Operator's Enterprise Customers
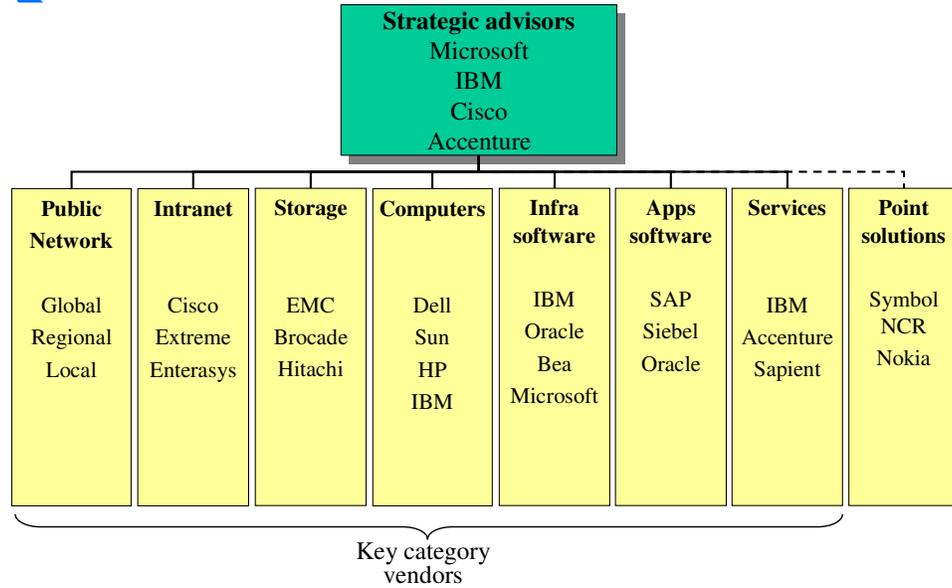
S-38.3041 Operator Business

1

Enterprise IT in Nutshell

- The average enterprise spends
    - c. 4% of its gross revenue on IT
    - c. 500 EUR per month per employee on IT
    - c. 5-7% of total headcount on IT headcount
    - c. 60 EUR per employee per month on mobile (operator ARPU)
- Highest IT spending per employee in IT, telecom, and financial sectors
- Global enterprise IT market
    - c. 1000 BEUR in 2003
    - largest part is system integration and outsourcing services
    - c. 50% of global IT spending happened in the US in 2003

Enterprise view of IT vendors

Strategic advisors
Microsoft
IBM
Cisco
Accenture

Public Network	Intranet	Storage	Computers	Infra software	Apps software	Services	Point solutions
Global Regional Local	Cisco Extreme Enterasys	EMC Brocade Hitachi	Dell Sun HP IBM	IBM Oracle Bea Microsoft	SAP Siebel Oracle	IBM Accenture Sapient	Symbol NCR Nokia

Key category vendors

Key Issue Analysis

TCO is a powerful tool that is used to identify opportunities for better managing the IT environment. Some analysis, such as that needed to make an outsourcing decision, is impossible without understanding internal cost structures — including hidden costs. Enterprises that fail to account for all costs will also fail to see IT costs increase beyond sustainable and justifiable levels, and will make poor IT management decisions.

Total cost of ownership (TCO)

DIRECT			INDIRECT
Capital	*Labor*	*Fees/Other*	**End User IS**
Hardware	**Management**	**Communication**	Peer/self support
→Servers	→Network	→WAN	→Casual learning
→Clients	→System	→Service provider	→Scripting/
→Peripherals	→Storage	→RAS	development
→Network		→Internet access	→End-user Training
	Support	provider	→Satisfaction
Software	→Executive and	→Client access	
→Operating systems	administration		**Downtime**
→Applications	→Help desk	**Management &**	→Planned
→Utilities	→Training	**Support**	→Unplanned
→IS	→Procurement	→Outsourcing	
		→Maintenance	
Acquisition	**Development**	contracts	
Costs	→Infrastructure	→Support contracts	
→Depreciation	→Business	→Service levels	
→Leasing	applications	→Performance and	
→Expenses		Service level	
		Metrics	
Upgrades and			
Supplies			

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Key Issue: How is TCO used most effectively today?

Why measure TCO?

To obtain a better understanding of how IT investments support – or do not support enterprise business goals and processes
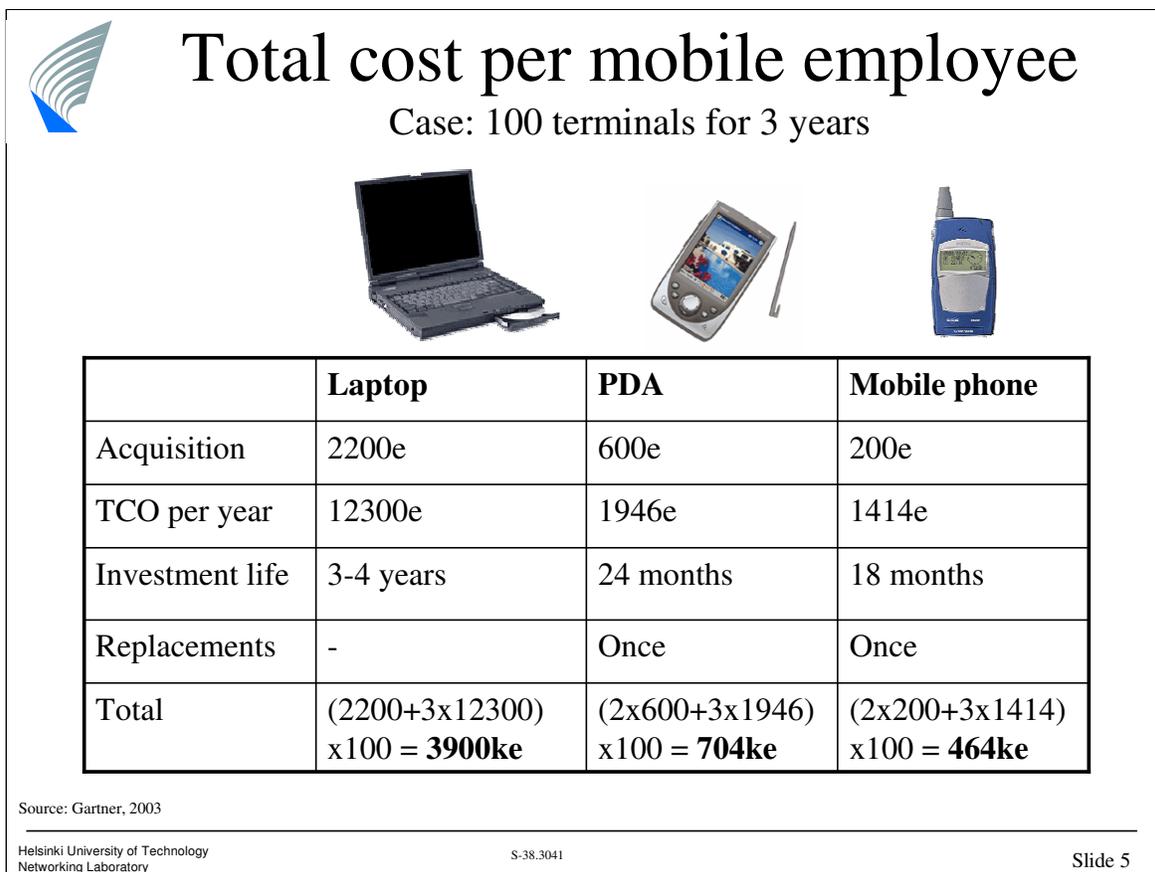
To gain objective information on costs and savings opportunities in "right-sizing," outsourcing and internal resource allocation

To identify and implement strategies for improving IS operations and performance

To gain comparative, competitive data against industry indices, best in class or peer enterprises

To understand key metrics and measurements needed to better run IS operations and provide value back to the enterprise

Strategic Planning Assumption: Through 2007, full support for PDAs' mobile phones will raise enterprise total cost of ownership (TCO) for client devices by at least 30 percent per user per year (0.7 probability).

Total cost per mobile employee
Case: 100 terminals for 3 years

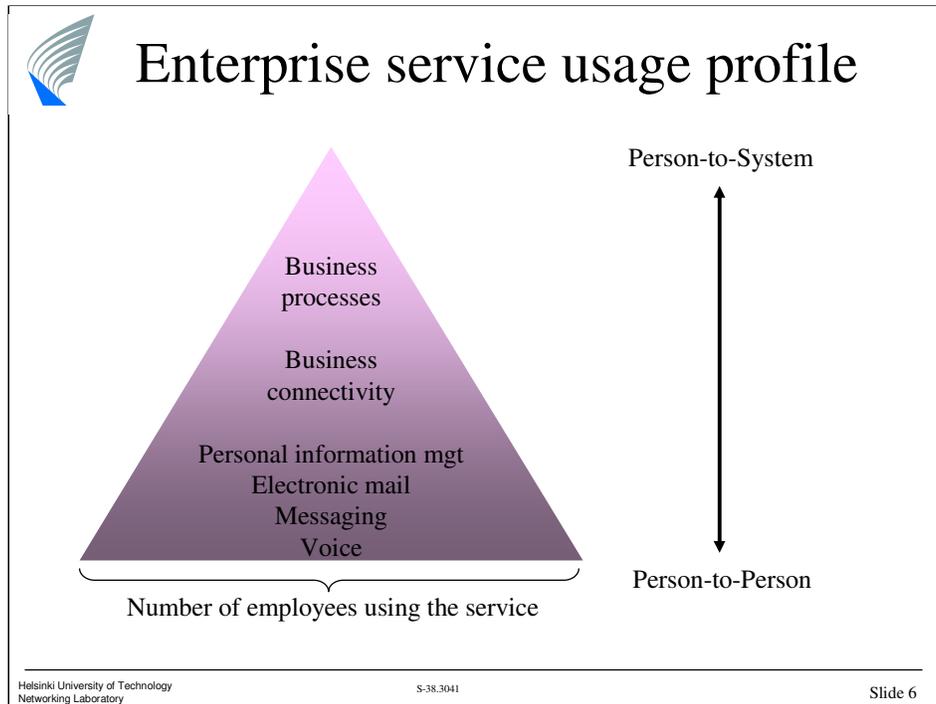|	**Laptop**	**PDA**	**Mobile phone**
Acquisition	2200e	600e	200e
TCO per year	12300e	1946e	1414e
Investment life	3-4 years	24 months	18 months
Replacements	-	Once	Once
Total	(2200+3x12300) x100 = **3900ke**	(2x600+3x1946) x100 = **704ke**	(2x200+3x1414) x100 = **464ke**

Source: Gartner, 2003

How will mobile, wireless management evolve?

As individuals carry more and more mobile devices — now up to several phones and PDAs *in addition* to a laptop or notebook — the cost per individual to the enterprise for safeguarding and managing platforms and data will rise. As illustrated above, Gartner provides the analysis for assessing and managing such costs.

Gartner's analysis of TCO for PDAs or smart phones with personal information manager (PIM) features is based on a review of the Windows and Palm platforms. Capital costs are based on a device with an acquisition cost as low as $150, but growing to $600 or more after accounting for accessories, travel kits, initial asset management and user setup. Provision is included for lost devices. Administration costs are considered equal for both platforms. Technical-support costs are slightly higher for Windows devices due to more-complex user interfaces. End-user operation costs represent about 40 percent of all costs, primarily due to the time investment required to keep PDAs synchronized with user desktops or servers.

Even at a few minutes per day (five minutes was factored into the estimate), this activity is a new diversion of user time that costs enterprises more than they might think.

Action Item: Enterprises should use TCO models to establish realistic expectations for support costs.

Enterprise service usage profile

Person-to-System

Business processes

Business connectivity

Personal information mgt
Electronic mail
Messaging
Voice

Person-to-Person

Number of employees using the service

Employees need a multitude of services – but not everyone needs all services. Nokia takes a holistic approach to enterprise.

Rather than horizontal:
- RIM – email
- MSFT – PIM
- SAP – business processes

We know we are not the only one looking at this holistically, but our strength in enabling application mobility, enabling secure mobile connectivity, and enabling cost efficient mobile voice are Nokia Competitive Advantages. Understanding the entire ecosystem here is the key.

Email is hot item now, but will likely become a commodity like mobile voice is today, but mobility and expertise therein is not a commodity.

Business processes
 Office applications and company specific vertical applications
Business connectivity
 Access to intranet from PC/laptop/ terminal
PIM
 Calendar, phonebook, contacts
e-mail
 e-mail to PC or mobile
Messaging
 Voice, SMS, MMS, instant messaging
Voice
 Calls in office and on the move

6

Role of Telecom Manager

- Telecom services belong to the strategic toolbox of all enterprises
- Telecom Manager is the person responsible for defining and implementing the telecom services strategy of a company
- Telecom services strategy is closely related to the overall IT strategy
- Telecom Manager can be a part-time job of a CEO or a full-time job as a leader of telecom experts

Typical mission statement

Leverage telecommunications technology and services
to the greatest possible benefit and competitive advantage of the business
– at the lowest cost

Tasks of Telecom Manager

- Trouble resolution (measurable meters)
  - Trouble ticket system
  - Help desk system
  - Training and end-user education
- Project management (measurable meters)
  - Triggers for change: innovation, system life cycle, growth, financial reasons
  - Identify needs, solicit proposals, select vendors, supervise implementation
- Billing audit and review (measurable meters)
  - Inventory all company telecom services and equipment
  - Exercise audit approval of all telecom bills
  - Identify and target fraud abusers
- Strategic planning
  - Help to see how telecom aids the company strategy
  - Consolidate an centralize services, equipment, and billing wherever possible
  - Remain forward-looking into possibly useful new technology

Telecom purchase process

1. Define your need (must have/nice to have)
2. Request for proposal/quotation (RFP, RFQ)
3. Select a provider (optimize the price-quality ratio)
   - Prospecting (pick up max 5-10 candidates for brief interview)
   - Qualification (pick up the top 3-4 for solution presentation)
   - Presentation (pick up 2 for finals, visit reference customers)
   - Closing (check terms and conditions, with your lawyer…)
4. Manage change successfully
   - Do your part
   - Keep the timeline
   - Be serious about training
   - Know when to cry wolf
   - Tell your customers

Typical RFP content

- Existing environment
- Applications (service level agreements/SLA)
- Cost expectations
- Format guidelines of response
- Contact rules
- Time frames

Portfolio of services

Business telephone system

- Office voice switching (PBX vs Centrex, packet vs circuit)
- Office voice access (wireline vs wireless)
- Long-distance calls
- Value-added services (voice mail, call centers, …)

PC connectivity

- Internet access (fiber, ADSL)
- Intranet (leased lines … managed VPN)
- Value-added services (mailboxes, web hosting, …)

Mobile wireless services

- Cellular (GSM, WCDMA)
- Professional mobile radio (TETRA, iDEN)
- Two-way radio/walkie-talkies

Portfolio of service providers

Local fixed network operator
- – Main asset: wireline network, subscriber base
- – Trend: joining forces with other players

National cellular network operator
- – Main asset: national cellular coverage, subscriber base
- – Trend: expanding to full-service, and MVNO

Service operator
- – Main asset: server bank, customer service
- – Trend: packaging mobile and fixed services, VoIP

System integrator
- – Main asset: tailored software, project mode
- – Trend: exploiting the VoIP and MVNO opportunities

Operator's Customer Segments

Number of employees
- Small => Price list process (cmp. consumer customers)
- Large => RFP process

Location
- Multisite => VPN issues (voice, Intranet)
- International => Multioperator issues

Ownership
- Private => Demand-driven flexible purchase process
- Government => Budget-driven regulated purchase process

Business and service duration
- Continuous => Customer retention focus
- Event (e.g. sports, conferences) => General marketing focus

Specific business domains

Impact of Value Nets

- ICT moves companies from value chains to value nets
- More dynamic partnerships
- Companies increasingly outsource, share, and off-shore ICT solutions
- Extranets
  - From dedicated networks to Internet
  - Centralized directory and brokerage servers
- Voice-over-IP
  - Trading of outsourced VoIP-PABX capacity
  - Integration of business rules with VoIP

Managing market uncertainty

- Assess market uncertainty
- Choose your risk level
- Experiment with parallel projects
  – Cut downside, "put eggs in different baskets"
  – Add upside, "buy several lottery tickets"
- Keep learning
  – Use incremental decision milestones for projects
  – Recalculate business cases of projects
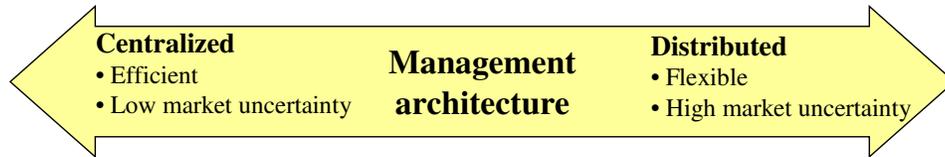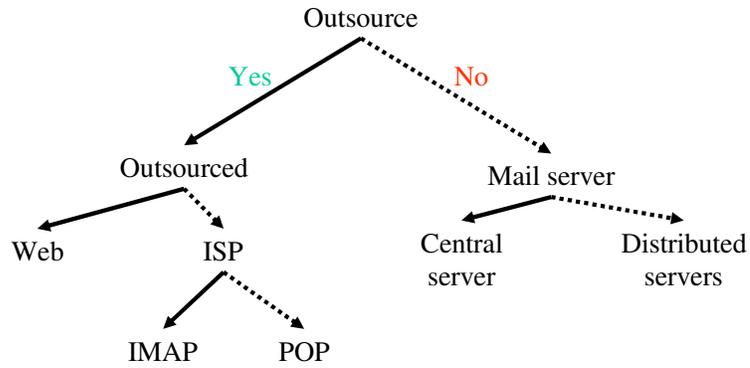
Source:M.Gaynor, 2003

Market uncertainty
How to measure it?

- Ability to forecast the market
- Emergence of a dominant design
- Agreement among industry experts
- Feature convergence and commodity nature
- Changes in standards activity
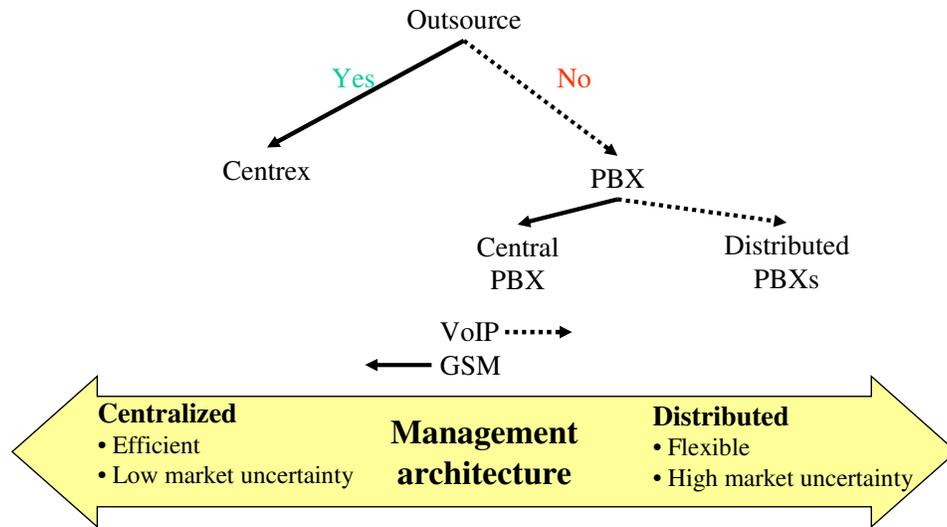
Choice of management structure
Case: email service

Outsource

Yes — Outsourced
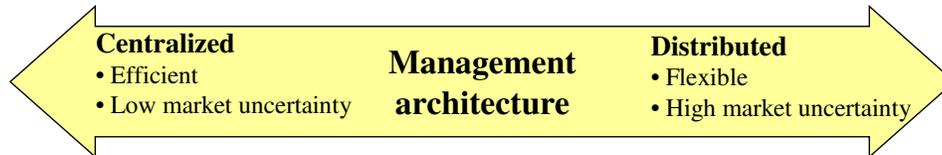
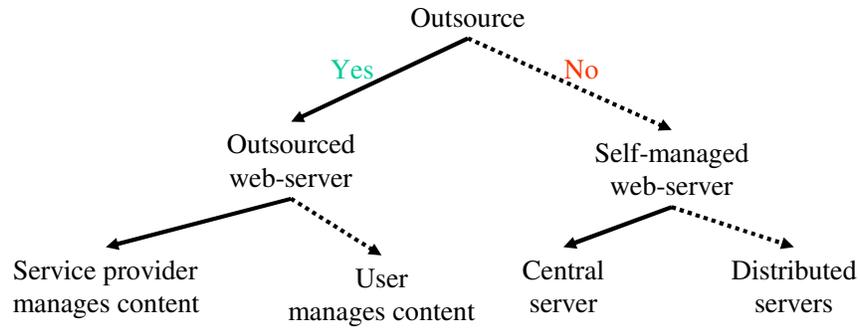No — Mail server

Outsourced:
- Web
- ISP
  - IMAP
  - POP

Mail server:
- Central server
- Distributed servers

Centralized
- Efficient
- Low market uncertainty

Management architecture

Distributed
- Flexible
- High market uncertainty

Choice of management structure
Case: office voice service

Outsource

Yes / No

Centrex

PBX

Central PBX   Distributed PBXs

VoIP ┈┈▸
◂── GSM

Centralized
• Efficient
• Low market uncertainty

Management architecture

Distributed
• Flexible
• High market uncertainty

Choice of management structure
Case: informational service (web)

Outsource

Yes — Outsourced web-server

No — Self-managed web-server

Outsourced web-server:
- Service provider manages content
- User manages content

Self-managed web-server:
- Central server
- Distributed servers

Centralized
- Efficient
- Low market uncertainty

Management architecture

Distributed
- Flexible
- High market uncertainty

Value of experimentation
Real options theory

Value of experimentation

1. increases as the market uncertainty increases

2. increases (in a decreasing manner) as the number of parallel experiments increases

3. decreases (in a decreasing manner) as the learning develops over generations of experiments

Value of experimentation
Examples

- Internet
- GPRS content
- NTT DoCoMo i-mode content
- Microsoft Windows applications
- Symbian OS applications

Ecosystems that exploit the value of
experimentation are more likely to match the market needs

Case: Finnish Universities

Telephony service cost

	#	Average per employee (€/y)	Deviation (€)
Polytechnic schools	6	472	149
Universities	8	250	104
< 1000 employees	8	447	138
> 1000 employees	6	210	77

How to reduce cost?
- Going GSM-only
- Going VoIP-only

Source: J. Viskari, 2004

Case: Finnish Universities

Telephone service cost

23,3 %

40,0 %

0,9 %

8,1 %

27,7 %

- ■ internal calls
- ■ local calls
- □ long distance calls
- □ international calls
- ■ calls to mobiles

Highest volume →

9,5 %

10,1 %

6,5 %

73,9 %

- ■ Local calls
- ■ Long-distance calls
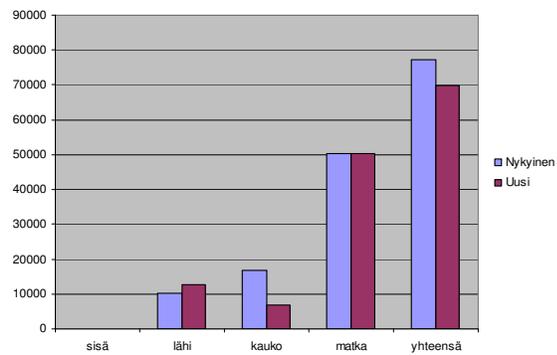- □ International calls
- □ Calls to mobiles

Highest cost →
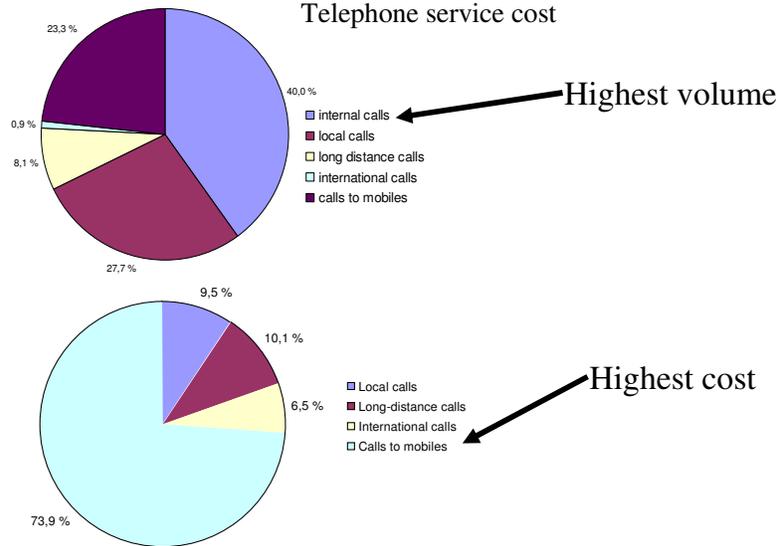
Source: J Viskari, 2004

Case: Finnish Universities

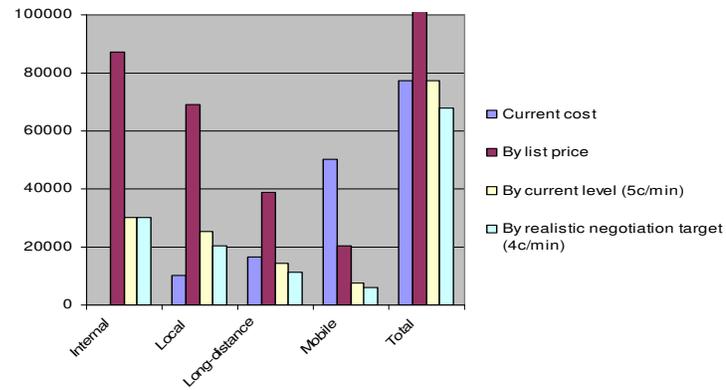Reference case: Traffic costs of "pure VoIP"

Assumptions
- 17% of calls to other universities (no long-distance charge)
- 40% of mobile calls internal (based on study)

Source: J Viskari, 2004

Case: Finnish Universities

Reference case: Traffic costs of "Pure GSM"

Legend:
- Current cost
- By list price
- By current level (5c/min)
- By realistic negotiation target (4c/min)

Categories: Internal, Local, Long-distance, Mobile, Total

Assumptions
- No handset cost (employee-owned handsets)
- 40% of mobile calls internal (based on study)

Case: Large event

World Championships in Athletics (WCA), Helsinki 2005

- Lots of temporary capacity needed
    - temporary cabling (voice, data, video)
    - additional radio capacity (GSM, WCDMA, TETRA, WLAN)
    - several temporary Intranets
    - temporary servers and terminals
- Operators have established dedicated event units
- Traffic costs small compared to fixed costs
- CAPEX is small compared to OPEX
- Wireless has better cost-benefit ratio than wireline for temporary use, but the high risk of failures favors wireline