

Campus Network Design Security and Management

Introduction and Logistics

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- Google
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- University of Oregon



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Instructor Team

Name	Organization (country)
Hervey Allen	NSRC (Chile / USA)
Hans Kuhn	NSRC (USA)
Andy Linton	NSRC (New Zealand)
Phil Regnauld	NSRC (Denmark / France)
Dale Smith	NSRC (USA)



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Logistics

- Local Workshop Server
 - <http://noc.ws.nsrc.org>
- Final workshop documentation
 - <http://nsrc.org/workshops/2012/druken-nsrc/>
- Wireless Network
 - SSID for this workshop is **NSRC**, and the key is “8888888888” – ten times the number 8



Week Schedule

Day	Topic
Monday	Introduction to Cisco Essentials Layer 2 and Layer 3 Theory and Labs
Tuesday	Campus Network Design and Roundtable Security and Network Management Intro
Wednesday	Linux Basics, SNMP, Observium, Smokeping
Thursday	Smokeping, Nagios, Network Documentation
Friday	Log Management, NetFlow and NfSen Wrap up and close



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Day Schedule

Time	Activity
0900-1030	Morning Session 1
1030-1100	Break
1100-1300	Morning Session 2
1300-1400	Lunch
1400-1600	Afternoon Session 1
1600-1630	Break
1630-1800+	Afternoon Session 2



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Switching & Routing Practice

We have two environments

1. Remove lab of switches and routers at the University of Oregon
 2. Local, virtual lab of Routers with Virtual PCs
- You will use both ssh and telnet to access these devices.
 - You will work in groups



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Network Management Practice

- We will use virtual machines running Ubuntu Linux 12.04 LTS.
- There are two users on your virtual machines (pc1-pc28)

General User
sysadm

Administrative User
root

Passwords will be made available in class



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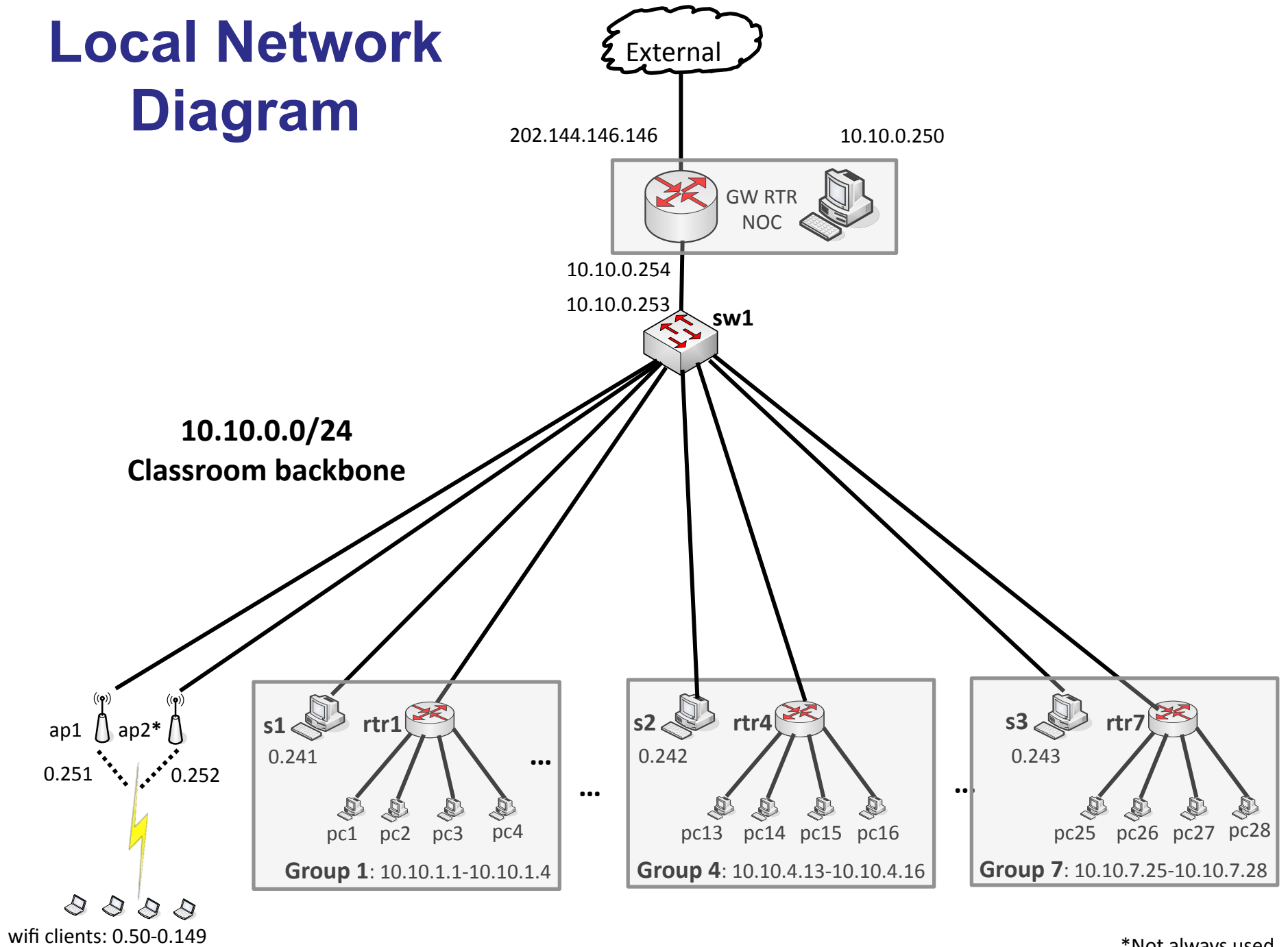
Network Management Practice

- You will work in groups of 4
- Each group will be assigned one router
- 7 total routers and 28 total virtual machines
- Please select your group now

GROUP 1	GROUP 4	GROUP 7
rtr1 ==> 10.10.1.254	rtr4 ==> 10.10.4.254	rtr7 ==> 10.10.7.254
pc1 ==> 10.10.1.1	pc13 ==> 10.10.4.13	pc25 ==> 10.10.7.25
pc2 ==> 10.10.1.2	pc14 ==> 10.10.4.14	pc26 ==> 10.10.7.26
pc3 ==> 10.10.1.3	pc15 ==> 10.10.4.15	pc27 ==> 10.10.7.27
pc4 ==> 10.10.1.4	pc16 ==> 10.10.4.16	pc28 ==> 10.10.7.28
GROUP 2	GROUP 5	
rtr2 ==> 10.10.2.254	rtr5 ==> 10.10.5.254	
pc5 ==> 10.10.2.5	pc17 ==> 10.10.5.17	
pc6 ==> 10.10.2.6	pc18 ==> 10.10.5.18	
pc7 ==> 10.10.2.7	pc19 ==> 10.10.5.19	
pc8 ==> 10.10.2.8	pc20 ==> 10.10.5.20	
GROUP 3	GROUP 6	
rtr3 ==> 10.10.3.254	rtr6 ==> 10.10.6.254	
pc9 ==> 10.10.3.9	pc21 ==> 10.10.6.21	
pc10 ==> 10.10.3.10	pc22 ==> 10.10.6.22	
pc11 ==> 10.10.3.11	pc23 ==> 10.10.6.23	
pc12 ==> 10.10.3.12	pc24 ==> 10.10.6.24	



Local Network Diagram



Key for Success

Remember, this workshop is for you!

- If you do not understand or have questions, ask for clarification
- Please share your thoughts and experiences. They are valuable
- Take advantage of the event to meet your colleagues and build the “human network”



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Questions

Do you have any questions?



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