

Setting Up Port Forwarding and Port Triggering on RV0xx Series Routers

This application note explains the purpose of port forwarding and port triggering and provides instructions to help you set up these features on your RV0xx Series router.

- [Comparing Port Forwarding and Port Triggering, page 1](#)
- [Setting Up Port Forwarding and Port Triggering, page 4](#)

Comparing Port Forwarding and Port Triggering

You can use these features to allow some Internet users to have access to specified resources on your network, while protecting the resources that you want to keep private.

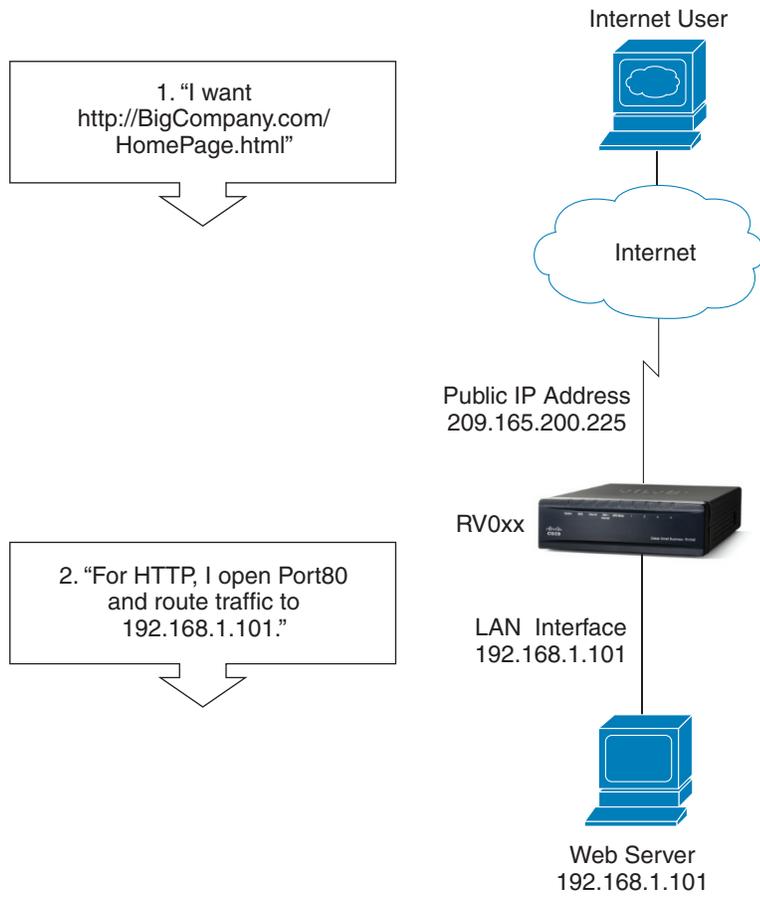
Port Forwarding

Port forwarding opens ports in response to inbound traffic for a specified service. For example, if you host a web server on your LAN, you could set up a port forwarding rule for HTTP traffic. When an Internet user sends an HTTP request to your WAN IP address, domain name, or DynamicDNS domain name, the router opens the specified port to direct traffic to your web server. See [Figure 1 on page 2](#).

Port Triggering

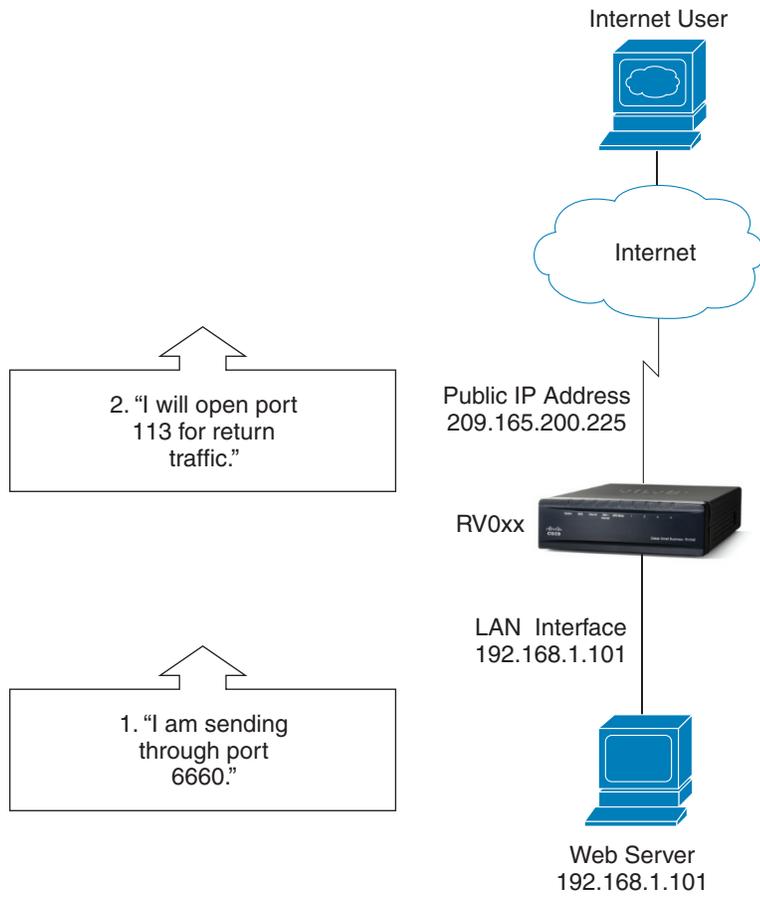
After a resource on your LAN sends outbound traffic through a “trigger” port, the router listens for inbound traffic through a specified port or port range. This function is necessary for applications, such as videoconferencing or gaming, that require data exchange through specified ports. See [Figure 2 on page 3](#).

Figure 1 Port Forwarding Example



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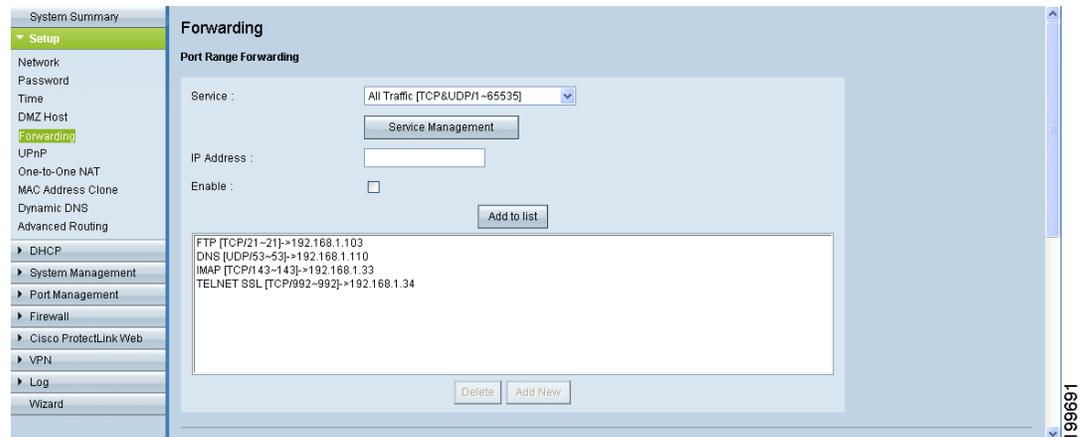
Figure 2 Port Triggering Example



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Setting Up Port Forwarding and Port Triggering

To open this page: Using a web browser, log on to the RV0xx configuration utility. Click **Setup > Forwarding** in the navigation tree.



Setting Up Port Forwarding

Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests to your network, the router can forward those requests to computers that are equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP address 192.168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2.

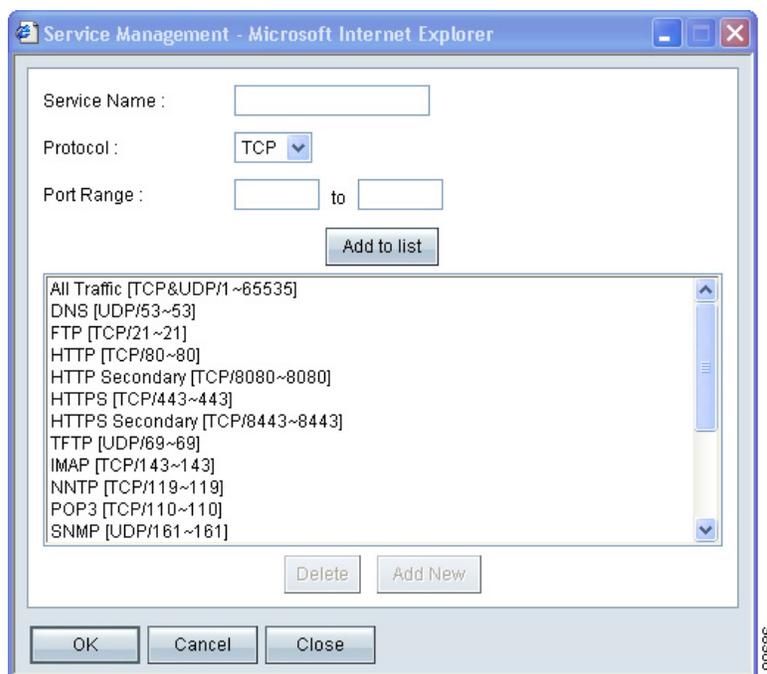
You may use this function to establish a web server or FTP server via an IP gateway. Make sure that you enter a valid IP address. (You may need to establish a static IP address in order to properly run an Internet server.) For added security, Internet users will be able to communicate with the server, but they will not actually be connected. The packets will simply be forwarded through the router.

- **To add an entry to the list:** Enter the following information, and then click **Add to list**.
 - **Service:** Select the service. If a service is not listed, you can add a service. For details, see [Adding a service, page 5](#).
 - **IP Address:** Enter the LAN IP address of the server that you want the Internet users to access.
 - **Enable:** Check the box to enable this port range forwarding entry.
- **To add another new entry:** Enter the information, and then click **Add to list**.

- **To modify an entry in the list:** Click the entry that you want to modify. The information appears in the text fields. Make the changes, and then click **Update**. If you do not need to make changes, you can click **Add New** to de-select the entry and clear the text fields.
- **To delete an entry from the list:** Click the entry that you want to delete, and then click **Delete**. To select a block of entries, click the first entry, hold down the **Shift** key, and then click the final entry in the block. To select individual entries, press the **Ctrl** key while clicking each entry. To de-select an entry, press the **Ctrl** key while clicking the entry.
- **To view the port range table:** Click **View**, near the bottom of the page. Choose **Port Range Forwarding** or **Port Triggering**. To update the display, click **Refresh**. To return to the *Forwarding* page, click **Close**.

Adding a service

To add a new entry to the *Service* list, or to change an entry that you created previously, click **Service Management**. If the web browser displays a warning about the pop-up window, allow the blocked content.



In the *Service Management* window, add or update entries as needed. Before closing this window, click **OK** to save your settings, or click **Cancel** to undo them. Any unsaved changes are abandoned.

Application Note

- **To add a service to the list:** Enter the following information, and then click **Add to List**. You can have up to 30 services in the list.
 - **Service Name:** Enter a short description.
 - **Protocol:** Choose the required protocol. Refer to the documentation for the service that you are hosting.
 - **Port Range:** Enter the required port range.
- **To add another new service:** Enter the information, and then click **Add to list**.
- **To modify a service you created:** Click the service in the list. The information appears in the text fields. Make the changes, and then click **Update**. If you do not need to make changes, you can click **Add New** to de-select the service and clear the text fields.
- **To delete a service from the list:** Click the entry that you want to delete. To select a block of entries, click the first entry, hold down the **Shift** key, and click the final entry in the block. To select individual entries, hold down the **Ctrl** key while clicking. Click **Delete**.

Setting Up Port Triggering

Port triggering allows the router to watch outgoing data for specified port numbers. The IP address of the computer that sends the matching data is remembered by the router, so that when the requested data returns through the router, the data is transmitted to the proper computer by using IP address and port mapping rules.

Some Internet applications or games use alternate ports to communicate between the server and LAN host. When you want to use these applications, enter the triggering (outgoing) port and alternate incoming port in the *Port Triggering* table. Then the router will forward the incoming packets to the specified LAN host.

To open this page: Using a web browser, log on to the RV0xx configuration utility. Click **Setup > Forwarding** in the navigation tree.

The screenshot shows the 'Port Triggering' configuration page in the RV0xx configuration utility. The left navigation tree is expanded to 'Forwarding'. The main content area has the following fields and buttons:

- Application Name:** NewApp
- Trigger Port Range:** 8880 to 8880
- Incoming Port Range:** 113 to 120
- Buttons:** Add to list, Delete, Add New
- Bottom Buttons:** View, Save, Cancel

Add or edit entries as needed. Remember that the settings are not saved until you click the Save button.

- **To add an entry to the list:** Enter the following information, and then click **Add to List**. You can have up to 30 applications in the list.
 - **Application Name:** Enter the name of the application.
 - **Trigger Port Range:** Enter the starting and ending port numbers of the trigger port range. Refer to the documentation for the application.
 - **Incoming Port Range:** Enter the starting and ending port numbers of the incoming port range. Refer to the documentation for the application.
 - **Enable:** Check the box to enable port triggering for the application. Uncheck the box to disable the application.
- **To add another new entry:** Enter the information, and then click **Add to list**.
- **To modify an entry in the list:** Click the entry that you want to modify. The information appears in the text fields. Make the changes, and then click **Update**. If you do not need to make changes, you can click **Add New** to de-select the entry and clear the text fields.
- **To delete an entry from the list:** Click the entry that you want to delete, and then click **Delete**. To select a block of entries, click the first entry, hold down the **Shift** key, and then click the final entry in the block. To select individual entries, press the **Ctrl** key while clicking each entry. To de-select an entry, press the **Ctrl** key while clicking the entry.

Application Note

- **To view the port range table:** Click **View**, near the bottom of the page. Choose **Port Range Forwarding** or **Port Triggering**. To update the display, click **Refresh**. To return to the *Forwarding* page, click **Close**.

Related Information

Support	
Cisco Small Business Support Community	www.cisco.com/go/smallbizsupport
Cisco Small Business Support and Resources	www.cisco.com/go/smallbizhelp
Phone Support Contacts	www.cisco.com/go/sbsc
Cisco Small Business Firmware Downloads	www.cisco.com/go/software Select a link to download firmware for Cisco Small Business Products. No login is required.
Product Documentation	
Cisco Small Business RV Series Routers	www.cisco.com/go/smallbizrouters
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Cisco Partner Central for Small Business (Partner Login Required)	www.cisco.com/web/partners/sell/smb
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