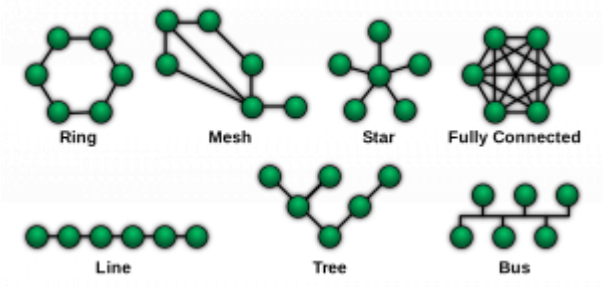
Network Topology

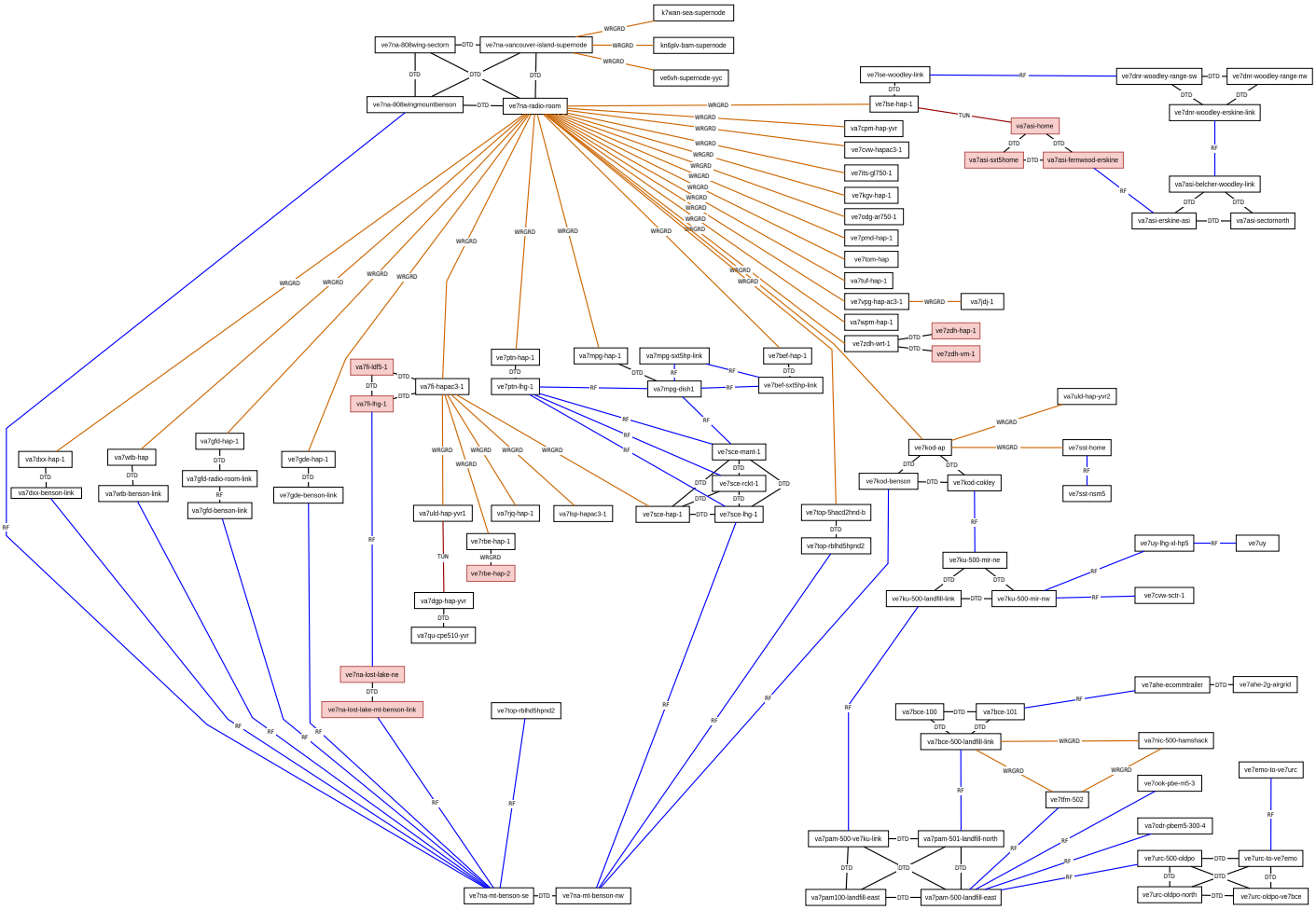


> A Network Topology is the arrangement of the elements (links, nodes, etc.) of a communication network.

There is no ideal network topology; each have their pros and cons depending on the application.

Current Topology

As of August 2, 2025, our network topology looks like this:[1)]



About the Diagram

It takes three steps to create the diagram above:

1. Create a text file of the topology using a python script (quick).
2. Import that text file into https://app.diagrams.net (quick).
3. Format it so that the edges (links) do not intersect too much (slow).

Python Script

This Python script loads the json files of all the nodes visible from a given station. Here is an example of what the json file looks like:

- http://VE7NA-RADIO-ROOM.local.mesh/cgi-bin/sysinfo.json?link_info=1&hosts=1.

Once the script has all the nodes' json files in memory, it creates output text files that summarizes some of the information.

To run the script yourself, you can either:

- Download the `aredn_info*.py` file if you have Python installed on your computer, or
- Download the zip file and run the `aredn_info*.exe` (for MS Windows).

aredn_info_v20251130.py	Generates the output files.
LICENSE.md	This script is Libre and Open Source Software.
ReadMe.txt	Of course we read the instructions.
aredn_info_v20251130.zip (7.3 MB)	Bundle of the above three files plus an `exe` file for Windows.

The script outputs these text files (Nov 30, 2025):

Diagrams_Net.txt	Can be inputted into https://www.diagrams.net (AKA *draw.io*)
Node_Info.csv	A spreadsheet of information about each node.
Topology.csv	A spreadsheet of each connection.
Topology_List.txt	A text file of each connection.

diagrams.net AKA draw.io

From diagrams.net:

> **diagrams.net** (previously **draw.io**) is a free and open source cross-platform graph drawing software developed in HTML5 and JavaScript.
>
> diagrams.net is available as online as cross-browser web app, and as offline desktop application for Linux, macOS, and Windows. The web app does not require online login or registration, and can open from and save to the local hard drive.

To create a chart from the output of the python script:

- Go to https://app.diagrams.net
- Select `Save diagrams to: Device`
- `Create New Diagrams`
- Create a `Blank Diagram`
- Click the + sign in the tool bar at the top
- Select `Advanced` → `From Text…`
- Select `Diagram` instead of `List`
- Replace the example with the output from the script and click `Insert`
- Click `Edit` → `Select Edges`
- On the right hand side, replace the arrows by lines.

1)

In Firefox, you can view the topology diagram better by right clicking on the image and selecting `This Frame → Open Frame in New Tab`. Then, Ctrl++ will zoom in and Ctrl+- will zoom out.

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https://wcaredn.ca/setups/topology/home?rev=1765942611

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