

Adding a new D-STAR Gateway to the Network

When ICOM released the first version of the D-STAR Gateway program, the amateur community worked our way through several challenges, and built a viable network. This was largely due to the spirit of cooperation among the Gateway administrators. Even with a mandatory training course, there were still “experts” who were sure that they knew more than the rest of us, and felt that they didn’t need to follow our recommendations. Some of these “experts” caused serious problems for the rest of the network, to the point of many of us not being able to add users.

With the release of the second version of the D-STAR Gateway program, the rules have changed significantly. Many of the early restrictions and constraints have been removed, and several major features added. But the D-STAR network is still primarily a user-supported effort. As such, it is important to have the Gateways installed as consistently as possible. This is above and beyond those requirements imposed by the system design.

Please remember that there are some design constraints which **MUST** be satisfied:

- The router for the D-STAR gateway must support a LAN address of 10.0.0.1, with a full class ‘A’ LAN (subnet mask of 255.0.0.0).
- You may **NOT** use your personal call sign as the repeater call sign, like you did on FM systems.

We have found that the following sequence is best for installing the Gateway program on a 32-bit computer which meets the requirements specified in the Gateway manual. The application is a 32-bit application. Please do not attempt to run this on a 64-bit system.

We commit to you that these steps should yield a reliable installation. We’ll also commit to you that if you choose to go a “better” route, you will cause problems for the rest of the network. Don’t try to make your Gateway “more secure” or “better.”

Also, if you have NOT followed this sequence to install your Gateway, please catch up on any missed steps, especially the one labeled “Our Updates”. **Those are critical!** While not installing them may not immediately cause your Gateway to fail, omitting them will definitely impact the rest of the network, making you pretty unpopular.

Here's the recommended sequence:

- Install CentOS per the ICOM manual.
- Update CentOS using `up2date -fu` or `yum update`
- Begin ICOM install process and stop on Page 14
- You must verify the 'named' services are running. If this works you can continue with the ICOM installation (This may take a reboot)
- Continue with ICOM installation thru page 19 (Configuration file changes)
- The Trust Server is 'USRoot.DStarUsers.Org' (Use the name, NOT the IP address!)

The following items are mandatory to be accepted on the trust server:

Install Our Updates (required for approval)

- `cd /root`
- `wget http://dsyncg2.dstarusers.org/update1`
- `chmod 775 update1`
- `sh ./update1`

- Install ICOM's Updated Software (GW V2.1)
- `cd /root`
- `wget http://dsyncg2.dstarusers.org/update2`
- `chmod 775 update2`
- `sh ./update2`

- Install ICOM's Updated Software (GW V2.2)
- `cd /root`
- `wget http://dsyncg2.dstarusers.org/update3`
- `chmod 775 update3`
- `sh ./update3`

- Install Dstarmonitor (Reports to www.dstarusers.org)
- `cd /root`
- `wget http://dsyncg2.dstarusers.org/dsm_installer_g2`
- `chmod 775 dsm_installer_g2`
- `./dsm_installer_g2`

OPTIONAL PROGRAMS/ADD-ONS:

While it is not required that you install the dplus add-on, it is highly recommended. Because of the functionality and popularity of this add-on software, users tend to expect the features it provides to be available to them.

Install DPlus and Tools (Needed to use DPlus and REFLECTORS)

- `cd /root`
- `wget http://www.opendstar.org/tools/G2/dplus-install-g2.sh`
- `chmod 775 dplus-install-g2.sh`
- `./dplus-install-g2.sh`

- **REBOOT SYSTEM**

If you are curious about the various updates above, Brian Roode has put together a little webpage explaining each of the updates and their purposes. This webpage also includes a Router Port Forwarding test utility to make sure you have all the right ports open to allow connections to and from other D-Star systems and users. You can find the page here:

<http://dsync.dstarusers.org/info/>

ADMINISTRATOR REGISTRATION

Part of the approval process for acceptance by the Trust Server team is to have full information about the administrator and system. Administrators should create an account on the D-Starusers Repeater Directory listing (DLIST). <http://www.dstarusers.org/dlist/dashboard.php>. Please supply a good email address so we can contact you with special announcements or if we need to contact you concerning a database issue. The system information you provide will be used by the D-Starusers.org website to display information to amateurs' world wide looking for D-Star repeater systems.

Check your systems' status on the trust server at the following:

<http://dsyncg2.dstarusers.org>

This page will show you the current status of your system. It is updated every 15 minutes. We will not approve you on the trust server until at least "Software is up to date" shows on your status. If you look at the bottom of the page there is an explanation of the various error codes displayed on this page. If you click on the call sign, you will be taken to a history page which will show you more information about your system and the last time it reported to the trust server and dstarusers.org.

TRUST SERVER APPROVAL:

You must request approval for inclusion on the Trust Server, We have automated this process by clicking on the following link:

<http://dsync.dstarusers.org/register>.

Follow the instructions on that page and if your system is ready, it will be approved. If for some reason this fails you may still request a manual approval by contacting Trust-Server-Admins@DStarUsers.Org. Please be aware that it may take 24 hours or more to address your manual requests, we will try to accommodate your request based on our "real jobs" duties. All the trust server admins are volunteers so please take this into account.

Your approval will be based on a variety of factors including your application of the above updates and programs and the ability for your gateway to properly communicate with the Trust Server.

- ***DO NOT LICENSE THE ADMINISTRATOR UNTIL AFTER YOUR GATEWAY IS APPROVED.***

After approval, continue the ICOM instructions:

- Add the terminal information for the repeater module(s).
- Add users.

I'm Approved, now what ?

One of the items which can not be stressed enough to system admin's is that once you are accepted into the trust network, you can not rebuild your system without serious consequences to any users who have registered on your Gateway.

This means that you must make every effort to keep a full backup of your user database so that if your system should crash, you can recover your database and be able to rebuild the system without serious impact. If you do not have the database, when you come back up, the trust server will not allow you to re-join the network. Only the originating registration gateway can change records for users. So if user A moves and want to register with another system the original registration has to be removed with a request that originates from that original gateway.

If your gateway fails and you lose the database, to recover, the trust server team will have to remove the registration for the system and ALL USERS. This takes 24-48 hours to complete. During this time, all users registered on the system will be blocked from using dPlus linking and inter gateway calling. If you find yourself in this situation, please contact the Trust Server admin team and request system deletion.

Finally, and most importantly, Have fun and Enjoy.

The Trust Server Admin Team

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