

Campus Network Design Workshop

- [Detailed Agenda](#) (includes links to presentations and schedule)

Synopsis

This 5-day workshop is targeted at engineers from tertiary institutions (campuses) and national or regional research and education networks (RENs). Engineers who participate in this workshop will learn about:

- best practice techniques in the areas of core network and Linux/Unix system administration skills
- campus network design at layers 2 (switching) and 3 (routing)
- building proper instrumentation to monitor and manage the network

These skills will in turn drive an increase in network security and reliability.

Target Audience

Network system administrators, engineers and technicians from campuses and RENs who are responsible for network maintenance, planning and design.

Pre-Requisites

- Medium to good knowledge of the UNIX/Linux command line environment
- Basic knowledge of TCP/IP networking
- PARTICIPANTS ARE REQUIRED TO BRING A LAPTOP

Workshop Topics

- Network design goals
- Research and Education Networks
- Cable types - Copper cabling systems - Fiber Optic Systems
- Hierarchical design building blocks
- Build star networks
- Separate core and edge functions
- Routing Vs Switching
- IP addressing

Objectives

At the end of the workshop students will be able to:

- Explain the goals associated with fit-for-purpose network design and demonstrate this understanding through successful completion of lab exercises.
- Explain the different models of a Research and Education Network and be able to share with the class the model used or proposed in their economy.
- Explain physical cabling types, their differences and where they might be best deployed.
- Explain and demonstrate how to build networks hierarchically using a star topology.
 - Present their current network topology and explain how this compares to the star-topology taught in class.
 - Produce a sample addressing plan and present it, plus the underlying design rationale in class.
 - Produce an IP Subnetting and VLAN design for their campus network.

Class Size

The Workshop can accommodate up to 36 participants.

Trainers

- Philip Smith [NSRC](#)

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