

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: hyväksytyt tentti + ryhmätyö.
- Kirjallisuus: jaetaan pelkästään webin kautta
- Opintoviikkomäärä: 3

- Lisätiedot ja kysymykset mielellään kurssin assistentin kautta;
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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

Proceeding continues...

- Second key term: **scalability**

- ∞ <http://isen.com/>

- ∞ 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