MonLink
Current Version is 1.00 – February 4, 2017

NOTE: Version 1.01 only runs on ICOM's G3 and Centos 7 platform. Prior versions must be used on G2 systems.

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.

- 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. Subsequent attempts will be made at 60 second intervals up to the maximum number set in the configuration file.
- 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 SE WX Net, etc.)

A new 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. REF001-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 REF001-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.new" file after the install.

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.

monlink checks the monlink.conf file once every fifteen minutes looking for any configuration changes. With this addition, a restart of monlink is no longer required to implement configuration changes.

With 'version 1.0', monlink has some new configurable parameters.

1. The ability for the administrator to specify quiet hours during which no announcements are made. For example announcements can be suppressed from 10 PM until 6 AM if desired.   The "LinkAncBlock" paramenter in the monlink.conf allows for specification of quiet hours by indicating Module, day(s) of the week and start and stop hours for the suppression.
2. The ability for the administrator to specify the number of seconds that monlink will delay after reestablishing a default link has been added.   This is specified via the "DefaultDelay" parameter in the monlink.conf file. There is a hard coded minimum delay of 120 seconds. Any specification less than 120 seconds will be replaced by a 2 minute delay.

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

```
cd /tmp
curl -O http://wb4fay.com/util/g3-ml-dpr-install.sh
sh g3-ml-dpr-install.sh
```

```
NOTE:  This install script installs both monlink AND dplusreport.   There are no
longer individual scripts for the two programs.
```

Once installed, it can be managed by:

```
systemctl start monlink
systemctl stop monlink
systemctl restart monlink
```

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

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

Ken Adkisson – WB4FAY
ken@wb4fay.com