

Lab Course RouterLab

Preliminary Meeting

Technische Universität Berlin
An-Institut Deutsche Telekom Laboratories
FG INET, Prof. Anja Feldmann, Ph.D.
Fakultät IV – Elektrotechnik und Informatik

Tutors

- ❑ Amir Mehmood
- ❑ Thomas Hühn
- ❑ Luigi Iannone
- ❑ Gregor Schaffrath
- ❑ Wolfgang Mühlbauer

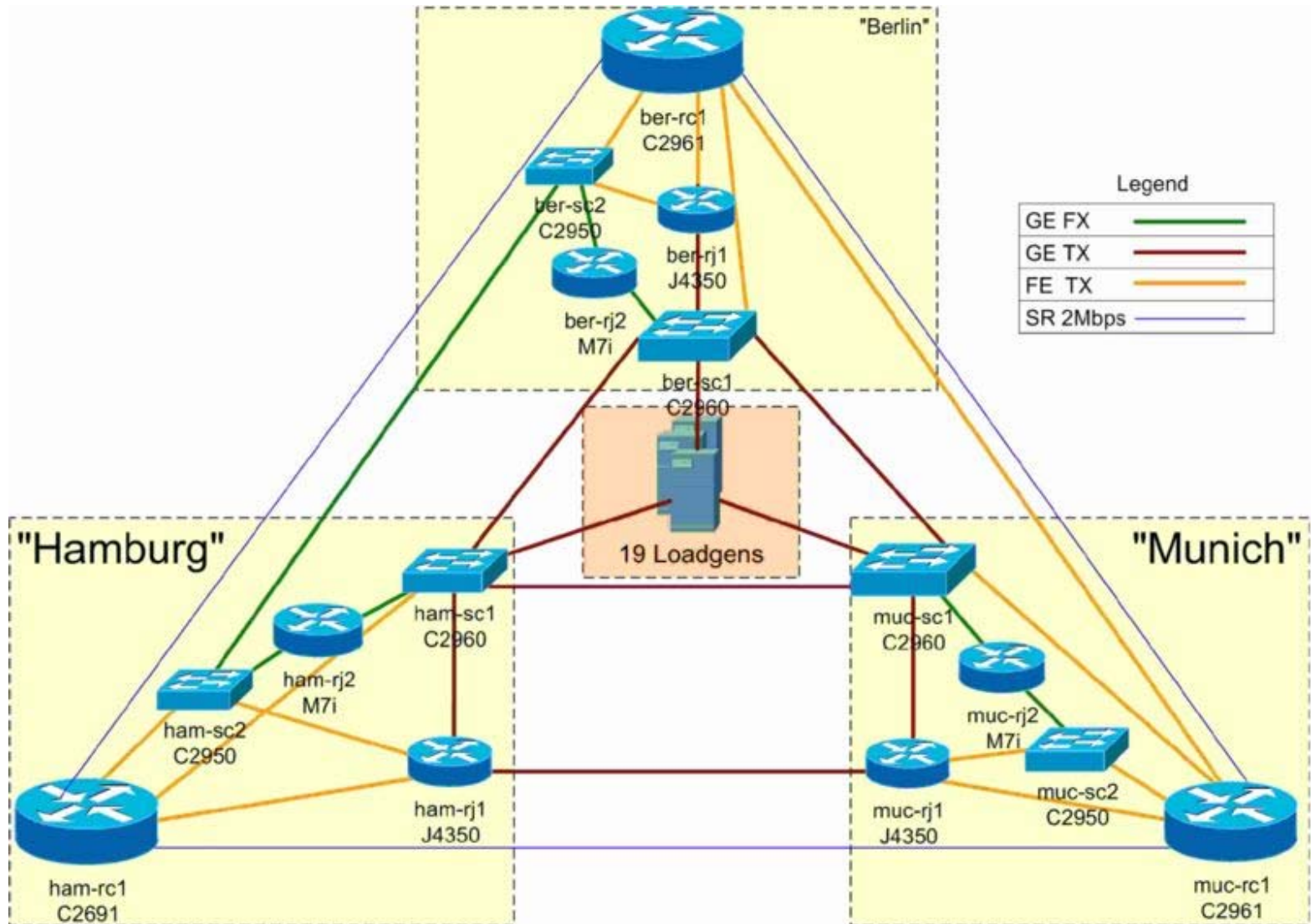
- ❑ How to reach us
 - praktikum@lists.net.t-labs.tu-berlin.de

RouterLab

- ❑ Internet testbed at FG INET
 - Routers: Cisco, Juniper
 - Switches
 - Linux PCs (Loadgens)



RouterLab - Topology

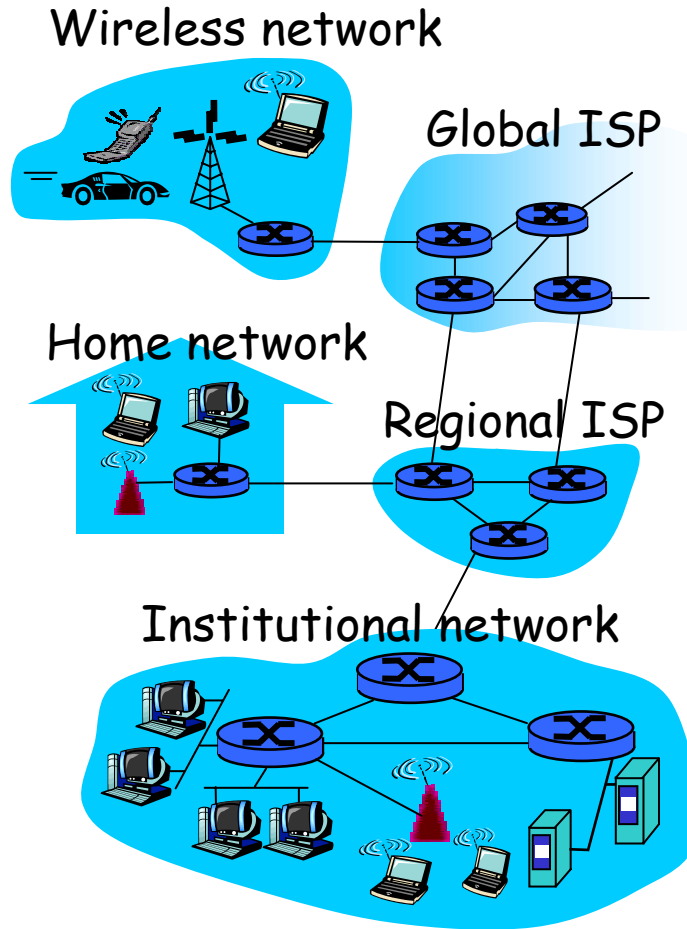


RouterLab Course - Prerequisites

- ❑ Grundstudium oder Grundmodule / Basic studies or basic modules
 - In general: after 4 semesters
- ❑ Basics in
 - Internet protocols (IP, TCP, ...)
 - Internet architectures (ASs, ...)
 - Linux/Unix (ssh, cp, scp, ...)
- ❑ Lectures
 - Network Architectures and Protocols (Prof. Feldmann) or
 - Telekommunikationsnetze (Prof. Wolisz)
- ❑ English: Good oral and written skills
 - We grade the technical quality of your work not your English!

Internet – Nuts and Bolts

wifi



Sprint

Deutsche Telekom
(T-online)

TU-Berlin

Routerlab Course - Goals

- ❑ Deepen understanding of
 - Internet protocols (e.g., TCP/IP routing)
 - Management of networking devices (e.g., SNMP)
 - Internet traffic (e.g., workload generation)
 - Wireless networking (PPPoE)
- ❑ Learn how to configure
 - Cisco router and switches (Cisco IOS)
 - Juniper routers (JunOS)
 - Networks on Linux PCs

A typical course week

- Tutorial/Zentralübung (**strongly recommended**)
 - Hand out new worksheet
 - Background info + hints on new worksheet
 - Time: Thursdays, 16:15-17:45
 - Room: A052 (Architekturgebäude)
- Solve problems on worksheet
 - Submit 1 week later
- Debriefing/Abnahme (**mandatory**)
 - Takes place ~ 2 weeks after handing out worksheet
 - Explain solution to your tutors
 - Room: Telefunken, 1st/ 2nd floor, IRB computers
 - Time: TBA
- Teaching Language: English

Topics of the course (1)

- ❑ Introduction: IP configuration, static routes
- ❑ VLAN
- ❑ RIP
- ❑ OSPF
- ❑ BGP
- ❑ Home connectivity: PPPoE, Radius, OpenWrt, ...
- ❑ Workload generation, monitoring
- ❑ Firewalls, traffic shaping
- ❑ Network Management (SNMP)

Registration

Form groups of two people if possible

- If not indicated during registration, we'll find a team partner for you

Register here:

- http://www.net.t-labs.tu-berlin.de/berlin.de/teaching/ss09/RL_labcourse/anmeldung

Deadline: April 20th, 11:00 am

Certificates/Scheine

- ❑ Some facts
 - 6 SWS / 6 ECTS
- ❑ To pass
 - 75% of total points **and**
 - 25% of points for each work sheet (one exception) **and**
 - Attend and pass the debriefing
- ❑ Course certificate
 - Diplom: You get a „Schein“ if you pass
 - „Vertiefungsveranstaltung“: Praktikum (PR)
 - Katalog A, Gebiet: „Betriebs- und Kommunikationssysteme“
 - Master/Bachelor:
 - Modul „Netzwerkarchitekturen-RouterLab“:
 - <http://iv.tu-berlin.de/comm/ak/Module/INF/FG/INET.pdf>
 - Registration for „Modulprüfung“ will be done later during the semester

Next steps

□ Register!

- You will be informed via e-mail latest by April 21st, 23:00pm whether you have been accepted or not!

□ Tutorial

- Room: A052
- Time: 16:00 c.t.
- Starts next week (April 23rd)
- We will form the groups and assign people to time slots

□ Debriefings

- 1st/2nd floor of Telefunken (IRB pool)
- Room: TBA
- **Important: Get a TUBIT account if you don't have one already**

Links

Webseite

- http://www.net.t-labs.tu-berlin.de/teaching/ss09/RL_labcourse
- **Register till April 20th, 11:00 am**

To contact us

- **praktikum@lists.net.t-labs.tu-berlin.de**
- Do not send e-mails to individual tutors!!

Information for diploma students

- <http://iv.tu-berlin.de/teaching/informatik/StuO90.htm>

Information for master/bachelor students

- <http://iv.tu-berlin.de/comm/ak/modul.html>

Questions

Short test ...

- ❑ Questions which we think you should be able to answer if you want to take this course
- ❑ It is for you to check your background knowledge
- ❑ You won't be considered for this course if you don't participate in this test!
- ❑ Time: < 15 minutes

Short test to check your background
knowledge
(time: < 15 minutes)