WINLINK RADIO E-MAIL

SENDING EMAIL VIA RADIO AND INTERNET

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WHAT IS WINLINK

- Formally Winlink Global Radio Email, also known as Winlink 2000 Network

- worldwide radio messaging system that uses amateur-band radio frequencies and government frequencies to provide radio interconnection services that include email with attachments, position reporting, weather bulletins, emergency and relief communications, and message relay. The system is built and administered by volunteers and is financially supported by the Amateur Radio Safety Foundation Inc., an American public-benefit entity and 501(c)(3) non-profit organization.[1].

- Winlink only supported on Windows Vista and current release

- There is some development on Raspberry Pi, but I found it very complicated. See YouTube videos by KM4ACK

WHO USES WINLINK

- 10,000+ sailors
- Contingency communications for many government agencies
- Used by the Red Cross, Southern Baptist Disaster Relief, DHS tiered AT&T Disaster Response & Recovery, FedEx, Bridgestone Emergency response Team, etc….
- And of course ARES organizations. Very popular in other parts of the country
- Anyone who doesn't have normal access to the internet
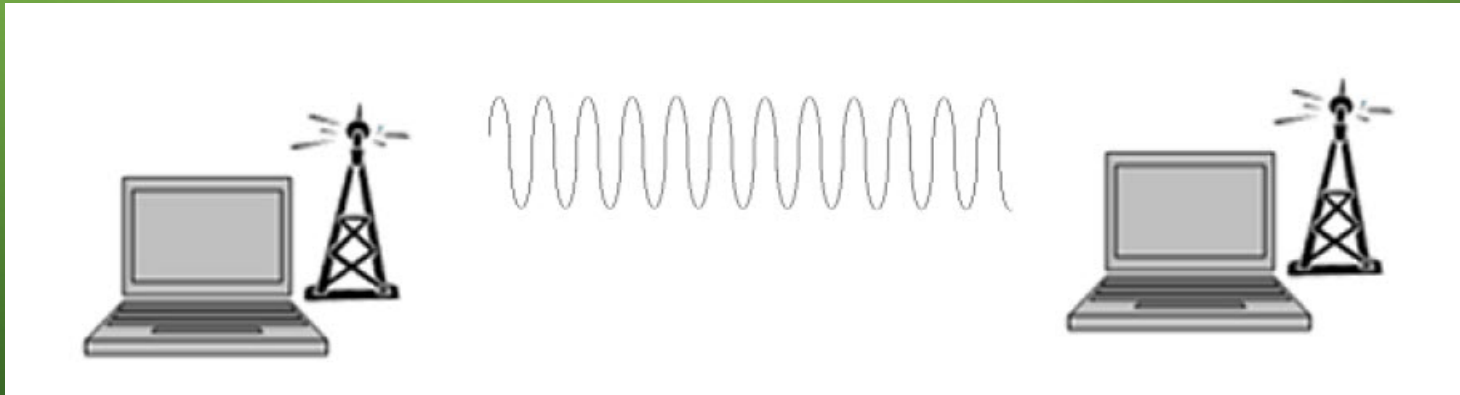
DIGITAL COMMUNICATION OPTIONS

- FLDIGI
  - One to many
  - no error correction.

- Winlink
  - One to many.
  - Store and forward
  - Error correction

WINLINK OPERATING MODES

- Peer to Peer or computer to computer, Similar to fldigi

- Mesh networks

- Conventional system that stores messages on Common Message Servers (CMS) "Backbone" servers. Similar to sending an traditional internet email where it gets stored on a server until it is retrieved.

PEER TO PEER

- Direct radio connection between end-users
- Internet is not used, all communication by radio
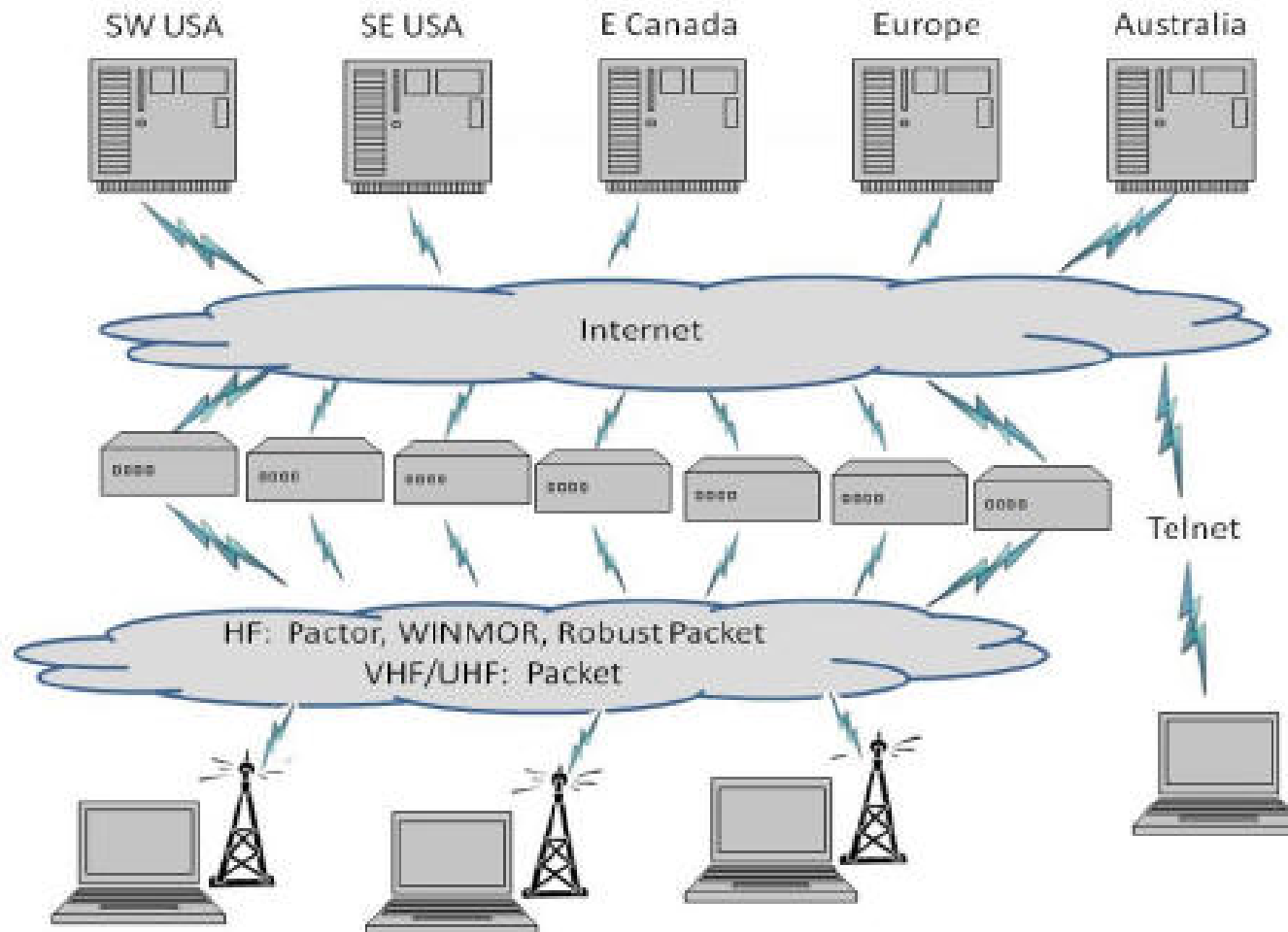- 100% error free transmission and file attachments

Winlink Normal Network Operation

CMS

RMS (gateways)

Client (you)

SW USA   SE USA   E Canada   Europe   Australia

Internet

HF: Pactor, WINMOR, Robust Packet
VHF/UHF: Packet

Telnet

CONNECTION MODES

- HF Pactor 1,2,3 and 4 – Fast and reliable but requires an expensive modem ($1500+ new)

- HF using - audio interface such as RIGblaster or Signalink.

- VHF/UHF Packet – requires special modem that can cost upwords of $400

- Telnet – non-radio connection through the internet. Good for training and when a radio is not available.

HF SOUND CARD INTERFACE MODES

- Winmor – expected to be phased out for fastester and more robust modes, such as………..

- Ardop - Amateur Radio Digital Open Protocol – 300 baud

- VARA - Milspec digital mode adjusted for the U.S. HF (or VHF) ham bands – 300 baud

WINLNK BENEFITS

- Locations without internet.

- CMS servers able to bridge to internet to send email

- Store and forward messaging

- Peer to peer messaging.

- Interoperability – world wide usage
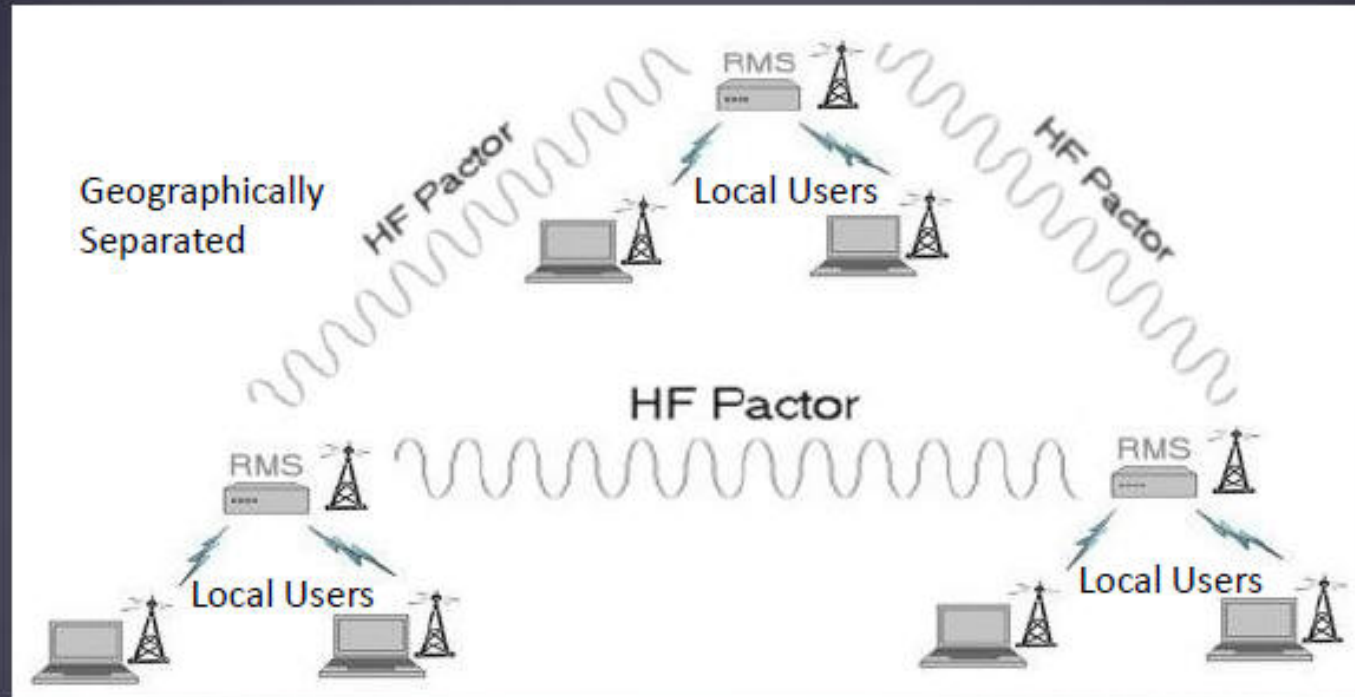
WINLINK VS FLDIGI/FLMSG

- Not limited to station to station propogation

- Automatic message compression/decompression

- Winlink has forms just like FLMSG, but a lot more of them, including Red Cross, ARRL, FEMA, ICS (Incident Command System), HICS (Hospital Incident Command System), radiograms, SATERN (Salvation Army Team Emergency Radio Network, and many more.

- Ability to send attachments (Pictures, PDF, spreadsheets)

- You can request read receipts confirming the person you sent to receives the email.

- Ablity to send to regular email addresses of hams and non hams outside of the effected area provided they have internet access.

- Message logging and ICS report generation of ICS-309 communication log.

DOESN'T NEED THE INTERNET

- It uses the internet when available, but doesn't rely on it

Winlink Radio-Only Network
Local networks connected by HF, regional or long distance

PI-GATE

- Emergency email gateway using a Raspberry Pi

- The PiGate is a small piece of hardware that can be brought into a disaster area, connected to an already existing VHF or HF amateur radio and antenna (like in your car or truck), and used to send e-mail to the global Winlink2000 system through a Radio Message Server (RMS) station.

- Users connect to the PiGate thru a WiFi port either using a web browser, or an e-mail application, on their smartphone, tablet, or laptop. From there they can compose and send e-mail to their family and friends.

GETTING STARTED

- Visit Winlink.org and download Winlink Express. It is listed under User Programs

- When you start it for the first time it will take you through the registration process

- You don't have to register to use it, but if you start using it I would register $24

- Your winlink email will be <callsign>@winlink.org

SENDING EMAIL FROM OUTSIDE WINLINK

Note: When sending a message from an external e-mail system such as Gmail, Yahoo or Comast to a Winlink address, you should put "//WL2K" at the front of the subject. This is required to keep the Winlink system from blocking the message as spam. For MARS operation, put "//MARS" at the front of the subject and include the appropriate MARS message priority code. You do not have to use this when sending messages through Winlink to external addresses.

MORE INFORMATION

- www.winlink.org

- http://www.pigate.net