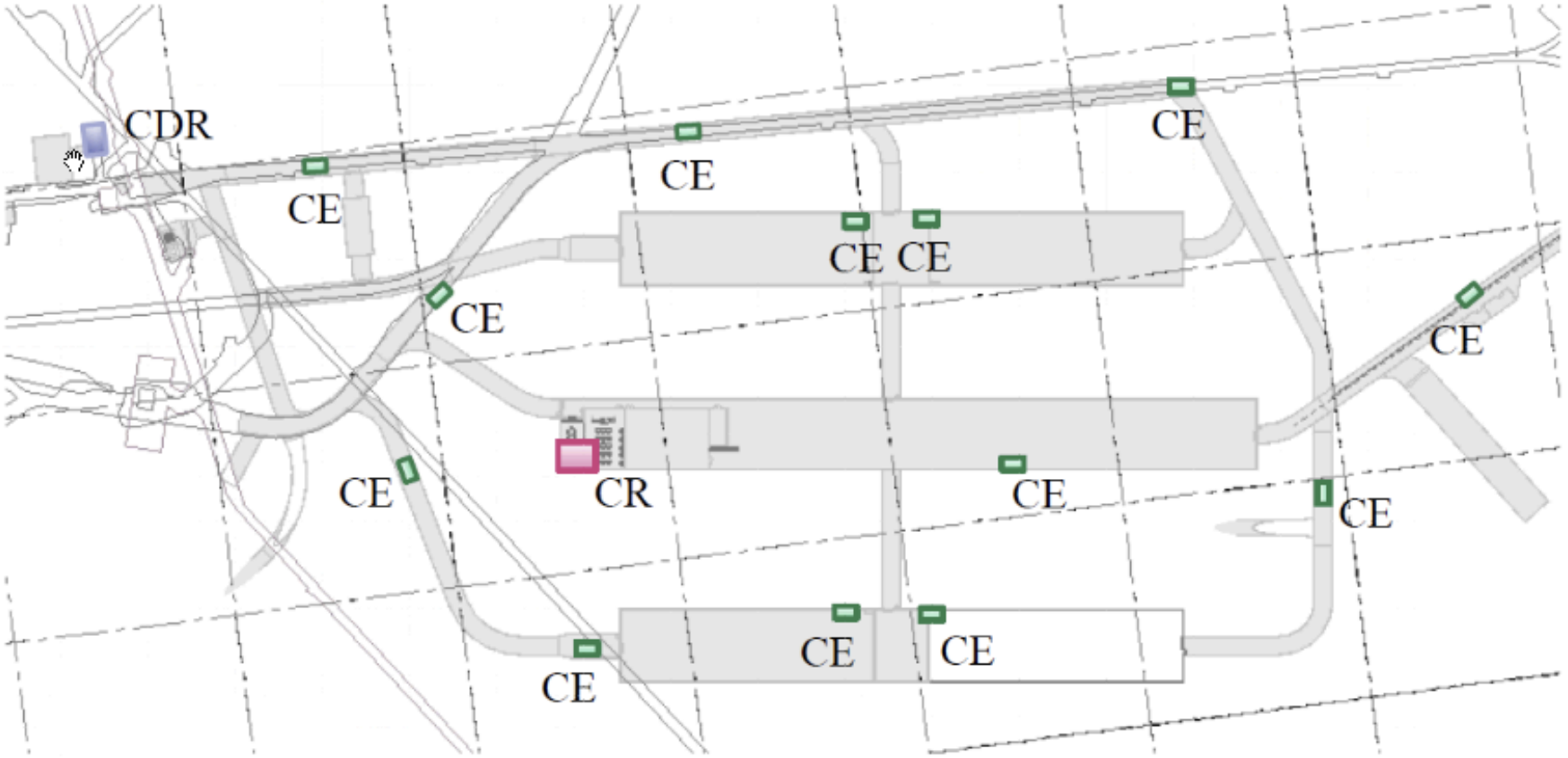
Some slides to start a discussion on this topic.

- We will update these slides after the talk.
- For now, please don't take any of this information as accurate

Underground Architecture



Interfaces between DUNE far detector DAQ and the SURF underground and surface conventional facilities

DRAFT

3 September 2015

Assumptions: The power, cooling and space requirements are based on the reference design from the July 2015 CD1 review. Checks [are being] made that the alternate design can fit in this same envelope. This assumes 5mm wire spacing on the APAs for the single-phase design. If the wire spacing is changed to e.g. 3mm, then the power requirements will increase by a factor 5/3.

Power and space interfaces

Underground in the detector cavern: Currently there will be 75 ports on the cryostat per 10kt cavern, corresponding to the 150 APAs per 10kt cavern. The equipment, including the photon detector readout, the processing of the

Underground in the central DAQ area

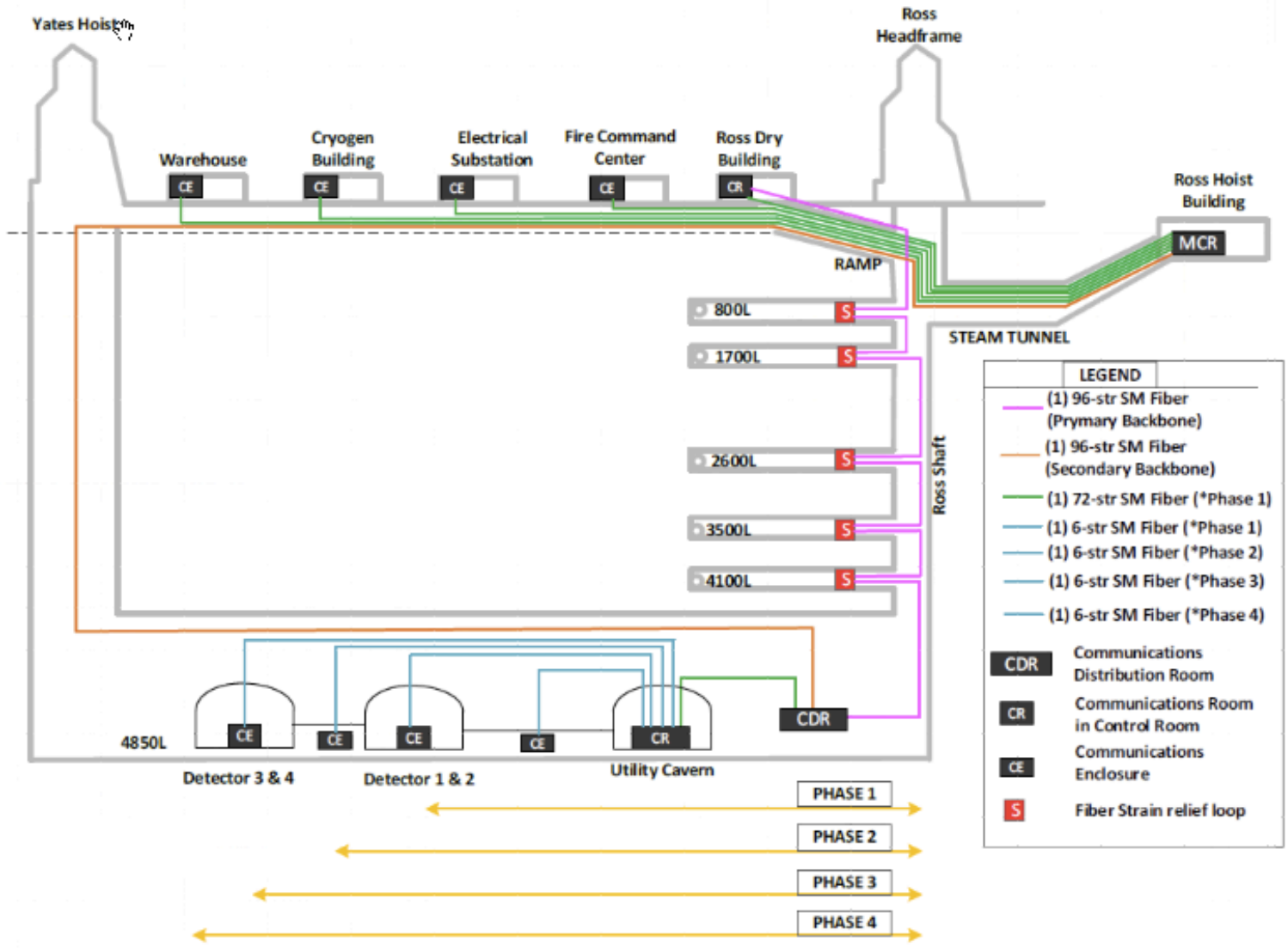
Underground in the comms. room

On the surface

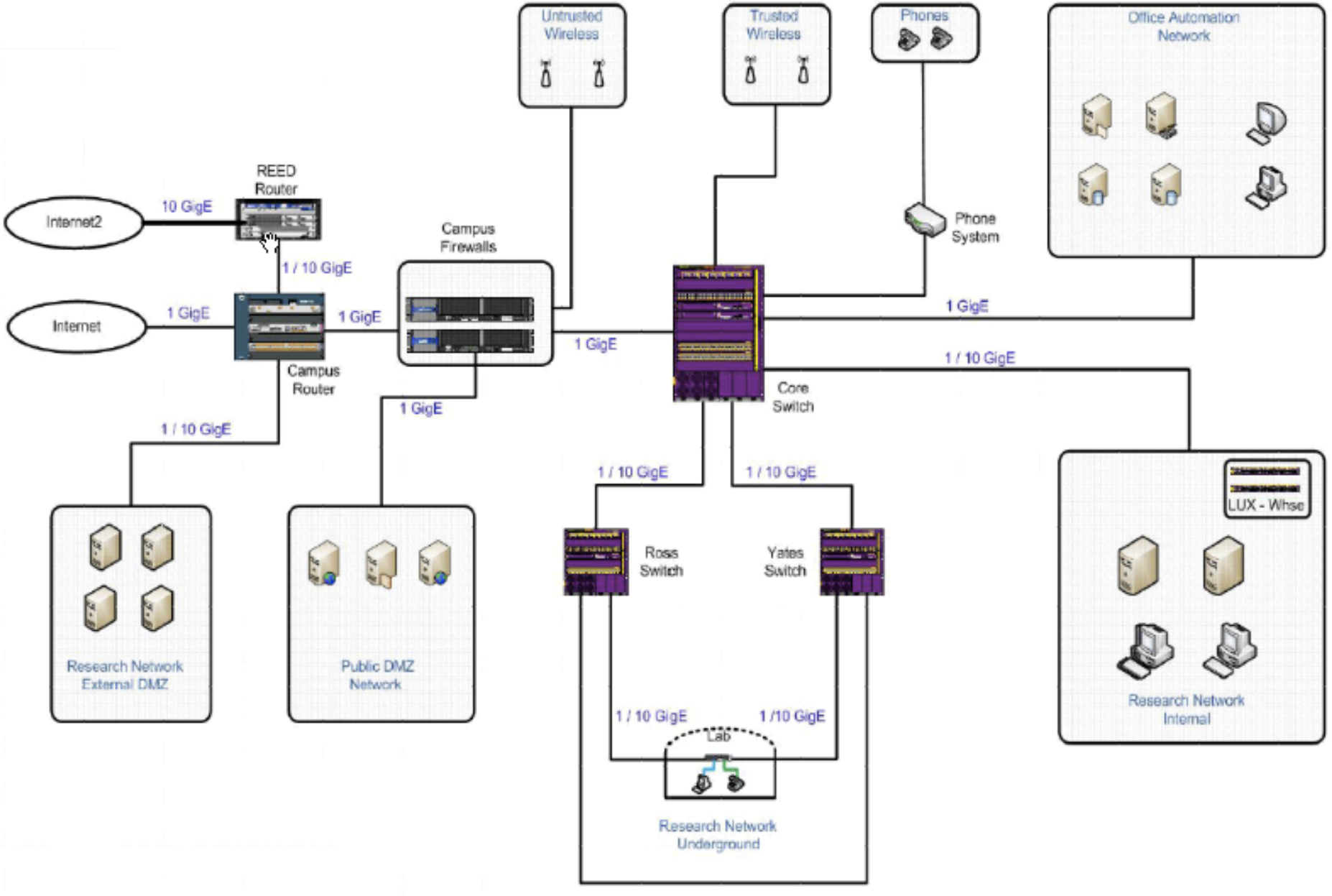
Networking interfaces

Check over next few days how compatible this is with various L-Ar DAQ experience/plans
- CDR reference design: Terri & Matt
- MicroBooNE extrapolation: Georgia
- Dual-phase: Jacques
- PCIe-type architecture: (…)

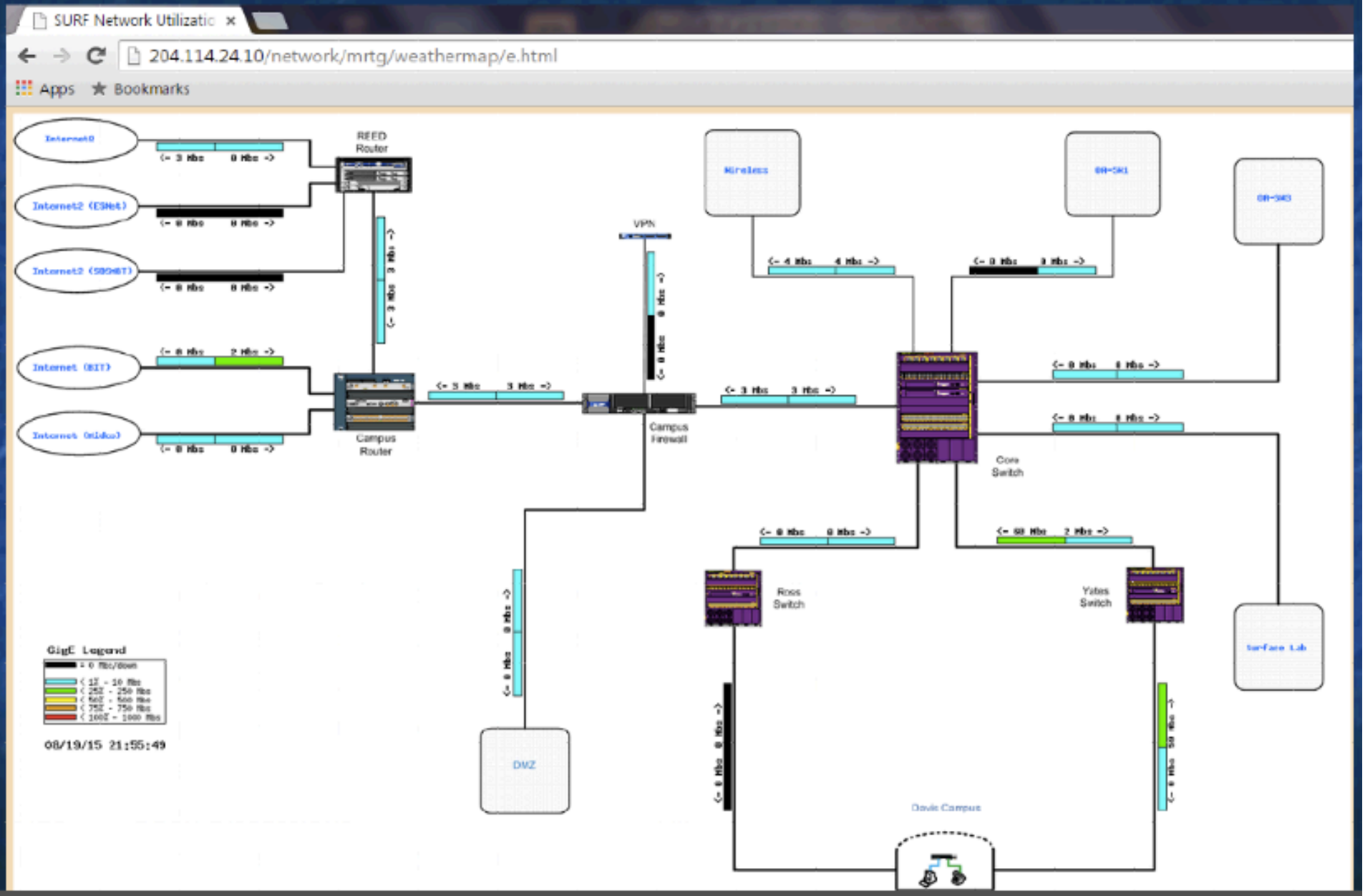
Fiber Backbone Connections



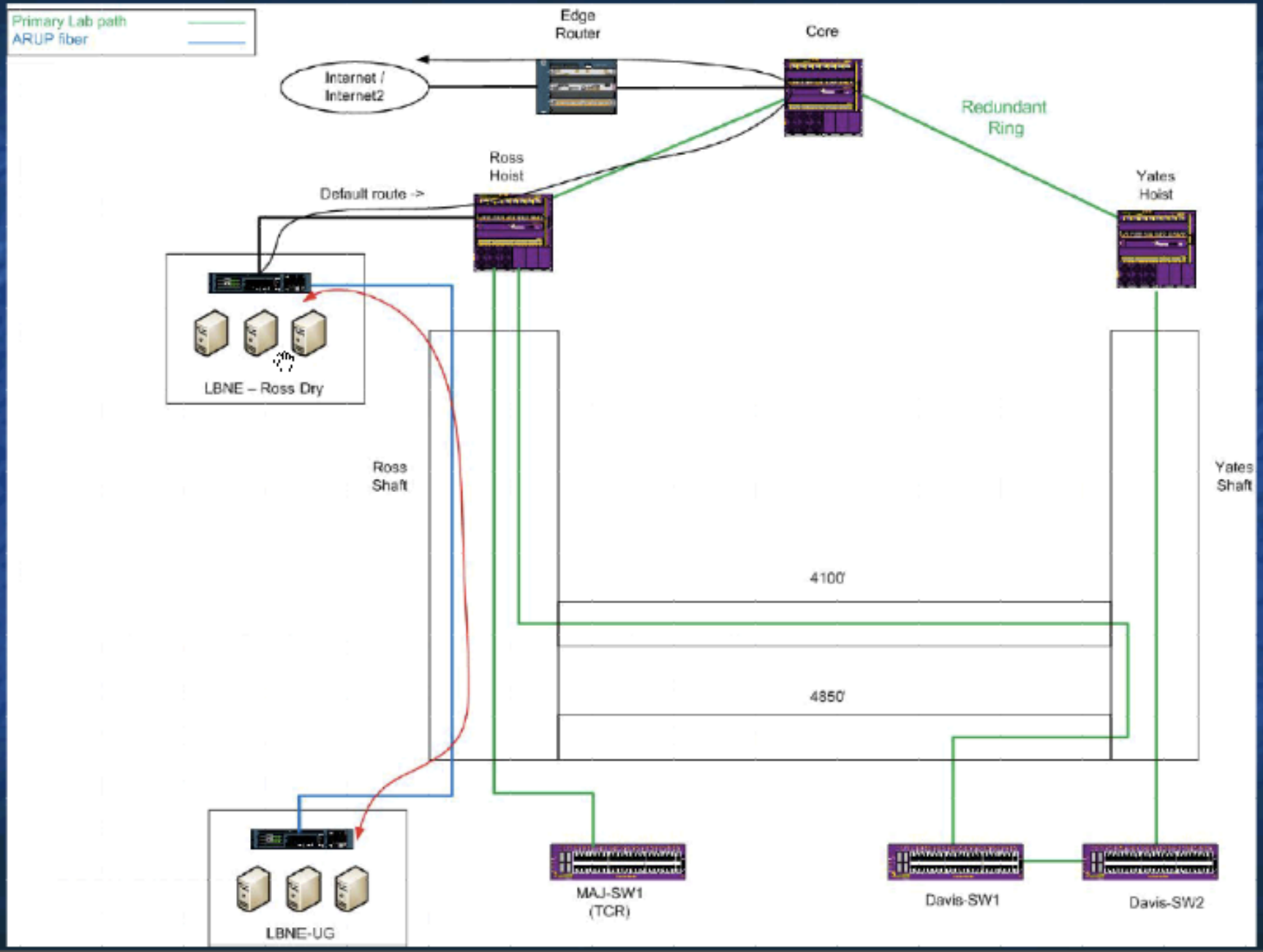
Current SURF Lab Network



SURF WeatherMap



SURF / ARUP Proposed



SURF Future Network Design Concept