Campus Network Design and Security Workshop

Welcome

UNIVERSITY OF OREGON

NSRC
Network Startup Resource Center

Instructors

Jon Brewer	**NSRC**	**New Zealand**
Andy Linton	**NSRC**	**New Zealand**
Dale Smith	**NSRC**	**United States**
Philip Smith	**NSRC**	**Australia**

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Schedule

Proposed Time Schedule

Session 1	09:00 – 10:30
Break	10:30 – 11:00
Session 2	11:00 – 13:00
Lunch	13:00 – 14:00
Session 3	14:00 – 15:30
Break	15:30 – 16:00
Session 4	16:00 – 18:00+

Potential evening sessions. See Agenda for further details

Agenda

Monday

Session 1	Welcome Campus Network Design Principles and Best Practices
Session 2	Campus Network Cabling and Installation Fibre Optic Pricing Lab
Session 3	Introduction to Linux Introduction to Commands Linux Labs Editing Linux Labs
Session 4	Layer 1,2,3 Refresher IP and IPv6 TCP/IP Lab

Tuesday

Session 1	Cisco Configuration Essentials Layer 2 Network Design Ethernet Evolution
Session 2	Switching Architectures: Spanning Tree
Session 3	Spannning Tree (Lab)
Session 4	Switching Architectures: VLANs

Wednesday

Session 1	Routing and Forwarding Basics Core Network Design
Session 2	Static Routing Lab
Session 3	Selecting campus core router Network migration and planning
Session 4	Building Switched Campus Network

Thursday

Session 1	Network Monitoring and Management for Network Security
Session 2	Netflow / nfsen
Session 3	Security: Threats, Risks, Attacks
Session 4	Logging and Auditing

Friday

Session 1	ACLs & Firewalls Lab
Session 2	IDS: Methods & Tools Snort & Netflow Lab
Session 3	Wrap-up, Q&A

Administrative Items

- **Agenda**
  - http://noc.ws.nsrc.org/
- **During the course**
  - Please ask questions as you have them.
  - Your experiences are valuable. Please share them.
  - The schedule is somewhat flexible.
- **Course Materials**
  - Available in electronic format during the week:

    http://noc.ws.nsrc.org/
  - Will be available permanently here:

    http://nsrc.org/workshops/20XX/…

Virtual machine access

There are two users on your virtual machines

General User

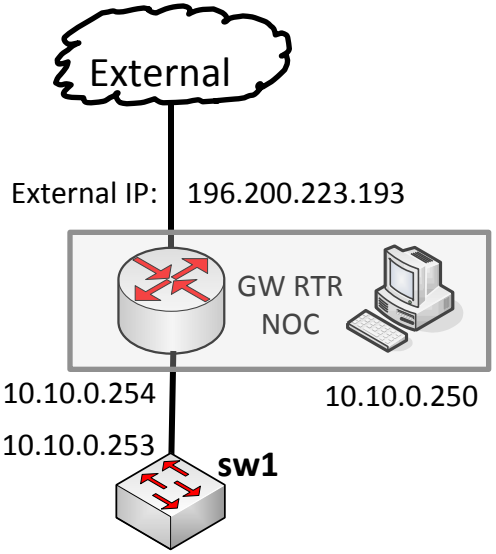
sysadm

Administrative User

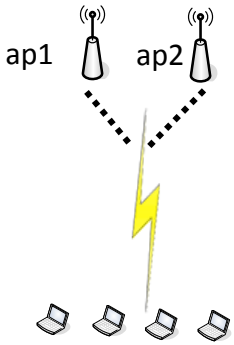
root

Passwords are or will be written down in class

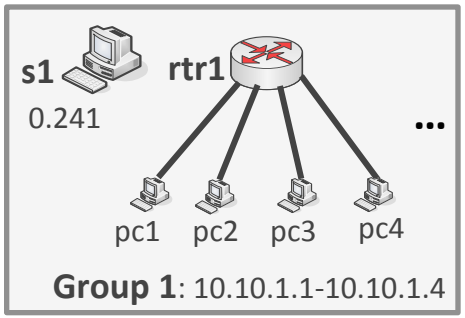
Logical Network Diagram

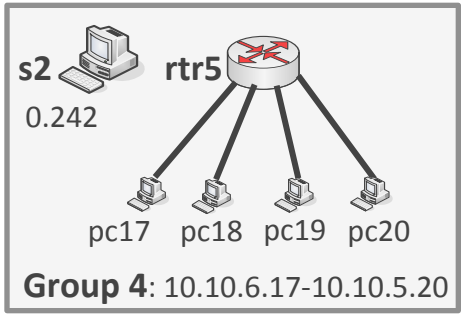


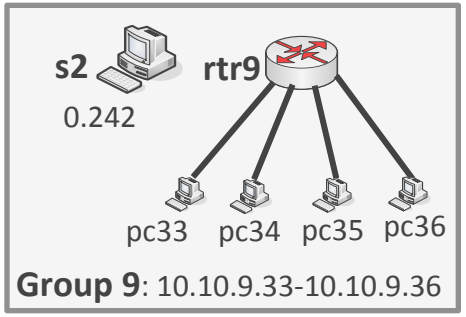
10.10.0.0/24
Classroom backbone



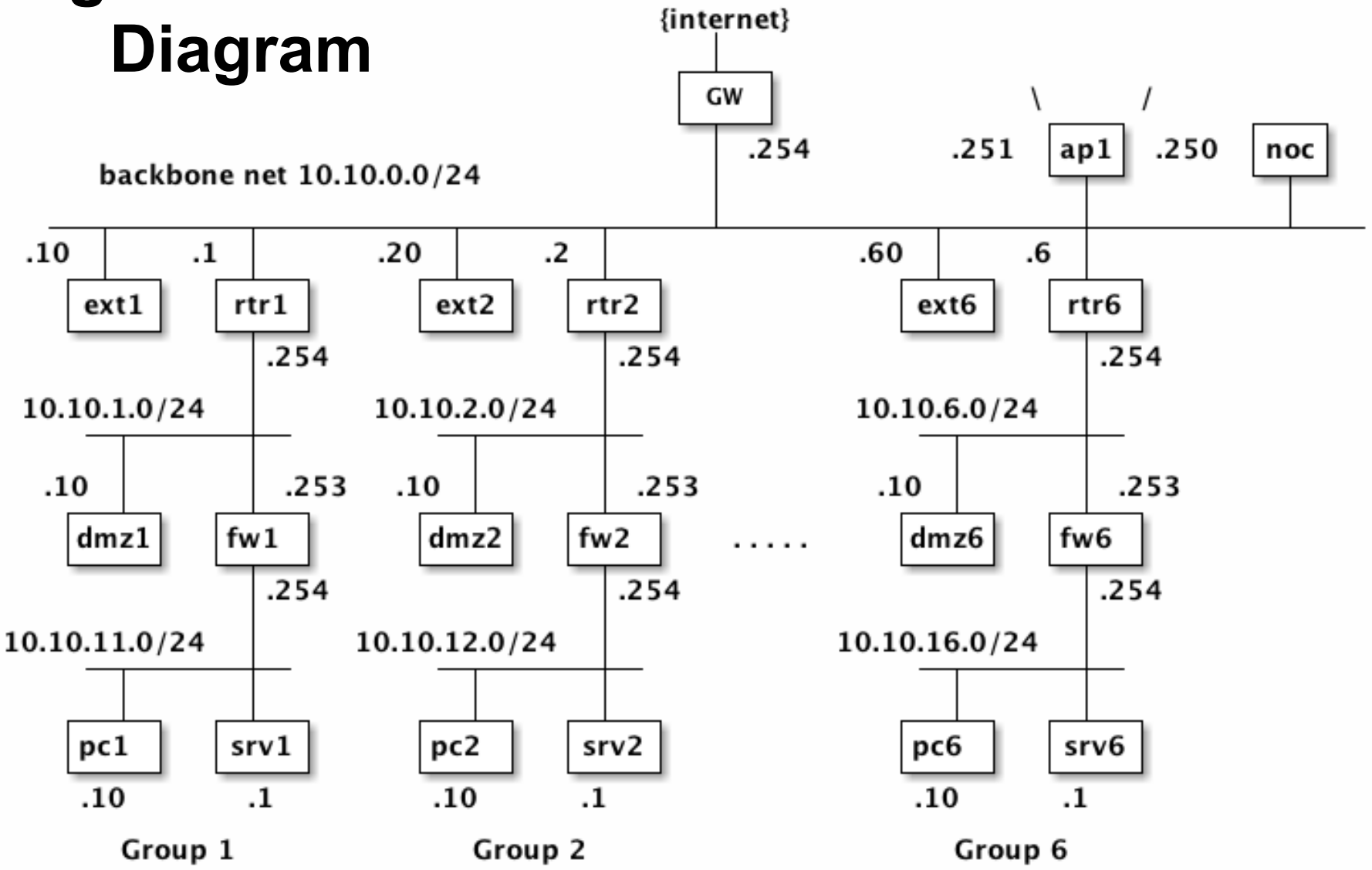
wifi clients: 0.50-0.149





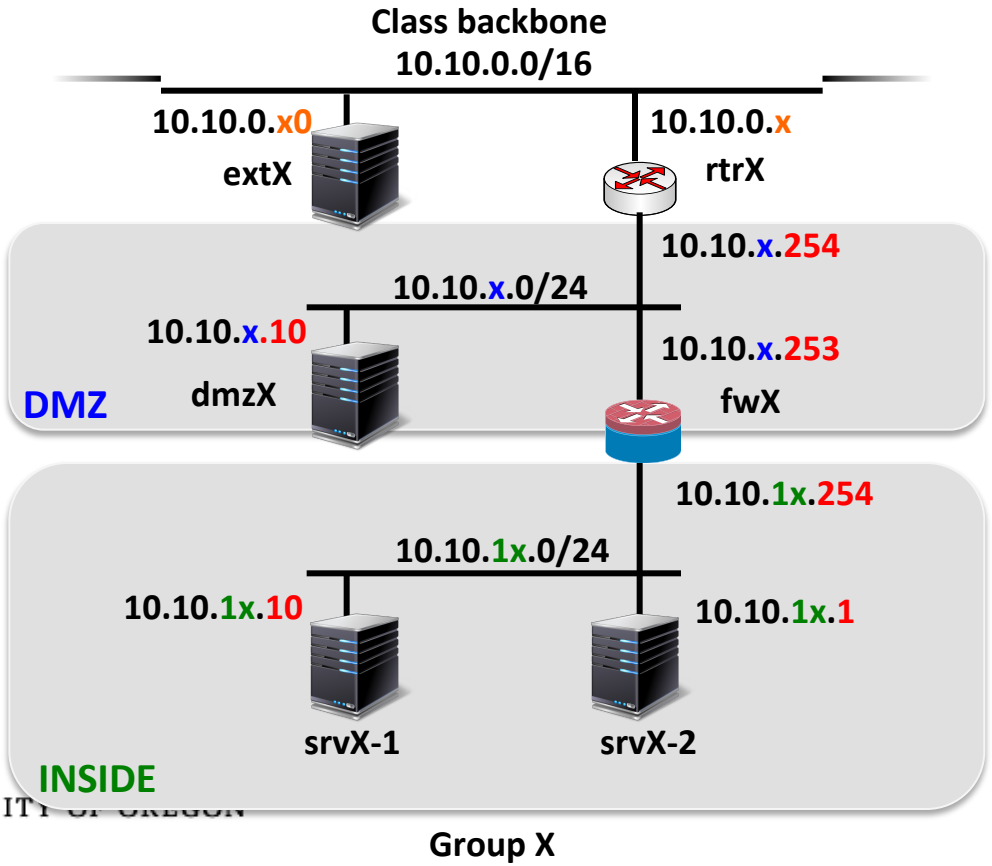


Logical Network Diagram



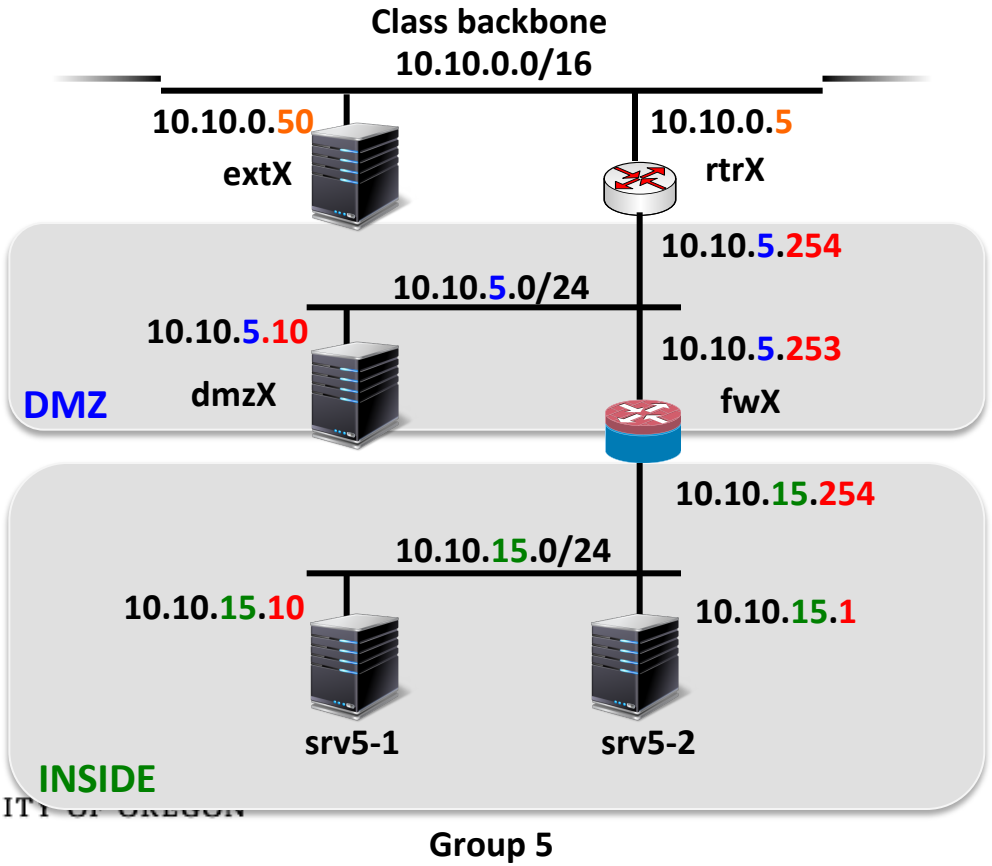
Virtual machine groups

- 6 groups of virtual machines
- Each group is built up as follows:



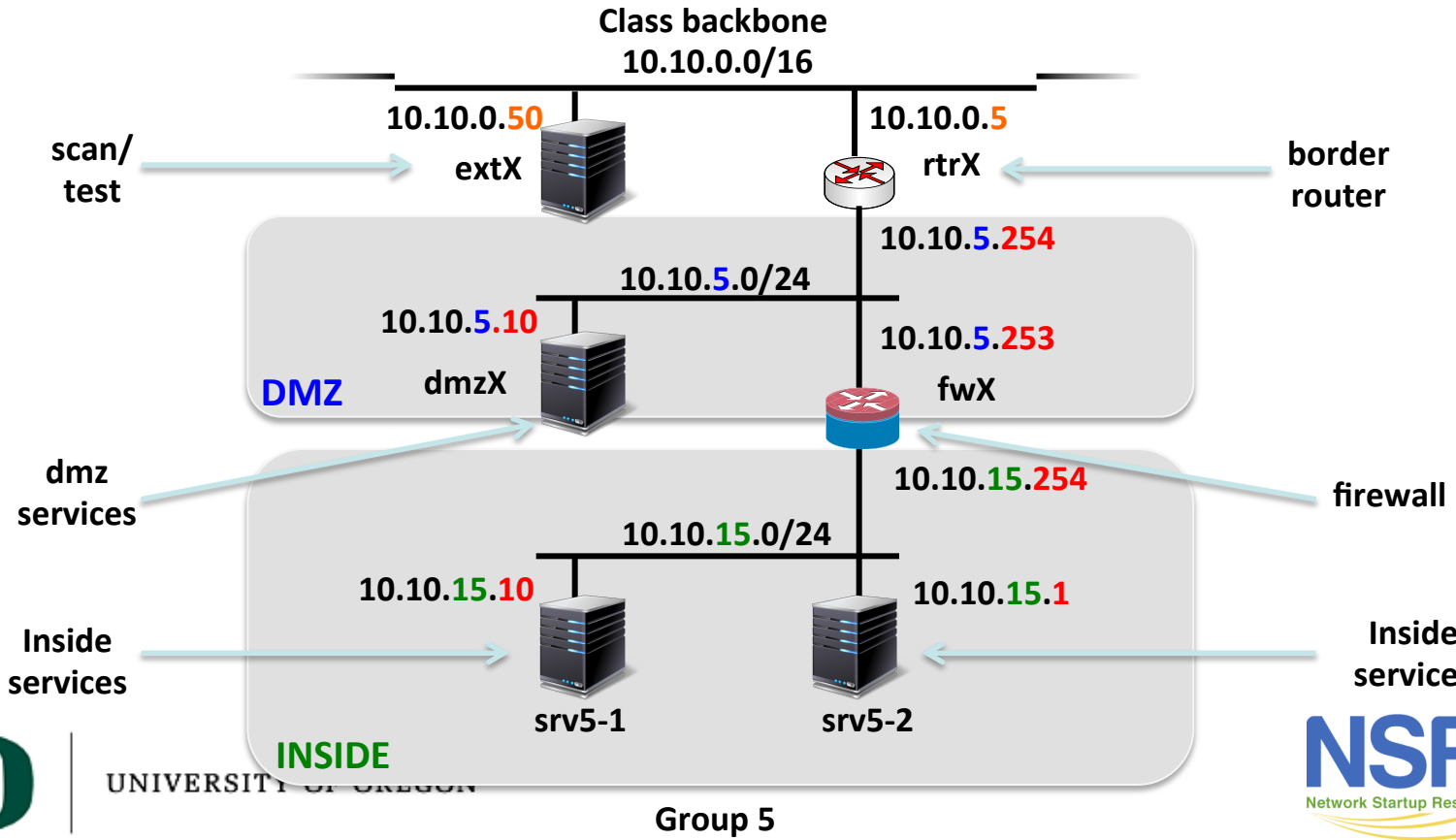
Virtual machine groups

- Example for group 5



Virtual machine groups

- Example for group 5



Assigning your group now

You will work as groups on some exercises. We will assign groups now. Please use the same group/virtual machines during the whole week.

Questions

Do you have any questions?