Outpost

packet message manager

Packet Radio and
Emergency Communications

Sacramento Valley ARES Conference
8 March 2008

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Topics

1. Introduction
2. Overview
3. Feature Alignment to…
   - The environment
   - Operational policies
   - Our mission
4. Where to find more information
5. Questions

Introduction

Outpost Packet Message Manager

The Situation…

- Santa Clara County Operational Area uses packet messaging as a backup to California's internet-based Response Information Management System (RIMS) for collecting city status.
- For Cupertino ARES (CARES), we have very little packet expertise because…
  - the TNC/BBS command learning curve is too great,
  - the frequency of use (drills or hobby) is too infrequent, and
  - the interest in packet radio by CARES members is too low
- Other cities within the county said they had the same problem.

Introduction

Outpost Packet Message Manager

Overall Design Goals…

1. Hide the native packet environment complexity; shorten the learning curve
2. Provide an MS Windows-based packet messaging client
3. Automate the packet message handling environment
4. Create a program that behaves like your work or home email client…
   …create, send, receive, read, delete, reply to, or forward messages
5. Support the response efforts and requirements of our local municipalities and served agencies

Introduction

Outpost Packet Message Manager

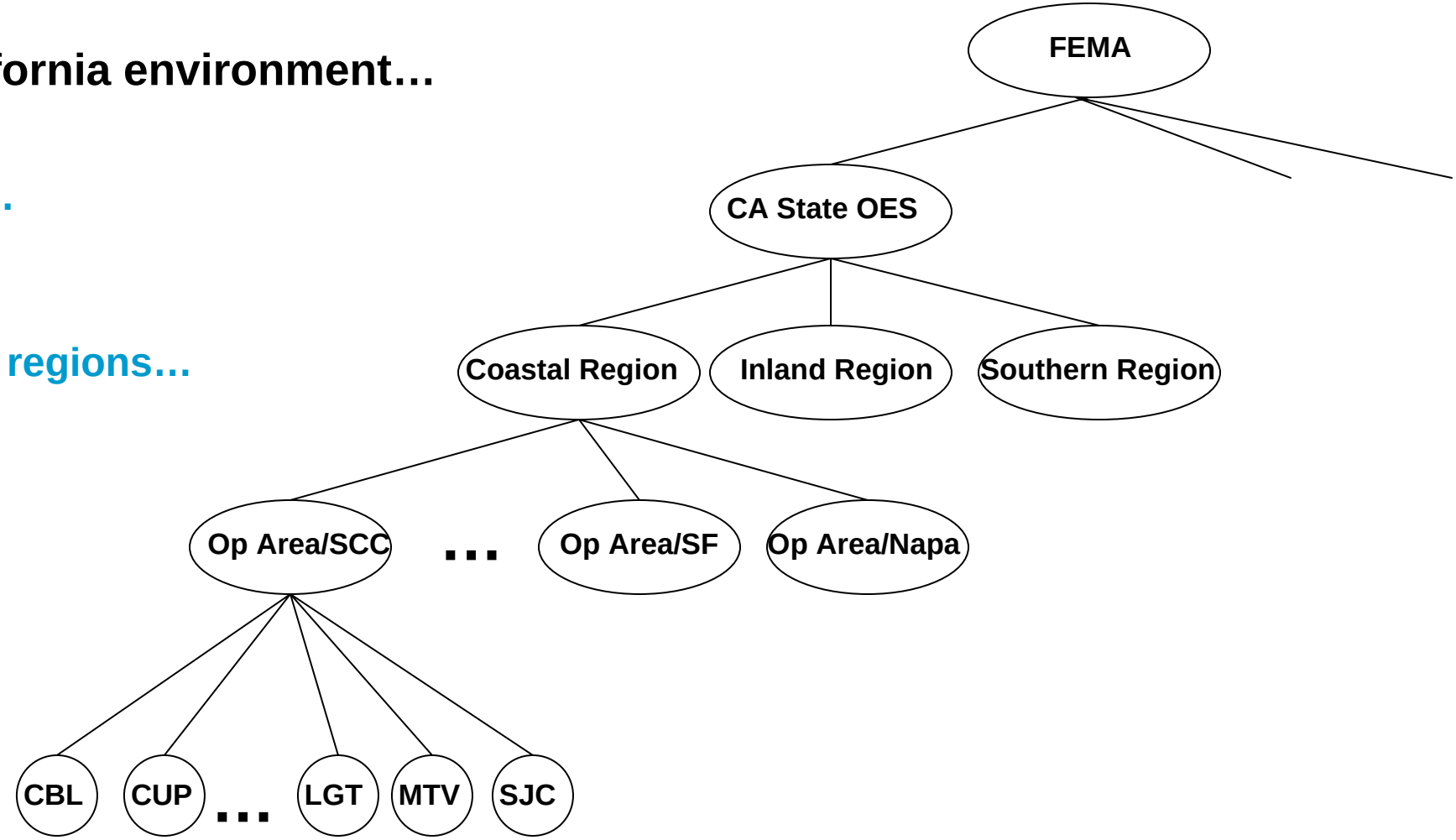
The California environment…

State OES…

Three state regions…

Counties…

Local Level towns and cities



Overview

Outpost Packet Message Manager

What is Outpost?

- A Windows-based packet messaging client
- Supports ARES, RACES, and other amateur radio emergency response teams and their need to pass digital traffic
- Helps automate the packet message handling environment
- Manages all message-handling between you and the BBS
- Lets you read, delete, create, reply to, or forward messages back to the BBS

Overview

Outpost Packet Message Manager

Why use Outpost?

- **Leverages your existing packet hardware and BBS infrastructure**
  - Uses your existing TNC and packet radio equipment
  - Compatible with many existing BBSs and TNC PBBSs
  - Only your packet client (end-user program) changes
- **Hides the complexity of the packet operating environment**
  - Similar look and feel to contemporary email programs
  - Shorter learning curve for packet operations
  - Allows users to… "*focus on the message, not the medium*"
- **Implements most local emergency management policies for digital communications**

Overview

Outpost Packet Message Manager

Feature highlights

- **Message support**
  - supports Private, NTS, and Bulletin messages
  - text formatting in a free-form message window
  - NTS Message Maker with an ARL message wizard
  - On-line report builder
- **Send/Receive Session (connection) control**
  - supports Serial, AGWPE, and Telnet access to over 20 PBBS and BBSs
  - controls connecting, sending messages to and retrieving messages from the BBS
- **Configurations and Setups**
  - BBS, TNC, and Interface configurations
  - message type and retrieval options
  - supports 3 ways for automatically initiating send/receive sessions

Overview

Outpost Packet Message Manager

Mission

The Outpost *Packet Message Manager* program supports the Emergency Communications community with a contemporary amateur radio packet messaging client that allows users to focus on the message, and not on the medium.

Goal

Help get local ARES/RACES teams on the air with digital messaging using their existing hardware and BBS infrastructure.

Overview

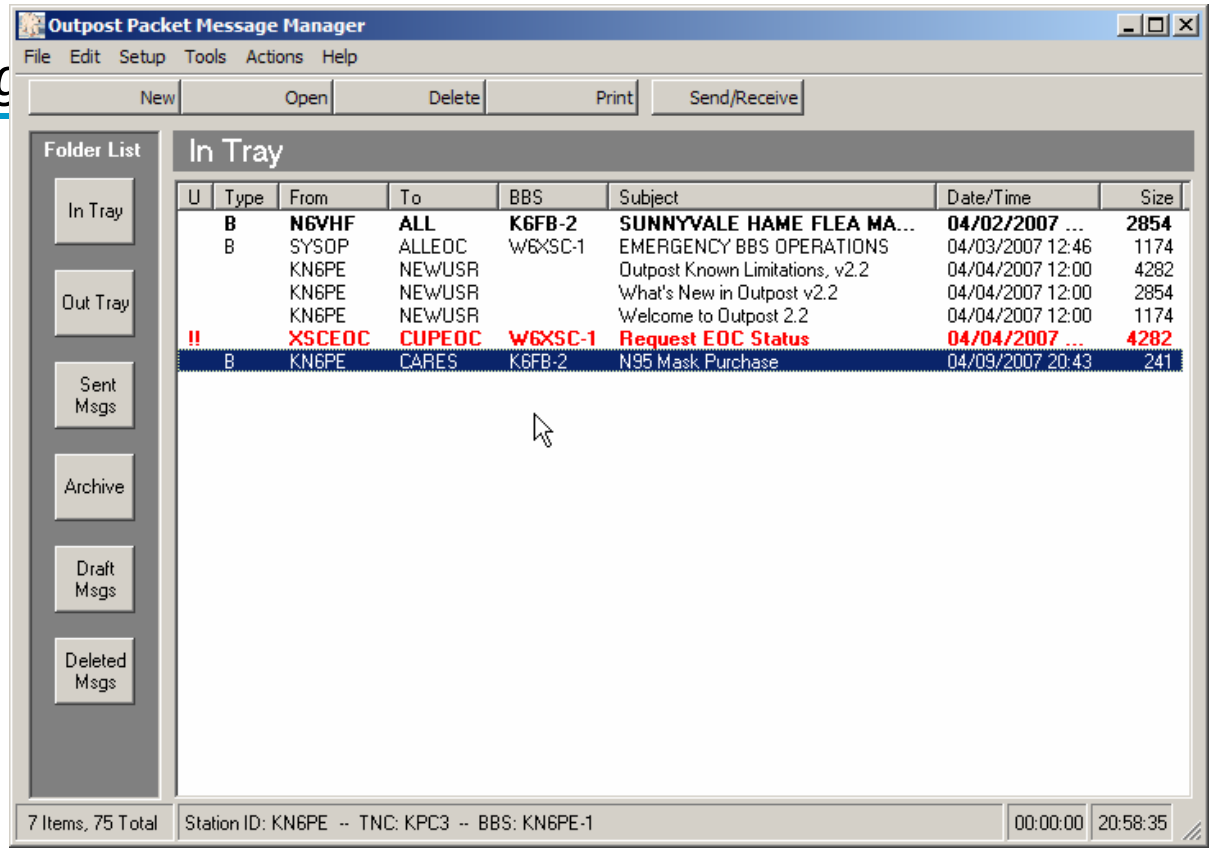
Outpost Packet Message Manager

History

• Commenced Development…	November 2002
• v0.95; Beta Release…	May 2003
• v1.0; First Release…	October 2003
• v1.1; enhanced look and feel…	March 2004
• v1.2; on-line reports, MSYS BBS support…	May 2004
• v1.3; collaborative messaging…	December 2004
• v2.0; AGWPE and telnet support…	June 2005
• v2.0.4; NTS extensions, other enhancements…	February 2006
• v2.1; Tactical Calls, NetRom/KA-Nodes…	October 2006
• v2.2; Telpac/WL2K, enhanced BBS support…	April 2007
• v2.2.1; more BBSs, error handling…	February 2008

Overview

Outpost Packet Message Manag



Message support

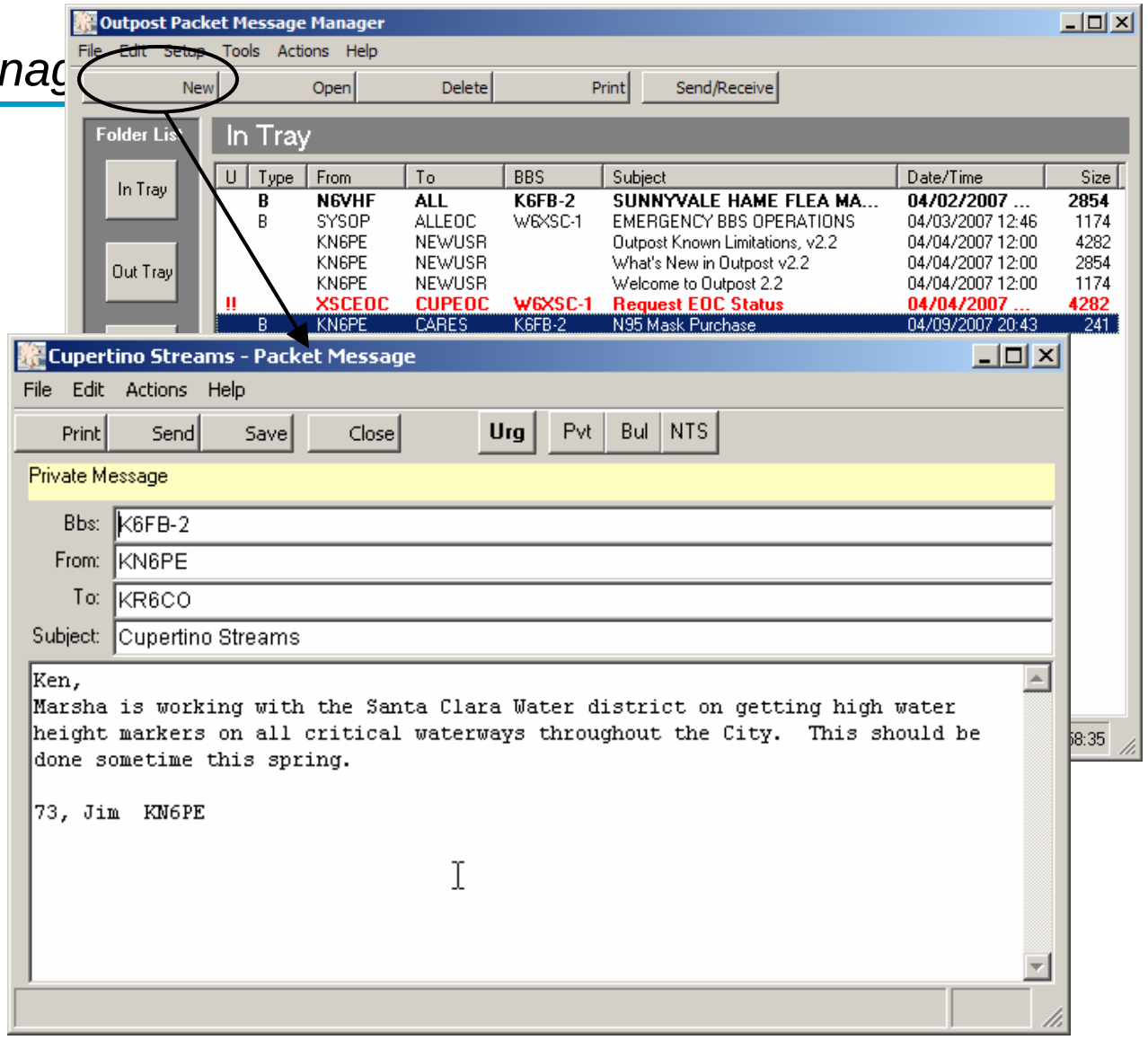
- Familiar email-app look & feel
- Separate folders for message storage
- Clear message identification (unread=**BOLD**, urgent=**Red**)
- Formal message workflow
- BBS and interface setups
- Additional settings control how Outpost behaves

Overview

Outpost Packet Message Manag

Creating Messages

- Supports Private, Bulletin, and NTS message types
- Message formatting before sending
- Set messages to **Urg**ent
- Request delivery or read receipts
- Different ways for originating messages
- NTS Message Maker

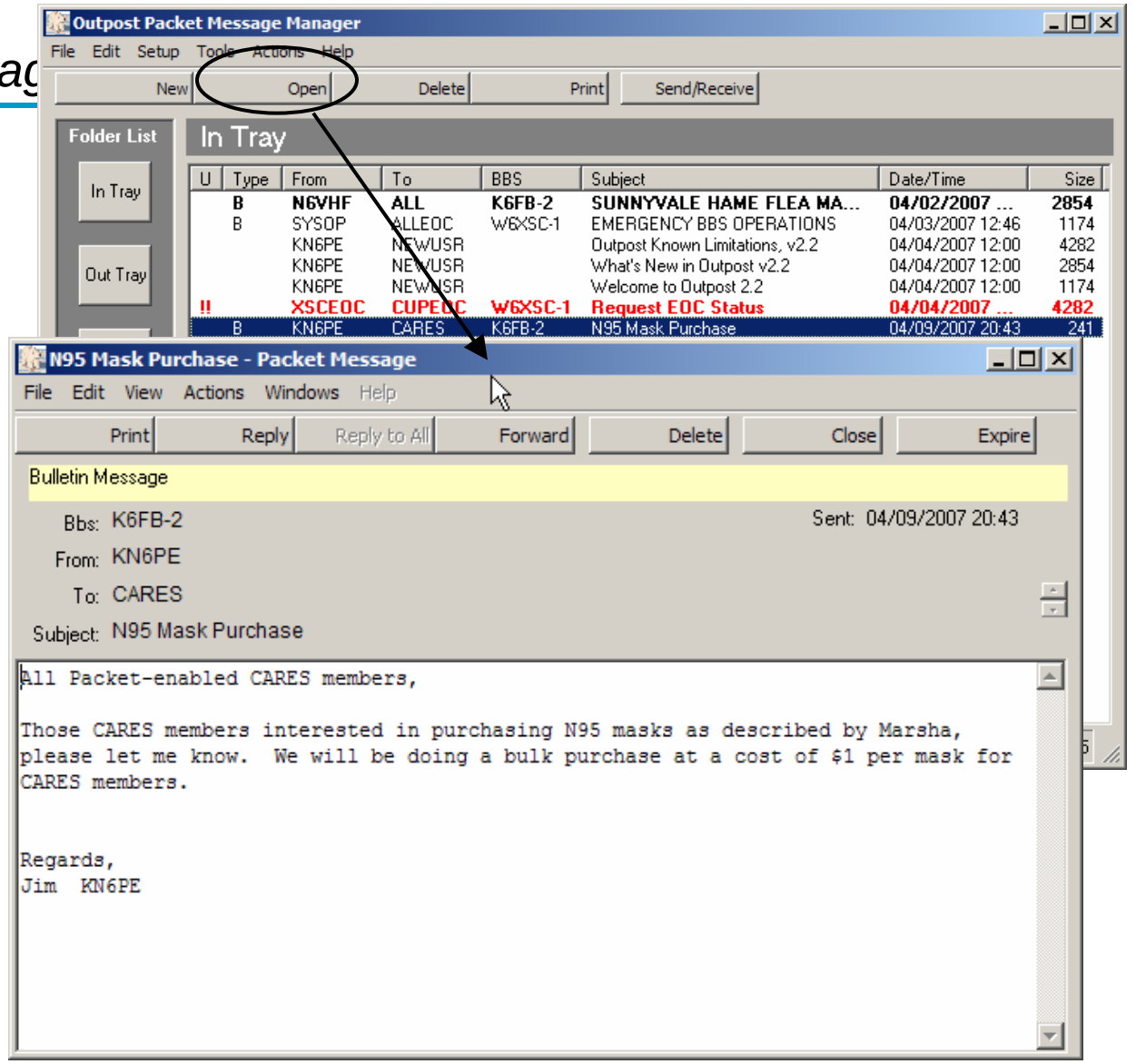


Overview

Outpost Packet Message Manag

Viewing messages

- Supports viewing, printing, deleting or saving a message to a local file
- Reply and Forward message formatting

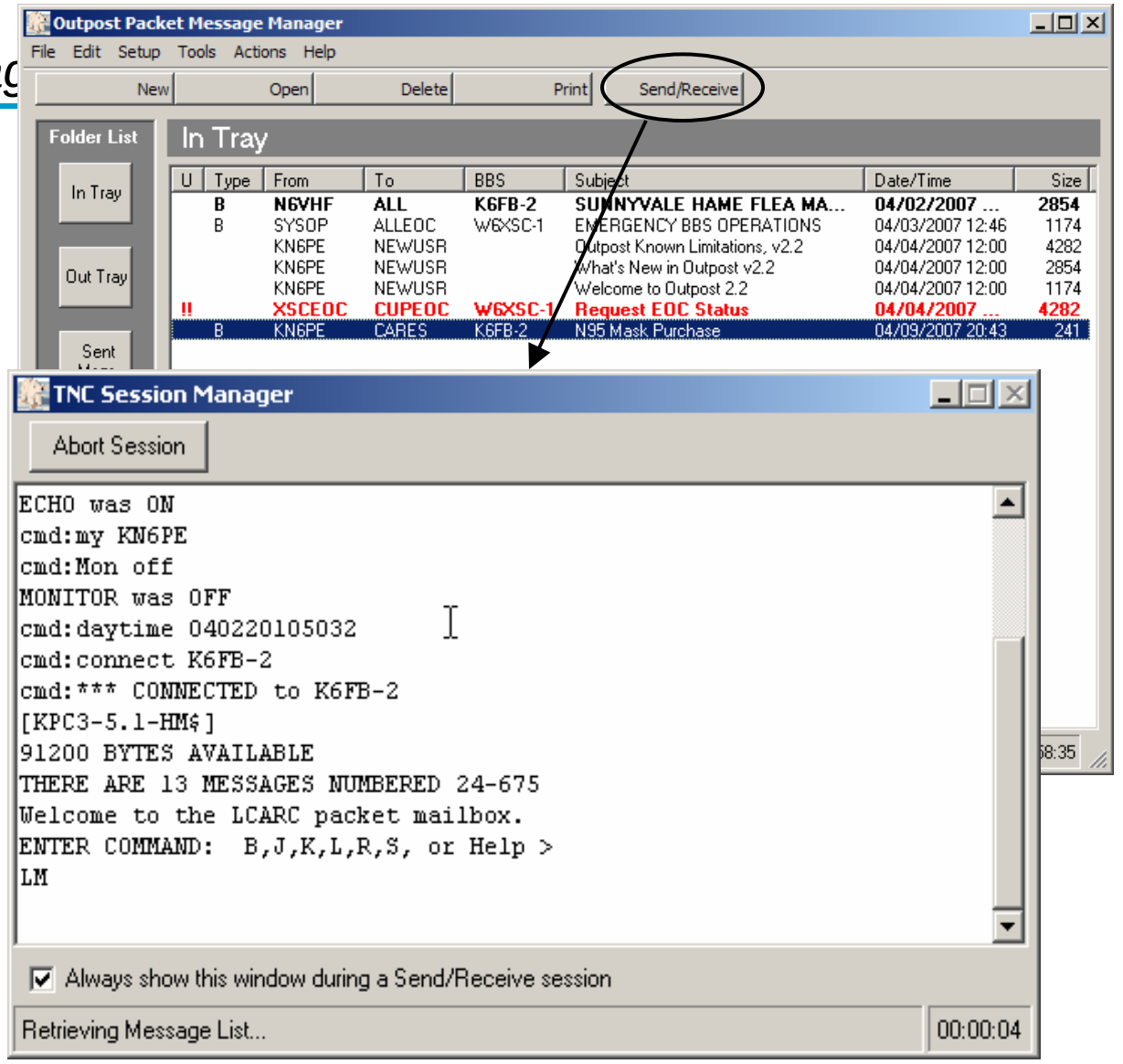


Overview

Outpost Packet Message Manag

Talking to the BBS

- What you would manually type to talk to a TNC or BBS, Outpost does it for you.
- You tell Outpost about the interface, the BBS, and the path.
- Outpost then…
  - •sets up the interface
  - •Connects to and talks to the BBS (BBS Commands).
  - •Interprets what the BBS sends back and acts on the BBS reply.

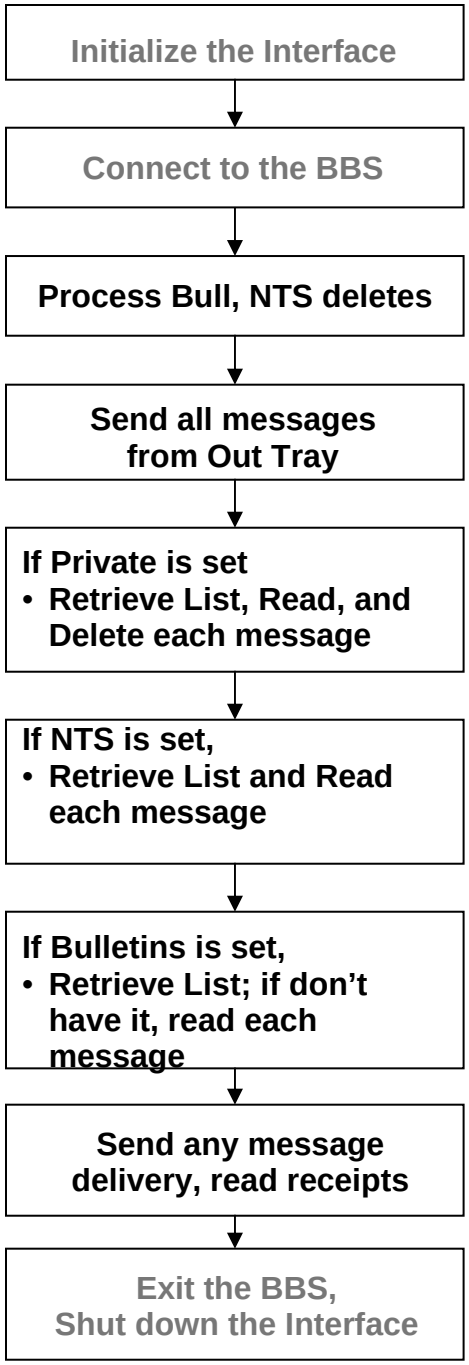


Overview

Outpost Packet Message Manager

Talking to the BBS

- **Influenced by…**
  - Send/Receive Settings
- **Sending Messages**
  - Only sent from the **Out Tray** to this BBS
  - Messages must be “Sent” not “Saved”
  - Messages moved to **Sent Folder** when sent
- **Retrieving Messages**
  - Depends on the Retrieve settings; if none are selected, none are retrieved
  - Depends on the “Keep on BBS” setting
  - Bulletins are never deleted
  - New messages are stored in the **In Tray**
- **Sending Receipts**
  - Send any pending Delivery and Read Receipts



Feature Alignment

Outpost Packet Message Manager

Environment:	***Definition:*** the situation in which we find ourselves. Each situation is different… how do we adapt our tools to our environment?
Policy:	***Definition:*** Organizational rules for governing resources, practices, and procedures. In a community of packet users, what policies do we adopt to ensure order, consistency, and efficiency in what we do?
Mission:	***Definition:*** the task with which we are charged. How do we support our served agencies in their efforts to minimize loss of life and property, and speed the recovery?

The environment

Outpost Packet Message Manager

- What BBSs do we use to pass messages among ourselves?
- How far away is the BBS?
- What interface methods can I use to get to the BBS?

Supported BBSs

Outpost Packet Message Manager

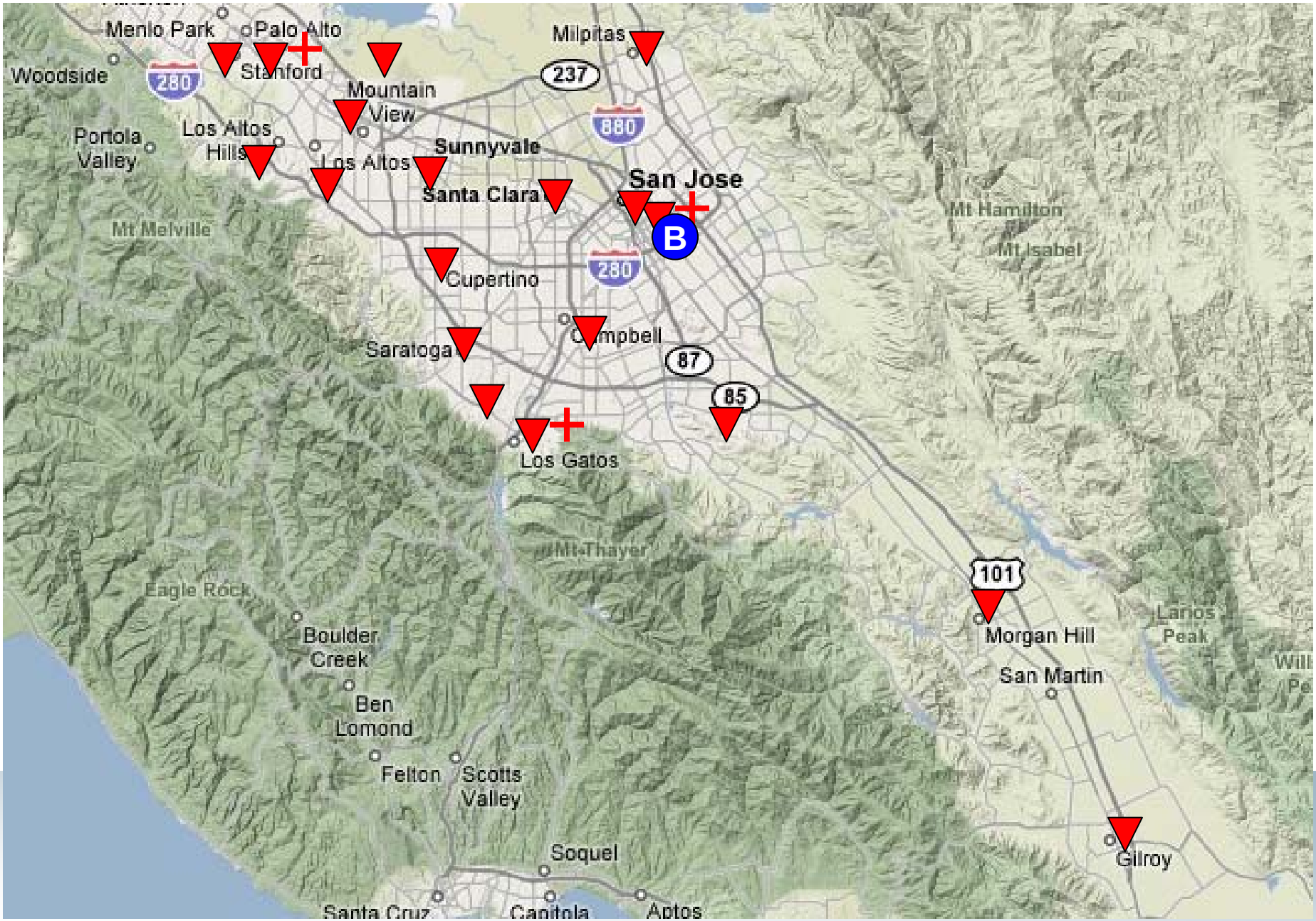
PBBSs (Firmware-based, TNC resident)	BBSs (Software-based)	Support requested and pending
KPC2, KPC3, KPC3+ KPC9612 KAM4, KAM, KAM-XL, KAM-98, KAM Plus Data Engine (Kantronics) PK-88, PK-232 DSP-232 MFJ-1270x MFJ-1278	AA4RE F6FBB JNOS MSYS N0ARY DXNET Telpac/Winlink W0RLI	KPC3 5.1 MFJ-1274 OpenBCM TNOS SNOS

See http://www.outpostpm.org/bbs/ for...

- Updates to the list of supported BBSs
- Instructions on how to get your BBS supported

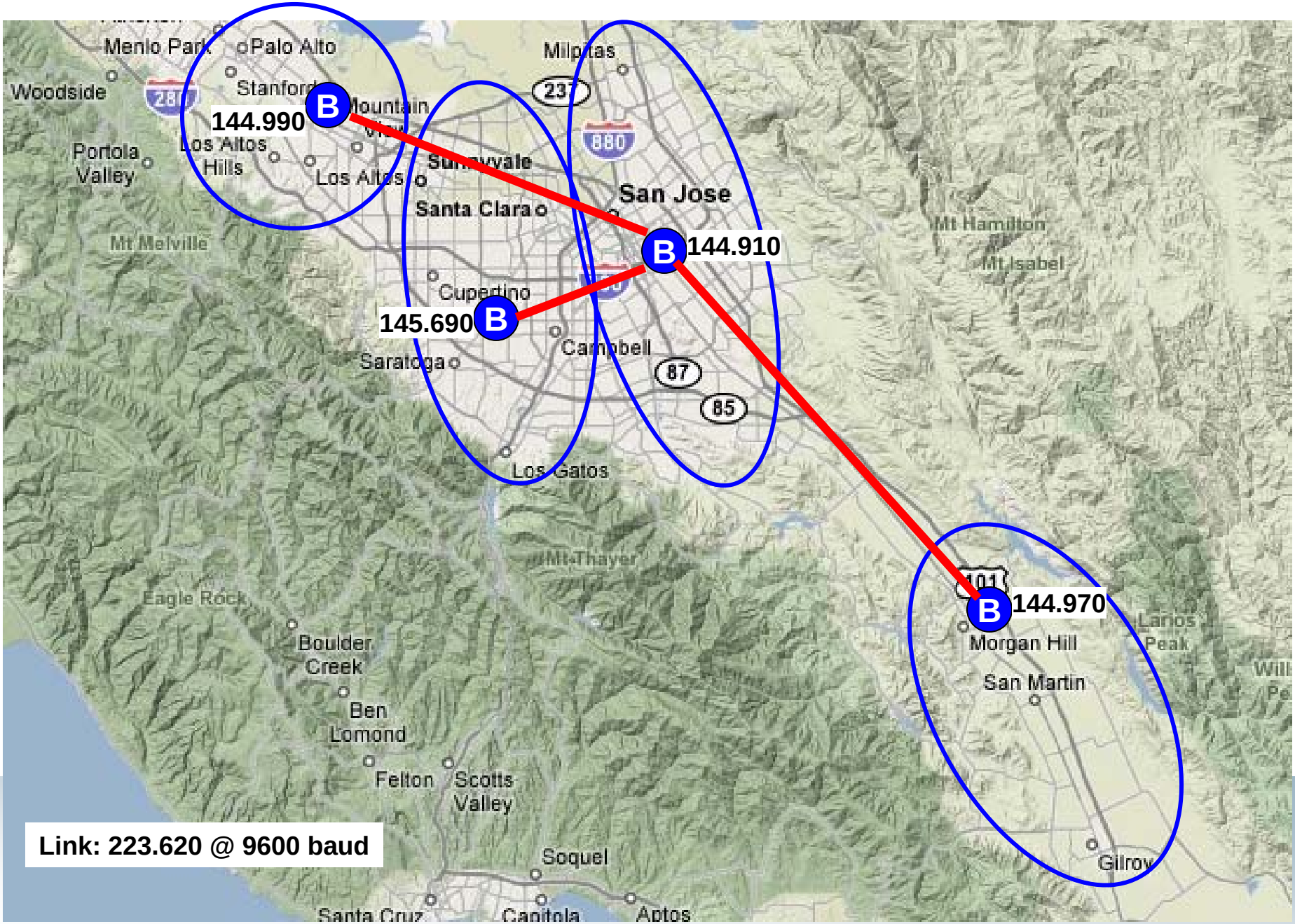
SCC's Packet Infrastructure – today

Outpost Packet Message Manager



SCC's Packet Infrastructure – planned

Outpost Packet Message Manager



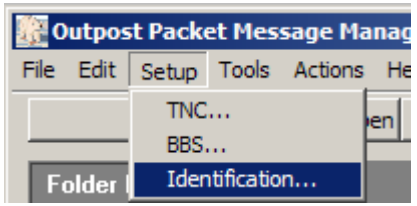
Elements of a packet operating policy

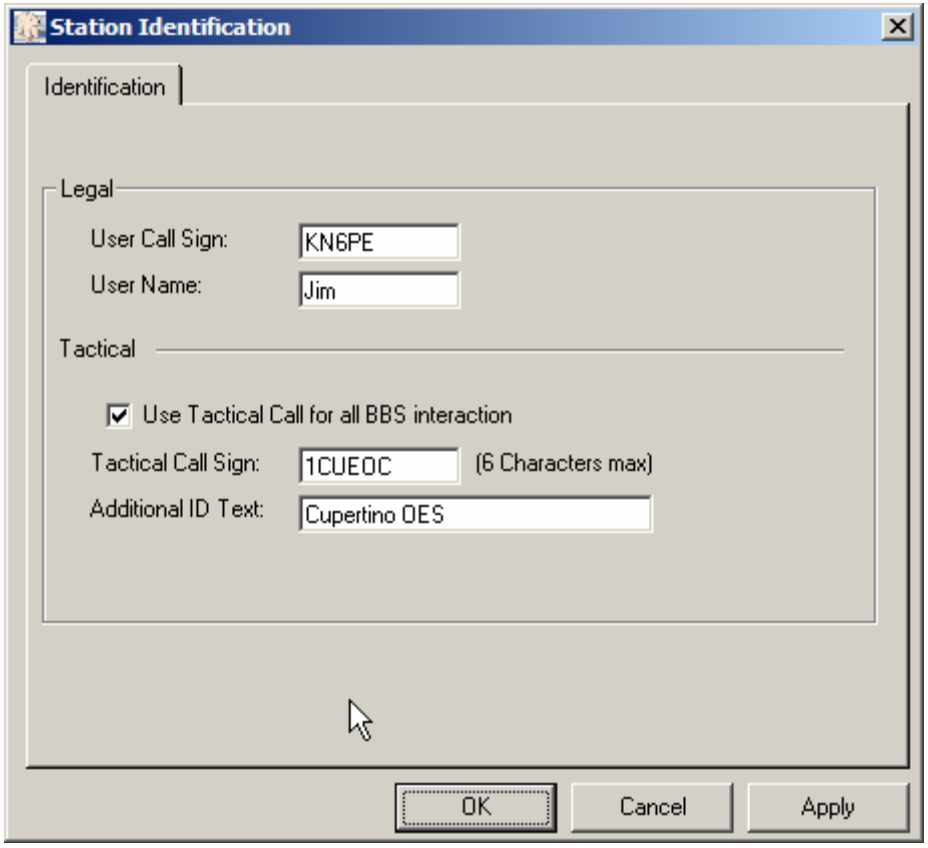
Outpost Packet Message Manager

1. All stations will identify with a tactical call sign
2. All messages are sent as private messages
3. All messages are uniquely identified
4. All messages are as short as possible
5. All stations will poll the BBS periodically for traffic
6. All stations will poll for specific message types
7. All message traffic becomes part of the official event documentation package

Policy #1: Tactical Calls

Outpost Packet Message Manager





Definition: a call sign that identifies a tactical location; is operator-neutral allowing the operators to change, without having the assignment name change.

Implementation

No readily available and supported BBS offers native support for tactical calls.

The Outpost approach supports most BBSs; connect with the Tactical Call; Outpost manages the legal identifier.

For the Santa Clara County Hospital System, hospitals are assigned Tactical Calls such as:

- 1MVECH Mountain View El Camino Hospital
- 1PASMC Palo Alto Stanford Medical Center
- 1SJVMC San Jose Valley Medical Center
- 1SJGSH San Jose Good Samaritan Hospital

Policy #1: Tactical Calls

Outpost Packet Message Manager

Definition: a call sign that identifies a tactical location; is operator-neutral allowing the operators to change, without having the assignment name change.

Is it legal?... YES!

- AX.25 extended address field contains source and destination call sign.
- Outpost uses the TNC's "mycall" command to set the Tactical Call as the station identifier.
- The selected Tactical Call needs to be a sufficiently valid call sign to "fool" the BBS's call sign checking logic.
- Outpost sends a "Legal Identifier String" that satisfies FCC Part 97.119.

1CUEOC>W6SJC-1: <<C>>:
W6SJC-1>1CUEOC: <<UA>>:
W6SJC-1>1CUEOC: <<I00>>:
[FBB-7.04j-AB1FHMRX$]

Hello Jim,
Welcome to The San Jose EOC Mailbox

W6SJC >

1CUEOC>W6SJC-1: <<I01>>:
LM

W6SJC-1>1CUEOC: <<I11>>:
***** : Nothing found**
***** : TO Field Filter is set to:- [*]**

W6SJC >

1CUEOC>W6SJC-1: <<I12>>:
B

W6SJC-1>1CUEOC: <<I22>>:

73 Jim,

W6SJC-1>1CUEOC: <<D>>:
1CUEOC>W6SJC-1: <<I23>>:
StationID=KN6PE, TacCall=1CUEOC, Cupertino OES

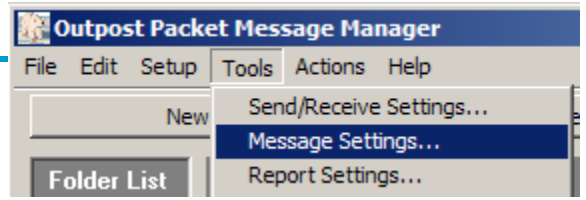
1CUEOC>W6SJC-1: <<I33>>:

1CUEOC>W6SJC-1: <<I43>>:

1CUEOC>W6SJC-1: <<UA>>:

Policy #2: Send Private Messages

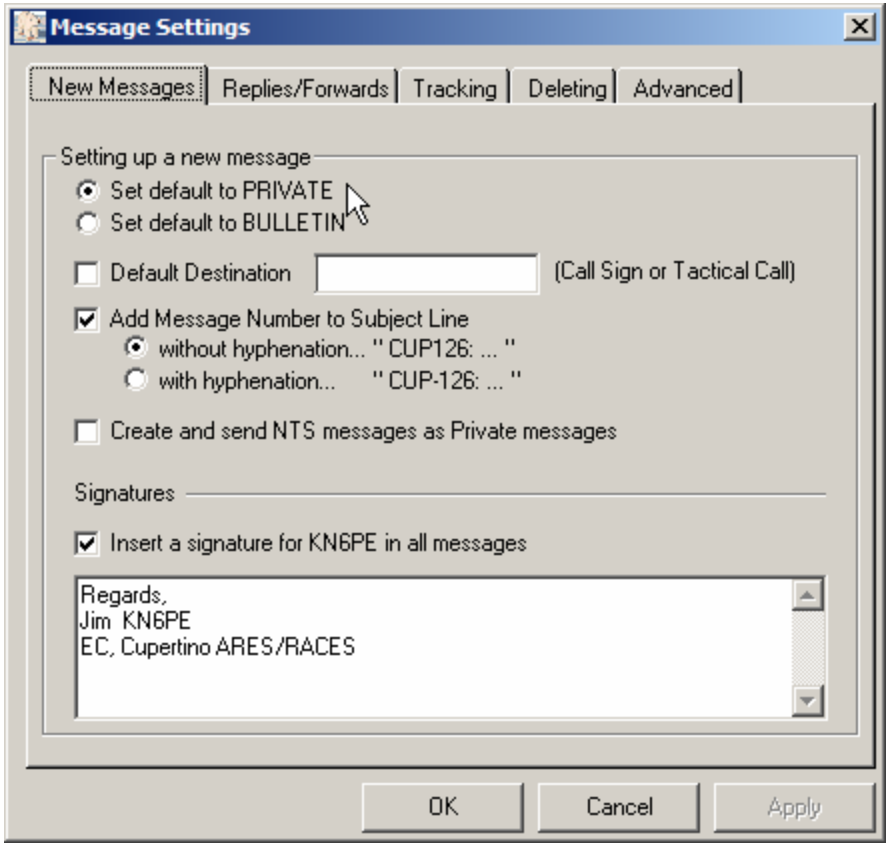
Outpost Packet Message Manager



Policy: Private messages are addressed to a specific station and retrievable only by that station. Private messages should be sent when the message is intended for one other station.

Implementation:

- A Private message policy contributes to lower channel traffic by ensuring only the intended station retrieves the message.
- Option to set the default message type to either private or bulletin (public).
- Option can be overridden at message create time.



Policy #3: Unique Message Identification

Outpost Packet Message Manager

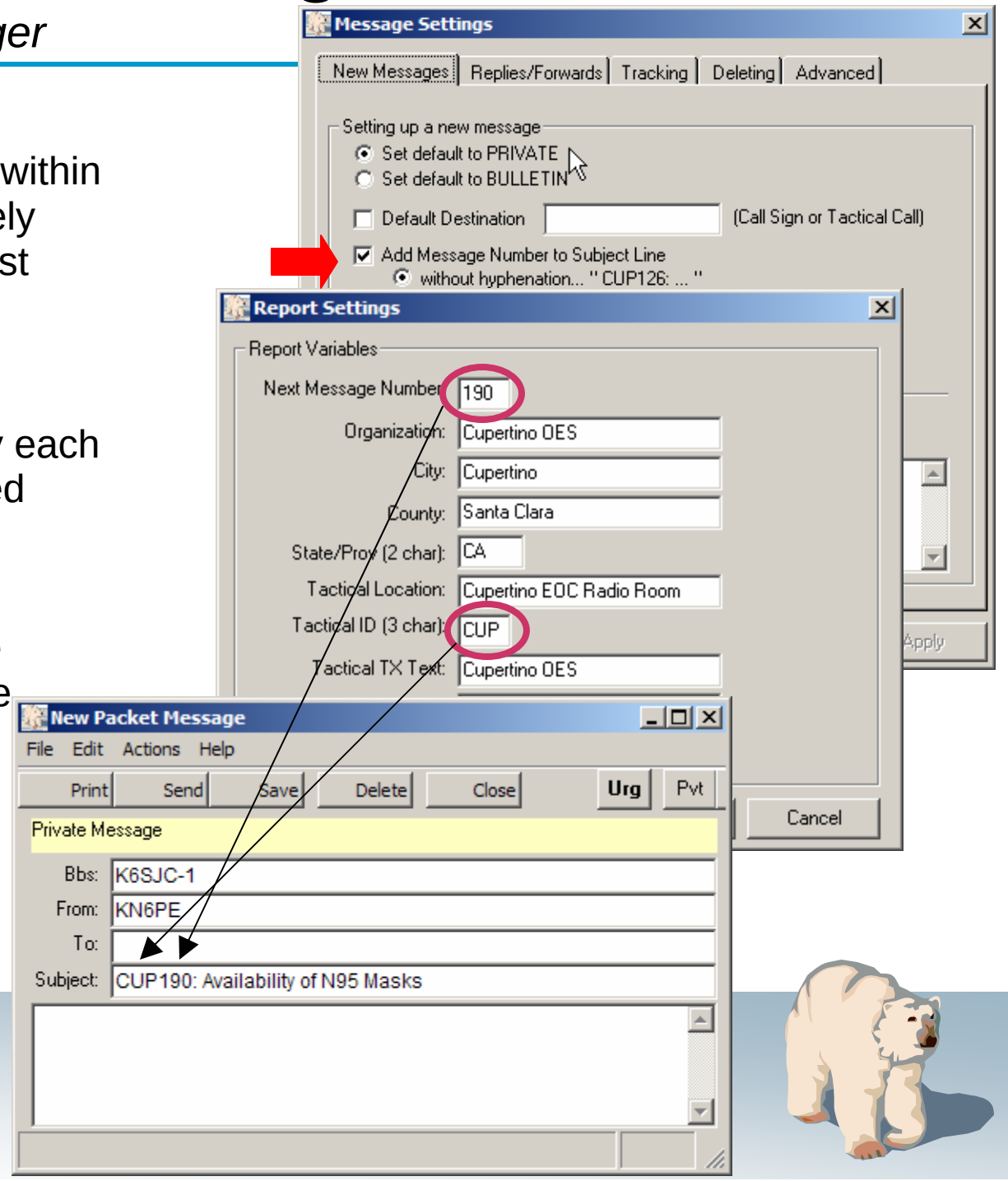
Policy: Each packet message sent within the operational area must be uniquely identified. Replies to messages must reference the message identifier.

Implementation:

•Unique identifiers are generated by each Outpost station based on the entered Report Settings

•When enabled, the next “Message Number” or “Tactical_ID + Message Number” is placed in the subject line

•Subject line can be appended to or overwritten at message create time.



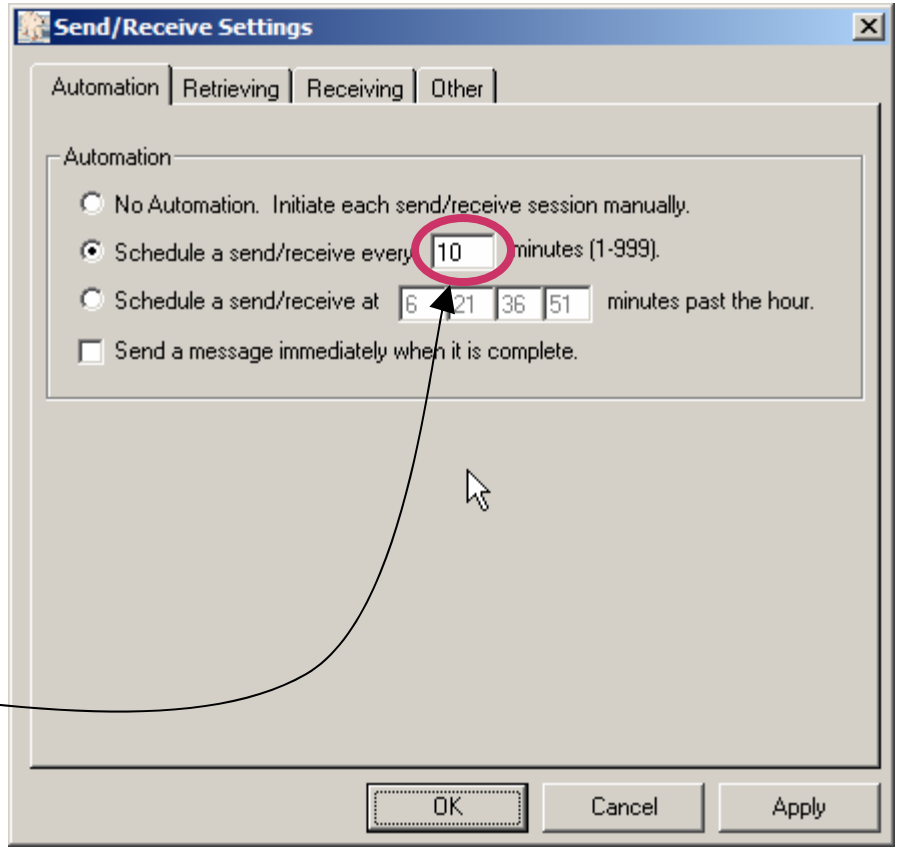
Policy #5: BBS polling period

Outpost Packet Message Manager

Policy: Each packet station should poll the BBS at a rate sufficient for timely message retrieval without creating excessive channel congestion.

Implementation #1:

- *Example:* Santa Clara County has about 15 stations and 3 BBS access frequencies.
- Set up Periodic polling every “X” minutes to allow for unattended operation.
- Consideration should be given to…
  - the number of stations requiring access to the BBS on a given frequency, and
  - the phase of the emergency (for instance: heavy traffic: longer period… light traffic, shorter period).



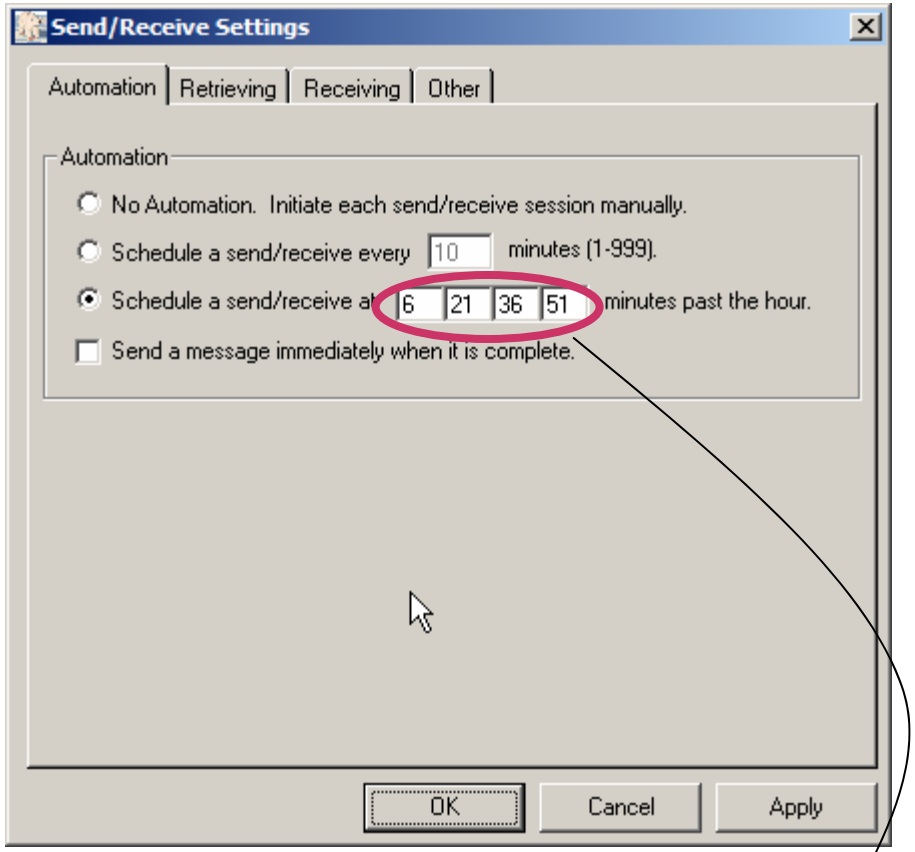
Policy #5: BBS polling period

Outpost Packet Message Manager

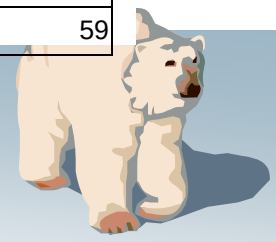
Policy: Each packet station should poll the BBS at a rate sufficient for timely message retrieval without creating excessive channel congestion.

Implementation #2:

- *Example:* Santa Clara County Hospital has 14 regional hospitals and 1 BBS access frequency.
- One or more specific polling slots (minutes within an hour) are assigned to each hospital packet station.
- Considerations…
  - all PC clocks need to be set to the same time (voice net coordination).
  - Quality of the connection (extent of retries)



Station	minutes past the hour			
1MVECH	0	15	30	45
1PASMV	1	16	31	46
1SJVMC	6	21	36	51
:				
1SJGSH	14	29	44	59



Policy #6: Poll for message types

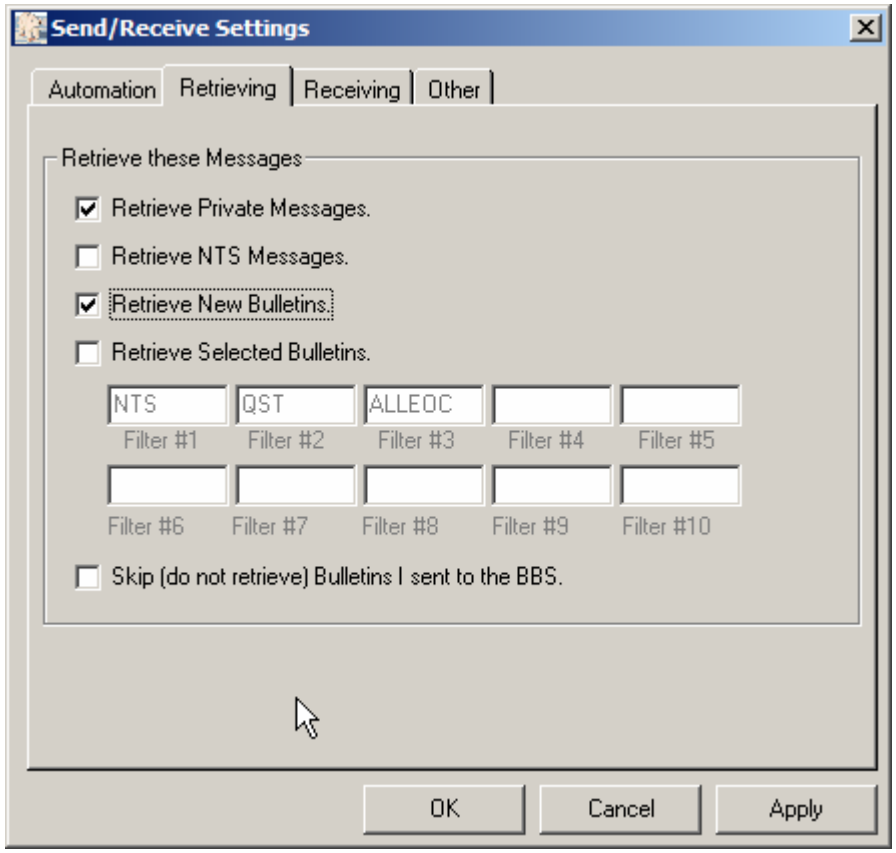
Outpost Packet Message Manager

Policy: All stations will poll for specific message types. This approach also reduces channel congestion.

Implementation:

•Select the message types that will be sent within your operational area

- Private messages: between 2 stations
- NTS messages: standard ARRL protocol
- Bulletins: all broadcast messages
- Selected Bulletins: specific messages found on a public bulletin board



Policy #7: Documentation

Outpost Packet Message Manager

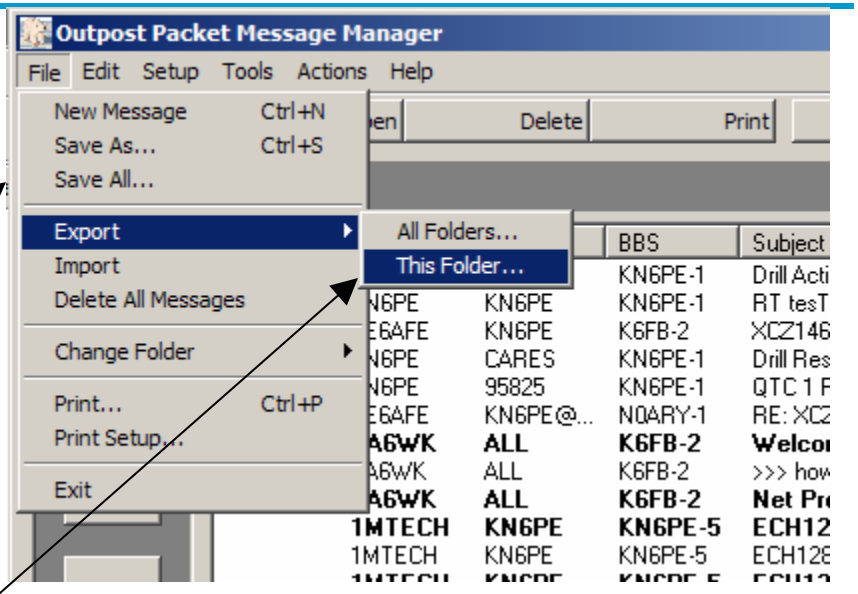
Policy: All message traffic becomes part of the official event documentation package.

Implementation:

•Message archiving…

- Save All: writes a single text file of all messages, with embedded Form Feeds
- Export: writes one or more folders to an Outpost archive file. Can be re-imported later if required

•Message audit report (pending)



Mission Support

Outpost Packet Message Manager

- Understanding the mission and purpose of the agencies we serve.
- Ensure our mission aligns with the needs of our served agencies.
- What our served agencies need from us…
  - Pass message traffic
  - Documentation
  - Audit trail

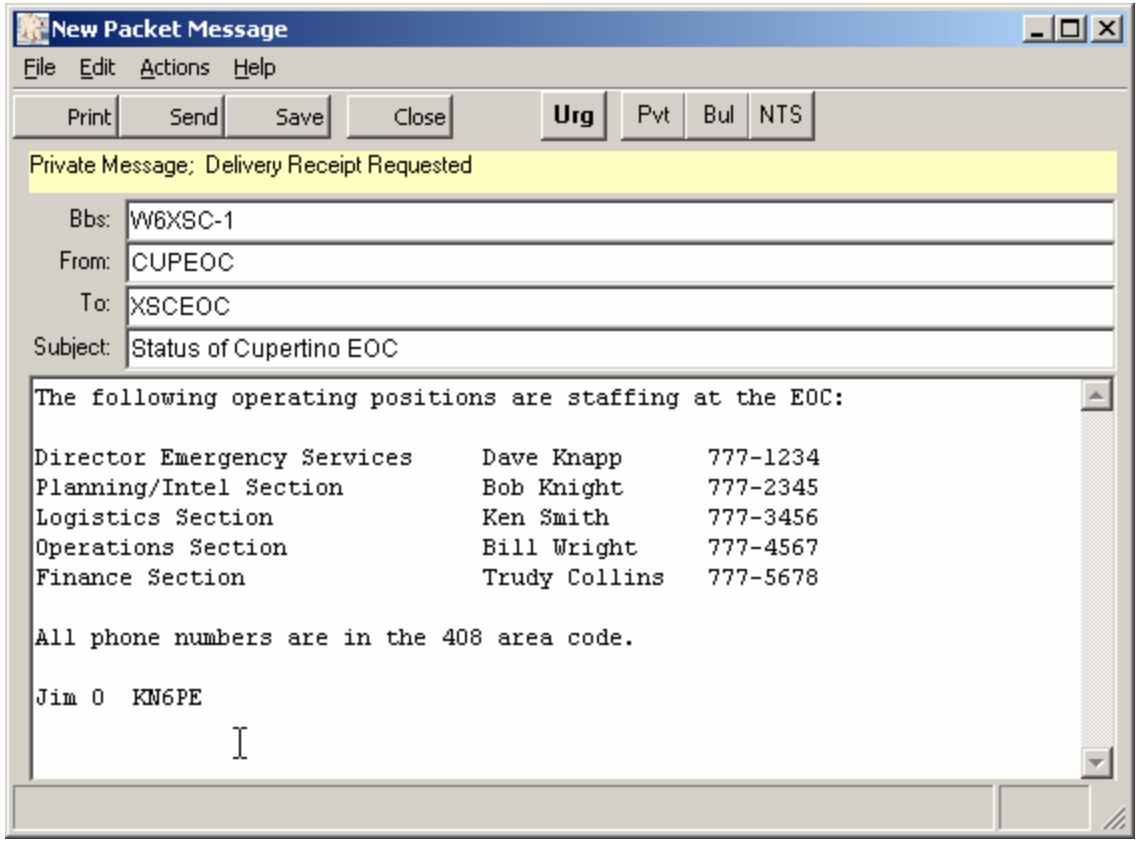
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #1:

- **Direct entry** with cntl-Tab formatting
- Copy-and-paste from other apps
- NTS Message Maker
- On-line report builder
- Import text from a file



Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #2:

- Direct entry (with cntl-Tab formatting)
- **Copy-and-paste** from other apps
- NTS Message Maker
- On-line report builder
- Import text from a file

Microsoft Excel - Shelter Requirements.xls

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

A1 = Item Number

	A	B	C	D	E	F	G
1	Item Num	Description	On Hand	Units	Qty needed	Req Date	Req Time
2	1	cots	30	ea	25	18-Mar	18:00
3	2	blankets	45	ea	15	18-Mar	18:00
4	3	water, 12 oz bottles	200	bottles	100	19-Mar	12:00
5	4	First Aid kits	3	kits	12	ASAP	
6	5	Toilet paper	50	rolls	250	19-Mar	12:00
7	6	tooth brushes	10	ea	50	ASAP	
8	7	tooth paste	5	ea	55	ASAP	

19-Mar 18:00
19-Mar 18:00
18-Mar 18:00

New Packet Message

File Edit Actions Help

Print Send Save Close Urg Pvt Bul NTS

Urgent, Private Message

Bbs: W6XSC-1
From: CUPEOC
To: XSCEOC
Subject: Shelter Material Requirements

```
Please send the following material to out shelter:

Item Number     Description     On Hand Units   Qty needed      Req Date
Req Time
1       cots    30      ea      25      18-Mar  18:00
2       blankets        45      ea      15      18-Mar  18:00
3       water, 12 oz bottles    200     bottles 100     19-Mar  12:00
4       First Aid kits  3       kits    12      ASAP
5       Toilet paper    50      rolls   250     19-Mar  12:00
6       tooth brushes   10      ea      50      ASAP
7       tooth paste     5       ea      55      ASAP
8       note pads       0       ea      25      19-Mar  18:00
9       pencils 0       ea      25      19-Mar  18:00
10      MRE     10              300     18-Mar  18:00
```

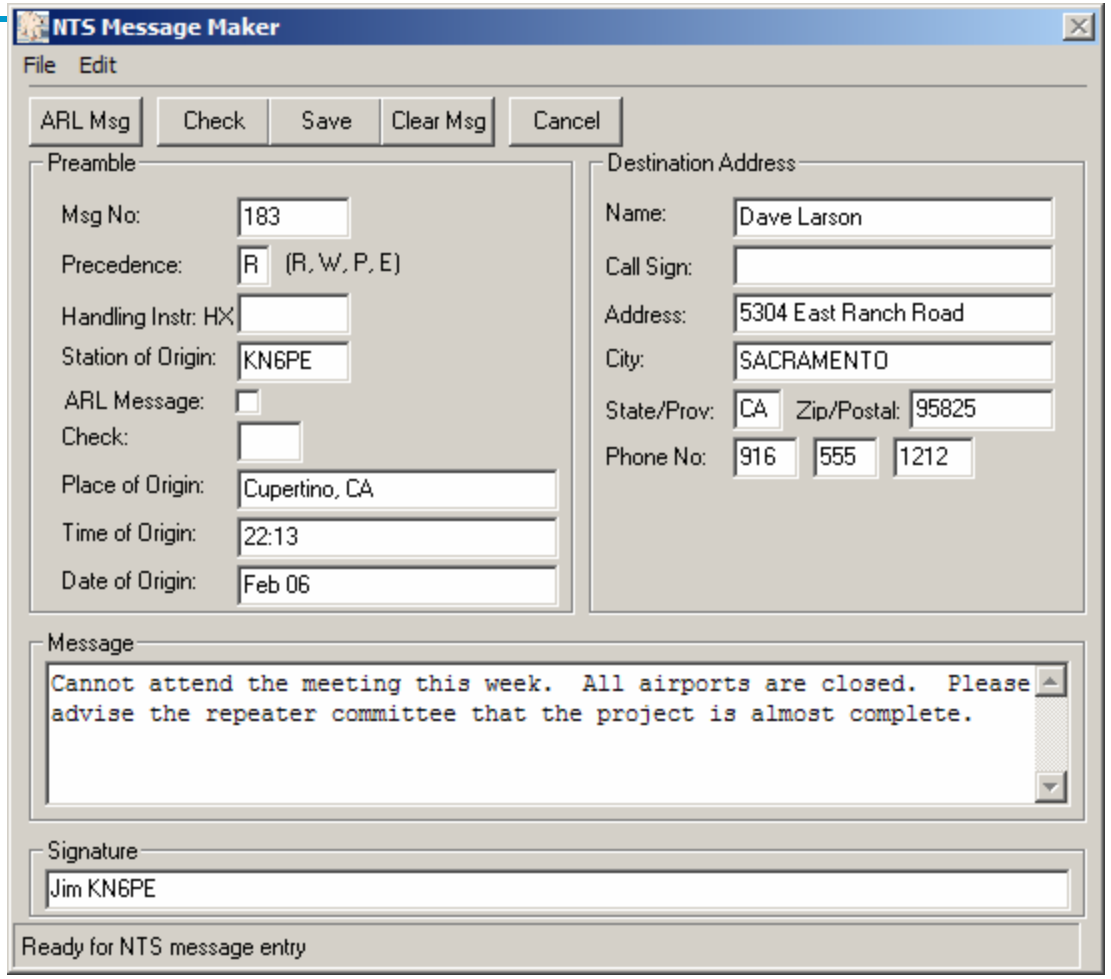
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #3:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps
- **NTS Message Maker**
  - **Create…**
- On-line report builder
- Import text from a file



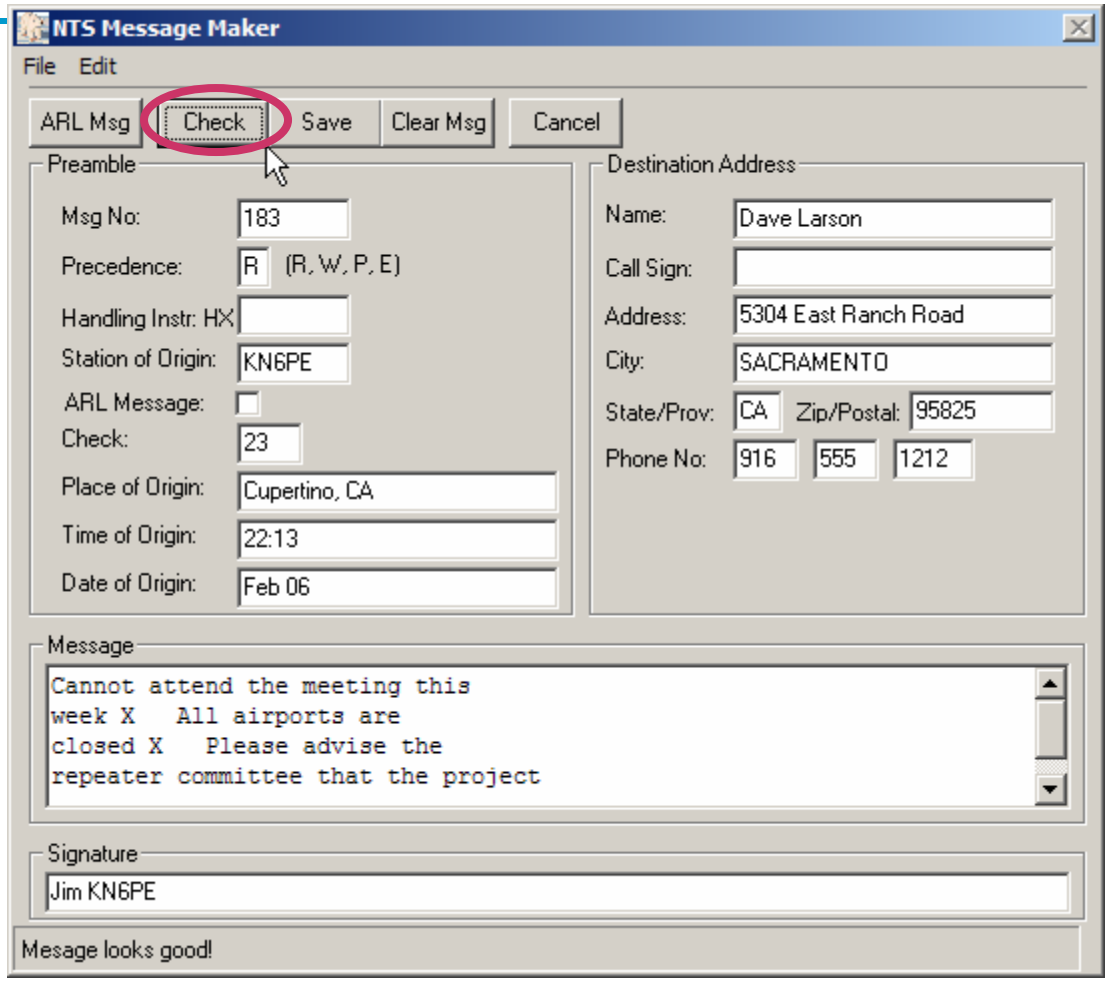
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #3:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps
- **NTS Message Maker**
  - **Create… Check…**
- On-line report builder
- Import text from a file



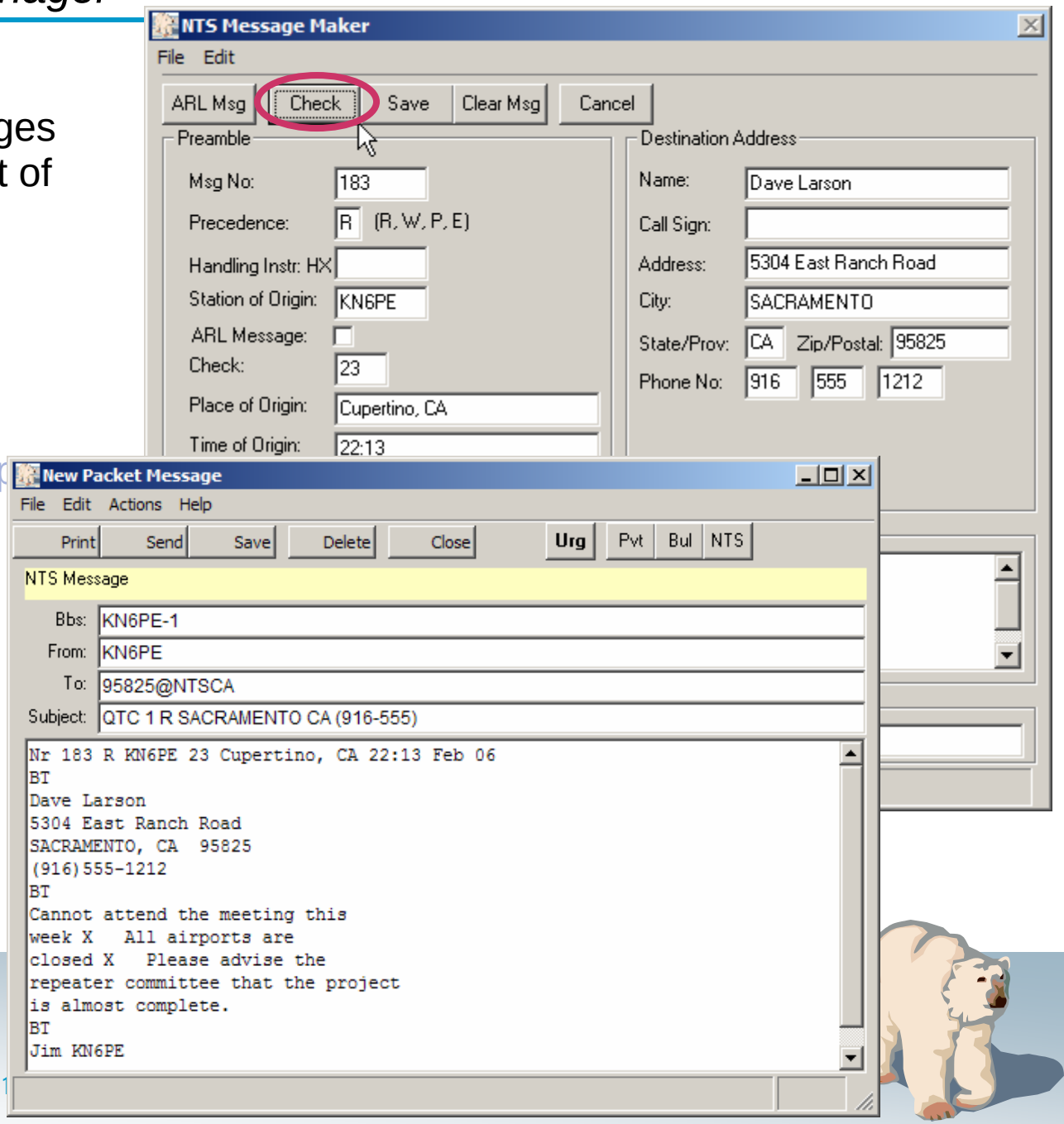
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #3:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other app
- **NTS Message Maker**
  - **Create… Check… Save**
- On-line report builder
- Import text from a file



Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

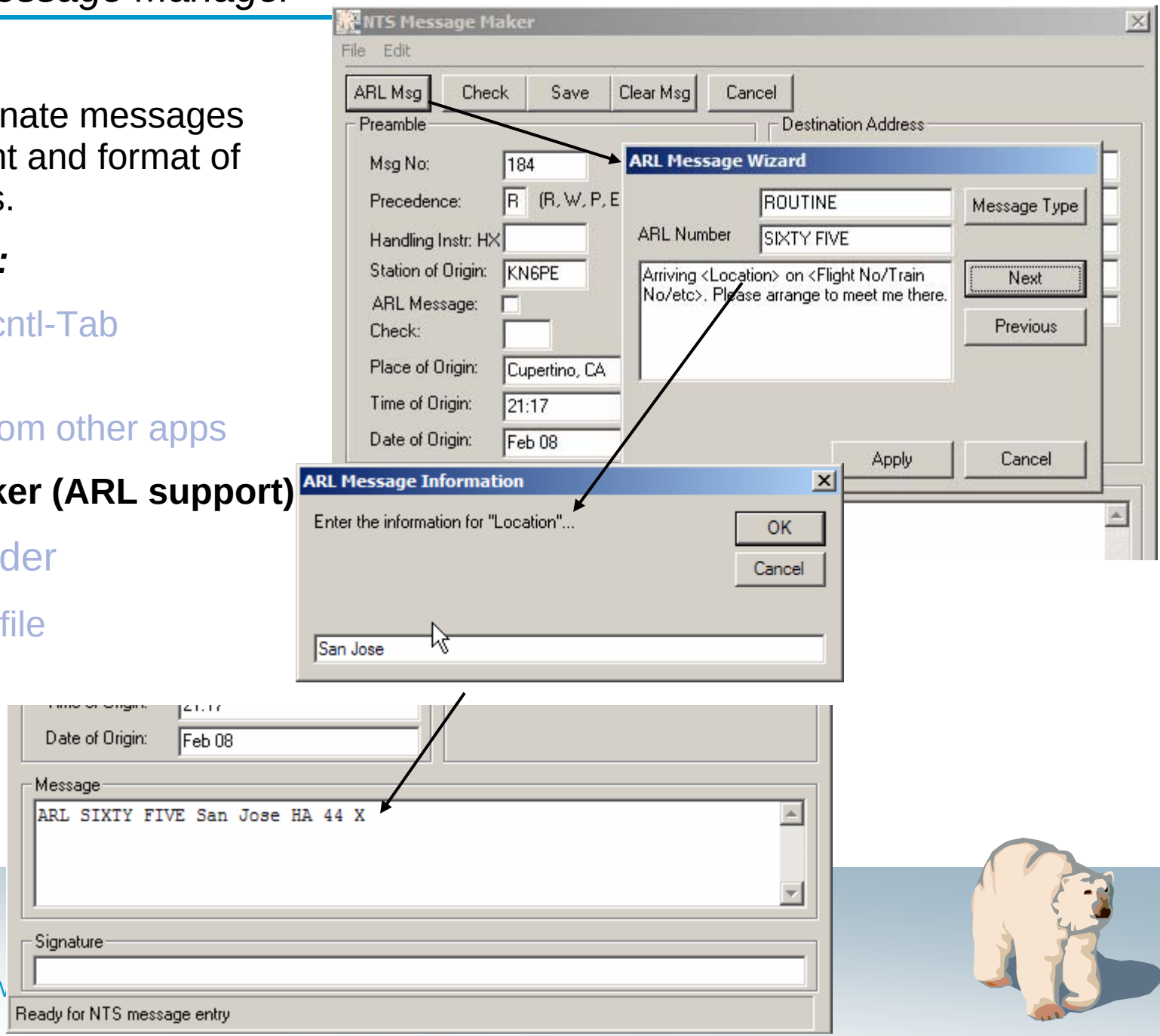
Implementation #3:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps

•NTS Message Maker (ARL support)

On-line report builder

- Import text from a file



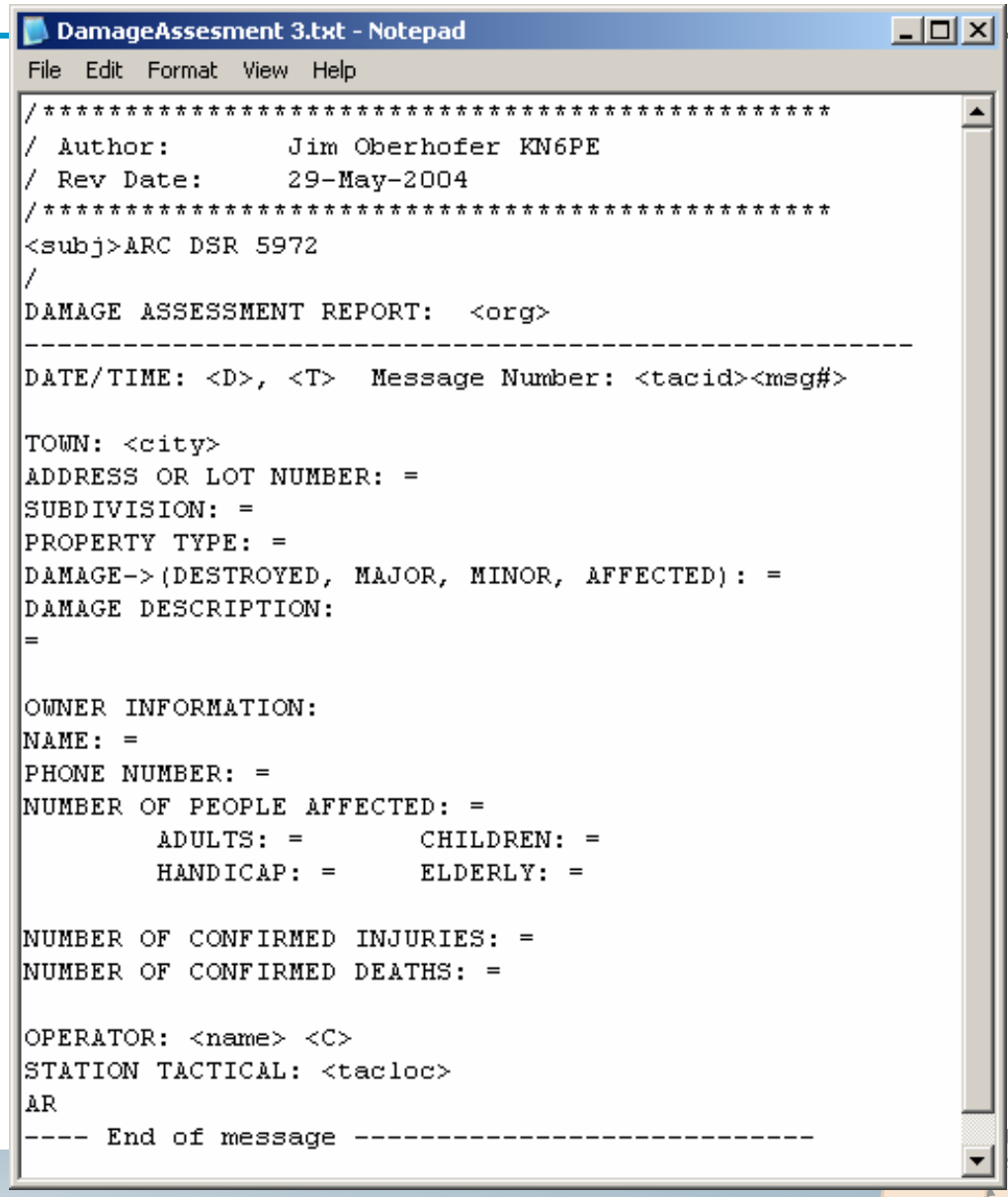
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #4:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps
- NTS Message Maker
- **On-line report builder**
  - **Reports…**
- Import text from a file



Mission Support: Pass message traffic

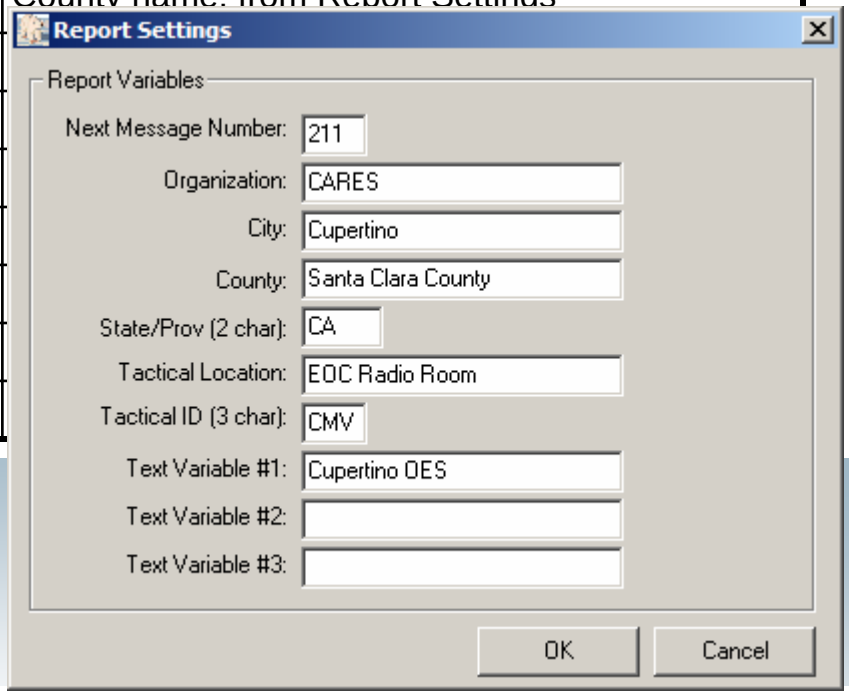
Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #4:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps
- NTS Message Maker
- **On-line report builder**
  - **Reports… Tags…**
- Import text from a file

Tag	Description	
<D>, <date1>	mm/dd/yy	(5/21/04).
<date2>	dd-mmm-yyyy	(21-May-2004)
<T>, <time>	hh:mm	(22:45)
<M>, <msg#>	Message Number; from Report Settings	
<C>, <call>	Call, as entered at the Station ID form	
<name>	Name, as entered at the Station ID form	
<bbs>	BBS name; current BBS	
<subj>text	Places “text” on subject line	
<org>	Organization; from Report Settings	
<city>	City name; from Report Settings	
<county>	County name; from Report Settings	
<state>		
<province>		
<tacloc>		
<tacid>		
<text1, 2, 3>		
=		
/ comment		



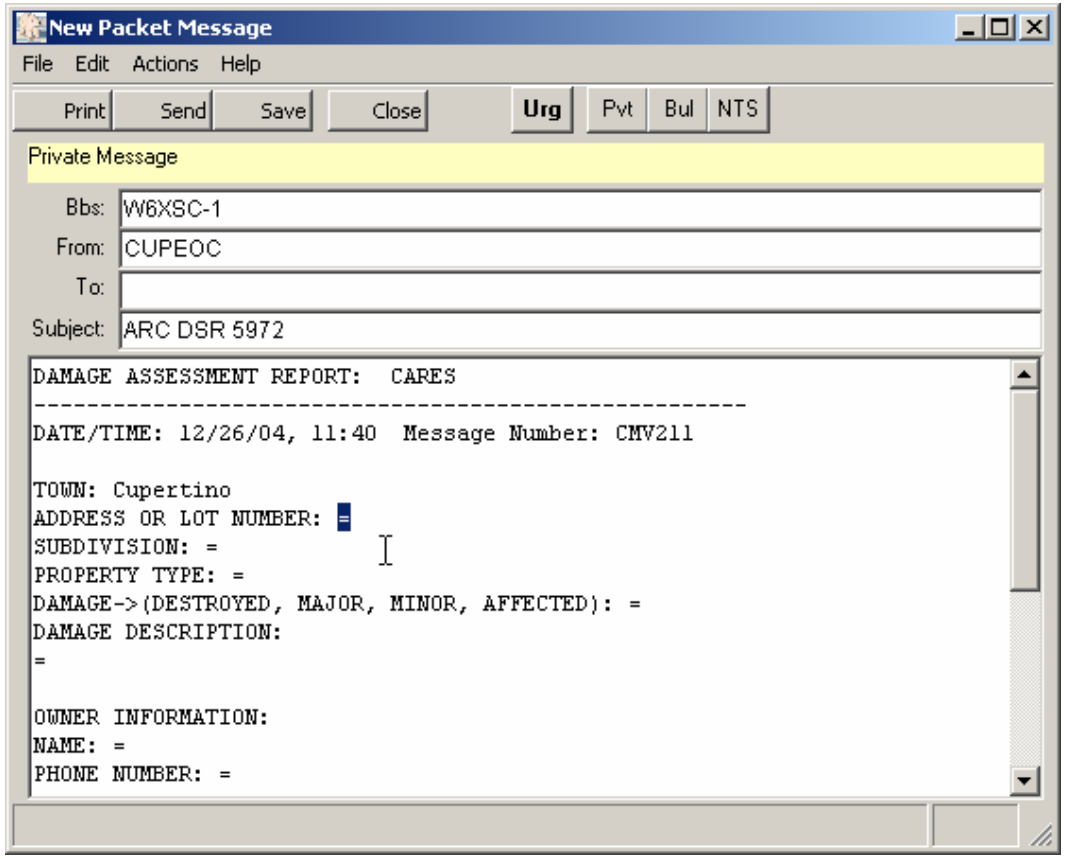
Mission Support: Pass message traffic

Outpost Packet Message Manager

Requirement: Originate messages based on the content and format of our served agencies.

Implementation #4:

- Direct entry (with cntl-Tab formatting)
- Copy-and-paste from other apps
- NTS Message Maker
- **On-line report builder**
  - **Reports… Tags… Processing**
- Import text from a file



Mission Support: Pass message traffic

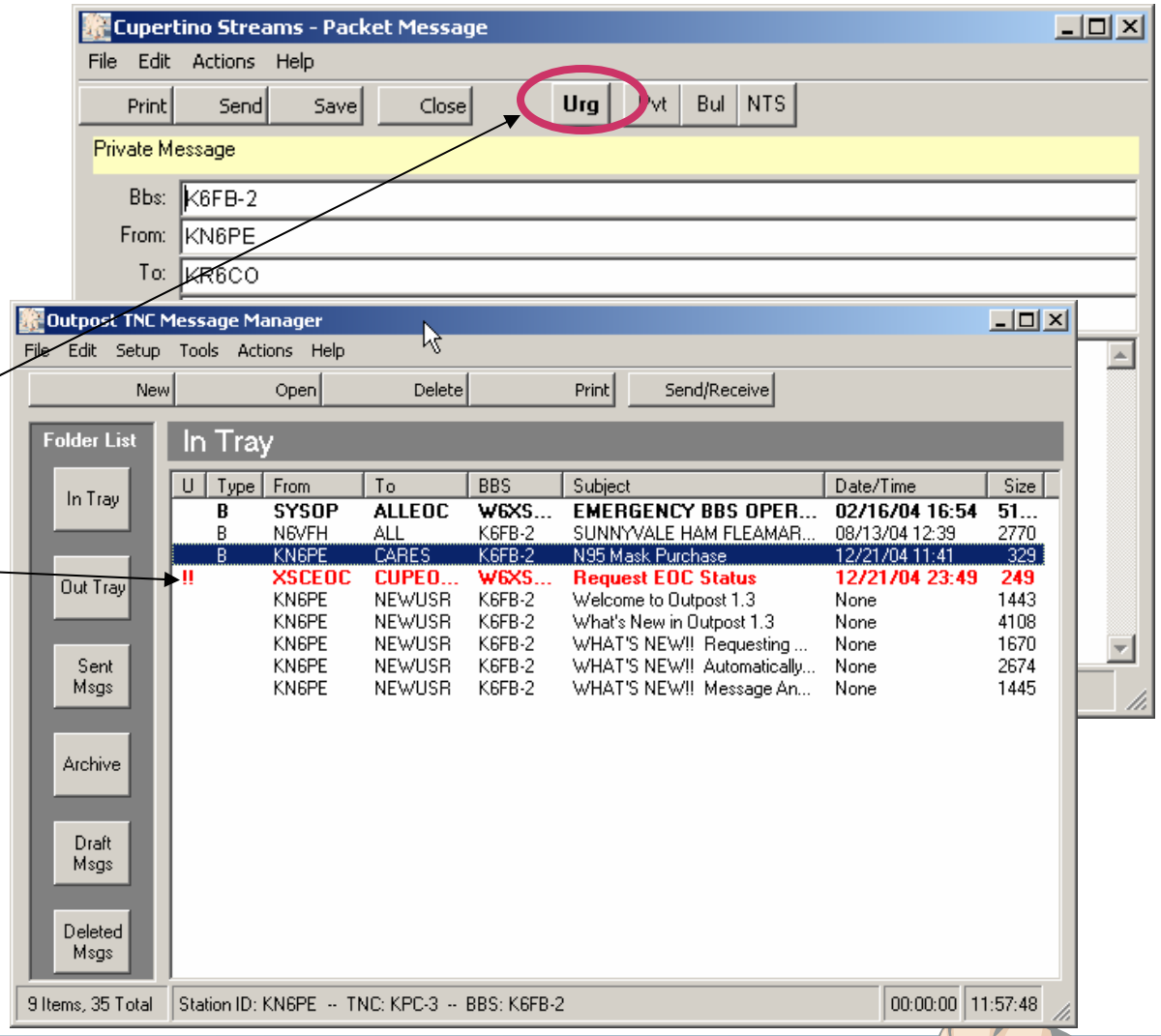
Outpost Packet Message Manager

Message Alerts

Requirement: Prioritize traffic according to the needs of our served agencies. Identify priority traffic on its arrival.

Implementation:

- Set outgoing message priorities
- Identify incoming urgent messages



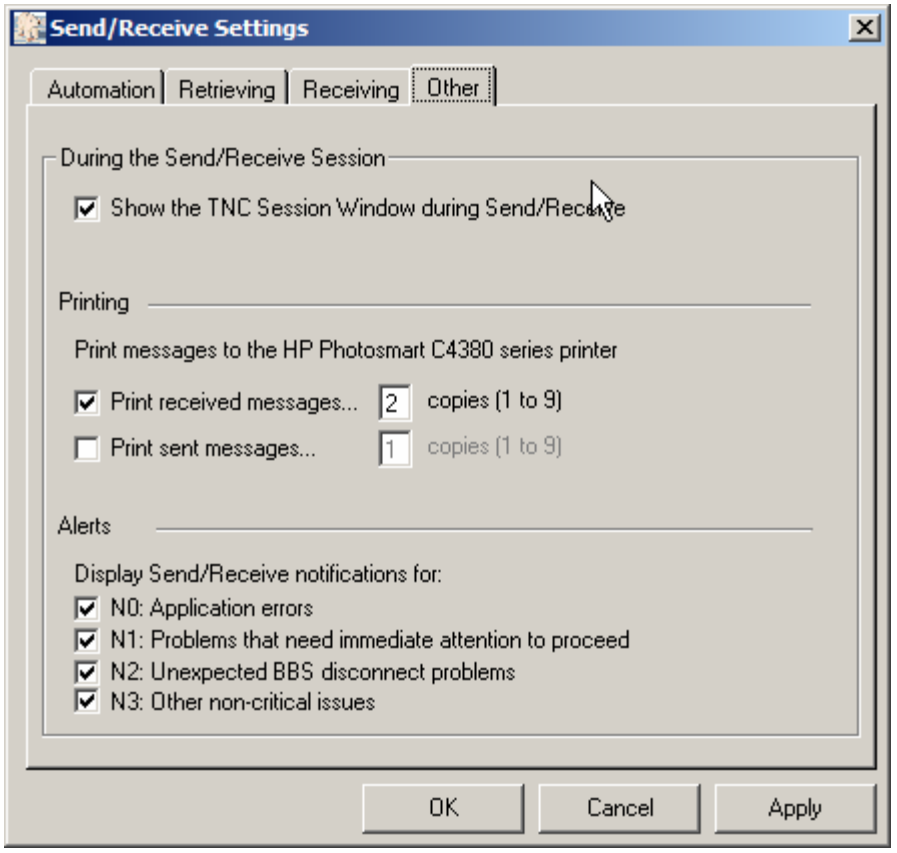
Mission Support: Documentation

Outpost Packet Message Manager

Requirement: All packet message traffic must be submitted to the EOC for disposition.

Implementation:

- Incoming message distribution
- Outgoing message printing record keeping, specify # copies



For more information…

Outpost Packet Message Manager

•User Guide… http://www.outpostpm.org#documentation
•A complete description of all features, forms, fields, and controls in Outpost

•HOW-TO pages… http://www.outpostpm.org/howto.html
•Specific How-To's for the most common tasks performed

•Application Notes… http://www.outpostpm.org#documentation
•Write-ups with more details on a specific topic.

•Troubleshooting page…
http://www.outpostpm.org/troubleshooting.html

•Users group… http://groups.yahoo.com/group/outpostpacket/

Outpost Packet Message Manager
HOW-TOs

Outpost How-To's

The Outpost program does not include any online help. Instead, a series of HOW-TO files are provided with the application and are available on-line here. See the Outpost Users Guide for other details.

1. Acknowledge Read, send automatically
2. Create a message
3. Forwarding/Replying to a message
4. KA-Node/Netrom (BPQ) Access
5. Message annunciation
6. Message numbering
7. Message receipts
8. Online reports
9. Printing messages automatically
10. Retrieving messages automatically
11. Retrieving selected bulletins
12. Sending a text file
13. Setting up a BBS
14. Setting up a BBS, Santa Clara County RACES
15. Setting up a TNC
16. Setting up AGWPE
17. Setting up Telnet access
18. Signature, adding to a message
19. Tactical Calls

Questions?

Outpost Packet Message Manager