S–38.210 Facts

- Ei pakollisia esitietoja
- Luennot: tiistaisin klo 14–16, 12.9. – 5.12, ei 26.9
- Kurssi luennoidaan suomeksi
- Kaikki kurssin liittyvä kirjallinen aineisto on englanniksi.
- Ei laskuharjoituksia
- Kurssiin sisältyy pakollinen ryhmätyö.
- Opettajat: Kurssin luennoi dosentti Kalevi Kilkki kalevi.kilkki@nokia.com
- Suoritus: hyväksytty tentti + ryhmätyö.
- Kirjallisuus: jaetaan pelkästään webin kautta
- Opintoviikkomäärä: 3
  
  - Lisätiedot ja kysymykset mielellään kurssin assistentin kautta; Aleksi Penttinen (Aleksi.Penttinen@hut.fi), huone SI209.
Objectives

- True education is, at heart, a matter of seeing with new eyes what one previously "knew".

- What is "what"?
  4 Karila … telecom operators
  4 The essence of (communication) service?
    - Is it about technology, business or human behaviour?

- You shall be the best experts in these questions
  4 you must understand all relevant aspects
  4 be critical, think yourself
How to proceed?

• Systematic consideration of relevant aspects
  4 not just presentation of technical facts
    ∝ myriad of acronyms...

• First key term: utility
  4 from end–user perspective &
    ∝ from service provider perspective (business)
    ∝ from technical perspective (utilisation of resources)

  4 examples: SMS vs. video vs. web
Second key term: **scalability**

- Watch out for things that don’t scale. The number of transistors on an integrated circuit might scale, but the stock market probably doesn’t — at least not as fast. Radio engineer/entrepreneur Doug Lockie tells me that Lockie’s Law states that backhoes don’t follow Moore’s Law. Truck rolls don’t follow Moore’s Law. Skilled network engineers don’t follow Moore’s Law. That’s a good reason, right there, that a stone–simple self–service network is a worthy goal. Neither attitude nor insight scales — which is why Bill Joy’s law states that the smartest people in your field work for somebody else.

4 One packet on one link, anything can be done
   - one network domain, > $10^{12}$ packet handling events…
Schedule

- 12.9. Introduction: Discussion about contents, structure, group works
- 19.9. Background: Risks of pure technical setting of objectives (1 h)
- 26.9. NO LECTURE
- 3.10. Tools to assess the characteristics of a service system; utility
- 10.10. Network view on service realization; Main layers, scalability
- 17.10. Meaning of reservations – reasons and consequences
- 24.10. Meaning of prioritization – reasons and consequences
- 31.10. Reserved capacity vs. sharing of resources
- 7.11. Review of available technologies; IntServ, MPLS, DiffServ, …
- 14.11. Application I: IP core network
- 21.11. Application II: 3G mobile network
- 28.11. Presentations and discussion based on group works
- 5.12. Final conclusion, discussion
Group Work

• Mandatory
  4 Size of the groups 3–4 persons

• Analysis of potential killer services for 3G networks
  4 video
  4 games
  4 advanced e-mail
  4 advanced voice
  4 music
  4 location specific services
GW – A Possible Approach

• Selection of service
  4 Brief literature study (optional)
• Definition of service "the main point of the service"
• Pricing model and expected level of price
• Potential customer basis (0.1% ... 50 of all customers)
  4 how much time and money users are expected to spend with the service
• Service realisation
  4 network requirements, from mandatory to nice features
• Outcome: short report (5–10 p) with relevant figures
GW – Timetable

• Groups and topics selected: 19.9

• Return of reports: 21.11

• Presentations: 28.11