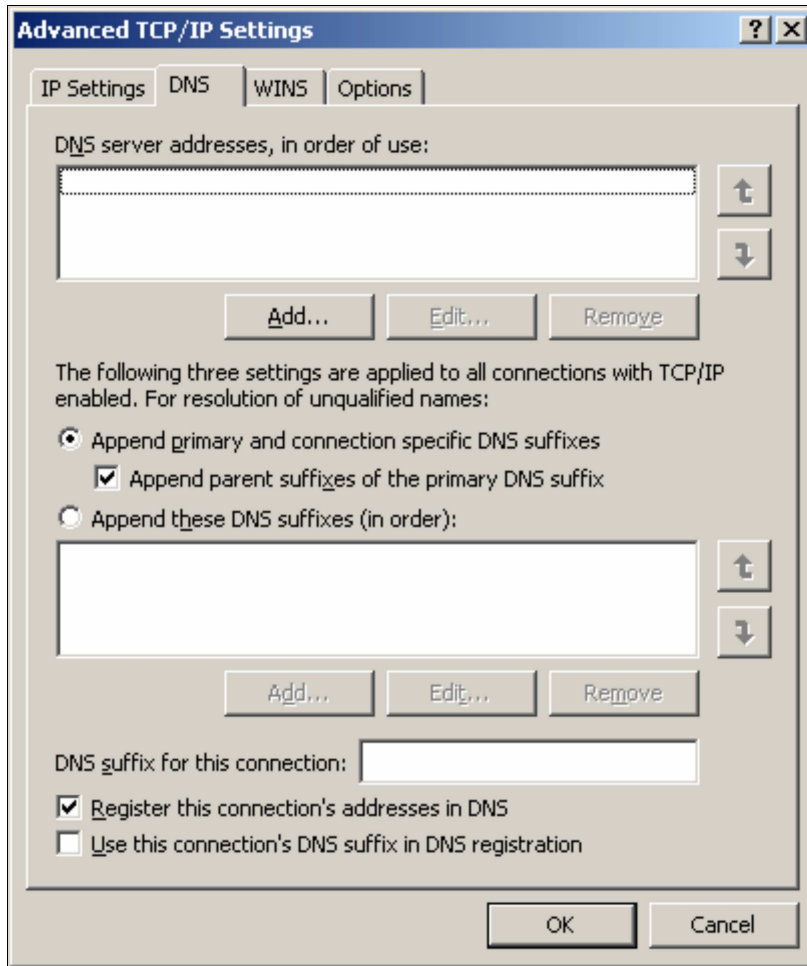


FIGURE 8: DNS SETTINGS

15. Click **OK** to save the settings and exit the dialog box.

Ensure the **Network Settings** window is still open.

16. Right-click **RMC Network** and select **Properties**.

The **RMC Network Properties** dialog appears (Figure 9 below):

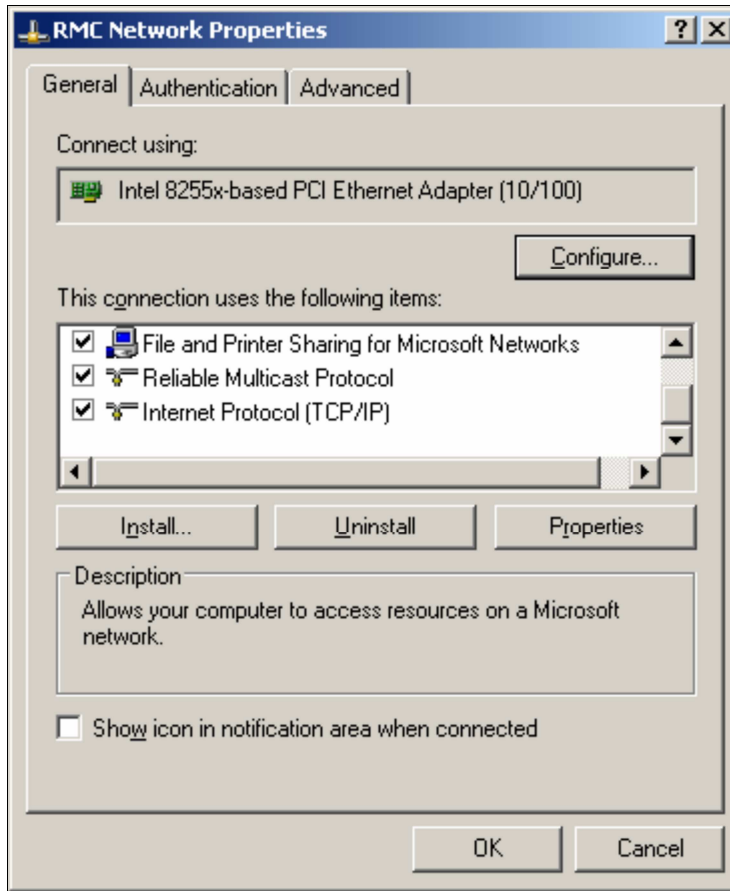


FIGURE 9: RMC NETWORK PROPERTIES

17. Select **Internet Protocol (TCP/IP)**.
18. Select **Properties**.

The **RMC Network** must be configured for **static** IP Address (Figure 10 below).

Note: Consult your Network Administrator for IP Address and Subnet Mask values.

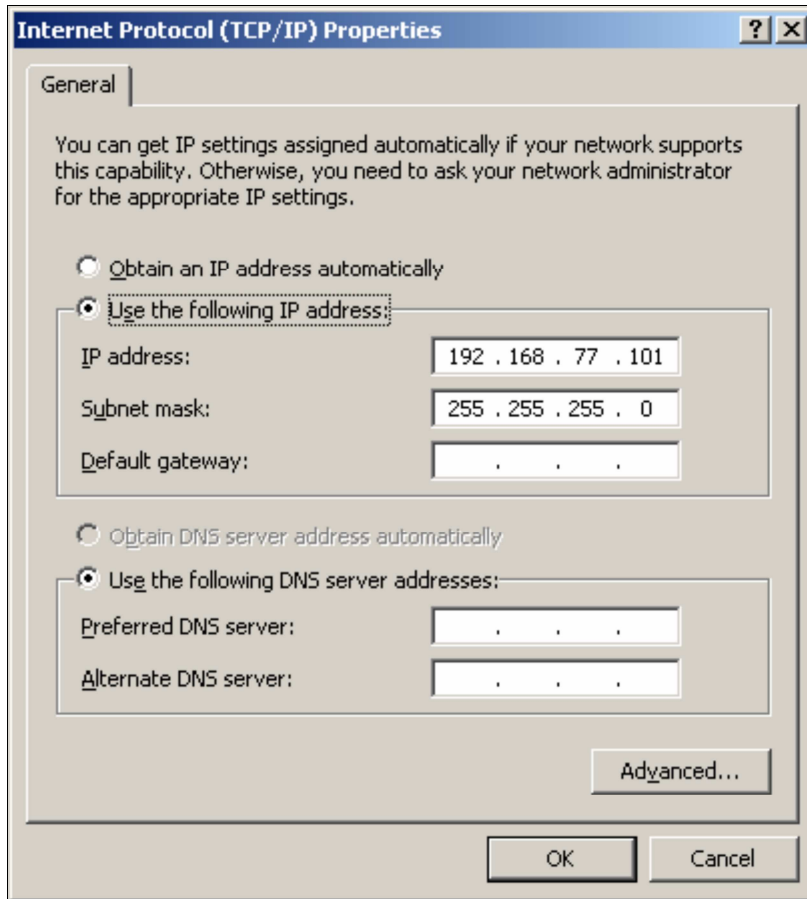


FIGURE 10: STATIC IP ADDRESS CONFIGURATION

19. Click the **Advanced** button.

The **Advanced TCP/IP Settings** dialog box appears:

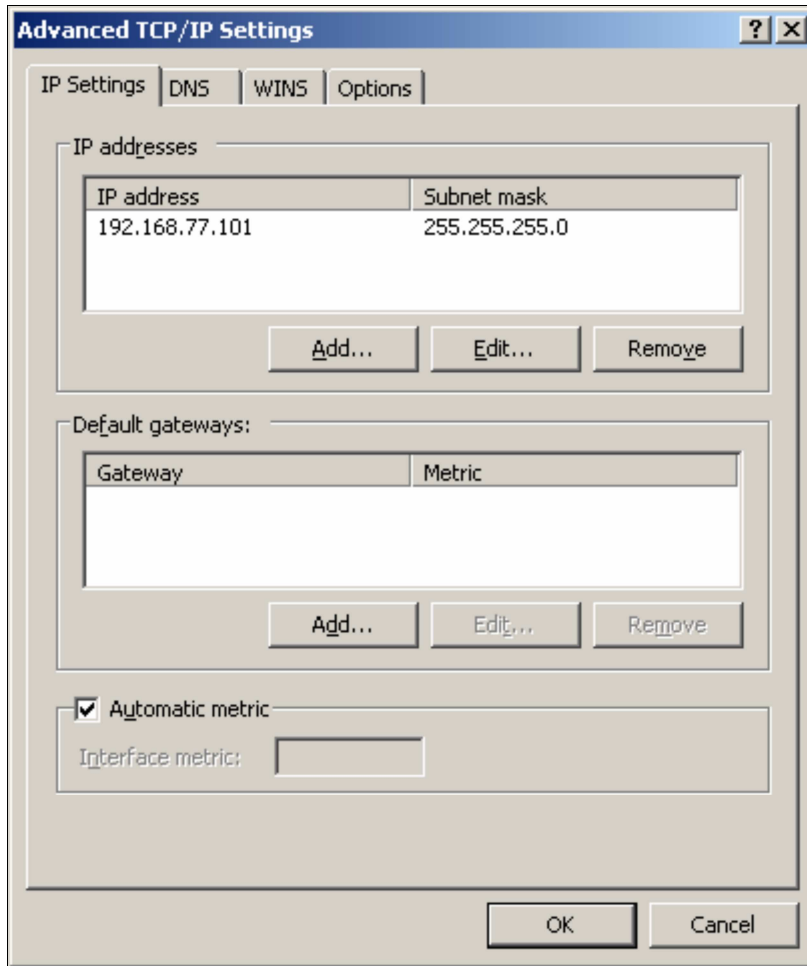


FIGURE 11: ADVANCED IP SETTINGS DIALOG BOX

20. Select the **DNS** tab.
21. Verify that the **Register this connection's Addresses in DNS** checkbox option is **NOT** selected for RMC Network (Figure 12 below):

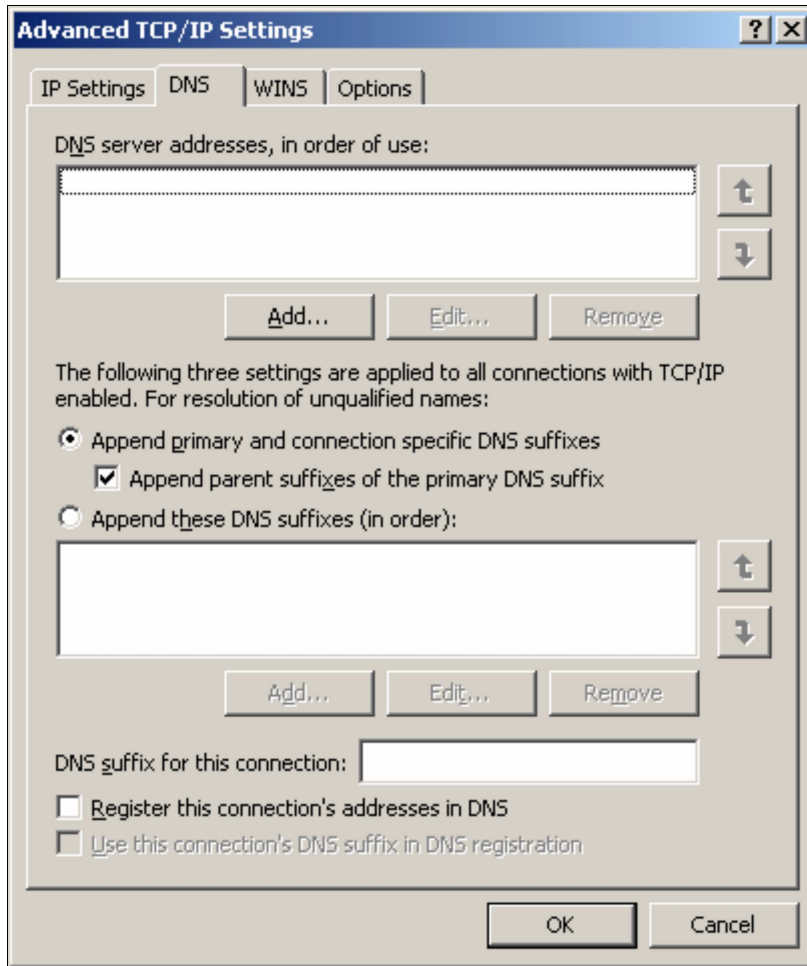


FIGURE 12: DNS SETTINGS

22. Click **OK**.
23. Close the **Network Settings** window.

The Redundancy Message Channel (RMC) configuration is now complete.

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