Experiences in the Wisconsin Advanced Internet Laboratory

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WAIL Overview

- WAIL: Wisconsin Advanced Internet Lab

  - Large-scale networking lab

  - Used by many Wisconsin students for research & coursework

- Accessible to external users through Schooner

  - http://www.schooner.wail.wisc.edu/

  - Based on Emulab system

  - Some extensions to support adding/configuring routers and other equipment

Lab Infrastructure

- ~400 workstations

- A variety of Cisco routers

  - Several GSRs, 6500s, 7300s, ~30 total

- Some specialized measurement hardware

  - DAG boards, optical splitters
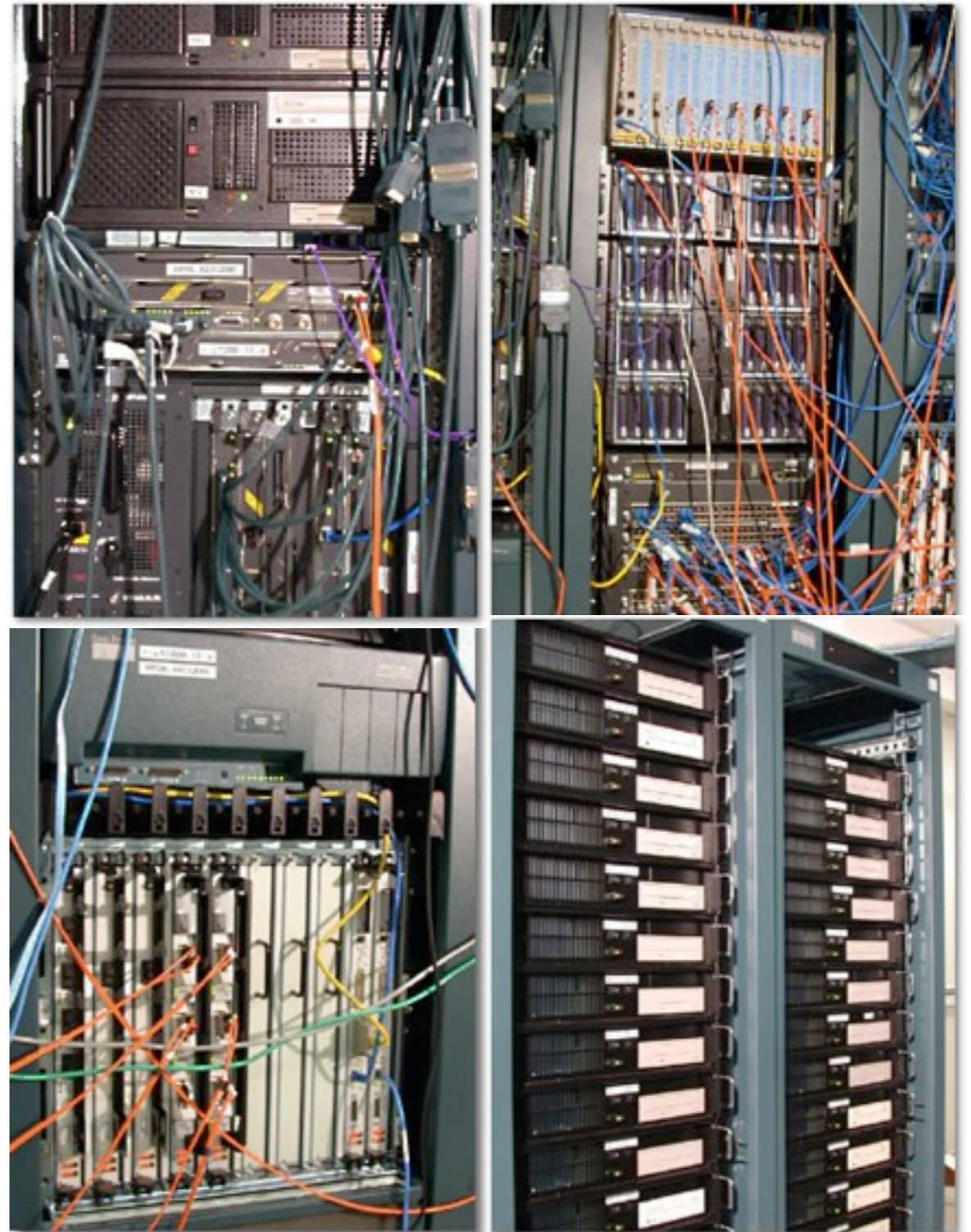
Common issues and questions (1)

- Most questions come from main user base: students

  - Most users are internal (Wisconsin) students

    - Both grad students and undergrads, for research and coursework

    - Some external users, but many fewer

  - How to configure routers?

    - E.g., set up MPLS tunnels, configure dynamic routing, etc.

    - Many users do not have experience with Cisco command line

Common issues and questions (2)

- How to configure ... anything

  - Some need help with general OS configuration, installing software, setting up software to run experiments

  - Generally pretty easy to resolve

- General response: ask what the goal is and suggest an approach (and documentation)

  - Depending on experiment setup, these can be harder to resolve

  - Hard to learn Cisco command line and configure useful services

    - But a clear game plan helps (& pointers to relevant documentation)

Lessons

- A library of (annotated) configuration recipes helps for most cases

  - E.g., MPLS setups, OSPF and BGP setups, etc.

- Detailed tutorial(s) also help

  - Especially for router configuration

- More "exotic" experiments need case-by-case assistance

Questions?