Use a Free Dynamic DNS Service with *RCForb (Server)*

Many Internet providers provide a dynamic IP address as opposed to a static address. This means that your actual IP address to the Internet changes in time. You are not guaranteed a non-changing address unless you request and pay for this service from your IP provider. If you run a *RCForb (Server)* server application from your computer, you need a means of letting users know what your IP address is when they need access. This is the responsibility of a DNS service that can provide this service for a small monthly fee. There are free DNS service providers however, such as No-IP, which will be used in this discussion. The DNS service provider can then let users know your address even if it changes by your IP provider (which it does). By using a free DNS service provider, you will not have to pay a fee.

I will explain the steps to follow for setting up the IP routing for use with *RCForb (Server)*. These steps are:

> 1) Setup an account with the No-IP DNS Service provider,
> 2) Install a program to announce your current IP address to the DNS service provider,
> 3) Publish your domain name for the DNS service provider such that *RCForb (Server)* knows your current IP address,
> 4) Setup your router to reserve your server's internal network address,
> 5) Port forward 3 ports for the *RCForb (Server)* application, and
> 6) Verify the ports are actually forwarded.

No-IP DNS Service (Free) - Account Setup

First, a NO-IP DNS service needs to be requested and setup. You can sign up for a free account at: https://www.noip.com/sign-up

There are 3 levels of membership so be certain to select the personal, **FREE**, access. You will provide a unique hostname. By the way, once a month you will have to verify you want to continue your free access. This is the "cost" for this free service. You will receive a marketing e-mail once a month to have the choice of changing to a paid service. Just say no, and continue to select the free service.

An explanation of how No-IP uses terminology is given below. The term **hostname** from the No-IP website FAQ information page states:

> **" What's a hostname?**
> The term hostname refers to the unique part that identifies a host on the Internet. In **www.no-ip.com**, **www** is the hostname. In that same example, **no-ip.com** is the domain name. The host portion prepended to the domain name is often referred to as the **hostname** and that is how we use the term here. So, in summary, **www** is the host, **no-ip.com** is the domain, and **www.no-ip.com** is the hostname. Our free dynamic DNS service offers free hostnames on our domains i.e. yourname.no-ip.org. "

In my situation, I use a unique phrase for the **HOST** to create the fully defined hostname, **HOST.no-ip.info.**

No-IP DNS Service (Free) - DUC Setup

Next, a small piece of software must installed on a computer residing on your internal network that will periodically send a message to the No-IP DNS Service so they can determine your real-time IP address. Download the DUC Setup software from the No-IP website, in my case it had the filename **DUCSetup_v4_1_1.exe.** I chose to install this software on the same computer that has my *RCForb (Server)* application. That way, whenever the server computer is running, DUC program will also run and report my IP address assigned to the No-IP DNS service. That is it! Next, the *RCForb (Server)* needs to be checked to make certain the computer's internal IP address is reserved (so it does not inadvertently change when the router is rebooted) and the *RCForb (Server)* ports are forwarded.

RCForb (Server) - Publishing Your Domain Name for No-IP

In the *RCForb (Server)* application, open it and go to the tab **Settings** tab and then select **Publishing**.

In the **Domain (Optional)** entry, enter your hostname for your No-IP account. In my case, I use the format: **HOST.no-ip.info**. Just substitute your **HOST** name in the formatted text.

Next, click on the **Save and Restart** button on lower right.

That should do it. The *RCForb (Server)* application should now have the IP of the computer available based on the No-IP website. They will update your actual IP address as it changes and track it continuously.
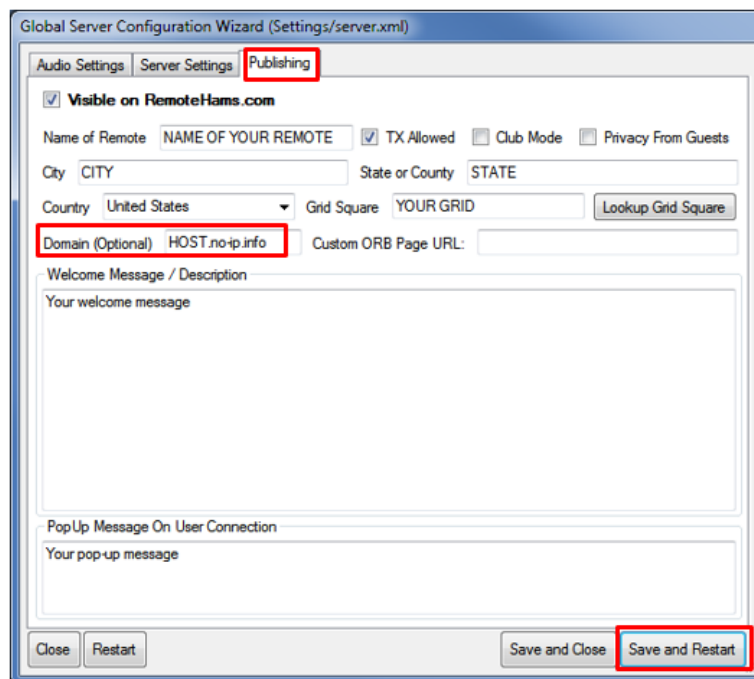

Figure 1. RCForb (Server) Publishing GUI

Router Setup - Reserved IP Routing and Port Forwarding

You will need to setup your router to assign a reserved address to the computer that is hosting the *Remote Hams* server software. In my Netgear router, this was found under the **LAN** tab and then **LAN Setup** selection. Find the computer's internal IP address and reserve this address so it does not change. The actual menu items to do this will vary between routers so you may have to refer to your user manual.

Next, port forward the 3 ports needed by *RCForb (Server)* to the reserved internal route. Find the internal port forwarding in the router setup program and forward these 3 ports to the reserved IP address.

> TCP/UDP Port: 843
> TCP/UDP Port: 4524
> TCP/UDP Port: 4525

RCForb (Server) - Check Routing

In the *RCForb (Server)* menu select **Options** and then **Check Ports (Router Test)** as shown in Figure 2. A window will show the test results for the TCP Port 843, 4525 and 4524 ports being Opened. If this test fails, then the setup needs to be check again for the server IP address in the local area network of the router and that ports are properly routed.

What if your ports are not being forwarded correctly? Unless all 3 are forwarded and pass the test, the RCForb (Server) software will not work correctly. Things that can go wrong and therefore should be verified are:

> 1) Is the internal network IP address for the computer running the RCForb (Server) software correct for the server? Unless you have reserved the internal IP address, a reset of your router can allow a new set of internal network IP addresses on the server computer. The best approach is to reserve the internal IP address so it does not change - - ever. Check your router user manual on how to do this.

> 2) You might have conflicts with your virus scanning software. Check for this by temporarily deactivating you virus scanning software to see if that allows the ports to forward correctly. In some virus software, you can deactivate for a short time period and then have it automatically invoked. Just be certain to have your virus software running after all is said and done.

> 3) Read carefully your router's instructions on how to forward ports 843, 4525 and 4524. Some routers are slightly different and may allow you to specify a block of addresses or specific addresses separated by a comma or colon. Double check your user manual.
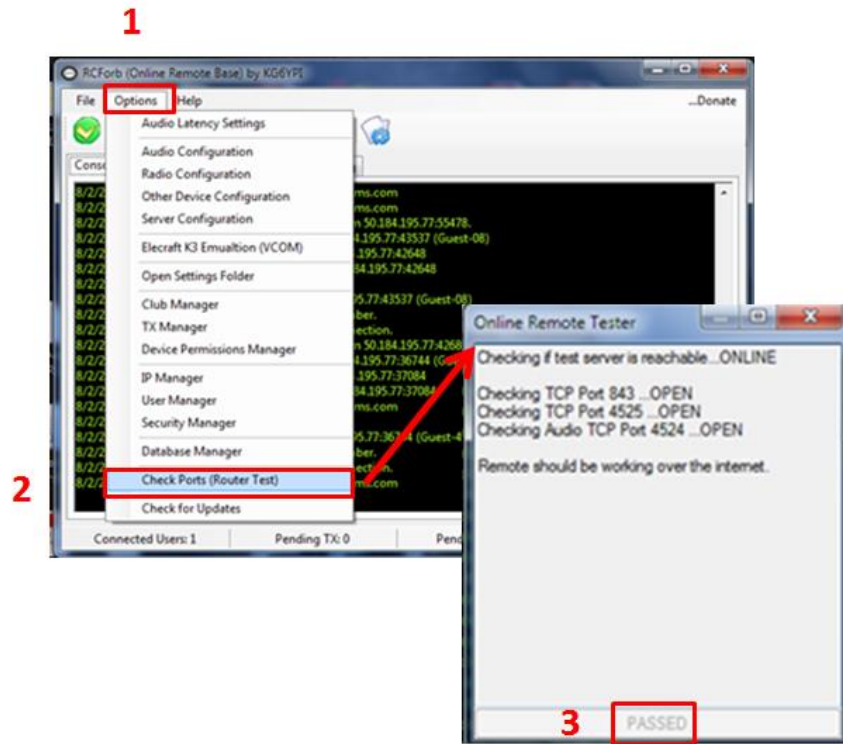
Figure 2. *RCForb (Server)* Options - Online Remote Test for Open Ports

That concludes the setup for using the RCForb (Server) program with a Free DNS Service.

73 Gene K5PA