



Viestintävirasto
Kommunikationsverket
Finnish Communications
Regulatory Authority

VoIP and WLAN - Changing the Rules?

Telecom Forum 2006

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During the presentation I will try to give you some answers to the following questions:

- Why VoIP and & WLAN make difference?
- What's the business case?

However, I'm a regulator so I will concentrate on:

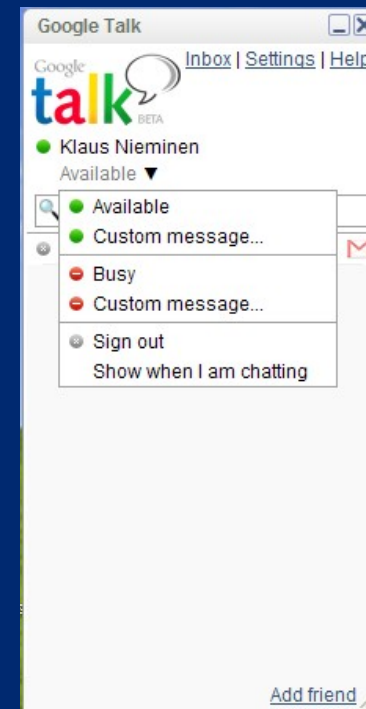
- What questions we have faced?
- How we have solved them?
- What regulations you need to understand when you are building new services?



LAAJAKAISTAPUHELIN.NET

3GPP IMS

Voice over IP

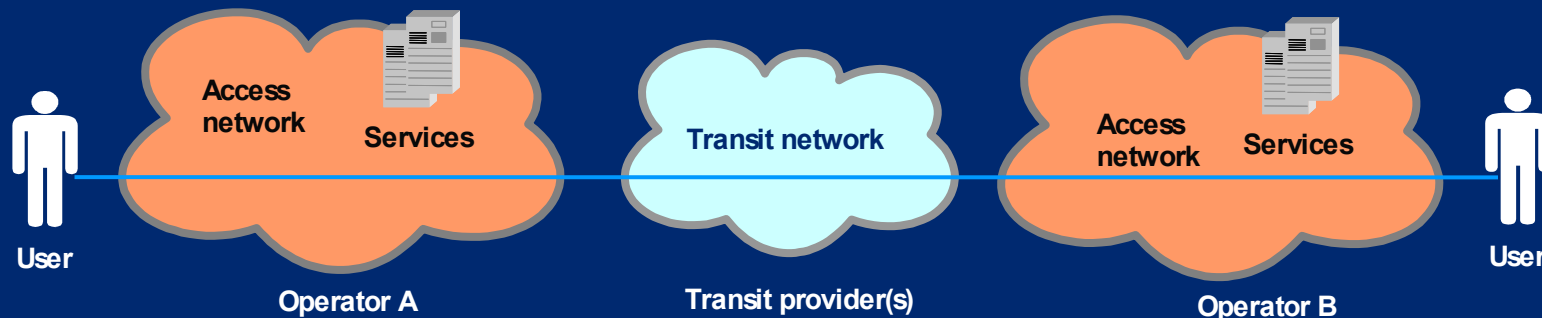


NGN



What's different in VoIP?

- Reminder: the legacy model – e.g. PSTN, GSM



- What's different in VoIP?
 - Size of necessary investments
 - can utilise existing Internet connections
 - can utilise open source software (e.g. Asterisk, SER)
 - network equipment can be located anywhere
 - may not even need own servers (peer-to-peer)
 - New capabilities and services (e.g. presence)

VoIP in Finland

- Number of providers
 - at least 26 operators
- Number of subscriptions (1Q06)
 - $\nabla \approx 70\ 000$
 - from which $\approx 65\ 000$ are enterprise users
- VoIP interconnection will start ...soon
 - will enable inter-operator services
 - will enable market growth (compare to SMS in US)

What's the business case?

- Clear concepts that will prevail
 - Internet VoIP – the current winner
 - mobile VoIP – will come, but has still some problems
 - cellular, WLAN and WiMAX
- Some ideas about fixed VoIP
 - some future in enterprise PBXs
 - one part of a broadband service bundle
 - As an example I will present the situation in France.



VoIP in France

- Some countrywide figures 1Q06
 - *subscriptions 4 359 000*
 - *growth from last year 172 %*
 - *and it is not coming from PSTN replacement*
 - *change only -2 % = 674 000 PSTN subscriptions*
- ∇ ⇒ *Fixed-mobile substitution has ceased because fixed carriers have been hitting back with converged offers.*

- Example offer from Noos

- <http://www.noos.fr/>
- 20M/512k triple play package priced 29.90 €/month
- include free national PSTN calls



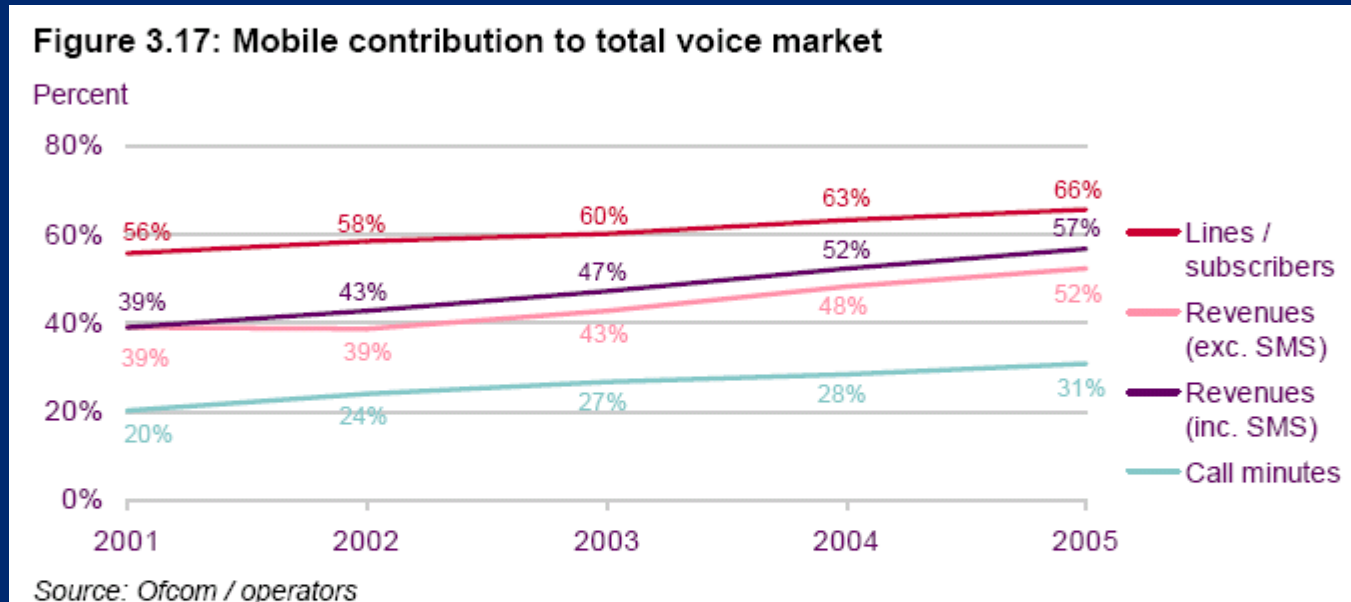
Découvrez votre nouveau Pack

29,90 €/mois* pendant 6 mois
62,80 €/mois au-delà

TV NUMÉRIQUE + NET 20 MEGA + TEL ILLIMITÉ

VoIP will be mobile

- VoIP needs to be mobile:



- Technical problems that still needs to be solved:
 - Voice call continuity and handovers between cellular / WLAN / WiMAX / generic IP access network
 - Cellular specific problems like call setup delay and RTT

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Regulatory issues

Guideline how the current legislation is applied:

http://www.ficora.fi/suomi/document/VoIP%20-ohje_eng.pdf

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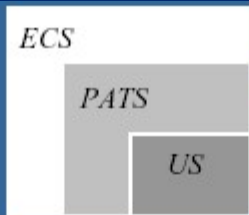
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Regulatory issues 1/2

The problem is easy to define:

- What regulations are applied to a certain service?



- **Electronic Communication Service (ECS)**

- Service (normally) provided *for remuneration*
- Consists wholly or mainly in the conveyance of signals on Electronic Communication Networks

- **Public Available Telephone Service (PATS)**

- = Public Available Service
- = Originating & Receiving (inter)national calls
- = Access to Emergency Service (112)
- = E.164 numbering scheme

- **Universal Service (US)**

- Services to be made available to *all end-users* in territory
- Designated by National Regulatory Authority

Regulatory issues 2/2

Other main issues:

- Applicability of national legislation
 - need to maintain balance between obligations and incentive to bypass regulations
- Numbering + number portability
 - FICORA has not restricted the use of number ranges for VoIP services.
- Emergency calls + power supply
 - requirement is imposed on telecommunications operators in a telephone network
 - technical regulations are in line with capabilities of different services

Case Skype

- Our decision was published in 2.12.2005:
 - http://www.ficora.fi/englanti/document/Skype_final_English.pdf

Main decisions:

- Applicability of national legislation
 - Skype Out and Skype In services when implemented in Finland + numbering in Skype In
- Service classification
 - Skype (classic), Skype In and Skype Out are considered to be separate services
- Numbering
 - E.164 numbers can be used also in ECS

WLAN



WLAN Helsinki - Helsingin WLAN -pisteet - Microsoft Internet Explorer

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Address http://ptp.hel.fi/wlan/

HELSINKI
WLAN HOTSPOTS

Ohjeet | På svenska | In English

Haut WLAN-hotspotsit

Tyhjennä hakulista

- > Arabianranta (Kirjasto)
- > Asema-aukio
- > Baari (Kola)
- > Biljardi baari (Chaplin)
- > Cafe Senaatti
- > Drinkkibaari (Time)
- > Elokuvatähtien Tennispalatsi
- > Belä-Haaga (Kirjasto)
- > Finlandia-talo
- > Hakasalmen huvilan puisto
- > Havis Amand
- > Itäkeskus (Kirjasto)
- > Jugendsali
- > Kahvila (Carusel)
- > Kahvila (DTM)
- > Kahvila (Engel)
- > Kahvila (Johto Cafe)
- > Kahvila (Kasma)
- > Kahvila (Robert's Coffee)

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Kirjastot | Avoimet | Asiakkaille

Käyttö vaatii java-tuen

Helsingin kaupunki HELSINKIN KAUPUNKI KINTEISTÖVIRASTO

What's different in WLAN?

- Examples of various business models
 - “fixed” wireless broadband connections
 - commercial WLAN hotspots
 - free WLAN networks (e.g. city owned)
 - mutual agreements (e.g. Sparknet & OpenSpark)
 - Internet café (Internet connection is offered besides the regular operation which is other than telecommunications)
 - campus WLAN
 - sharing of a broadband connection via WLAN (for example, neighbours, family or company).

More examples



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Regulatory issues

Guideline how the current legislation is applied:

http://www.ficora.fi/englanti/document/wireless_broadband_connection.pdf

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Service classification 1/2

- Service classification and applicability of regulations
 - What services are considered to be public telecommunication services?
- Main classification criteria
 - Is the service a communication service?
 - Are users subject to prior restriction or not?
- Drawing the line is not always unambiguous and it often requires case-specific evaluation.
 - Still we were able to list some typical examples

Service classification 2/2

- Examples of public telecommunications:
 - wireless Internet connections corresponding to ADSL
 - WLAN hotspots provided in public outdoor or indoor environments to a set of users that is not subject to prior restriction – city WLAN
- Examples of not public telecommunications.
 - WLAN connections offered by a company (for example hotel or café) to its customers
 - WLAN connections offered by a school to its students and personnel
 - sharing of a broadband connection via WLAN
 - accidentally open WLAN networks

Security

- Information security
 - What requirements should be applied to WLAN?
 - detection of traffic that endangers the information security or availability of the communications service
 - resolve the events
 - e.g. MAC filtering
- Information security of telecom operators
 - applicability of the requirements to operators of different size and service offering
 - Administrative and organisational information security, Personnel security, Communications security, Computer facilities and software security, Data security and Operations security

Other main issues

- Collecting/processing and disclosure of identification information
 - May be collected and processed only for certain purposes such as provision and use of a communications service, billing and technical development of services
- Power supply + physical protection
 - basic requirement to ensure power supply for equipment in a communications network
 - basic requirement to place communications network components so that unauthorised access is prevented
 - FICORA is revising the requirements to make them to fit better to the small networks, like WLAN hotspots

Mutual responsibility

- Issue of responsibilities between providers of an:
 - Internet access service, WLAN access network and network access management

Example. Table of responsibilities in a situation where an Internet café provides its customers a WLAN access **not regarded as public telecommunications**, because the set of users is restricted to the customers of the café. The table starts from the assumption that the café has acquired an Internet access (such as ADSL) from a telecommunications operator and shares it in the café by means of a WLAN base station.

| Act and responsibility | Operators' mutual relations | End user |
|---|--|--|
| CMA operator's responsibility for network/Internet access service | provider of network/Internet access service is responsible to the café owner | neither ISP nor café owner is responsible to the café customer |
| CMA operator's responsibility for communications services provided via Internet access, e.g. e-mail, VoIP | | provider of the relevant communications service is responsible to its own end customer, regardless of the place where the service is used |
| PPEC operator's responsibility | provider of network/Internet access service is responsible to the café owner | neither ISP nor café owner is responsible to the café customer |
| PPEC corporate or association subscriber's responsibility | | café owner is responsible to the café customer, if the café owner's practice meets the definition of section 2 paragraph 11 of the PPEC, i.e. processes messages, identification data or location data |
| responsibility according to the Consumer Protection Act | | café owner is responsible to the café customer when the requirements of the CPA are met |

Technical regulations

- All technical regulations are published in:
 - <http://www.ficora.fi/englanti/esittely/n2563.htm>
- Internet access services:
 - FICORA 13/2005 M Regulation on information security and functionality of Internet access services
 - <http://www.ficora.fi/englanti/document/FICORA132005M.pdf>
- e-mail service:
 - FICORA 11/2004 M Information security and functionality of e-mail services
 - <http://www.ficora.fi/englanti/document/FICORA112004M.pdf>

Thank you!



Nettimittari - etusivu - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://nettimittari.ficora.fi/nettimittari/mainPage.aspx>

Nettimittari
 kaistaleveyden mittausjärjestelmä

Viestintävirasto
 Kommunikationsverket
 Finnish Communications
 Regulatory Authority

www.ficora.fi

[Etusivu](#) | [Mittaustulokset](#) | [Mittausohjelmat](#) | [Usein esitetyt kysymykset](#) | [Ohjeet](#) | [Yhteystiedot](#)

Tervetuloa Nettimittariin

Nettimittari on palvelu, jolla voit mitata oman internet-yhteytesi todellista nopeutta eli liittymäsi kaistaleveyttä. Halutessasi palvelu myös tallentaa mittaukset, jolloin pääset jällempäin tarkastelemaan liittymäsi nopeuden vaihteluja. Voit myös verrata oman liittymäsi todellista nopeutta muiden liittymien nopeuksiin.



Voit käyttää nettimittaria seuraavasti:

- 1. Rekisteröitymättömänä** käyttäjänä voit tarkastella yleisiä mittauksia ja mitata erikseen ladattavalla ohjelmalla oman internet-yhteytesi hetkellistä nopeutta.
- 2. Rekisteröityneenä** käyttäjänä oman internet-yhteytesi mittaukset tallentuvat Viestintäviraston palvelimelle. Rekisteröityneenä käyttäjänä saat henkilökohtaiset tunnukset, joilla pääset myös jällempäin tarkastelemaan mittauksia tai tulostamaan yhteyden nopeuden vaihteluista.

Yleiset mittaukset

Tarkastele yleisiä mittauksia rekisteröitymättä.
[Siirry mittauksiin](#)

Hae mittausohjelma käyttösi rekisteröitymättä.
[Hae mittausohjelma](#)

Omat mittaukset

Jos olet jo ladannut ohjelman koneellesi, siirry suoraan kirjautumiseen.
[Kirjaudu](#)