

Winlink 2000 (UHF/VHF)

ARES District 24 Digital Workshop
February 23, 2008

Presented by:

David Markham (W0CBI) – EC

Emit Hurdelbrink (W0UAW) – AEC

Arapahoe County ARES District 22

Agenda

- Purpose
- Terminology
- Topology
- Client Software
- Extending the range/host to host
- Demonstration
- Questions
- Information resources

Winlink 2000

- Purpose
 - To transport email via multiple paths to/from the “field” using Amateur Radio and the internet.
 - Radio Frequencies (normally simplex)
 - UHF (9600 baud)
 - VHF (1200 baud)
 - HF (Pactor1, Pactor2, Pactor3)



Terminology

What are we talking about

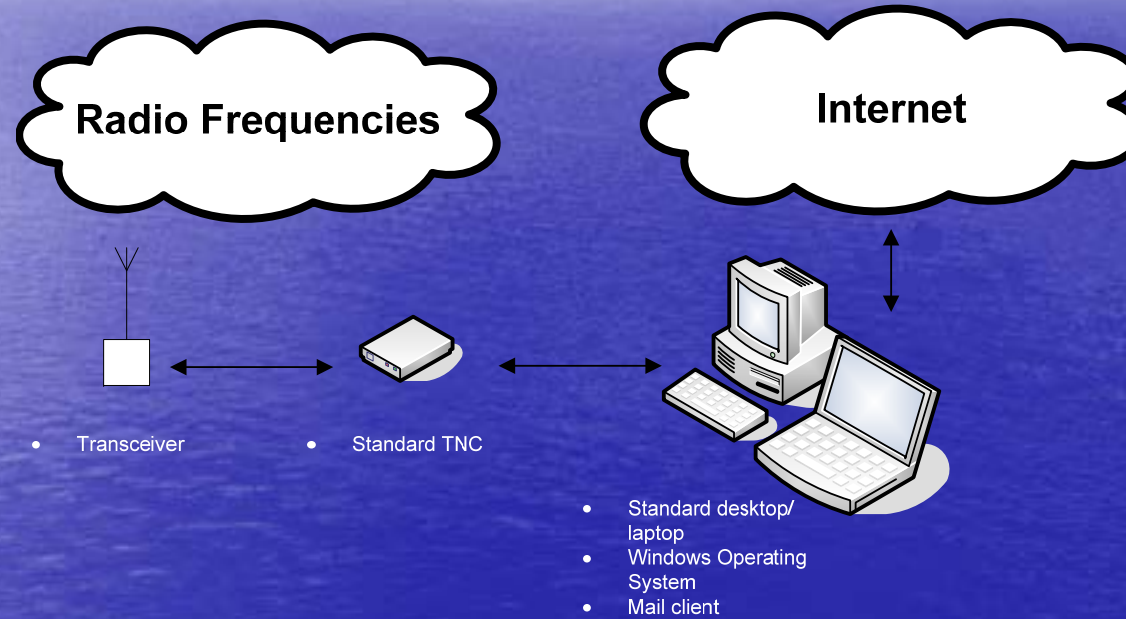
Terminology

- CMS – Central Message Server
- **Telnet Packet (Telpac)***
 - Local resource (bridge) between RF and the internet
- RMS – Radio Message Server (Beta testing)
 - Local resource (bridge) between RF and the internet.
- **Participating Mail Box Office (PMBO)***
 - Messages stored locally and forwarded to the CMS servers.
- RMS Relay (not released yet)
 - Messages stored locally and forwarded to the CMS servers.
- Client
 - Desktop/laptop running email software

* Early technology being replaced.

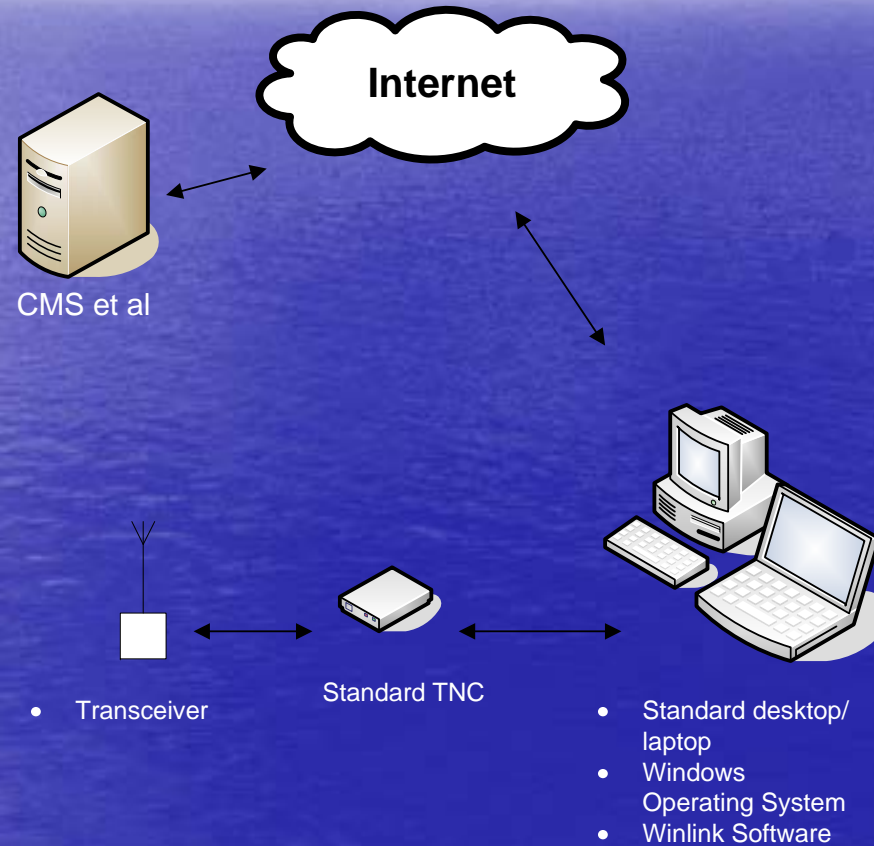
Client

(Local Resource)



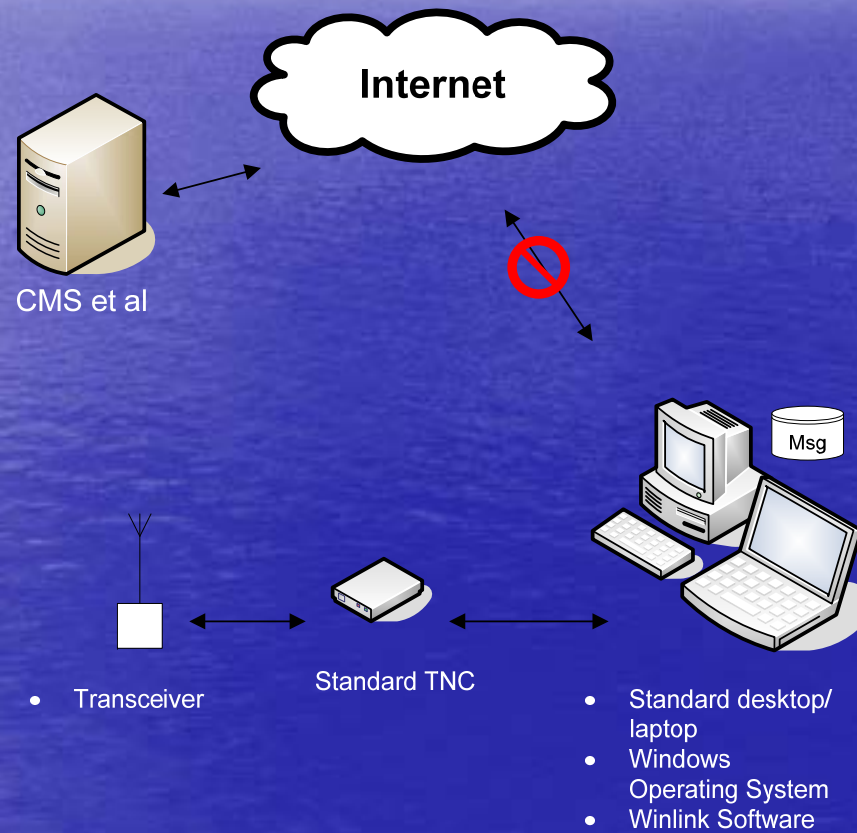
RMS/PBMO

(Local/automated)



RMS/Relay

(Local Resource)

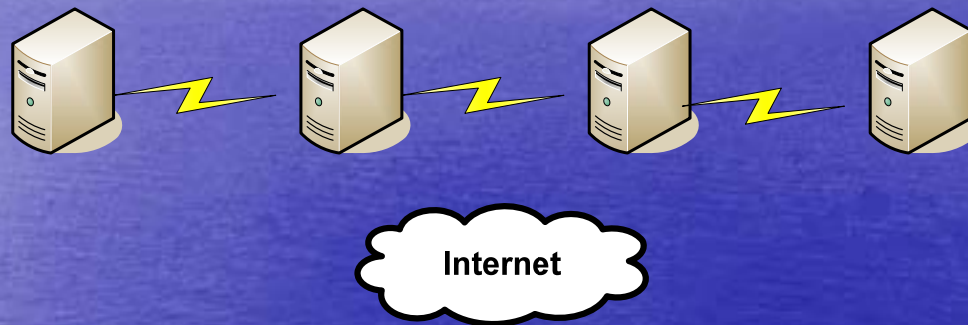




Topology

Putting it all together

Topology - Layer One



Central Message Servers

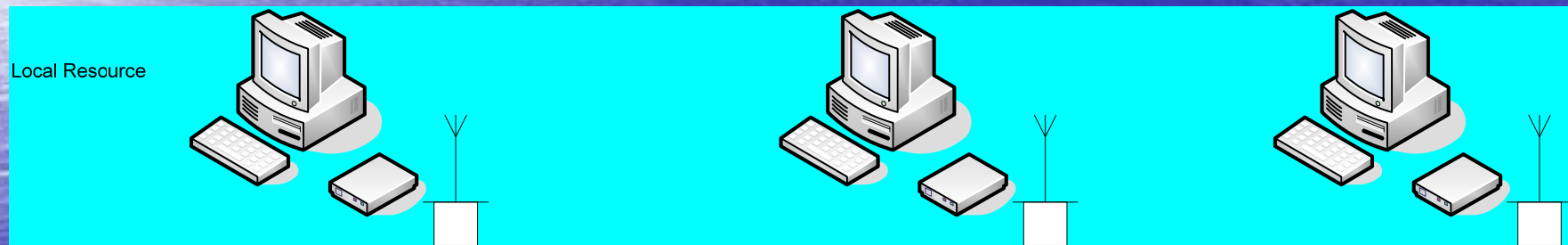
Washington, DC

Perth, Australia

Halifax, Canada

San Diego, CA

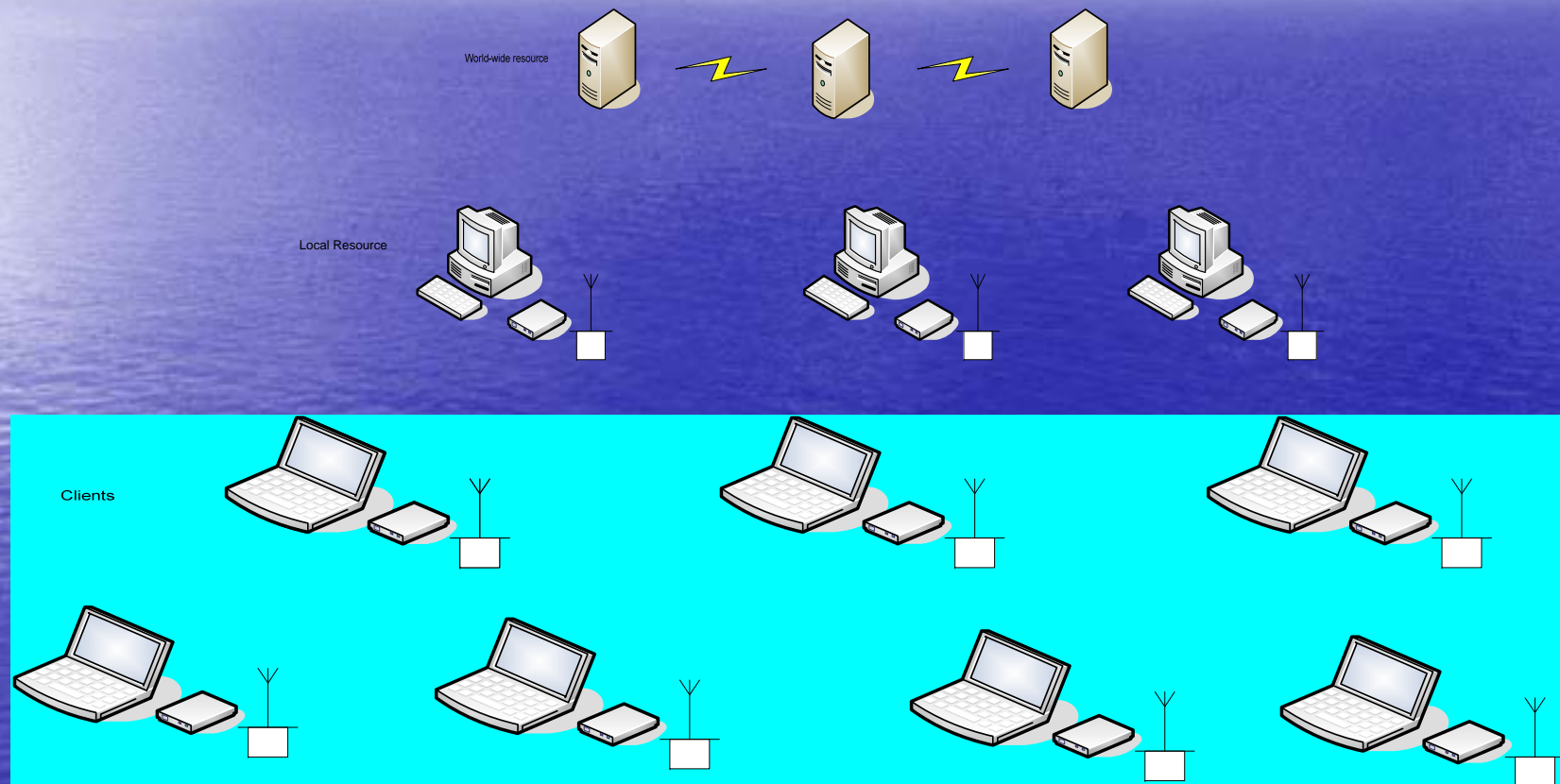
Topology – Layer Two



PMBO or Radio Message Servers

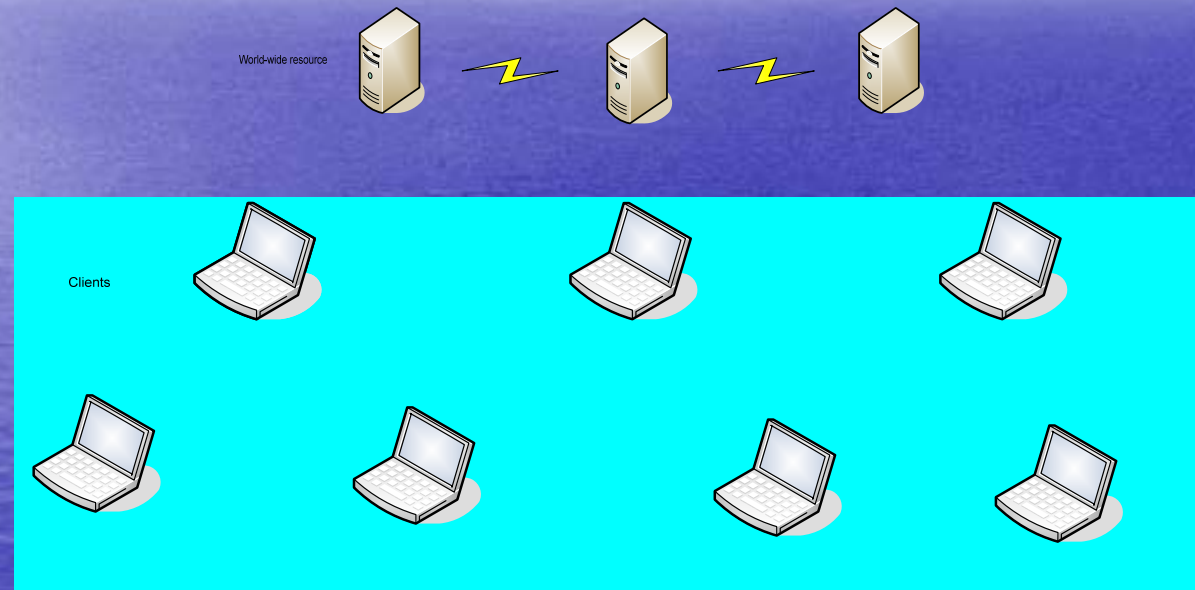
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AIOW-10

Topology – Layer Three



Personal Computer, TNC, Radio, email software

Topology – Internet Client



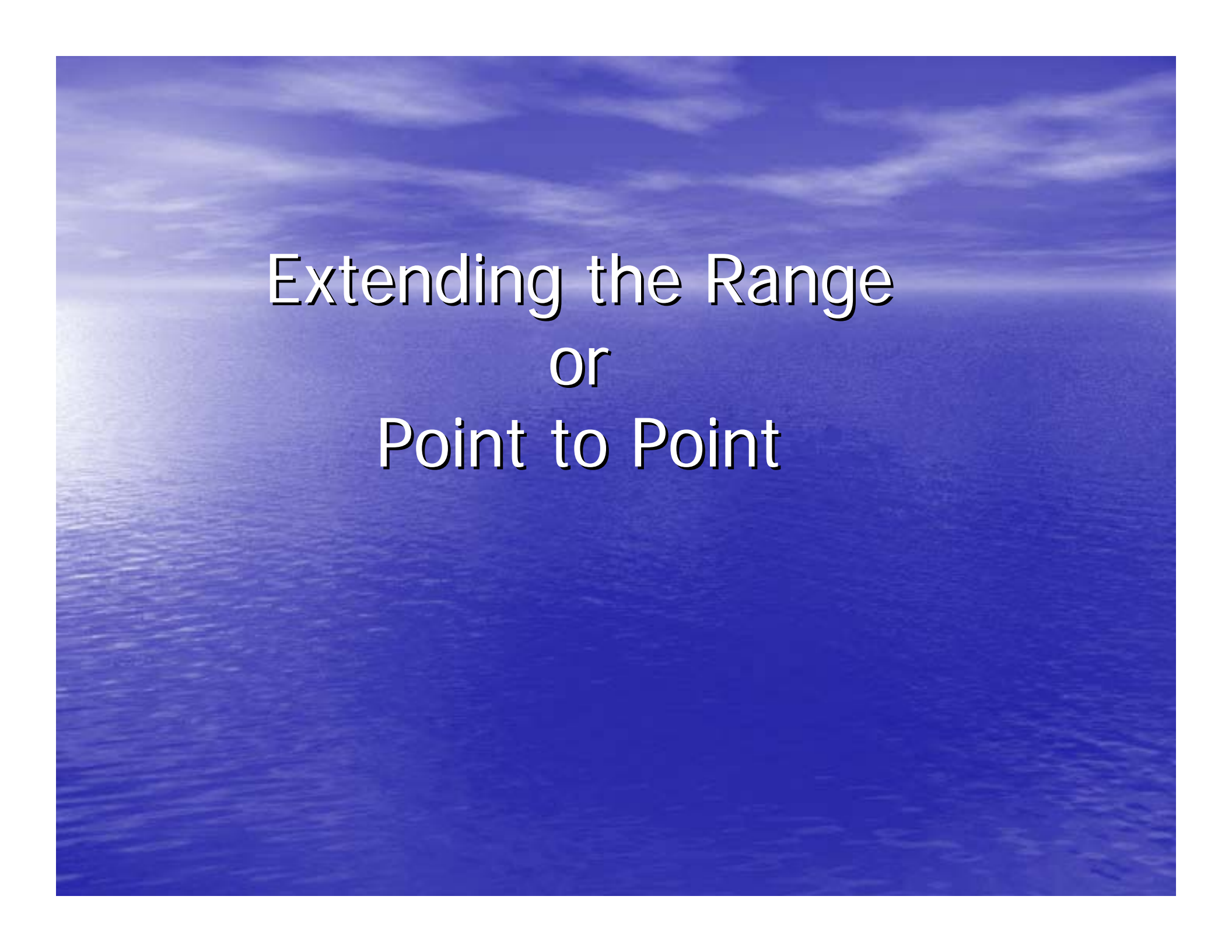
Some Clients (Airmail/Web browser) can access CMS directly through the internet.



Software

Software

- RMS/PMBO
 - RMS Packet (UHF/VHF)
 - RMS Pactor (HF)
- Client
 - Airmail
 - Outpost
 - Outlook/Outlook Express
 - Additional software required



Extending the Range
or
Point to Point

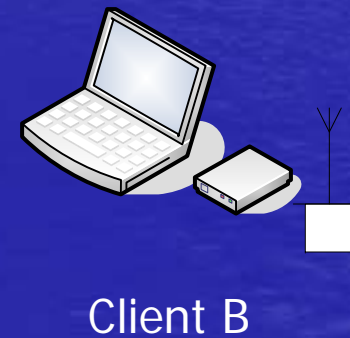
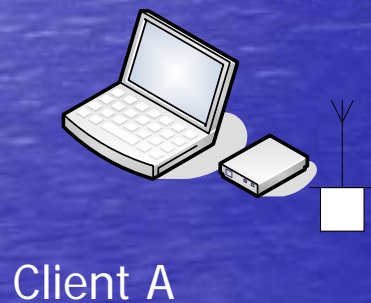
Digipeating

- Can use other TNC to connect/relay to Telpac/RMS nodes or client node



Node to Node

- Direct connection to another node
 - UHF/VHF/HF



Information resources

- Winlink 2000
 - www.winlink.org
- Outpost
 - www.outpostpm.org
- Yahoo Groups
 - Winlink2k
 - PaclinkPM
 - Outpostpacket
- Airmail
 - www.airmail2000.com

A blue-tinted photograph of a vast ocean under a cloudy sky. The word "Demonstrations" is centered in white text.

Demonstrations



Questions



Is it here to stay?

-----Original Message-----

From: Hennigan, Joe

Sent: Friday, March 09, 2007 11:13 AM

To: Chief, Army MARS

Subject: The Department of Homeland Security Sponsorship of Winlink 2000 for the Military Affiliate Radio System.

The Department of Homeland Security (DHS), Operations Coordination Directorate (OPS) has made great strides over the last 3 months in support of the Military Affiliate Radio System (MARS). In cooperation with Army MARS, and DHS Transportation Security Agency, DHS Operations Coordination Directorate (OC) has installed a WinLink 2000 system, to include hosting one of four redundant, mirror image, Common Message Server (CMS) Hubs, a Radio Message Server (RMS,) and end-user client applications for HF Operations.

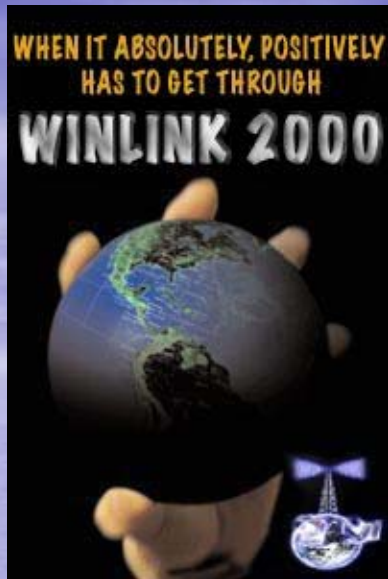
WinLink 2000 is a COTS application suite, allowing users the ability to extend an e-mail capability and GPS Positioning data between an HF Radio and the internet. DHS has the capability to literally pass data from anywhere in the world, no matter how austere. DHS is one of many Government Agencies with HF radio capabilities, but this particular solution provides DHS with a unique set of extended capabilities.

The WinLink 2000 system consists of many different components, making it very stable and reliable in times of need. WinLink 2000 is utilized by many Emergency Response Agencies, including the Department of Defense (DoD). The MARS Winlink 2000 radio messaging system can both be contacted through this application via conventional HF/VHF/UHF radio communications, or via standard e-mail through the MARS Winlink 2000 radio e-mail system, to any number of operators throughout the world to get messages promptly delivered where normal standard e-mail does not exist. This is critical to any emergency response requirement.

This capability is proof positive of the DHS's commitment to enhancing emergency communications.

Best regards,

**Joe Hennigan,
Director, Technology Support
Operations Coordination Directorate
Department of Homeland Security**



Thank you!

WOCBI - ec@arapahoears.org

WOUAW - administration@arapahoears.org

