

LINUX RMS GATEWAY

BASIL GUNN N7NIX, JUNE 2017

[HTTPS://GITPITCH.COM/NWDIGITALRADIO/RMSGW/](https://gitpitch.com/nwdigitalradio/rmsgw/)

HISTORY

- First entry in history file October 5, 2004

AUTHORS

- Hans-J. Barthen - DL5DI
- Brian R. Eckert - W3SG

WHAT IS LINUX RMS GATEWAY?

- RF to Internet gateway to the Winlink 2000 ham radio email system.

USE CASE

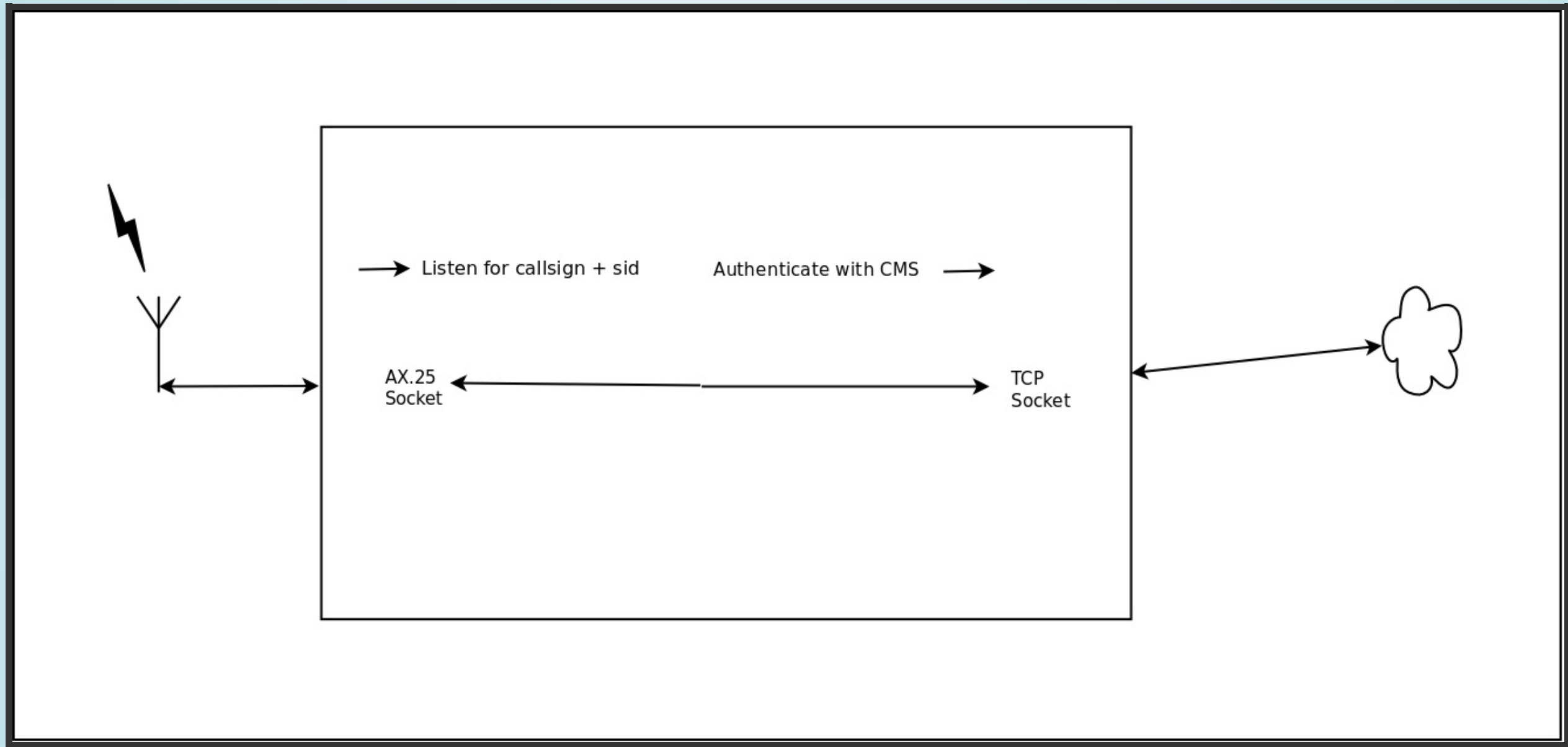
- RPi on all the time with dedicated radio, runs headless
 - paclink-unix used to email daily reports
 - Use ssh for config & maintenance

DEFINITIONS

- CMS - Common Message Server
 - Provides email, telnet, bulletin & position reporting service
 - Perth, Wien, Halifax, Brentwood, San Diego
- RMS - Radio Message Server
 - Gateway from a Winlink station via radio to a CMS over the Internet

HOW DOES IT WORK?

- Using ax25d, Gateway listens for specific callsign & ssid (N7NIX-10)
- Gateway starts a connection between RF Client & CMS
 - Performs login "chat" & authenticates to CMS
 - Pass traffic until one end of connections goes away



INSTALLATION

- Use a compass lite image - headless, no window manager
 - https://nwdigitalradio.com/images/s3.amazonaws.com/image_2017-04-23-compass-lite.zip
- Use Install scripts then configure scripts
 - start here
<https://github.com/nwdigitalradio/n7nix>
- Charles Schuman K4GBB has excellent notes & install scripts for the Raspberry Pi [here](http://k4gbb.no-ip.org/docs/raspberry.html)
 - <http://k4gbb.no-ip.org/docs/raspberry.html>

HARDWARE REQUIREMENTS

- Radio 2M/220/440
- Raspberry Pi on 24/7
 - Can be headless
- Internet connection

CONFIGURATION REQUIREMENTS

- Call sign
- Grid square
- Winlink password
- City, State
- Frequency ie. 145690000

GRID SQUARE LOCATOR MAP

- http://www.levinecentral.com/ham/grid_square.php
 - 414 N Prom, Seaside, Or. 97138
 - CN85ax

CONFIGURATION FILES IN /ETC/RMSGW/ DIRECTORY

- channels.xml
- gateway.conf
- banner

CONFIGURE WITH SCRIPT

- Core (direwolf, ax25) must be config'd first
- As root run core config from *n7nix/config* dir

```
cd n7nix/config  
./app_config.sh core
```

- As root run rmsgw config from *n7nix/config* dir
 - then reboot

```
./app_config.sh rmsgw  
shutdown -r now
```

CMS WEB SERVICES

- CMS Web services
 - <http://server.winlink.org:8085/>
- Web services operations
 - <http://server.winlink.org:8085/operations/metadata>

WINLINK WEBSERVICE CALLS - XML

- Maintain sysop XML record on Winlink
 - getsysop.py
 - mksysop.py
 - updatesysop.py
- Updates Winlink databases
 - updatechannel.py
 - updateversion.py

WINLINK WEBSERVICE CALLS - RMS

- Get nearby RMS station information using cURL
 - gatewaylist.sh
 - rmslist.sh

VERIFY INSTALL/CONFIG
CHECK CORE CONFIG

```
cd  
cd bin  
./ax25-status
```

VERIFY INSTALL/CONFIG - CON'T

RMSCHANSTAT

Usage: /usr/local/bin/rmschanstat <type> <name> <call>

- **Note:** *call* is case sensitive

```
rmschanstat ax25 udr0 N7NIX-10  
channel udr0 with callsign N7NIX-10 on interface ax
```

VERIFY INSTALL/CONFIG - CON'T

RMSGW_ACI

- Automatic check-in to Winlink using crontab
- Usage:
 - `rmsgw_aci -h`
 - `rmsgw_aci [-c configfile] [-l logmask]`
- `man rmsgw_aci`

```
sudo su  
rmsgw_aci -l debug  
channel udr0 with callsign N7NIX-10 on interface ax0 up
```

CRONTAB

- As root, check crontab

```
crontab -u rmsgw -l
```

- Should look like this:
 - Runs automatic check-in twice an hour

```
# m h dom mon dow  command
17,46 * * * * /usr/local/bin/rmsgw_aci > /dev/null 2>&1
```

VERIFY INSTALL/CONFIG - CON'T
CHECK WINKLINK WEBSITE

- Verify your callsign in <http://winlink.org/RMSChannels>
 - click on packet & zoom in to your location

VERIFY INSTALL/CONFIG - CON'T

LOG FILES

- Log files `/var/log/rms` also `/var/log/rms.debug`
 - log level & rotation setup in script
 - `n7nix/rmsgw/config.sh`

```
tail -f /var/log/rms.debug
```

RUNNING AN RMS GATEWAY

- Winlink expects an RMS Gateway to run 24/7
- Check logs daily using cron, script and email
 - <https://github.com/nwdigitalradio/n7nix/tree/master/d>
- Install it with this script

```
sudo su  
cd n7nix/debug  
./wl2klog_install.sh
```

WHERE TO GET HELP

- man pages
- Forums
- Charlie Schuman K4GBB
- Google Fu

MAN PAGES

- cms-hosts
- getsysop.py
- mksysop.py
- rms-channels
- rms-config
- rmsgw
- rmsgw_aci
- updatesysop.py

FORUM

- <https://groups.yahoo.com/neo/groups/LinuxRMS/info>

INTERNET SITES

CHARLIE SCHUMAN K4GBB

<http://k4gbb.no-ip.org/docs/raspberry.html>

NW DIGITAL RADIO

<https://github.com/nwdigitalradio/rmsgw>

<https://github.com/nwdigitalradio/n7nix/tree/master/rmsgw>

GOOGLE FU

- Gene Spafford description of Usenet:

Usenet is like a herd of performing elephants with diarrhea -- massive, difficult to redirect, awe-inspiring, entertaining, and a source of mind-boggling amounts of excrement when you least expect it.

THAT'S IT

- This presentation is a GitPitch & can be found here:

[HTTPS://GITPITCH.COM/NWDIGITALRADIO/RMSGW/](https://gitpitch.com/nwdigitalradio/rmsgw/)