What is Port Triggering and How to Use it

Port triggerin*g* is a new feature supported by Vigor router that allows a host machine to dynamically and automatically forward a specific port back to itself.

Trigger Port is the outgoing (destination) port that the application uses. The Incoming Ports are the ports used by the application for it to work. The Incoming Ports are not opened until the corresponding Trigger Port is triggered (your computer is using a specified Trigger Port for specific traffic).

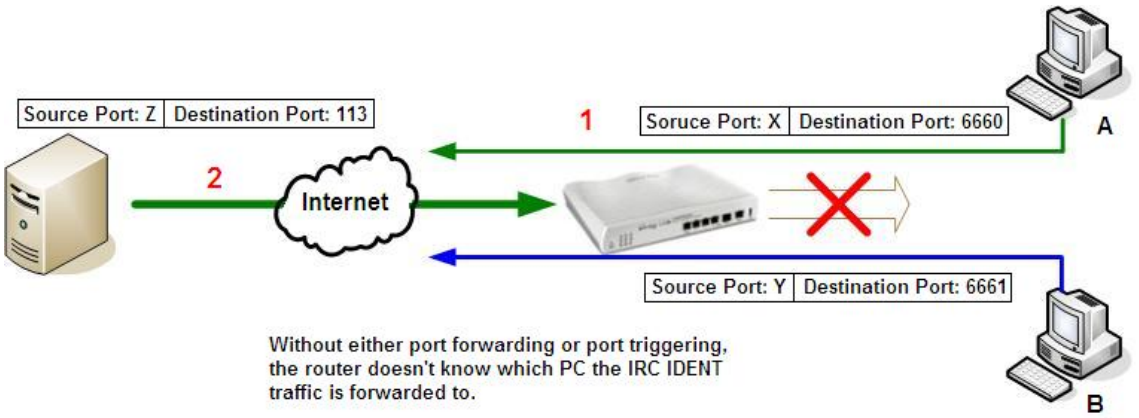
How it works?

We will take an example to explain it. There are many applications such as IP phones, games and IM applications that might need Port Triggering function to solve NAT problem. An example is connecting to an IRC server that needs authenticating a username with the identification protocol via port 113.

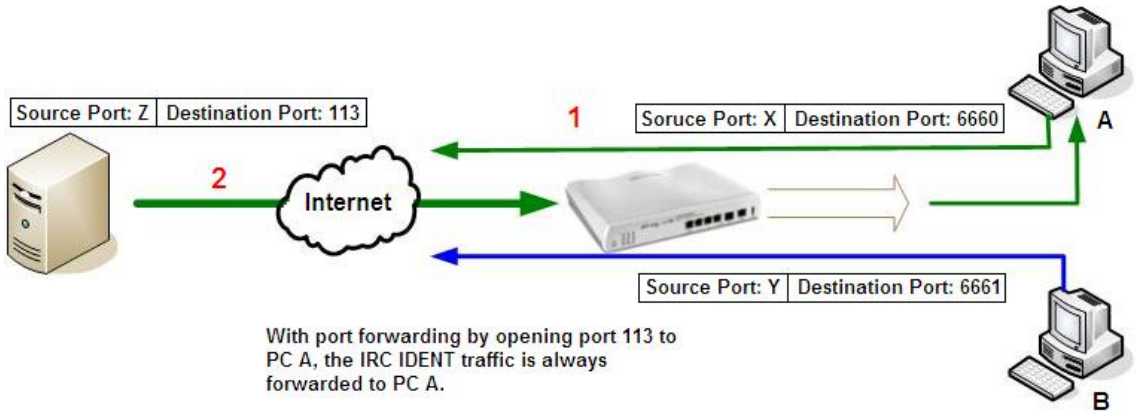
When you sign on with IRC, you typically connect to the IRC server at a port in the range 6660-6670. To verify your username, the **Internet Relay Chat (IRC)** server makes a new incoming connection to your computer on port 113. This doesn’t work if you are behind a NAT router. Because it doesn’t know what computer that data is for, so it drops this connection.

With Port Forwarding function, you can open port 113 for this computer. But this setup limits that only one computer behind the NAT router can use IRC application because Port Forwarding is a static forwarding that requires you to enter an internal IP address to forward the port 113 to. Furthermore, with Port Forwarding function the port 113 is open all the time.

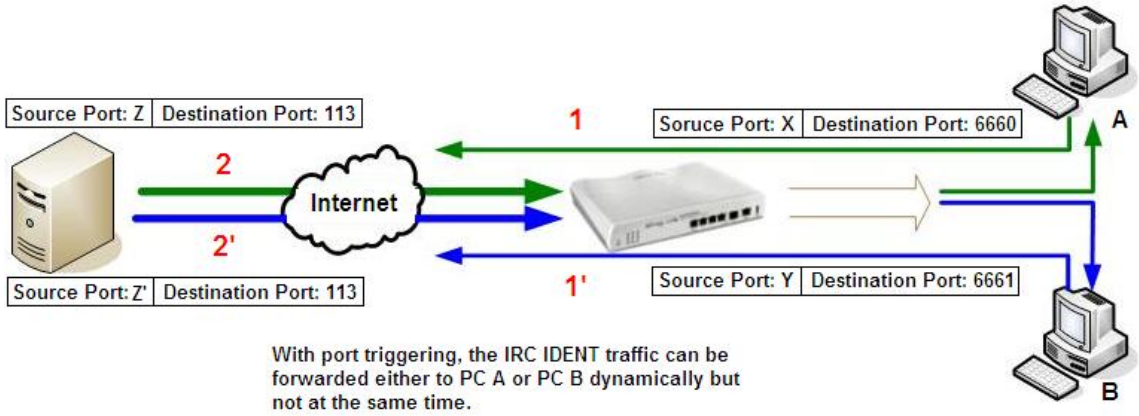
Port Triggering can overcome the two disadvantages mentioned above. The below figures illustrate it.



Without either port forwarding or port triggering, the router doesn't know which PC the IRC IDENT traffic is forwarded to.



With port forwarding by opening port 113 to PC A, the IRC IDENT traffic is always forwarded to PC A.



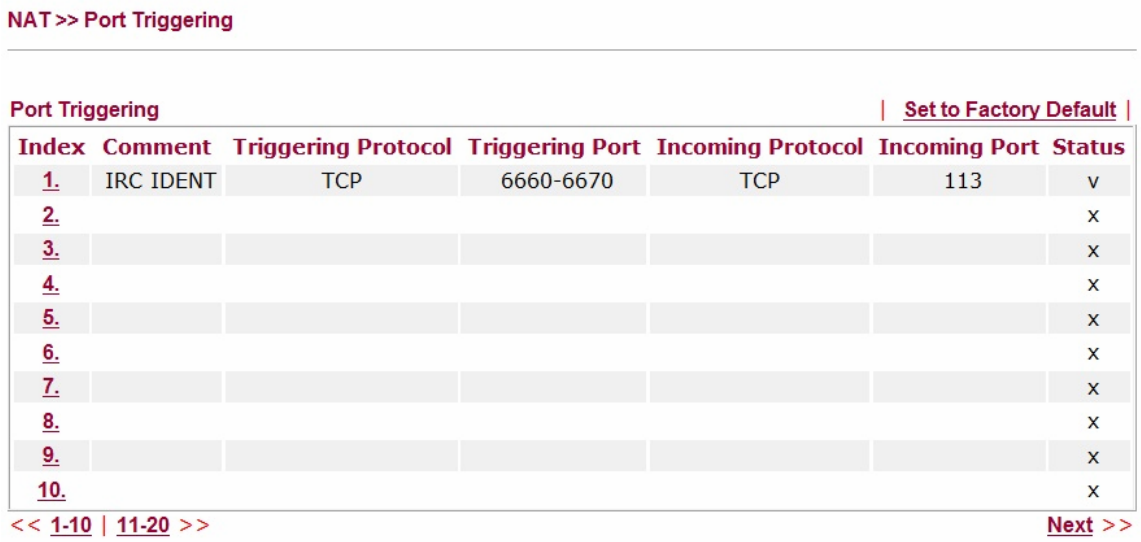
With port triggering, the IRC IDENT traffic can be forwarded either to PC A or PC B dynamically but not at the same time.

Please note that port 113 can only be forwarded to one computer at a time. If A and B were trying to send data out at the same time, there would be a conflict. Port 113 would not be forwarded to both computers.

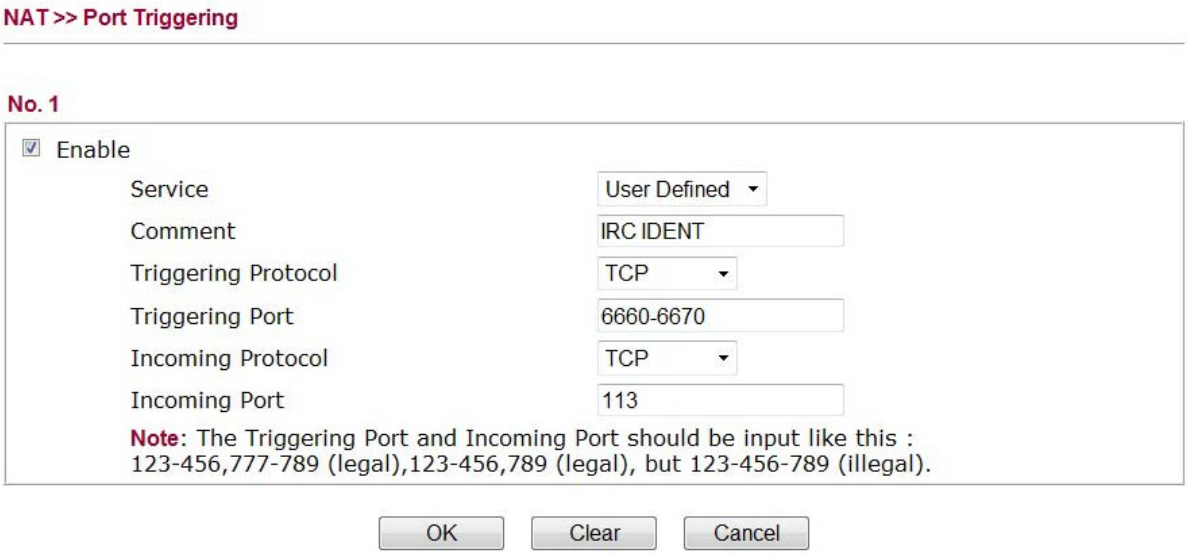
How to setup Port Triggering for IRC?

1. Take Vigor2920 as an example. Access into the web configurator of Vigor2920.

2. Go to the ***NAT>> Port Trigger*** page and add an entry as the following figure.



3. Click index number link for configuring the detailed settings.



Item	Description
Service	There are *User Defined* and some predefined services available. The configuration for predefined services is just for reference and can also be modified. For IRC with IDENT protocol, select *User Defined*
Comment	Enter the name (e,g., IRC IDENT) of the application in the field provided.
Trigger Protocol	TCP
Trigger Port	Enter the range (e.g., 6660 – 6670) for triggering the incoming ports.

Incoming Protocol	TCP.
Incoming Port	Enter the range (e.g., 113) of the ports which should be triggered by trigger port.

4. Click **OK** to save the settings.

Advantages (Compared with Port Forwarding)

Ports are not open to the Internet all the time. So it is a little more secure than port forwarding. Ports can be forwarded to different computers automatically.

Disadvantages

Port triggering only allows one client on the network to uses a particular incoming port at a time. If two or more clients run the same application at the same time, only one will work.

The router will close the incoming port after some period of time if there is no data pass through. This might break your application down.

FAQ

Q1. The Port triggering setup doesn't work for an application unless I setup a static port forwarding entry to forward certain ports. What's the problem?

It means some ports are missing in either Trigger Port Range or Incoming Port Range. Check support boards for each application to identify the correct port ranges.

Q2. Can I run two different applications at the same time?

Make sure Trigger Port Range and Incoming Port Range do not overlap between these two applications. If either Trigger Port Range or Incoming Port Range overlaps, there may be conflict.

Q3. Can I run a server using Port Triggering?

Port Triggering has very limited value for servers - use Port Forwarding.

Q4. What’s the timeout for the Port Triggering?

The default timeout value for Port Triggering is **5** minutes. It means, if there is no outgoing traffic on trigger port, or any incoming traffic on incoming port for 5 minutes, the incoming port will be closed by the router. During the 5 minutes, if there is any triggering traffic or incoming traffic, the timeout will be recalculated from 0 over again.