How to run ircDDB on a multi-homed gateway without using DSM

This description should give you an idea how to run ircDDB on a multi-homed gateway, which is a gateway running OpenG2 and connected to a Trust system.

The solution described here has not been approved by the M-Trust admin team, it should only be used for experimental purposes on test systems!

Background information:

There are 2 main versions of ircDDB clients available:

- ircDDB for multi-homed systems, which means systems connected to a trust server.
  Most of the current active systems are connected to the US-trust network.
  These systems usually do all run DStarMonitor.
- ircDDB-standalone for systems which are running without any trust server connection.

The big difference between this solutions is:

- In the multi-homed solution LastHeard information are reported by the gateway using DStarMonitor independently from the ircDDB client.
- In the standalone solution ircDDB can get that information from UDP port 12346 of the OpenG2 DStar-Gateway software (dsgwd) and reports it itself using the IRC channel.

If a gateway is connected to a trust system, UDP port 12346 supplied by dsgwd is already used by dsipsvd or something equivalent, which is the part of OpenG2 package talking to the trust system. The port cannot be used twice, so ircDDB cannot use it and we need DSM or something similar as an alternative source for that data.

But there is another solution available how to utilize ircDDB-standalone:
a special version of OpenG2/dsgwd which offers 2 UDP ports supplying the same LastHeard information parallel.
This dsgwd version allows ircDDB to run parallel to software like dsipsvd or any other interface to trust systems !

Here the way how to install that special solution:

1. Request an account for your gateway, this is necessary for installation!

2. Install ircDDB-standalone
   Use this documentation:
   http://db0fhn.efi.fh-nuernberg.de/doku.php?id=projects:dstar:ircddb:ircddb-linux-g4klx

   Use this script to install and configure ircDDB-standalone automatically:
   http://download.ircddb.net/ircddb-standalone-linux/install/ircDDB-install-standalone.sh
   - or –
   install ircDDB-standalone manually using this package:
   http://download.ircddb.net/ircddb-standalone-linux/install/install2-ircddb-standalone.tgz

3. Backup dsgwd and dsgwd.conf from your OpenG2 installation.

4. Get the special 2-Port-version of dsgwd here:
   http://download.ircddb.net/ircddb-standalone-linux/dsgwd2p.tar.gz

5. Edit the file dsgwd.conf.
   Find this lines:

   ```
   # For "Last Heard" renewals
   PORT_RENEWALS=12346
   ```

   Add a line which defines the second UDP port for ircDDB, it is called
   "PORT_RENEWALS_IRCDDB" and it defaults to 12347.
   The result should look like this:

   ```
   # For "Last Heard" renewals
   PORT_RENEWALS=12346
   PORT_RENEWALS_IRCDDB=12347
   ```

6. Edit the ircddb.properties file and change the udp_port from 12346 to 12347:

   ```
   #mheard_udp_port=12346
   mheard_udp_port=12347
   ```

After these changes your gateway software will use UDP port 12346 like before and ircDDB will be hooked on port 12347, both getting the same data.

There is no other change than the second port supplied by dsgwd.
The dsgwd 2 port-version is based on rev. 2.50.

Sample ircDDB.properties

version=standalone

irc_server_name=group1-irc.ircddb.net
irc_server_port=9007
irc_channel=#dstar

irc_password=***<your password>***
rptr_call=***<your repeater callsign (lower case)>***

debug=0

mheard_udp_port=*12347*

rptr_fix_tables=yes
rptr_fix_unsync_gip=no
rptr_insert_users=yes

ext_app=net.ircDDB.dv.RptrStandAloneApp

jdbc_class=org.postgresql.Driver
jdbc_url=jdbc:postgresql://127.0.0.1:5432/dstar_global
jdbc_username=dstar
jdbc_password=dstar123

(Source: http://download.ircddb.net/ircddb-standalone-linux/ircDDB.properties.sample2p)

Please remember:

The solution described here has not been approved by the M-Trust admin team, it should only be used for experimental purposes on test systems!

Limitations of the M-Trust-System to Callsign Routing

The LastHeard information sent between repeaters show the user's callsigns and the repeater's callsign with the module id.
It does not supply the gateway.

In order to use callsign routing the system primarily needs the gateway and its' actual internet IP address. That is where the stream has to be addressed to.

Some people believe that this is quiet easy, just cut off the module ID of the repeater callsign and add a "G" instead to have the gateway.
This is not correct and would harm the standard of the network.
The DStar system allows to connect several repeaters to the same gateway, this means that the repeater's callsign and the gateway's callsign may be totally different.
The ircDDB system is designed as a worldwide system which respects these standards and it should not violate that rules.

To find a gateway corresponding to a repeater's callsign the database is checked for existing routing entries.
It normally should find it because it is a requirement that the modules of a repeater have to be registered at the gateway where the repeater is connected to. This is a must.
Unfortunately the M-trust system shows entries which are different, repeater modules are registered at trust servers, not at their own gateways.
This is a violation of the standard, callsign routing won't work for that entries.
Instead of sending the voice stream to the correct gateway it will be addressed to the trust server which cannot do anything with that.

Callsign routing is not possible from and to repeater modules which are not registered at their own gateways!

The ircDDB-table "sync_mng_external" will show "NOCALL99" for those routes.
This is the dummy entry for wrong routing information.

Another issue may be caused by invalid user callsigns in the M-trust database.
It is not allowed in the DStar system to use a callsign for a repeater or a gateway and parallel the same callsign also for a user.
Gateways and repeaters are part of the infrastructure and may not roam like users between other gateways.
In most parts of the world this is no limitation since it is a legal requirement to run automatic stations with a special callsign.
Nevertheless the M-Trust database shows some entries where a numeric digit was appended to a user callsign to work around that rule.
This special "callsigns" are then used to run gateways.
ircDDB's callsign check won't allow that because this manipulation violates international callsign rules.

A callsign registered at the ircDDB system for a gateway will never be routed by ircDDB and cannot be used for a user.