

MonLink Information

Version 1.2 – 03/21/2024

Monlink runs as a service on the D-STAR gateway. It reads the 'dplus.log' file as input and actively monitors and manages the remote link connections. It can be used on either a Centos 7 or AlmaLinux9 gateway platform. Because dplus.log is the input to monlink, dplus must be installed and running on the gateway system.

Monlink can keep track of the links established with one or more of the repeater modules. The links can be to either REFlectors or other ICOM Gateways.

- If a link is established and remains inactive for a configurable amount of time, it is automatically disconnected. There are separate configurable time values for input over the link and for local transmissions sent out on the link. Therefore, if the far end of the link has a lot of activity but nothing locally, it can still be disconnected in a specific amount of time.
- If a link is established but is dropped by dplus due to repeated timeouts of the keep-alive pings, then monlink will (if configured to do so) automatically try to reconnect the link. The first attempt will be made 10 seconds after the failure. With each subsequent reconnect attempt, the interval is doubled until the interval reaches 30 minutes. At that point, the interval stays at 30 minutes until a success reconnect occurs.
- If a link is established, a recorded announcement will be played at a specific configurable interval to notify the users that a link is up and ALSO what system is on the other end. For example, the announcement might say "Linked to REF001 module C". These announcements are 'friendly' in that they will only be played if the module has been quiet for a minimum of 30 seconds.

Because monlink is tracking channel activity, it also provides the ability to configure "general announcements" to be played on specified days, times, and modules. Multiple messages can be defined, and they will be played in rotation. These announcements are managed as follows:

- The channel must have been quiet for the preceding 60 seconds, and
- No other "general announcement" has been played for the preceding 10 minutes, and
- This particular announcement has not been played for the preceding 60 minutes.
- Times can be blocked out for any "general announcements" (e.g. during a scheduled net).

A feature added in 'version 0.3f' is the ability to manage a "default link". Some D-STAR systems like to stay linked to a particular reflector (e.g. REF030-C) during portions of the day in order to have activity and generate local interest in D-STAR. Now, the gateway administrator can define one or more defaults and monlink will attempt to keep the link up with some limitations. For example, the configuration can be set to maintain a link between Module C and REF030-C during the period of Monday-Friday, and from 6:00 AM until 10:00 PM. During this period, monlink will bring the link up

however monlink will NEVER disconnect an existing link in order to bring up the default. Also, if the default is active and someone (or a cron entry) disconnects the link, monlink will wait for 10 minutes before attempting to bring the default back up. This way, if the default is up, and a user wants to connect to another system, the user sends an unlink (URCALL=" U") and then has 10 minutes to issue a link to the desired system. A configuration example with remarks can be found in the "/dstar/util/monlink.conf" file after the install.

A NOTE OF CAUTION to Administrators: Be very careful of keeping a gateway connected to some of the very busy reflectors (e.g. REF001-C and REF030-C). Some of the most busy reflectors have implemented limits on connections.

Also added in 'version 0.3f' is the functionality to automatically check for new "linked to" announcement files each time monlink is started. If new recording files are found, they will automatically be downloaded and added to the recording library (/dstar/util/dv directory). Note that any locally generated recordings are never over written or altered. In addition, monlink checks a new release of monlink. If a new version is found, it is NOT automatically downloaded and installed. Instead, a notation will be placed in the first few lines of the /var/log/monlink.log file.

With 'version 0.3f', monlink can now send voice announcements and/or data message announcements to indicate what link is currently established. See configuration examples in the /dstar/util/monlink.conf.new' file. This can be set by module. For example, monlink can send data messages only on two meters, voice announcements only on 440, and send both on the 23cm module.

A NOTE OF CAUTION to Administrators: Some of the newer D-STAR transceivers do not handle data messages in the same way as older radios. In some cases the transceivers will out an audible hiss during the data only transmission. If this is a problem for your user group, you will probably want to disable the data "M"essage open in the configuration file so that only the "V"oice messages are transmitted.

There are many remarks in the configuration file, /dstar/util/monlink.conf, that explain the various configuration options. When configuration changes are made, monlink checks the monlink.conf file once every fifteen minutes looking for any configuration changes. With this feature, a restart of monlink is not required to implement configuration changes.

The program can be installed by: (user must have 'root' privileges to install)

```
cd /tmp
curl -O http://wb4fay.com/util/ml-dpr-installer
chmod 755 ml-dpr-installer
./ml-dpr-installer
```

Once installed on a Centos 7 system, it can be managed by one or more of the following:

```
service monlink start
service monlink stop
service monlink restart
```

On an AlmaLinux9 system, it can be managed by one or more of the following:

```
systemctl start monlink.service  
systemctl stop monlink.service  
systemctl restart monlink.service
```

You can follow the actions of the program by tailing the log file:

```
tail -f /var/log/monlink.log
```

INSTALLATION:

The installation script will automatically handle on G3.x gateway systems regardless of whether on a Centos 7 or an AlmaLinux9 platform. When logged onto a gateway with root privileges execute the following:

```
cd /tmp  
curl -O wb4fay.com/util/ml-dpr-installer  
chmod 755 ml-dpr-installer  
./ml-dpr-installer
```

Ken Adkisson – WB4FAY
wb4fay@gmail.com