EMERGENCY MEASURES RADIO GROUP	**EMERGENCY MEASURES RADIO GROUP**
AMATEUR RADIO RAC EMERGENCY SERVICE	**OTTAWA ARES**

Two Names - One Group - One Purpose

Amateur Radio Data Communications

Ottawa ARES Views & Plans

CLIENTS

Clients are the groups or organizations who actually use ARES services;

- City of Ottawa, Dept of Community Services
- Ottawa Red Cross
- Ottawa Salvation Army
- Ottawa Hospitals

Our clients do not depend on Email for emergency communications, so a backup email solution is not a requirement.

PARTNERS

Partners are groups or organizations who ARES reports to, or who support ARES services;

- Office of Emergency Management (OEM)
- Ottawa Fire Services (OFS)

The City of Ottawa is not looking for ARES to provide a backup email solution. If a backup solution is required, they will provide their own.

STATUS OF DATA COMMUNICATIONS IN OTTAWA

- No clients have requested data services from ARES.
- Ottawa ARES recognizes that voice networks are not efficient for moving large amounts of information, so data services would be useful.
- Data communications is viewed as non critical. Voice will be used for all critical communications.
- Data communications is not part of the Ottawa ARES 2008 plan.
  - Work will continue, as time permits, on improving the packet infrastructure and our understanding of data communications.

DATA REQUIREMENTS

- Communications is within the local Ottawa area, although “rest of world” connectivity could be a nice feature to have.
- The ability to move files is nice to have.
- Any data communications solution must remain functional if Internet connectivity is lost.
- Data communications must not depend on the use of client computers or computer networks.
  - Clients may not have computers available. (i.e. No computer at the table in the board room, or no computer in a shelter)
  - If there is a computer, users may not have admin rights to add software and the client network may be the problem.

DATA REQUIREMENTS

- The end user computer must be co-located with the clients, the same as voice.
  - Requires solutions for sealed buildings
- The packet network must be dedicated for Emergency Communications, meaning no automated end user systems. (Need clear channel)
- The user interface must be simple to operate, so it can be used directly by client staff.
  - Keyboard to Keyboard communications using packet is a solution of last resort.

SOLUTION CONSIDERATIONS

- Ottawa ARES will focus on 1200 baud VHF Packet to provide data communications.
- Soundcard packet is not viewed as robust enough for emergency communications
- DStar is not viewed as a viable solution at this time
  - There is a DStar 1.2GHz data repeater in Ottawa, however significant cost, only 1 repeater and its robustness is unknown, DStar is not useful for Mutual Aid.
- HF for Winlink is not viewed as a viable solution
  - The cost and complexity of setting up HF stations for each location, or setting up an HF gateway with local routing.
  - The need to send each message twice in order to provide local coverage. (Send message out on HF and get it back on HF).

PC CONDISERATIONS

- Computers need occasional Internet access, for install of some applications and updates
- Need to think about new minimum HW/SW baseline for current applications: P3 1GHz 256K RAM, Win 2K or XP OS
  - Pentium 1 & 2 hardware becoming obsolete.
    - Not enough memory, processing too slow, can't support required operating systems. Includes laptops and fixed site PCs.
  - Windows 95/98 OS becoming obsolete.
    - Current generation of applications using software components that don't run on less than Win2K/XP
- Printers - $100 Laser printers may be an option

APPLICATIONS BEING INVESTIGATED IN OTTAWA

OUTPOST

- Automated connectivity with point to point connections, BBS Mailbox and Winlink text emails.
- Simple, robust BBS option

WINLINK (Telpac, Paclink, EPMBO)

- Supports email with attachments
- Needs supporting gateway infrastructure

AGW Packet Engine

- Supports multiple users and multiple TNCs, allowing sharing of TNCs on same PC or over a network
- Supports TCP/IP over radio (If required)

HARDWARE TO BE INVESTIGATED IN OTTAWA

Kantronics KPC3+ BBS

- Supports multiple user BBS with tactical callsigns
- Low power, simple, portable

Multi-TNC

- More than 1 TNC per radio (Support KISS & Non KISS)

TNC-X

- KISS Mode TNC for about $120 CDN

WiFi

- Extend data (and voice) over LAN

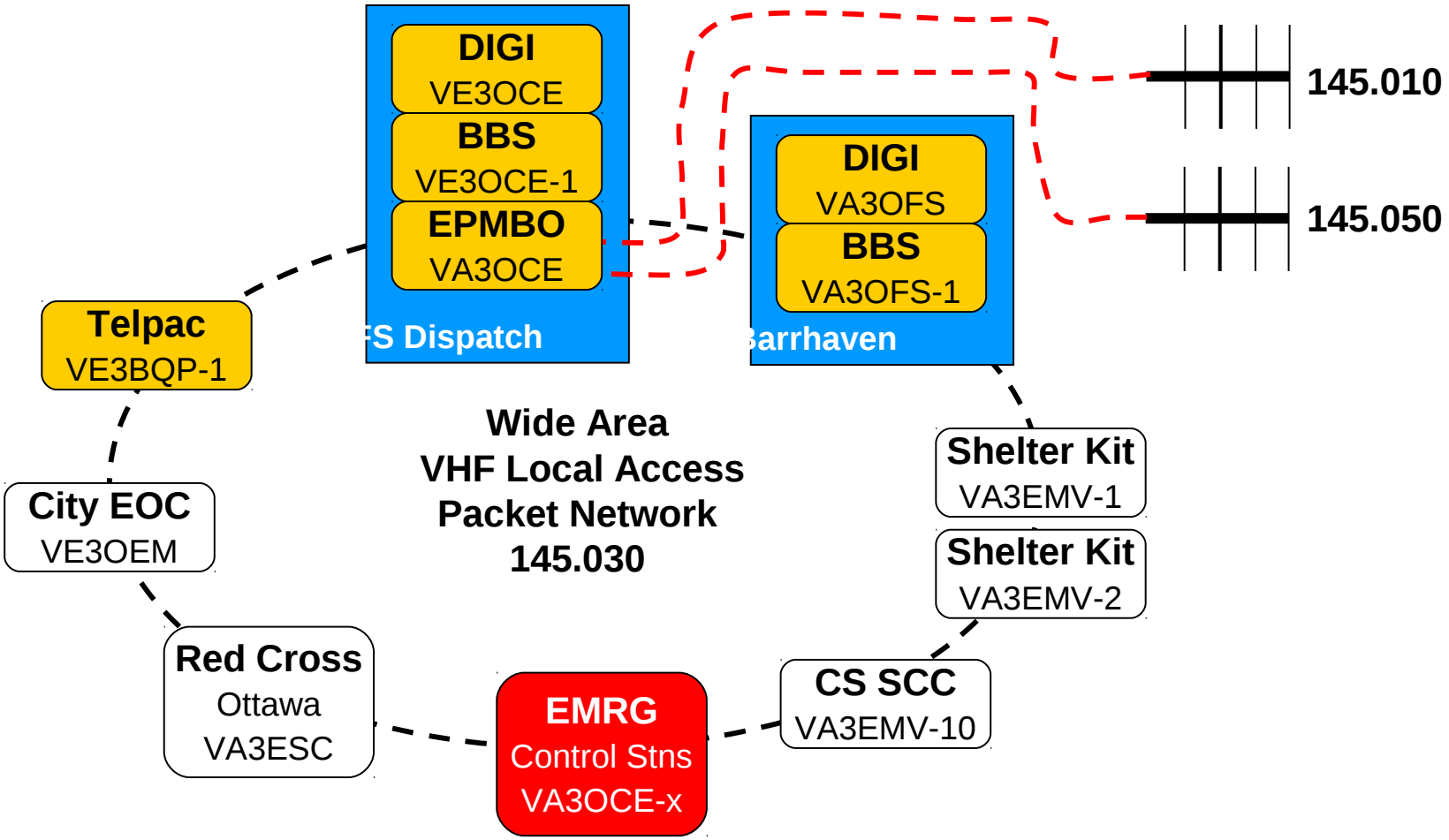
RS232 Extensions

- Bluetooth & LAN wireless RS232 extension

EPMBO

- Currently installing an EPMBO which is like a Telpac gateway with local routing capability if Internet connectivity is lost.
- Includes P4 3GHz PC with 1 GB RAM, Windows XP Pro, High speed internet with static IP address and UPS backup.
- Currently located at VE3BQP, but planned to move to OFS dispatch once Internet access is resolved.

PROPOSED NETWORK



Possible Shelter Data Solution