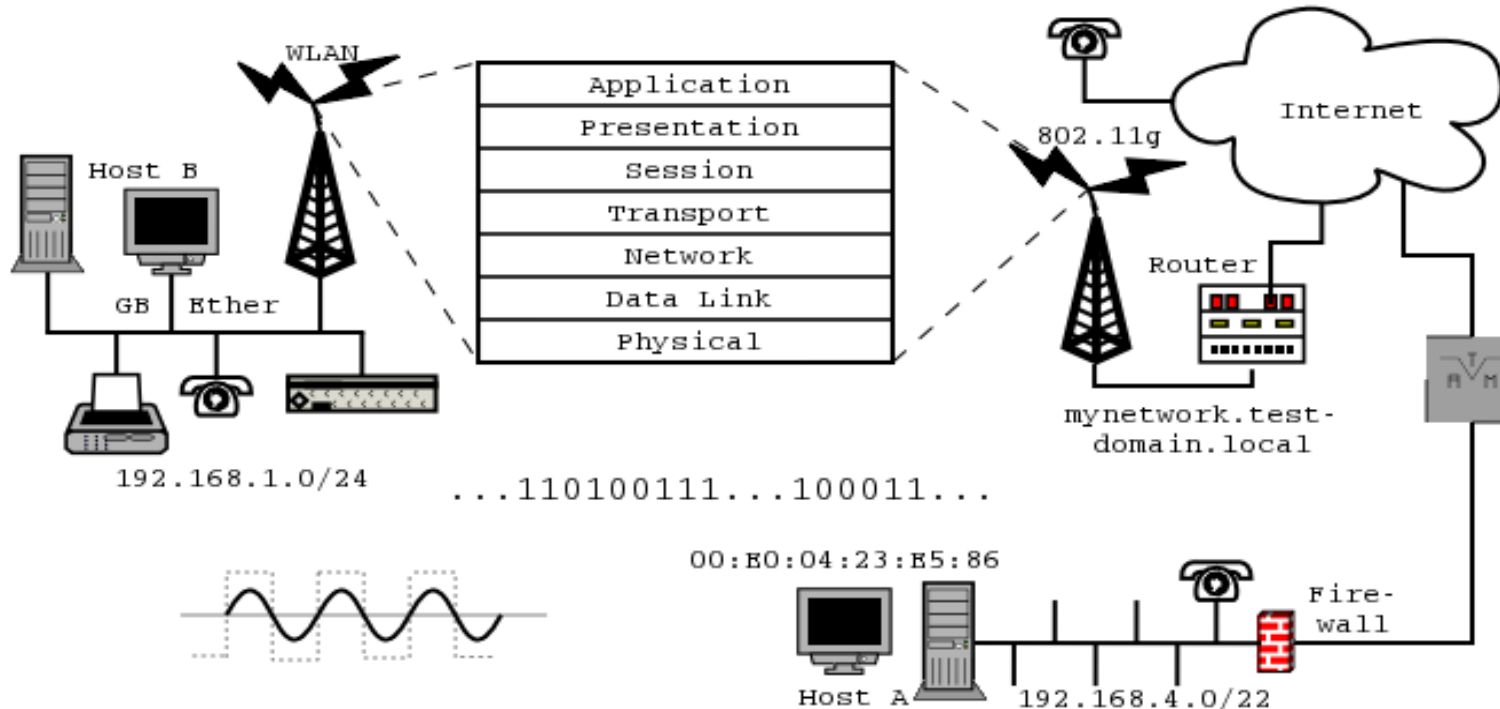


Exercise of Communication Systems



... http://www.ks.uni-freiburg.de/inetwork



Chair of Communication Systems / Prof. Schneider
Department of Applied Sciences
University of Freiburg
2008

Communication Systems

Course Information – Course Layout

- Lecture earns 6 credit points (ECTS)
- Area of specialization: “communication and data bases (6)”
- Typical 3 + 1 course
 - three quarters of the course are lectures of 90 minutes
 - one quarter is a practical course, variable dates – explained in a few minutes
 - practical courses takes place in seminar room at the computing department (basement, this seminar room)

Communication Systems

Course Information – General information

- Summer course: 04/22/2008 - 07/25/2008
- Instructors of the exercises: Dirk von Suchodoletz, Rui Zhou and Klaus Rechert
- Time & Place of *lecture* is in lecture room 01-009 in building 101 at the former airfield
- Time & Place for *practical exercises*
 - held in the basement of computer department – we have a better control of the environment here
 - infrequent dates

Communication Systems

Exercises – General information

- Dates for *practical exercises*
 - six or seven practical exercises grouped together in two weeks in June and July
 - two block dates: **10th and 13th of June** and **8th and 11th of July**
- Theoretical exercise sheets are handed out every Friday (if public holiday, the lecture, practical before or after)

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Course Information – Lecturers, Assistants

- Office hours: Prof. Schneider - after the lecture, Klaus Rechert, Dirk von Suchodoletz – Tuesday 4:30 – 6:00 pm
 - subject to change – see homepage
 - after the Tuesday lecture ...
- E-mails: gerhard.schneider,klaus.rechert,dsuchod@rz.uni-freiburg.de
- Homepage of this course:
http://www.ks.uni-freiburg.de//php_veranstaltungsdetail.php?id=20
- Lecture plan regularly updated on the homepage
 - dates for practical courses
 - additional information and papers
 - date(s) for the written exam

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Course Information - Examinations

- We pass around a participants list
 - please check for your name and correctness of email address and matrikel number and your degree programme (BA, Master, Diploma)
 - we need to know who will take part in examinations
- Types of examination
 - this course is an advanced study course for Bachelors and an entry level course for diploma and master students
 - thus we will have different kind of examinations
 - **oral exam** for the bachelors around mid/end of September
 - **written exam** for all the others or **oral exam** if the number of participants is too low (mid of September)
 - see the example sheet of written exam of the 2006 course

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Practical Course and Exercises

- Theoretical exercise sheets are part of the acceptance criteria for the examinations (and they may earn bonus points)
- Conducted by the assistants and the hiwis
- Exercise sheets will be handed out at the end of every Friday lecture on a weekly base - **exception**: the weeks we have two practical courses (depends on the schedule of Prof. Schneider)
- The LSfKS bonus system
 - 50% mandatory - otherwise not accepted for the exams
 - 60% +0.1, 70% +0.2, 80% +0.3 (=one third off the grade)
 - 90% +0.5, 100% +0.6 (=two thirds off the grade)
- Bonus will improve the grade of oral/written exam

Communication Systems

Syllabus and Scope of exercises

- The theoretical exercises will extend the lecture to some degree (not all topics asked for in the exams are handled to full extent in the lecture, but in the exercise sheets)
- Practical courses will give some hands-on experience
 - basic IP networking, DHCP, ARP, ...
 - DNS and host names
 - network sniffing, debugging
 - network simulation, routing
 - setting up of DNS
 - configuration of VoIP connections

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Literature on IP part

- Books
 - Kurose & Ross, Computer Networking (best at the moment)
 - Douglas E. Comer, Computer Networks and Internets
 - Andrew S. Tanenbaum, Computer Networks
 - Patterson & Davie, Computer Networks, A Systems Approach
 - R. Stevens, TCP/IP Illustrated Vol. 1
- We do not follow a specific textbook – Kurose & Ross or Tanenbaum are good leads
- Other useful texts
 - ... are given during the lectures or on the web page
 - Presentation slides will be available from the home page

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Literature on Voice over IP and telephony networks

- Books (examples)
 - E. Pehl, Digitale und analoge Datenübertragung
 - Flaig, Hoffmann, Langauf: Internet-Telefonie VoIP mit Asterisk und SER
 - Sinnreich, Johnston: Internet Communications using SIP
 - Hersent, Gurle, Petit: Beyond VOIP Protocols
 - Kaaranen, Ahtiainen, Laitinen: UMTS Networks Architecture Mobility and Services
 - much more titles on VoIP, SIP, H323, ... available today
- Most of the titles available at the faculties library, overview textbooks in greater numbers ...

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Next lecture dates

- Next lecture is on Tuesday, the 29th
 - please check in the meantime (until end of May)
 - that you own a computing dept. UserID (every participant should have one)
 - you should be able to handle Linux&VMware (for the practical exercises)
- No lecture on 2nd of May (squeezed between public holiday and weekend – postponed to the practical exercise week in June)!!
- First lecture in May: 6th

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This exercise

- Just some simple questions to try out the platform here
 - if you are already comfortable with it – you do not have to stay here :)
- The following exercise blocks will require some more advanced setups
 - we will provide a special Linux image which will run in a virtual machine (VMware)
 - these practical exercises in groups
 - would be possible to demonstrate results (of alternate) questions in before and you are free to stay home
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