Applied Packet Radio

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Tonight's topic – Applied Packet Radio

What is it about?

1. Very brief introduction to packet radio

2. Why are we talking about it?

3. Walk-through of a typical packet session

What is it not

1. Complete packet training class in 45 minutes
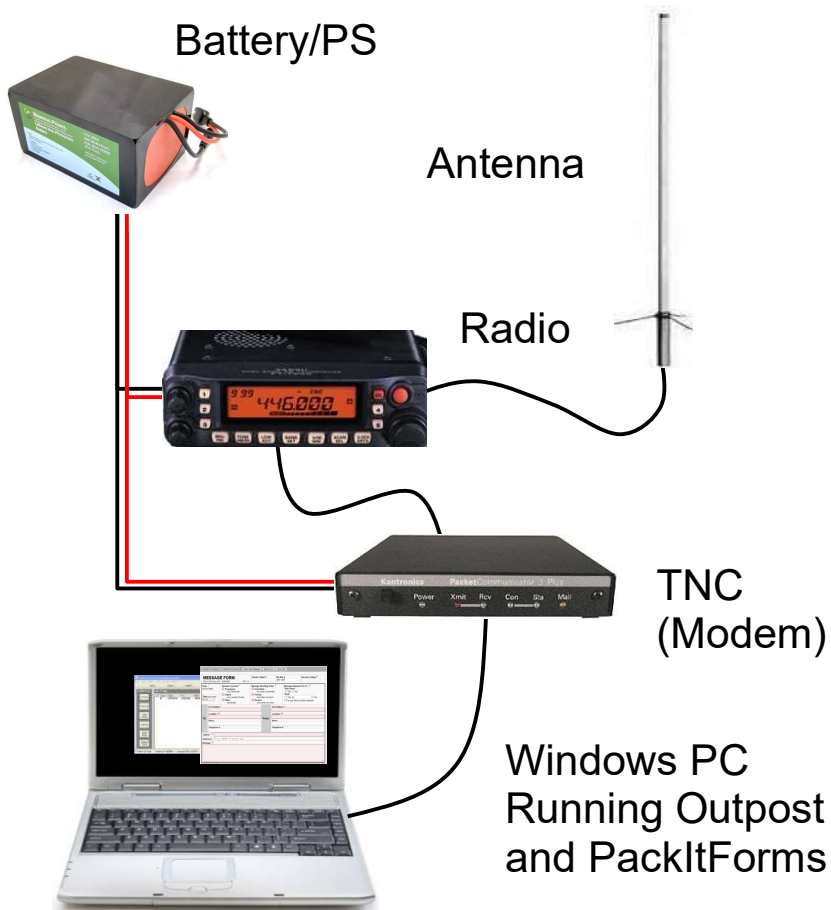
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What is Packet Radio

- Amateur Radio mode for digital messaging

- Used for EmComm and general amateur radio hobby use

- Error-free information transmission; messages are transmitted accurately and quickly

- Great for passing large messages, lists, tables, addresses, instructions, etc.

- Faster than voice message passing (15x faster)

- Not faster than the internet – VHF/UHF: 1200 baud, HF: 300 baud

- Pre-built hardware and software are readily available
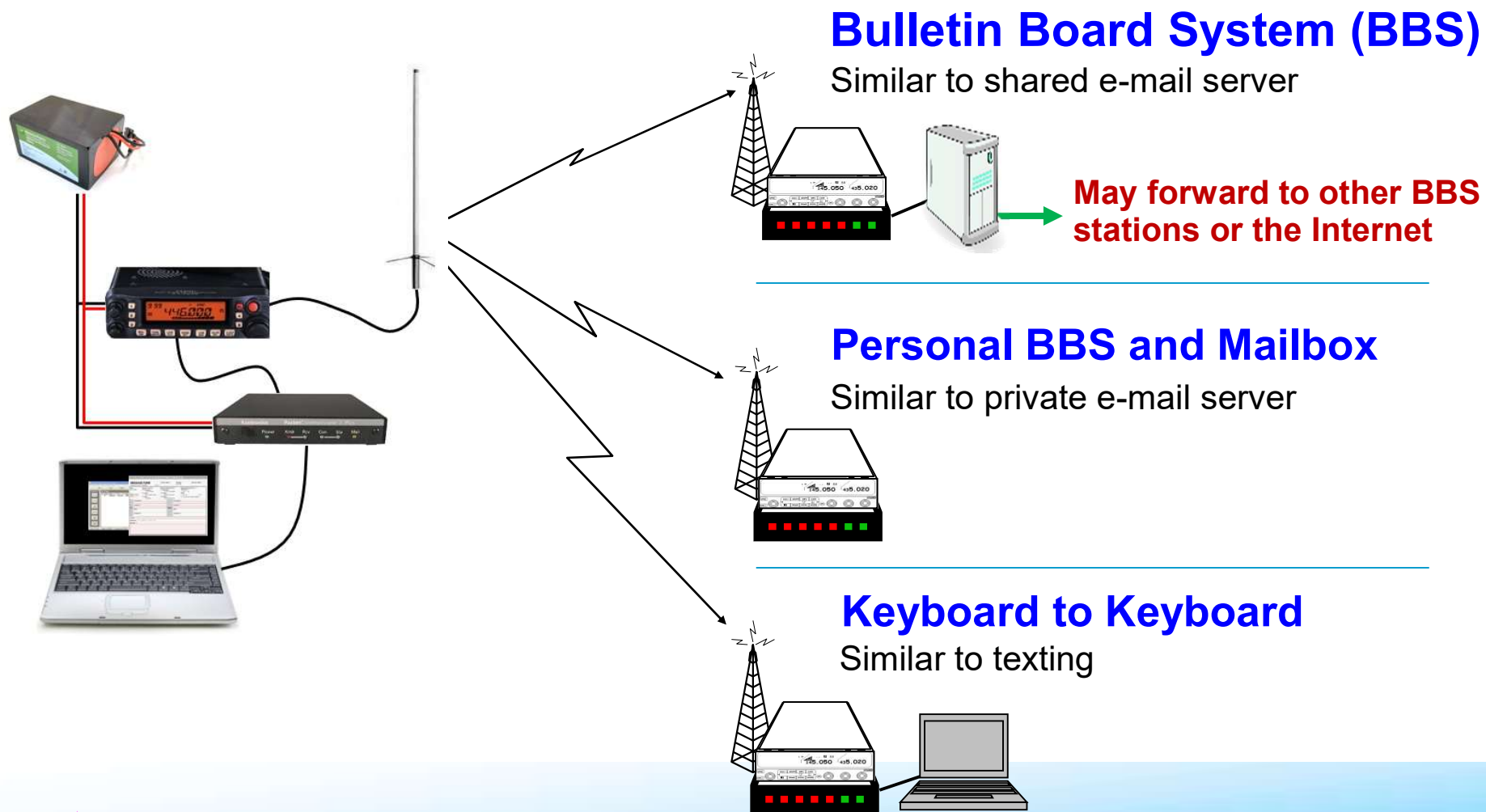
- Fits our served agencies' needs and workflow

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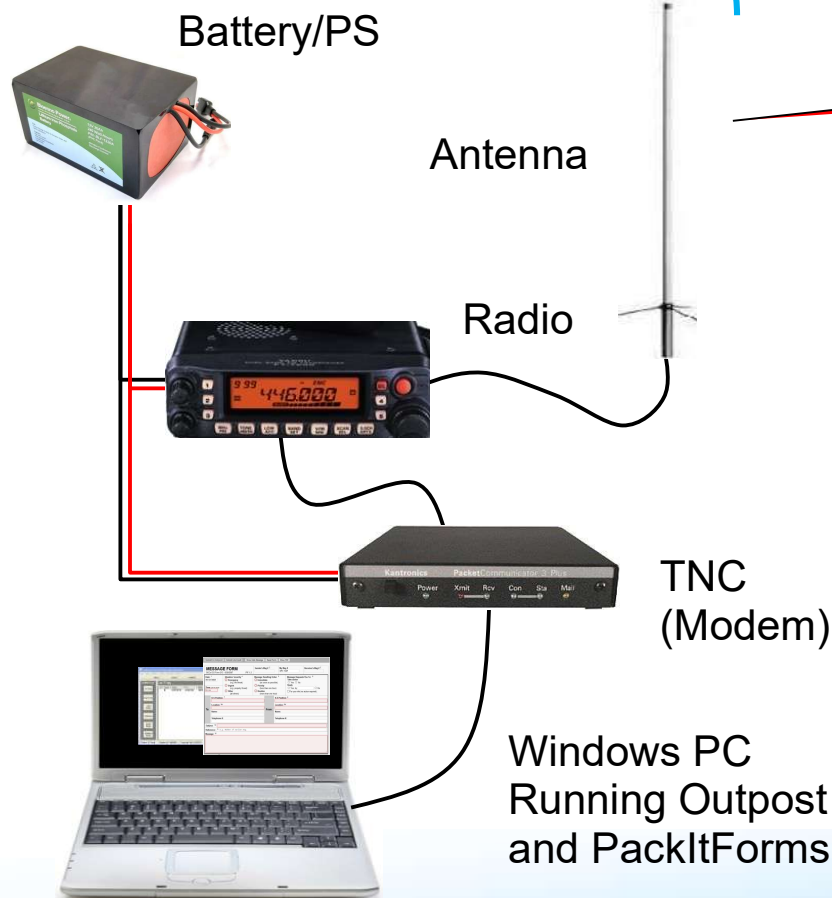
Typical packet network components

Battery/PS

Antenna

Radio

TNC
(Modem)

Windows PC
Running Outpost
and PackItForms

What does packet connect to?

A packet radio station can connect to a variety of other station types

Bulletin Board System (BBS)
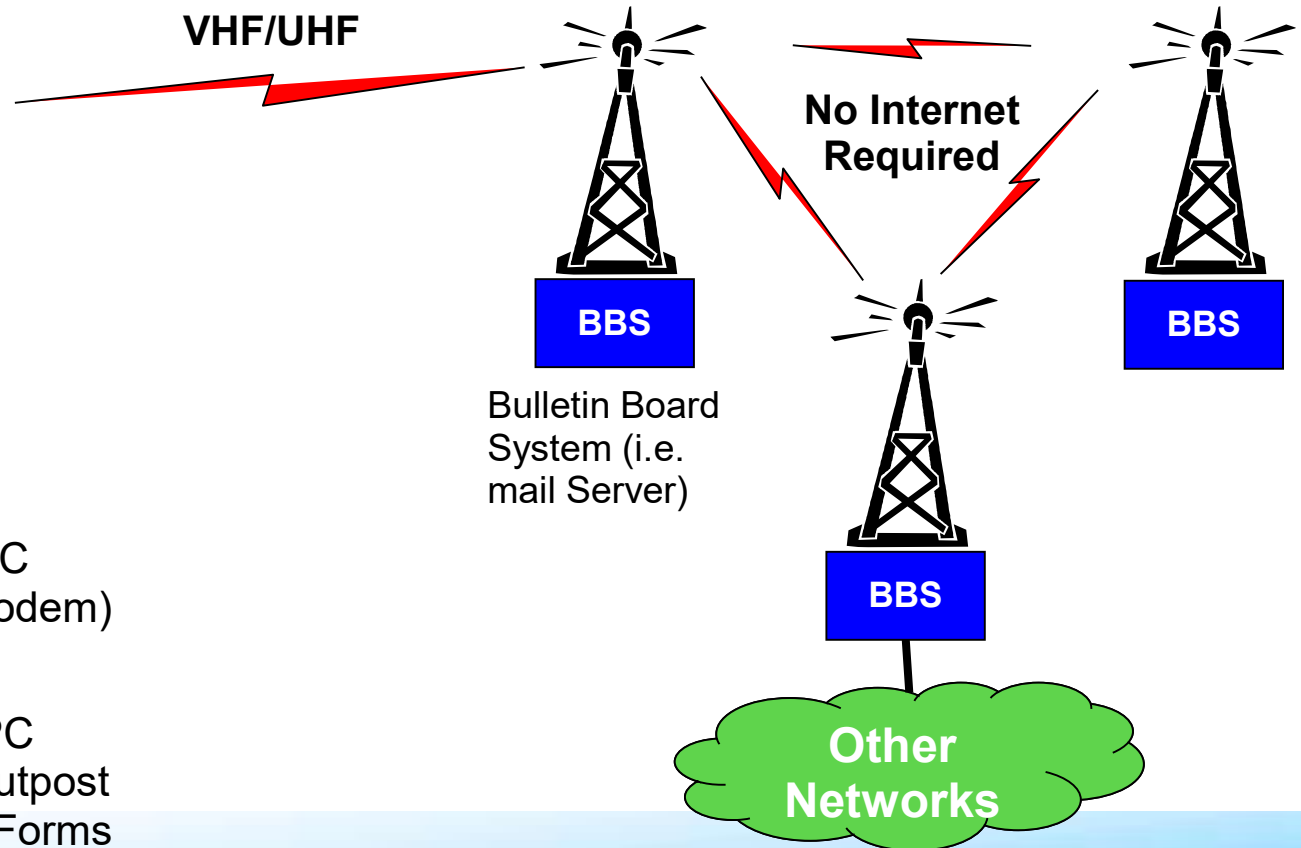Similar to shared e-mail server

May forward to other BBS stations or the Internet

Personal BBS and Mailbox
Similar to private e-mail server

Keyboard to Keyboard
Similar to texting

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Typical packet network components

USER
Portable, Battery operated,
Deploy anywhere

Battery/PS

Antenna

Radio

VHF/UHF

TNC
(Modem)

Windows PC
Running Outpost
and PackItForms

BBS
Fixed Sites (typically)
UPS, Generator

No Internet Required

BBS

BBS

BBS

Bulletin Board System (i.e. mail Server)

Other Networks

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W*n*XSC BBS Locations
Redundant Sites; Redundant Links

W3XSC-1
Palo Alto

W4XSC-1
Frazier Peak

Cupertino
SECONDARY

W1XSC-1
San Jose

Cupertino
PRIMARY

W2XSC-1
Crystal Peak
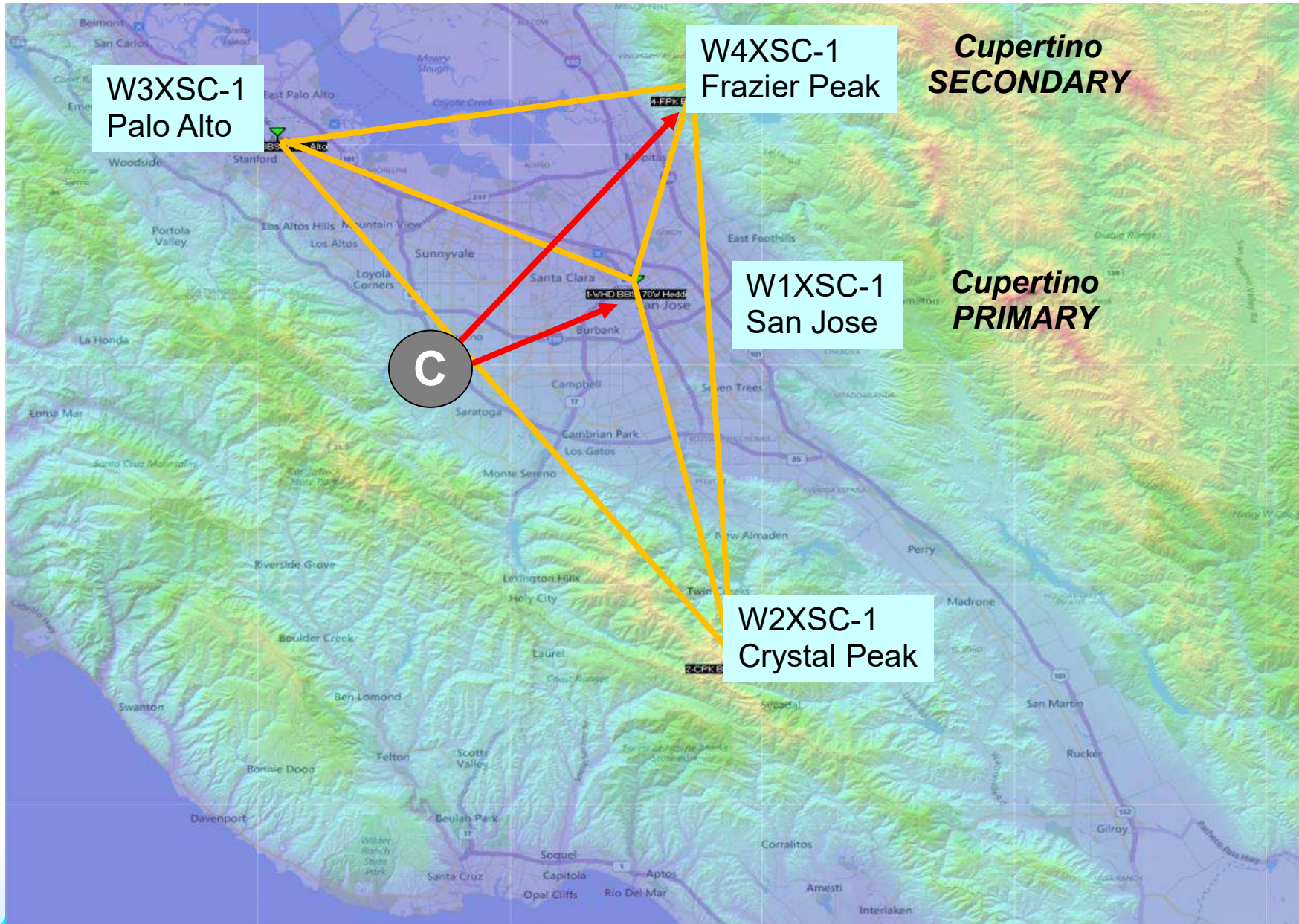
Four Connect Parameters you should know

- **Call Sign or Tactical Call of the user**
  example : W6XRL4
  XNDEOC

- **TNC Comm Port Settings**
  example : COM3,9600,8,N,1
  COM5,9600,7,E,1

- **BBS Connect Name**
  example : W1XSC-1
  W4XSC-1

- **BBS Frequencies**

Call Sign	AX.25	User Access	Location
W1XSC	W1XSC-1	145.750, 223.620, 433.570	Santa Clara Co Office Bldg (San Jose)
W2XSC	W2XSC-1	145.730, 223.560, 433.590	Crystal Peak (South County)
W3XSC	W3XSC-1	144.310, 223.540, 433.450	Palo Alto
W4XSC	W4XSC-1	145.690, 223.600*, 433.550	Frazier Peak (above Milpitas)
W5XSC	W5XSC-1	varies	Training, events, backup
W6XSC	W6XSC-1	varies	Testing, backup

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County Packet Docs

- *Packet Operator Checklist*

- *Packet Startup Procedure*

- *Client Software*

- *Packet Messaging*

Amateur Packet Radio Field Reference, Type III

For SCCo RACES Responders

February 2025

Cupertino Docs

Section 1 Quick Reference

- *BBS Frequencies*

- *Cupertino Tactical Calls*

Amateur Packet Radio Field Reference Addendum

Cupertino ARES/RACES

August 2022

References

1. Packet reference docs
   https://cupertinoares.org/index.php?content=docs#pacref
   Pull down the…
   > SCCo RACES Packet Reference Type III and
   > Cupertino Packet Addendum

2. SCCo RACES Packet Training slides
   https://www.scc-ares-races.org/training/ar-courses.shtml

3. A hands-on tour of the software we use in Santa Clara County
   Packet Exercises Workbook - 30-Jul-2024

Thank you!

Any Questions?