



State of the Mesh

State of the Mesh Agenda

- Introduction: A Common Operating Picture
- Where have we been?
- Where are we now?
- Where are we going?
 - SWOT
 - Smart Goals
 - Action Plan

Where have we been?-Objectives

- **Provide our community high speed emergency communications using a wireless local area network based on the AREDN amateur radio mesh protocol.**
- **Combine Mobile Ad Hoc Networking with home and tower based stations to achieve connections among amateur radio operators, served emergency response agencies and community partners.**
- **Provide rapid transfer of forms, email and imaging to improve situational awareness and resource allocation.**

Where have we been?-underlying principles

Amateur Radio Communications Emergency Operations principles:

- Interoperable communications-use what works (AREDN)
- Connect with neighboring counties (join forces, support)
- Find and utilize local talent, and equipment (use what you have)
- Priority links to operators and install working services immediately
- Field test equipment and coverage
- No single served agency controls the system or owns the devices
- Share what we know to help others succeed
- Use Part 97 rules. Don't share your WAN.

Where are we now?

160 nodes across 11 counties

Working network across 11 counties (Oregon focus)

- 166 number of nodes
- 318 number of devices

Distributed working services over a redundant high speed network

Long Range RF links using Part 97

Phone (VoIP) Services

48 VOIP phones on the mesh!

6 PBX servers

**Lane-K7EZR, Marion-KJ7DZ, West Lane-W7FLO,
Yamhill/Polk-K9RCP, Linn-K7LBC, Clackamas-AE7SI**

Exterior phone dialing available on KJ7DZ and K9RCP

XML live phonebook

2 Mumble servers-K7EZR & K9RCP

File Services

5 Web Based File Servers

WVM/Yamhill-K9RCP, Eugene-AI7NC-NextCloud w/Samba,
KN6GWT, KI7FWHPI, KA7JLO

User Public folders:

<https://sites.willamettevalleymesh.net/CALLSIGN/>

Just make folder called PUBLIC on K9RCP-Server under callsign!

Email/Chat Services

- Winlink-6 active RMS Servers-Yamhill, Lane, Marion,Linn
- Winlink Express provides ICS forms and interoperable communications
- 14 Mesh Chat Nodes-Simultaneous chat with all users across all served counties

The logo for Willamette Valley Mesh is a circular emblem. It features a network diagram on the left with red nodes and white lines connecting them. To the right of the diagram, the text "Willamette Valley Mesh" is written in a bold, black, sans-serif font, stacked in three lines.

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Collaboration Services

2 Citadel BBS servers (File, email, chat, calendar) Marion, Benton

2 NextCloud servers (Eugene, and Florence)

BPQ32 server with Winlink and Analog Packet interface (Linn)

Utility and Reference Features

Live Mesh Map (mirrored to the web)

2 ntp servers Marion and Linn using GPS

AllStar repeater linking

Wiki (Dokuwiki)

Wikipedia (Full Text)

iPerfspeed speed testing

nMap and ZenMap network topology tools

APRS-IS Servers

Experimental/promotional services

- 3 Local WX Stations
- ADS-B Plane Tracker
- Weather Balloon Tracker
- Minecraft Server
- Webcams

Where do we want to be?

- ?
- ?
- ?
- ?

Questions and Links?

Website: <https://willamettevalleymesh.net/>

Groups.io: <https://groups.io/g/WVMN>

The logo for Willamette Valley Mesh is a circular emblem. It features a network of red and white nodes connected by thin lines, forming a mesh pattern. The text "Willamette Valley Mesh" is written in a bold, sans-serif font to the right of the network diagram.

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