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# Using Cisco UC320W with Windows Small Business Server

This application note explains how to deploy the Cisco UC320W in a Windows Small Business Server environment.

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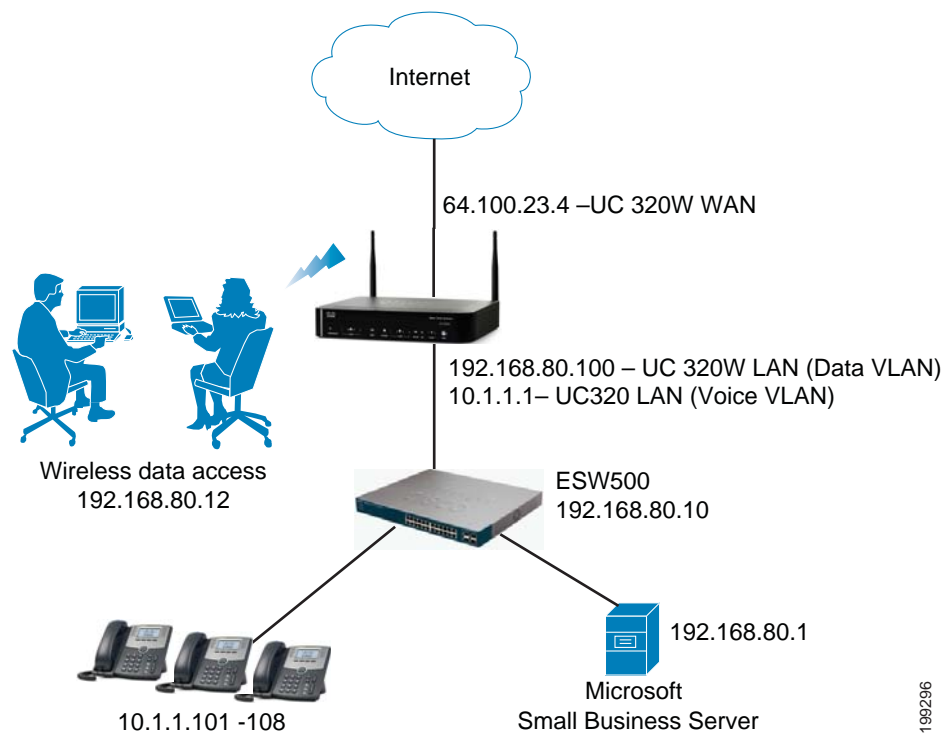
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# Deployment Overview

You easily can deploy the Cisco Unified Communications 300 Series in a Windows Small Business Server environment, as illustrated below.

This deployment includes the following devices:



- Cisco UC320W Unified Communications System
  - Serves as the default gateway to reach the Internet.
  - Acts as the DHCP server for the Voice VLAN to support Cisco IP phones and Cisco SPA8800 voice gateways on the voice VLAN (including wireless phones that connect to the Cisco UC320W wireless voice network). This example shows the default voice VLAN address of 10.1.1.1.
  - Uses a static IP address or acts as a DHCP client of the Windows Small Business Server on the Data VLAN. In this example, the Cisco UC320W receives a LAN IP address of 192.168.80.100.

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- Uses Cisco Discovery Protocol to detect and communicate with any phones and voice gateways that are connected to its LAN ports.
- Cisco ESW500 Series Ethernet Switch, or equivalent
  - Acts as a DHCP client of the Windows Small Business Server. In this example, the switch receives a LAN IP address of 192.168.80.10.
  - Uses Cisco Discovery Protocol to detect and communicate with any phones and voice gateways that are connected to its LAN ports.
- Windows Small Business Server
  - Acts as the DHCP server for the Cisco UC320W, computers, and other network devices on the Data VLAN (including computers that are connected to the PC ports of IP phones and wireless computers that are connected to the Cisco UC320W wireless data network). In this example, it dynamically assigns IP addresses in the 192.168.80.x range.

## Part 1. Choosing the Network Topology for the Cisco UC320W

Before connecting any equipment to the Cisco UC320W, you need to choose the correct network topology. You will disable the DHCP server and ensure that the Cisco UC320W is aligned with the IP addressing scheme for your Windows SBS network.

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- STEP 1** Follow the instructions in the Cisco UC320W Quick Start Guide to connect the Cisco UC320W to your Internet service and to launch the web-based configuration utility.
  - STEP 2** When the *Getting Started* menu appears, view the video tutorial (optional).
  - STEP 3** Click **Goal: Choose your Network Topology**.
  - STEP 4** Select **UC320 Routes Voice and Data with External DHCP Server**.
  - STEP 5** In the **Obtain a Data VLAN address from** section, choose *one* of the following two options:
    - **Data VLAN DHCP Server:** Choose this option to disable the DHCP server for the Data VLAN and receive an IP address dynamically from the Windows Small Business Server.

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- **Static IP Address:** Choose this option to disable the DHCP server for the Data VLAN and specify an IP address on the Windows Small Business Server network. Enter the following information:
    - **IP Address:** Enter an IP address for the Cisco UC320W. This IP address must be reachable on the subnet that you have currently defined for your Windows Small Business Server DHCP server. It should be excluded from the DHCP scope (you will exclude it later, as described in [Excluding a Static IP Address, page 11](#)).
    - **Default Gateway:** In this scenario, where the Cisco UC320W acts as the default gateway, enter the same IP address that you entered above.
    - **Subnet mask:** Enter the subnet mask for your Windows Small Business Server network. In our example, the mask is 255.255.255.0.
    - **DNS:** Enter the IP address of a Domain Name System (DNS) server, or enter the IP address of the Cisco UC320W to use its DNS settings.
- STEP 6** Make a note of the UC320 LAN-side MAC address, which is displayed below the address fields. You will need this MAC address in a later procedure.
- Note:** Only the WAN MAC address appears on the device label on the bottom panel of the UC320W. Refer to the screen for the LAN MAC address.
- STEP 7** Click **Apply Now** to immediately apply the network changes.
- STEP 8** When the confirmation message appears, click **OK**.
- STEP 9** Click the **Log Out** link near the top right corner of the window.

You can continue to [Part 2. Configure the Windows Small Business Server to Interoperate with the Cisco UC320W, page 5](#). You will return to the UC320W configuration later.

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## Part 2. Configure the Windows Small Business Server to Interoperate with the Cisco UC320W



**WARNING** The following changes will impact the data network and should be made and tested outside of normal business hours.

To ensure interoperation between the Windows Small Business Server and the Cisco UC320W, you need to reserve an IP address for the Cisco UC320W and identify the Cisco UC320W as the default gateway to the WAN.

This part of the procedure has three sections:

- **Part 2A. Setting the IP Address for the Cisco UC320W, page 5**
- **Part 2B. Connecting the Cisco UC320W to the Network, page 13**
- **Part 2C. Updating the Default Gateway and DNS Server Settings, page 14**

### NOTE

- These instructions are accurate for the Windows Small Business Server 2008, Version 6.0. With other versions of Small Business Server, the steps and screen images may vary.
- It is a good practice to make a backup of your current configuration before making changes of this type.

### Part 2A. Setting the IP Address for the Cisco UC320W

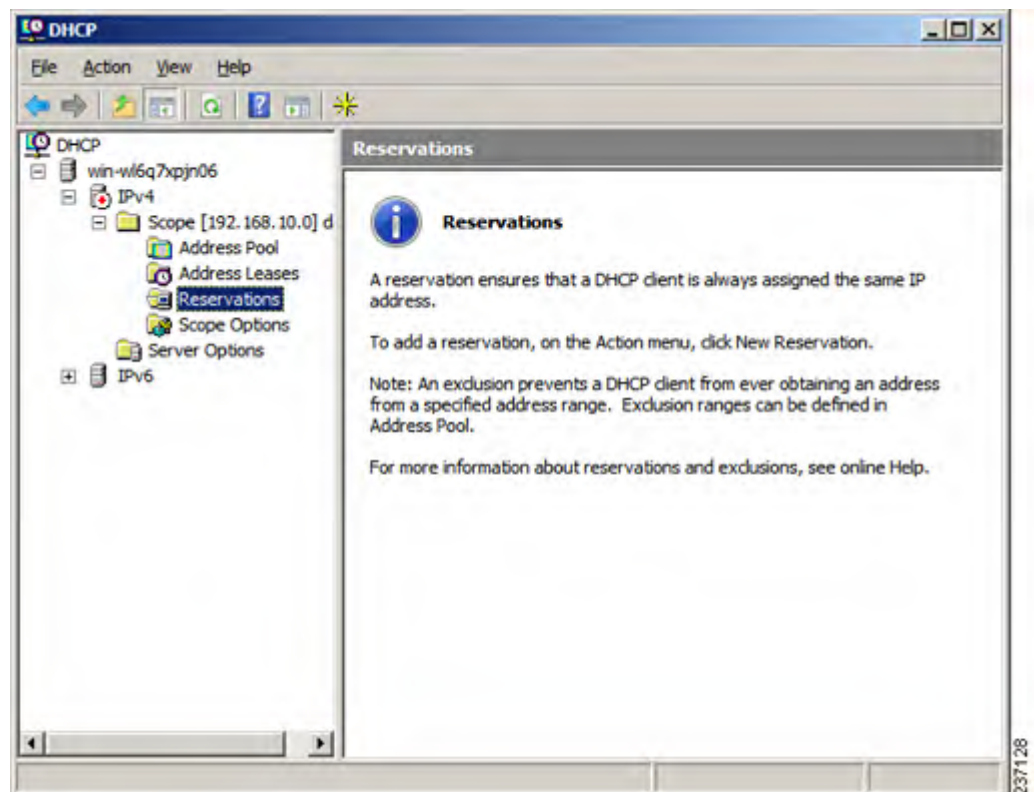
Complete **one** of the following procedures:

- If you chose the Dynamic IP option when configuring the Network Topology for the Cisco UC320W, perform this procedure: **Reserving a Dynamically Assigned IP Address, page 6**
- If you chose the Static IP option when configuring the Network Topology for the Cisco UC320W, perform this procedure: **Excluding a Static IP Address, page 11**

### Reserving a Dynamically Assigned IP Address

This procedure is required only if you chose the Dynamic IP option when configuring the Network Topology for the Cisco UC320W. Reserve an IP address for the Cisco UC320W to ensure that it always receives the same IP address from your DHCP server. This procedure will prevent other clients from receiving this IP address.

- STEP 1** Choose a LAN IP address to use for the Cisco UC320W. This address will be used as the default gateway for all the computers on your network, including the Windows Small Business Server.
- STEP 2** To start the server manager for Windows Small Business Server, press the Windows **Start** button, and then choose **Administrative Tools > Server Manager**.
- STEP 3** In the left pane, click the plus sign (+) for **DHCP** to start the DHCP console.
- STEP 4** Click the plus sign (+) for **IPv4**.
- STEP 5** Click the plus sign (+) for your computer.
- STEP 6** Click the plus sign (+) for **Scope**.



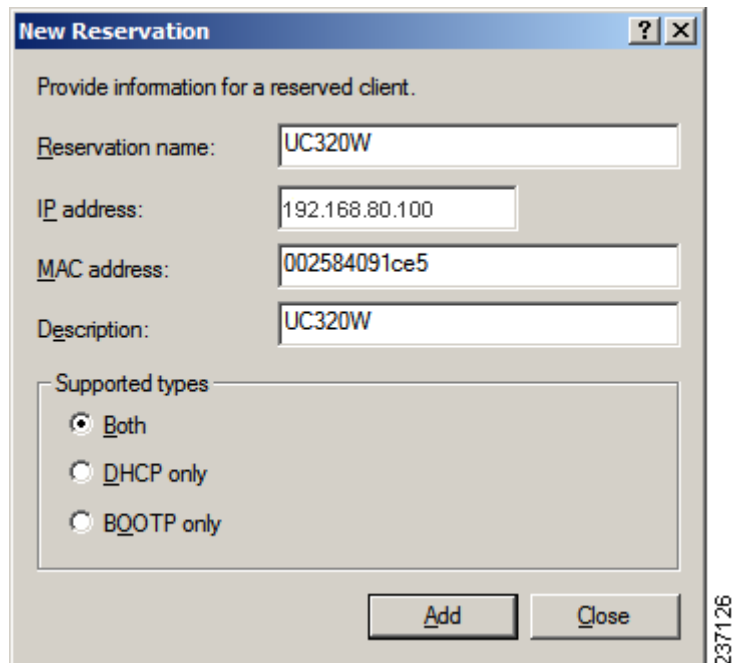
**Note:** If you are setting up a new network, you will need to create a scope.

**STEP 7** Right-click **Reservations**, and then select **New Reservation** from the shortcut menu.

**STEP 8** In the *New Reservation* window, enter the following information:

- **Reservation Name:** Enter a descriptive name, such as Cisco UC320W.
- **IP Address:** Enter the IP address that you chose for the Cisco UC320W. In our example, the address is 192.168.80.100.
- **MAC Address:** Enter the MAC address of the Cisco UC320W Data VLAN, which you noted during the topology task in the Cisco UC320W configuration utility. Do not enter colons or periods to separate the parts of the MAC address.
- **Description:** Enter a description for your reference.
- **Supported types:** Both

Refer to the following example.



The screenshot shows a 'New Reservation' dialog box with the following fields and values:

Field	Value
Reservation name:	UC320W
IP address:	192.168.80.100
MAC address:	002584091ce5
Description:	UC320W

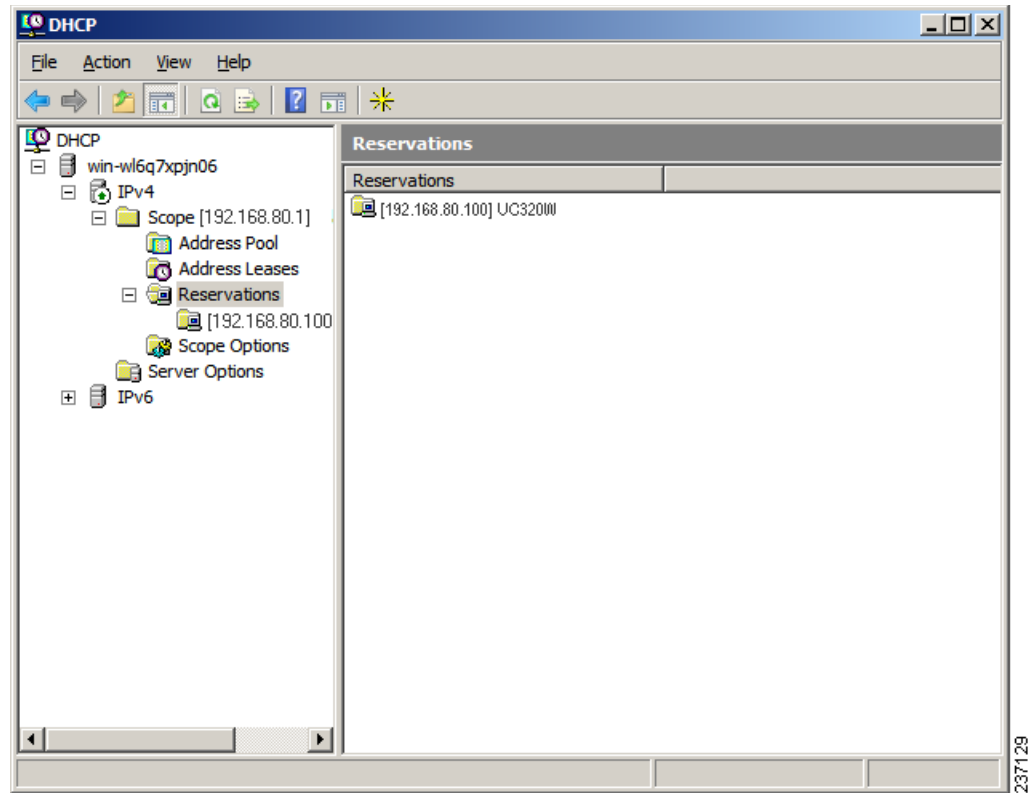
Under the 'Supported types' section, the 'Both' radio button is selected. The 'Add' and 'Close' buttons are located at the bottom right of the dialog box.

**STEP 9** Click **Add**.

**STEP 10** Click **Close**.

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The reservation appears.



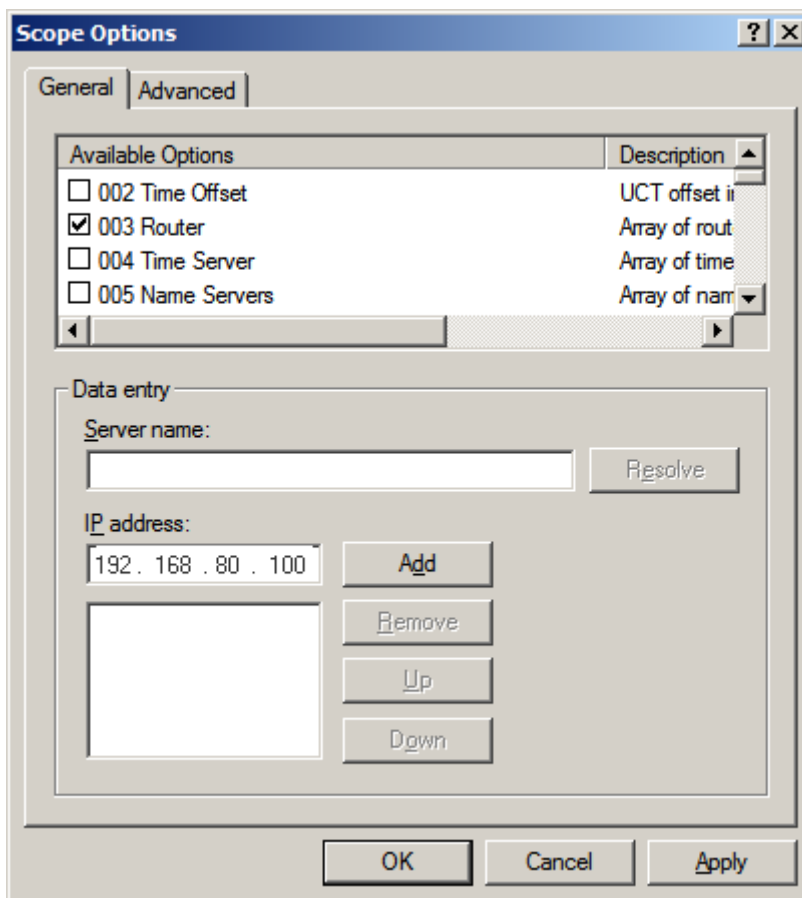
**STEP 11** Right-click the **Scope Options** folder, and then click **Configure Options**.



**STEP 12** Configure the following settings shown below.

**NOTE:** If you previously configured the Router and DNS options, remove the definitions and configure the settings as shown.

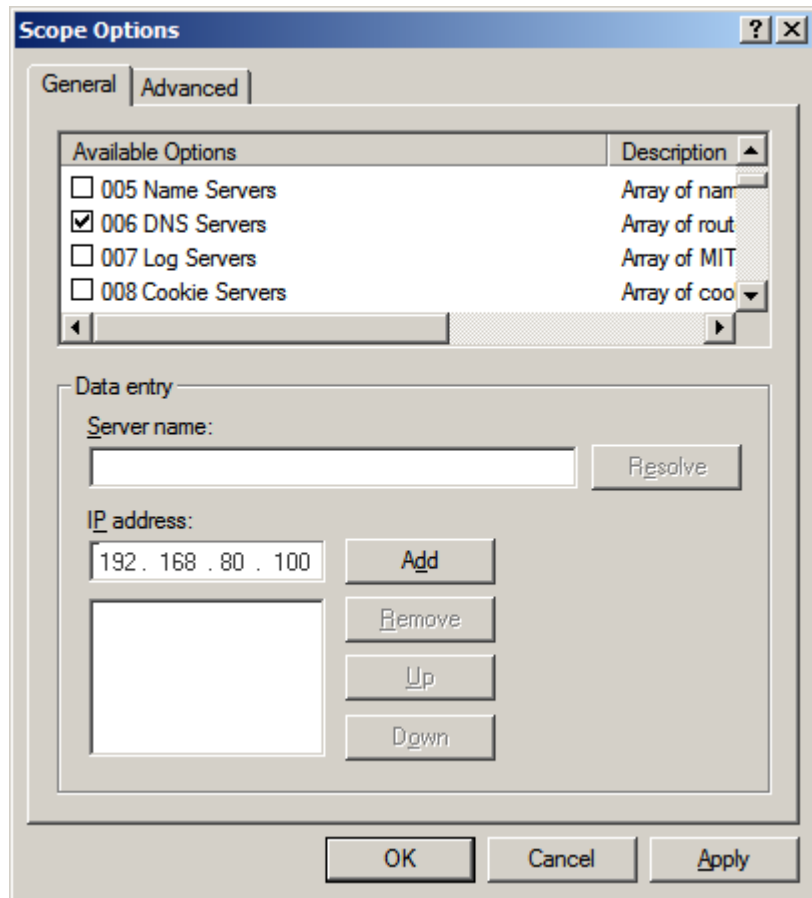
- a. Check the box for **003 Router**, and then enter the LAN IP address for the Cisco UC320W (for example, 192.168.80.100). Then click **Add**.



- b. Check the box for **006 DNS**,
- c. Either enter the LAN IP address for the Cisco UC320W, or enter the IP address of your local DNS server or SBS DNS server, if applicable.
- d. Click **Add**.

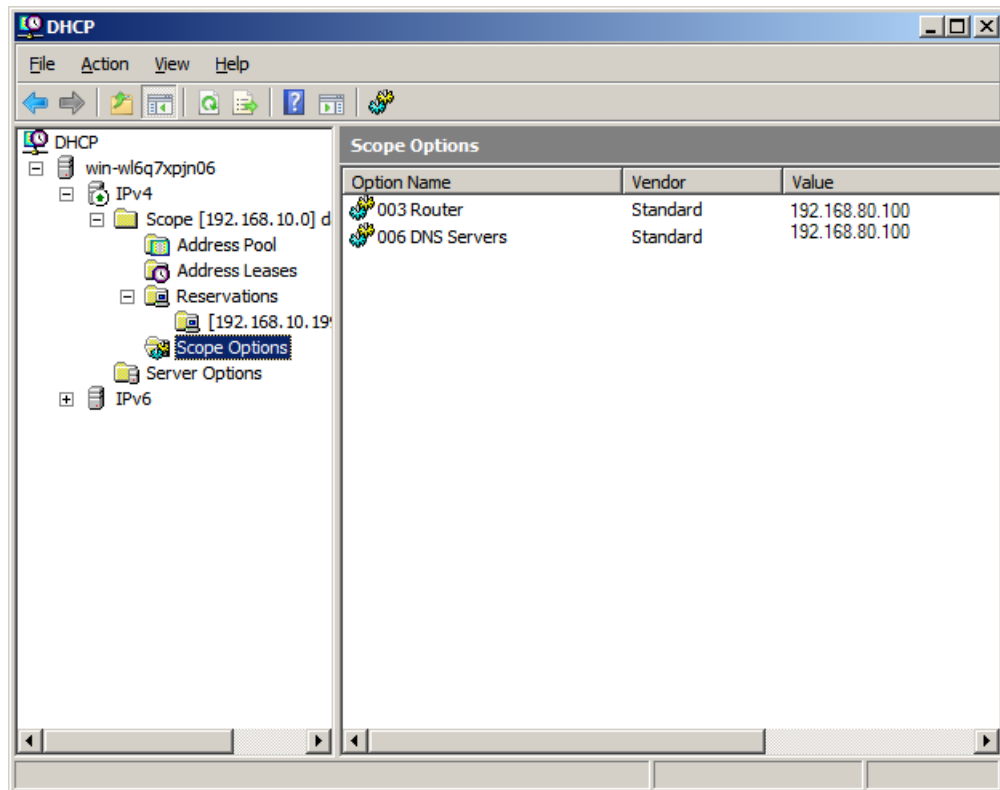
## Application Note

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**STEP 13** Click **OK** to save the settings.

The new Scope Options are displayed.



You can continue to [Part 2B. Connecting the Cisco UC320W to the Network, page 13](#)

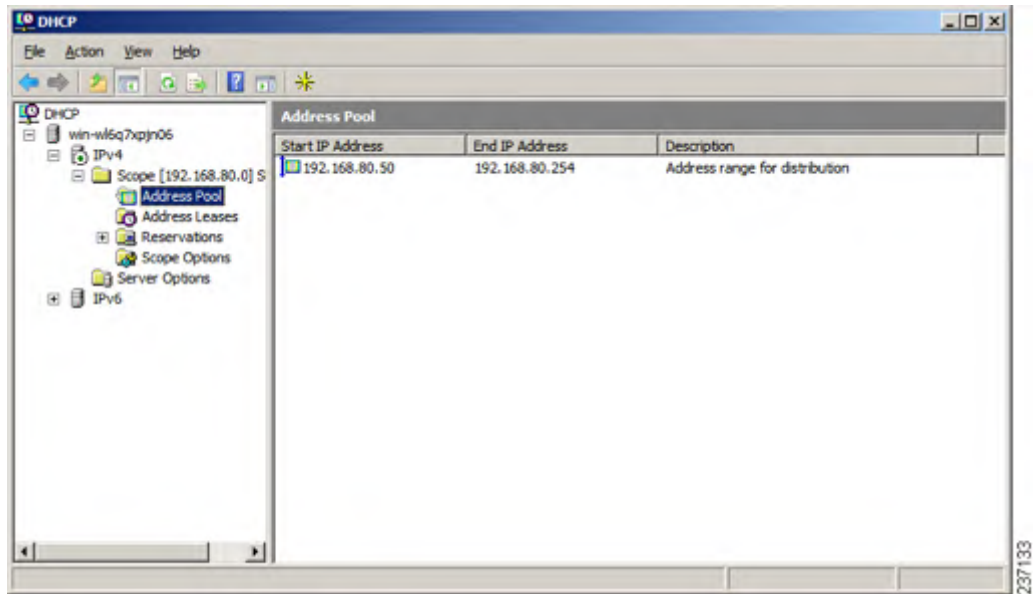
### Excluding a Static IP Address

This procedure is required if you chose the Static IP option when configuring the Network Topology for the Cisco UC320W.

- STEP 1** To start the server manager for Windows Small Business Server, press the Windows **Start** button, and then choose **Server Manager**.
- STEP 2** To start the DHCP console, press the Windows **Start** button, and then choose **Administrative Tools > DHCP**.
- STEP 3** In the left pane, click the plus sign (+) to open **IPv4**.
- STEP 4** Click the plus sign (+) to open **Scope**.

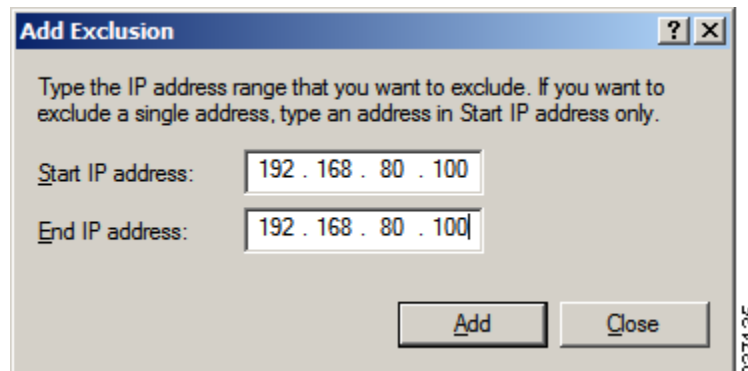
## Application Note

**STEP 5** Right-click the **Address Pool** folder.

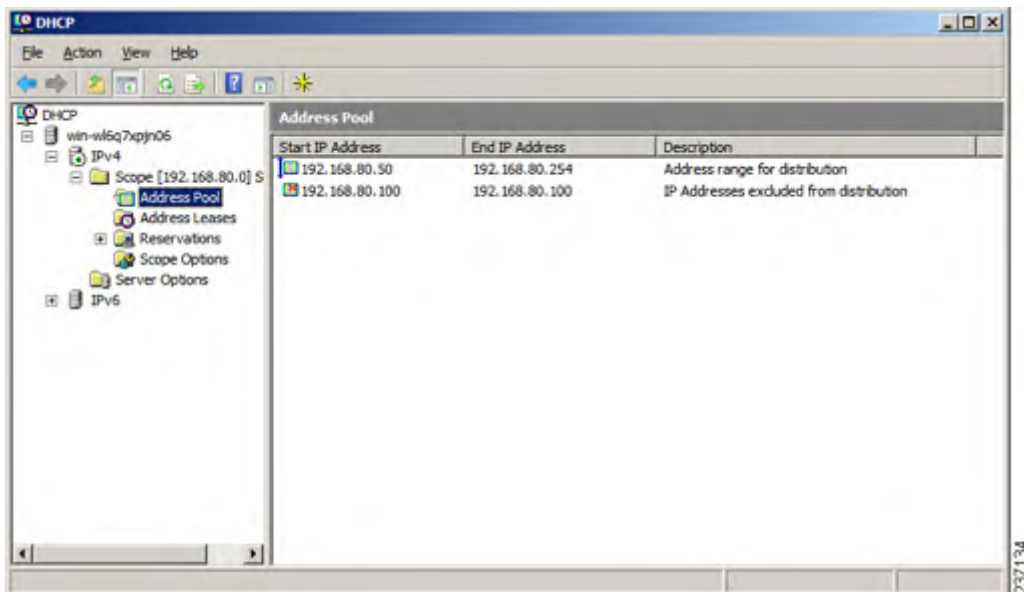


**STEP 6** Click **New Exclusion Range**.

**STEP 7** In the **Start IP Address** field, enter the IP address that you want to exclude. Enter the same IP address in the *End IP address* field. Click **Add**.



**STEP 8** Click **Close** to close the window. The settings appear in the Address Pool window.



You can continue to [Part 2B. Connecting the Cisco UC320W to the Network, page 13](#)

## Part 2B. Connecting the Cisco UC320W to the Network

- STEP 1** Disconnect the Cisco UC320W from power.
- STEP 2** Connect an Ethernet cable to a LAN port of the Cisco UC320W.
- STEP 3** Connect the other end of the cable to your network.
- STEP 4** Connect Cisco UC320W to power. When the device is fully booted, the POWER/SYS light is steady green.

**Note:** If you chose the dynamic IP address option, you can verify that the Cisco UC320W received a DHCP lease from the DHCP server. Under **IPv4 > Scope**, click **Address Leases**. The Cisco UC320W should appear in the Address Leases pane.

You can continue to [Part 2C. Updating the Default Gateway and DNS Server Settings, page 14](#)

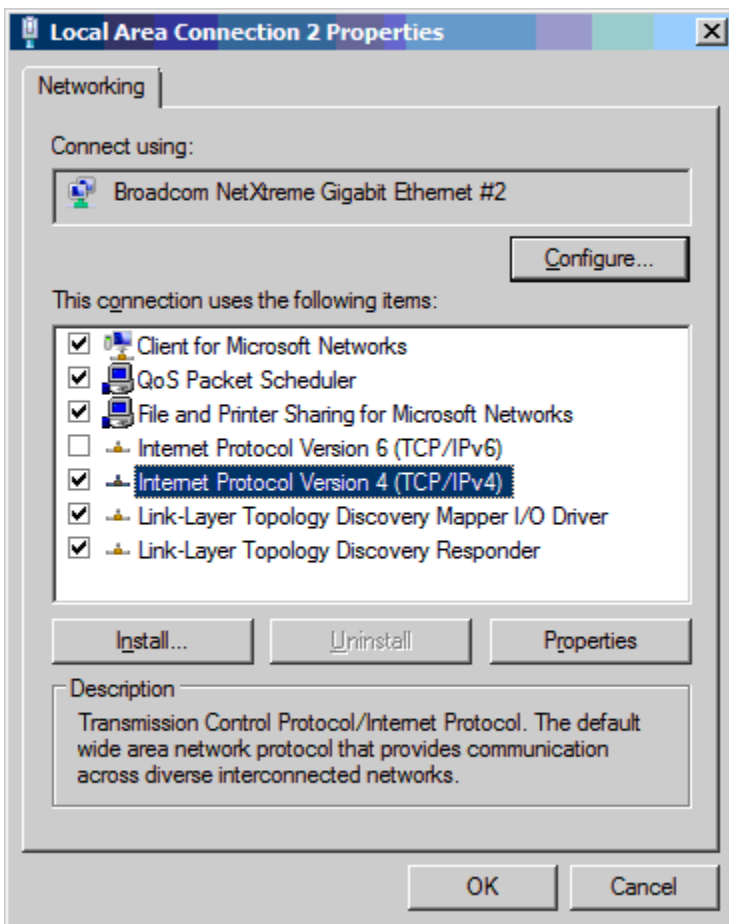
## Part 2C. Updating the Default Gateway and DNS Server Settings



**CAUTION** Making these changes will interrupt all network activity until you install the Cisco UC320W in your network and configure its WAN connection. After you perform this procedure, all computers should be restarted to refresh their IP addresses.

**STEP 1** Navigate to **Control Panel > Network and Sharing Center > Manage Network Connections**.

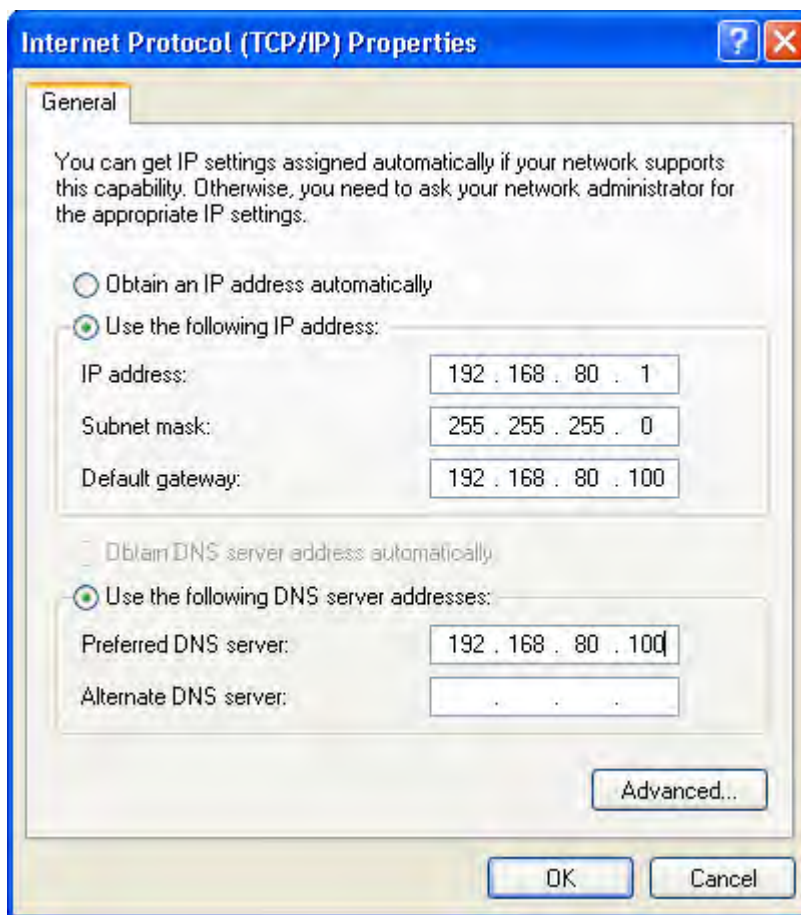
**STEP 2** Right-click your active adapter, and then select **Properties**. The *Local Area Connection Properties* window appears.



**STEP 3** Select **Internet Protocol Version 4** and then click **Properties**.

**STEP 4** Choose **Use the following IP address**, and then enter the following settings:

- **IP address** and **Subnet mask**: Keep the existing entries.
- **Default gateway**: Enter the LAN IP address that you have chosen for the Cisco UC320W. In the example, the IP address is 192.168.80.100.
- **Preferred DNS Server**: Enter the LAN IP address that you have chosen for the Cisco UC320W. In the example, the IP address is 192.168.80.100.
- **Alternate DNS server**: Leave this field blank, or enter a DNS server specified by your Internet Service Provider.



**STEP 5** Click **OK** to close the *Internet Protocol Version 4* window, and then click **OK** to close the *Local Area Connection Properties* window.

You can continue to [Part 3. Completing the Cisco UC320W Configuration, page 16](#)

# Part 3. Completing the Cisco UC320W Configuration

Now you can continue with the configuration of the Cisco UC320W.

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- STEP 1** Connect a PC to a LAN port of the Cisco UC320W.
  - STEP 2** Start a web browser, and enter the new LAN IP address of the Cisco UC320W.
  - STEP 3** Log in to the configuration utility.
  - STEP 4** Follow the instructions on the screen to continue with the Getting Started tasks, connect the equipment, and configure your settings. Detailed information is available by clicking the Help button on the right side of each page.

### Notes:

- To ensure Internet connectivity to all computers in your network, be sure to complete the **Upgrade Firmware** task on the *Getting Started* menu. This task includes setting up the WAN connection. After applying the configuration in this step, you may need to restart your network devices, such as computers and printers, to refresh their IP addresses and DNS server settings.
- When you arrive at the LAN settings page, the Data VLAN settings will be unavailable, since the Cisco UC320W is not the DHCP server for the Data VLAN.
- Your settings are not applied to the devices until you complete the final setup task and apply the configuration.

You can continue to [Part 4. Verification, page 16](#)

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## Part 4. Verification

Complete the following types of tasks to verify your network settings:

- Verify that the computers in your network can access the resources on the Windows Small Business Server.
- Verify that computers can access the WAN.
- Verify that Wi-Fi devices have network connectivity.



## Where to Go From Here

Support	
Cisco Small Business Support Community	<a href="http://www.cisco.com/go/smallbizsupport">www.cisco.com/go/smallbizsupport</a>
Cisco Small Business Support and Resources	<a href="http://www.cisco.com/go/smallbizhelp">www.cisco.com/go/smallbizhelp</a>
Phone Support Contacts	<a href="http://www.cisco.com/go/sbsc">www.cisco.com/go/sbsc</a>
Cisco Small Business Firmware Downloads	<a href="http://www.cisco.com/go/software">www.cisco.com/go/software</a>
Product Documentation	
Unified Communications UC320W	<a href="http://www.cisco.com/go/uc300">www.cisco.com/go/uc300</a>
Smart Designs	<a href="http://www.cisco.com/go/partner/smartdesigns">www.cisco.com/go/partner/smartdesigns</a>
SPA300 Series IP Phones	<a href="http://www.cisco.com/go/300phones">www.cisco.com/go/300phones</a>
SPA500 Series IP Phones	<a href="http://www.cisco.com/go/spa500phones">www.cisco.com/go/spa500phones</a>
SA500 Series Security Appliances	<a href="http://www.cisco.com/go/sa500">www.cisco.com/go/sa500</a>
ESW500 Ethernet Switches	<a href="http://www.cisco.com/go/esw500help">www.cisco.com/go/esw500help</a>
SPA8800 IP Telephony Gateway	<a href="http://www.cisco.com/go/gateways">www.cisco.com/go/gateways</a>
Cisco Small Business	
Cisco Partner Central for Small Business (Partner Login Required)	<a href="http://www.cisco.com/web/partners/sell/smb">www.cisco.com/web/partners/sell/smb</a>
Cisco Small Business Home	<a href="http://www.cisco.com/smb">www.cisco.com/smb</a>

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