Ham 93B - ASV Network – Multiple nodes
Dr. Marc & Rosemary   © 230213

1. Digital node radios dramatically expand the capabilities of ham, and they are Maker projects. Multiple nodes are useful. In our case we have two hams with separate nodes. Another is during construction to have a test device.
   a. This can be calling someone, but you cannot hear your own radio. I usually use a node on my cellphone.
   b. ASL is made for multiple nodes / servers on a single IP public address for a private LAN.

2. AllStarLink.org has a database with the public IP and Port of all active nodes. This is outside the LAN.
   a. The default IAX (Inter-Asterisk eXchange) is 4569, assigned at the time the server is defined.
   b. For the second or more servers on same IP, change the IAX to say 4568, 4570, etc. Do not change IP.

3. *iax.conf* is local repository for port assignments.
   ```
   [general]
   bindport=4569  ; change this to port you assigned this server at Allstarlink.org
   ```

4. Repeat this for each server. Write it down. Your memory is not that good.

System Name	Node#	Node PW	IP Address	Port	Server Name
wa3dsp-58000	58000	123456	192.168.1.101	4569	Demo1
wa3dsp-58001	58001	654321	192.168.1.100	4568	Demo1

5. Outgoing server. The first server is both inbound and outbound. The second server is outbound only at this point.
   a. For outside access, open the assigned port on the router. For how to, see Article ASL – Firmware – Router.

6. Nodes inside a LAN need to know each other's local IP address and Port.
   a. [nodes] stanza in *rpt.conf* is the local storage.

7. *rpt.conf* needs entries for each server using its internal IP. I make these a DHCP Reservation in the router.
   ```
   [nodes]
   ; Note, if you are using automatic update for Allstar link nodes,
   ; no Allstar link nodes should be defined here. Only place a definition
   ; for your local nodes, and private (off of Allstar link) nodes here.
   58000 = radio@127.0.0.1/58000,NONE          ; 127.0.0.1 is localhost loopback
   58001 = radio@192.168.1.100:4579/58001,NONE  ; IP and port of other local server
   ```

8. On the other server it would be just reversed with the other nodes IP address and port.
   ```
   [nodes]
   ; Note, if you are using automatic update for Allstar link nodes,
   ; no Allstar link nodes should be defined here. Only place a definition
   ; for your local nodes, and private (off of Allstar link) nodes here.
   58001 = radio@127.0.0.1/58001,NONE          ; 127.0.0.1 is localhost loopback
   58000 = radio@192.168.1.101:4569/58000,NONE  ; IP and port of other local server
   ```

9. Restart Asterisk. May need to Reboot to change the hardware/Raspi configuration.
   • Reference https://hamvoip.org/howto/multi-server-howto.pdf

10. Life is good. Enjoy!

©Dr. Marc, NM0D