

FREESTAR* and ALLSTAR

FREESTAR*

What is it?

FREE STAR* is an experimental approach to the implementation of a vendor neutral, and open source, digital communication network.

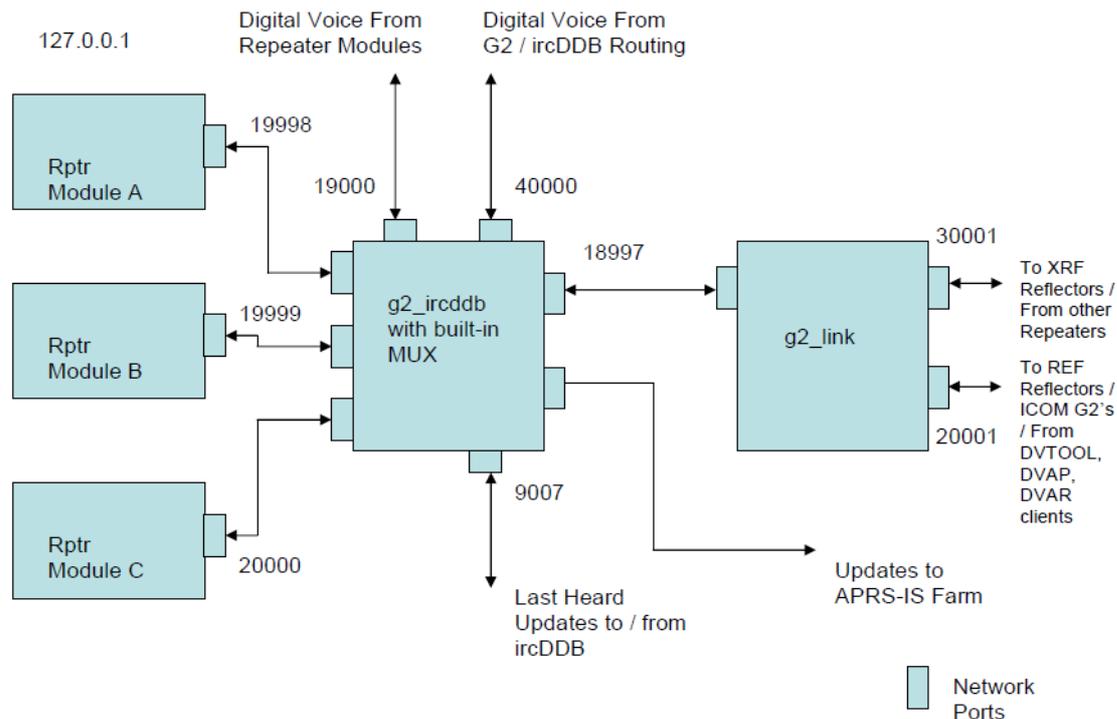
FREE STAR* enables existing (FM) repeater owners to establish a D STAR repeater with a choice of interface hardware, software and radio hardware. As testing and certification is an ongoing process, as of January 2010, the leading solution appears to be the Satoshi GMSK Node Adapter using the CMX589A modem chip - with the KI4LKF rptr software on CENTOS

How does it work?

FREE STAR* systems have been migrated off the NATRUST trust server to the ircDDB platform. NATRUST/Multi-Trust have been decommissioned as of January 2011

D STAR repeaters associated with a third-party production Trust server, will not be able to connect to FREE STAR* systems using dplus. ICOM repeater systems can add dextra_srv on top of their ICOM G2 and dplus installation without risk of repercussion from their Trust team. Once this add-on software has been added to your ICOM system, you can then access FREE STAR* repeaters and XRF reflectors using dextra_srv *regardless of the Trust server that either system might be associated with.*

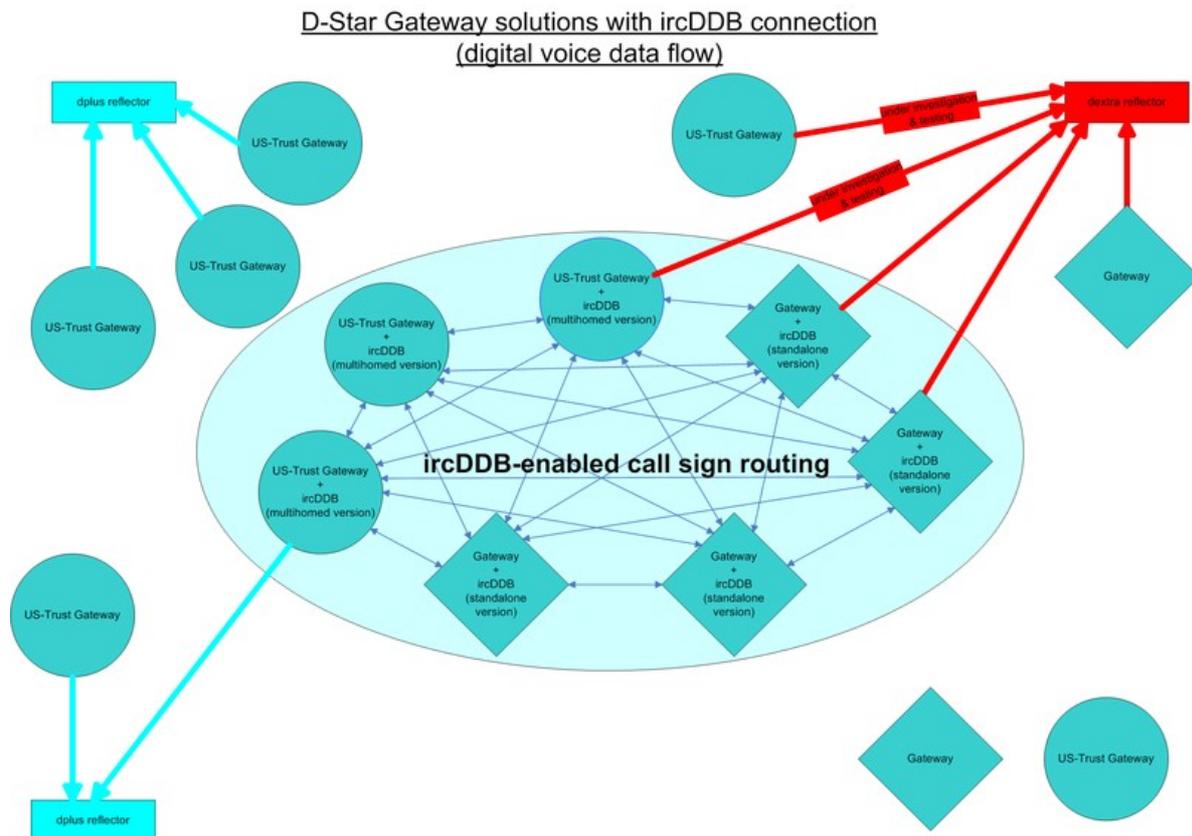
The database on FREE STAR* Reflectors is a hybrid database merging the USroot, Multi-Trust and NATRUST databases into a single database. The sync and merge process takes place automatically. This approach enables our reflectors to be **open** to all.



What is ircDDB?

The ircDDB-Network is an amateur radio network for exchanging routing information. There are several amateur radio systems that are able to reach individual ham radio operators, due to the use of unique callsigns around the world. These systems need to be fed with the latest data where ham radio operators are reachable. For example, ICOM introduced the first radios with digital voice (D-Star) on the amateur radio market, which are capable of addressing QSO partners directly (call sign routing). The ircDDB-Network provides a solution to distribute the essential routing information across its entire network.

With this, this means that ircDDB enables homebrew D-Star gateways to work without being attached to any trust server system and communicate with all gateways being attached to the network using Callsign routing.



Callsign routing is a powerful feature of the G2 protocol that allows users to establish communication with each other without the need to know which repeater each user is on. This is very handy when a particular user may be taking a long road trip traversing multiple repeater footprints. Callsign (or G2) routing relies on 'last heard' information in the ircDDB network (i.e., the last heard position) for each user. Hence when a user traverses multiple repeaters, it is imperative that the user transmits at least once on each repeater so that the repeater can report his / her presence on that repeater to the ircDDB network. This of course relies on each repeater running some form of ircDDB client.

ALLSTAR

What is it?

The AllStar Link network consists of a number of large (and small) individuals and groups who wish to provide efficient large-area communications to the Amateur Radio public in their respective local areas. This is done by providing a local VHF or UHF [repeater](#) system controlled by a [Linux](#)-based computer system running the open-source [Asterisk PBX](#) telephone switch platform along with the [app_rpt](#) repeater/remote base controller/linking software module (which is included in the distribution

of Asterisk) connected to a high speed (broadband, such as Cable Modem or DSL) Internet connection.

How does it work?

The computer system running Linux/Asterisk PBX coupled with the app_rpt module makes a powerful repeater/remote base controller capable of controlling many (like up to hundreds, theoretically) repeaters and/or remote bases per computer system. It provides linking of these repeater and remote base "nodes", with "nodes" on other systems of similar construction anywhere in the world, over the Internet via its IAX2 Voice Over IP protocol. Unlike other Radio-centric VOIP technologies, such as [Echolink](#) or [IRLP](#), etc, Allstar and the app_rpt/Asterisk technology have been specifically designed to be part of, and to link together parts of the very infrastructure of the radio systems that it implements, as opposed to be an end-to-end protocol like others.

All systems (nodes) are either repeater controllers or remote-base controllers. They connect directly with the radio hardware (thus replacing/outdating) current controllers on a system that is already up and operating. Just simply as a repeater controller, the amount of functionality and flexibility is very impressive, and when you also consider its remote base, linking (full-duplex) and VOIP (for autopatch, remote control, etc) capabilities, its amazing.

Allstar Link is an attempt to take this technology and make it available and applicable to as many Amateur Radio operators as possible, via their local repeater systems. For the most part we try to keep administration and policy making up to local systems. We only require strict technical standards (we dont want a bad sounding or un-usable system), and minimum operational requirements, most of which have to do with making the systems available to all, and making sure that everyone gets along, and treats everyone with proper respect and dignity.

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This means that both systems can co-exist in the same locations and also means that it can cross connect with each other, e.g GB3NU which is ALLSTAR Linked can be patched through a reflector (Analogue to digital bridge XRF044A) and come out somewhere on the D-star network e.g MB6INN or GB7NB ect .. The reverse is also true; a D-Star user can work through the network into the analogue to digital bridge and come out on a analogue repeater or simplex link.

Are there any local repeaters or links in Norfolk?

Yes, there are quite a few, there's a couple of repeaters which have the capability to cross connect and there are also a couple of simplex link's as well, but of course as with most emerging technologies the number of linked gateways is growing!

Allstar Linked Gateways

GB3NU, MB7INN

FREESTAR Linked Gateways

MB6INN-B, MB6LS-C, MB6SB-C&B, MB6WN-C, MB6AD-C

A = SHF (23cm)

B = UHF (70cm)

C = VHF (2m)

For more info on these subjects, check out <http://www.gb3nu.co.uk> for local links and gateways

or for any more info on how to use the systems, get in contact with Kevin 2E0LSR or Barry G8SAU

Source Information:

<http://www.va3uv.com/freestar.htm>

<http://ircddb.net>

<http://allstarlink.org>

<http://db0fhn.efi.fh-nuernberg.de/doku.php?id=projects:dstar:ircddb>