INTUG

Mobile telecommunications

regulating market failures

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www.INTUG.net

INTUG contents

- what is INTUG?
- number of market players
- fixed-to-mobile call termination
- international mobile roaming
- national roaming
- moving to a mobile Internet
- data protection
- conclusions

INTUG our aims

- real and effective competition
- genuine choice for users
- lower prices
- higher quality
- more innovative services
- constructive co-operation with
  - international bodies
  - governments
  - regulators

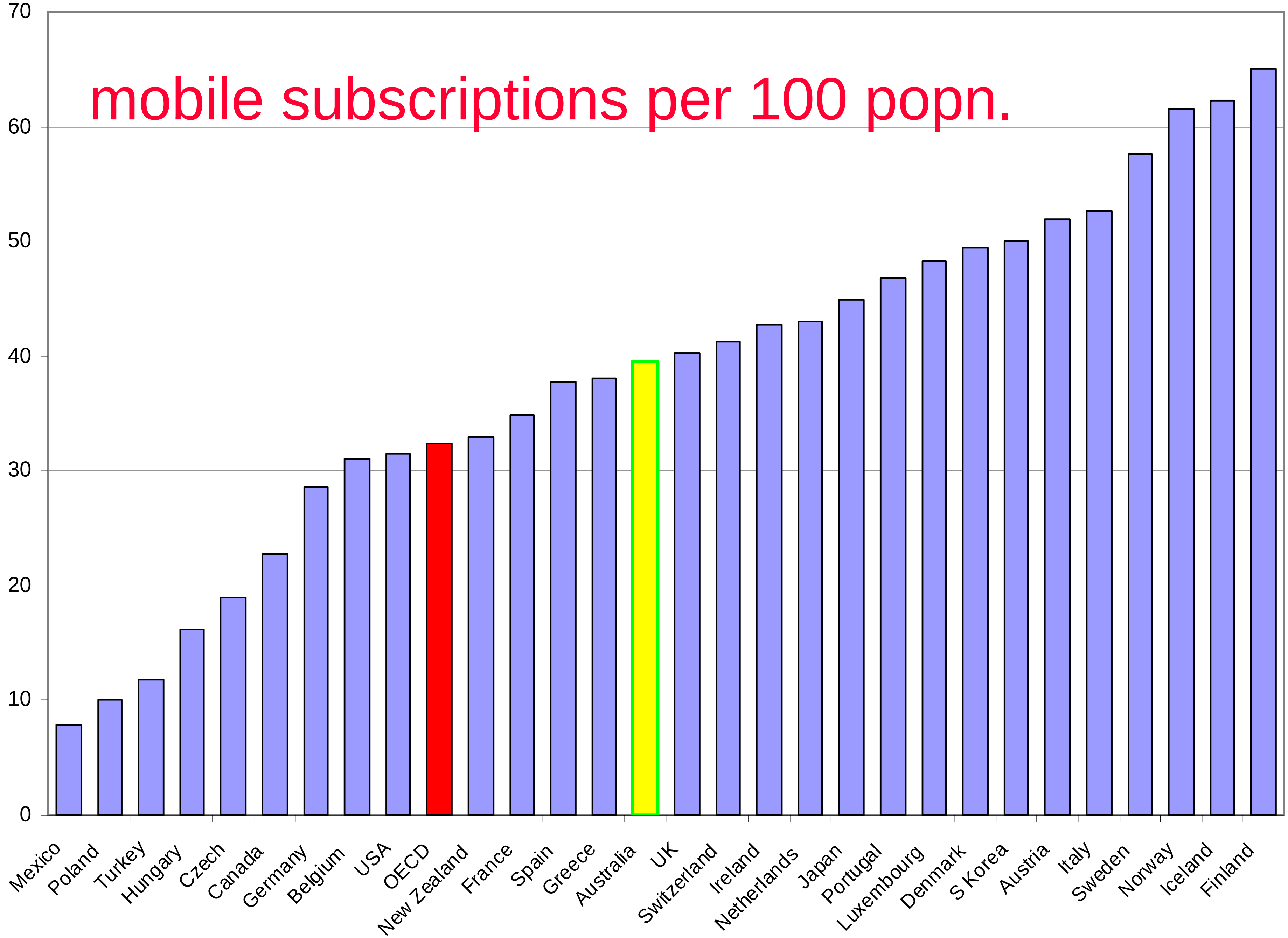
INTUG position papers

- data protection issues - next generation roaming
- 3G Mobile
- roaming inquiry in Europe
- global roaming
- mobile telecommunications

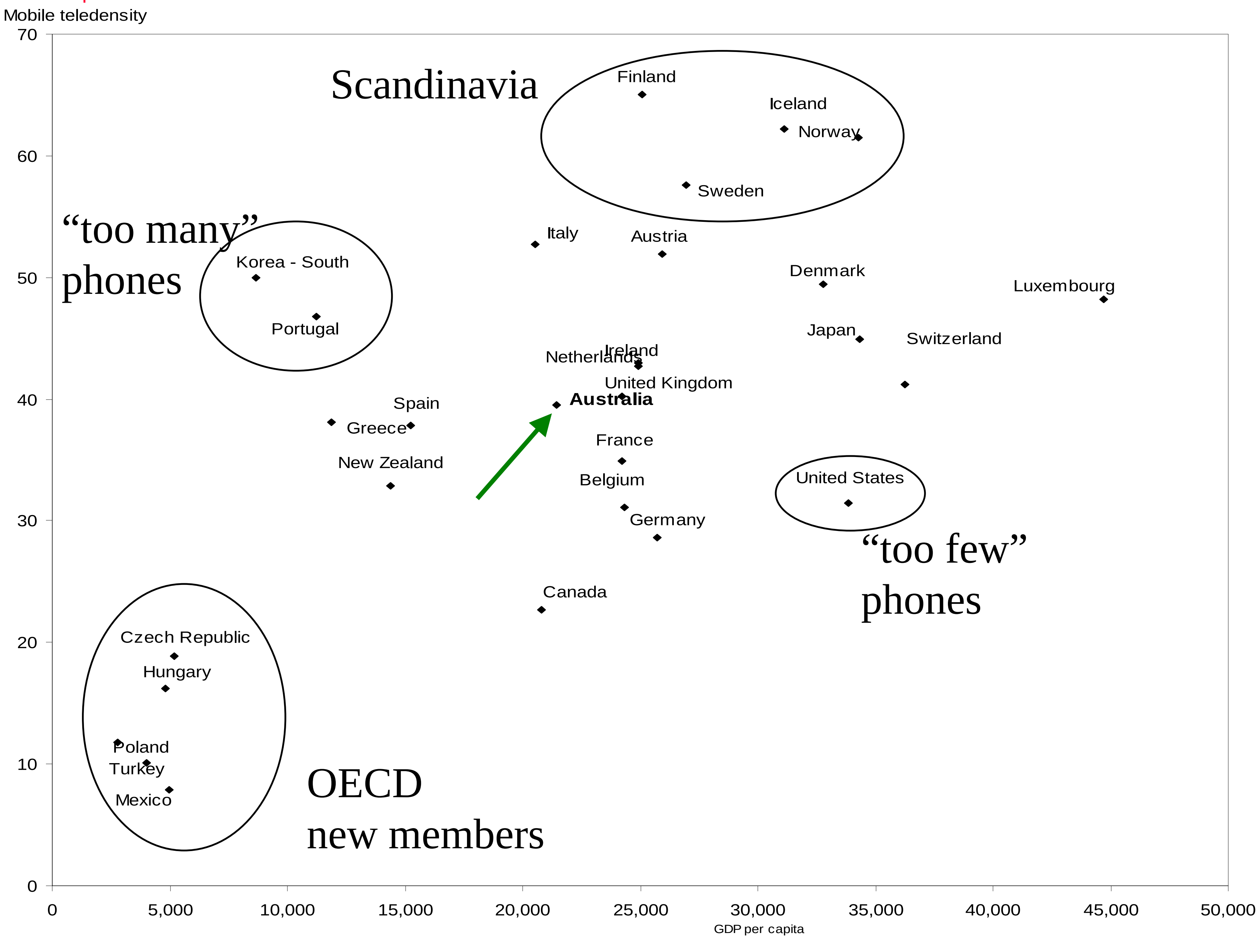
http://www.intug.net/views/

INTUG success of GSM

- state support for the standard
- spread out from Europe to most of the world (with some CDMA and PHS)
- consolidation of operators
- oligopolistic practices leading to
  - exorbitant international roaming tariffs
  - high termination charges
  - ability to resist regulatory reform



Source: OECD, 2001.


Mobile teledensity
70
60
50
40
30
20
10
0
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
GDP per capita
Scandinavia
Finland
Iceland
Norway
Sweden
“too many” phones
Korea - South
Portugal
Italy
Austria
Denmark
Luxembourg
Japan
Switzerland
Netherlands
Ireland
United Kingdom
Australia
Spain
Greece
France
New Zealand
Belgium
Germany
United States
“too few” phones
Canada
Czech Republic
Hungary
Poland
Turkey
Mexico
OECD new members

INTUG failures & solutions

- lack of competition
- incomprehensible tariffs
- high cost of
  - calls to mobiles
  - international roaming
- apparently low price of handsets
- no new entrants

- more operators
- Mobile Number Portability (MNP)
- Long-Run Incremental Costs (LRIC)
- benchmarking
- carrier selection

adding new players

- usually needs additional spectrum
- Mobile Number Portability (MNP)
- interconnection agreements
- national roaming agreements
- sharing infrastructure
- Mobile Virtual Network Operators (MVNOs)

INTUG mobile virtual operators

- bring brand strengths to mobile market
- resistance by the licensed operators
- regulators gradually shifting to allow access
- could reduce high termination costs
- might cut exorbitant roaming fees
- some operators conceding MVNOs or J/Vs
- financial markets are no longer enthusiastic

INTUG freephone calls on mobile

- national freephone numbers can be:
  - not available
  - charged
  - some countries at non-regulated prices
- Universal International Freephone Numbers +800
  - not generally available

INTUG call termination prices

- consumers look at the price of making calls
- they impose the cost of calling them onto their friends and colleagues
- cost of calls to mobile networks have generally not been regulated
- high prices benefit all mobile operators

INTUG tromboning

- alternative fixed carriers sought to bypass high international prices
- they re-filed the traffic with a foreign carrier
- bringing domestic traffic back as foreign
- loss of CLI and some voice quality
- lower price to caller

INTUG regulatory actions

- NRAs supported GSM operators as being:
  - new
  - dynamic
  - competitive
- NRAs often lacked legal powers to regulate call termination prices
- operators claimed high network costs
- some positive actions

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European NRAs

- Belgium
  - until July 2002 a price cap of RPI-30%
  - after 1st July price cap of RPI-12%
- France
  - a reduction of nearly 40% over three years for the two operators with SMP
  - cut to 1.32 FFR/min (2002) and 0.98 FFR/min (2004)
- Sweden
- United Kingdom
  - in excess of cost with little incentive to reduce them
  - charge cap of RPI – 12 per cent over four years
  - on appeal to the Competition Commission

INTUG accounting rates

- antiquated regime for settling exchange of international traffic
- bypassed in many ways:
  - re-filing
  - call-back
  - Voice over IP
- no global consensus to replace them
- they will soon be dead

INTUG mobile accounting rates

- operators created separate rates for international calls to mobile networks
- leveraging domestic market power into foreign markets
- markedly higher rates
- passed on to residential callers
- very little chance callers understand:
  - +32-4
  - +44-7
  - +64-2

INTUG Arbinet prices US$/min

New York or London to

- 0.01480 Sydney
- **0.14000 Australia mobile**
- 0.01250 Brussels
- **0.14890 Belgium mobile**
- 0.01245 UK proper
- **0.11600 UK mobile**

INTUG international mobile roaming

- a great convenience for business
- outrageous prices and profits
- very hard to find price information
- operators
  - deny responsibility
  - blame each other
- seen to be beyond regulation

INTUG very real costs to business

- costs of international roaming are very high for international businesses
- can be millions of US$ per year
- spending hidden in expense claims
- staff not on best tariffs
- operators make it difficult to consolidate purchasing
- holds back use of roaming
- companies need to tighten up

INTUG roaming problems

- nobody knows the prices
- nobody switches operator
- everybody pays the bills
- there is no competitive or regulatory pressure on the operators
- IOT increased prices but was going to lower them

INTUG "unprecedented cooperation"

- GSM Association's description of roaming
- sounds like collusion and joint dominance
- superficially the paperwork looks clean
- underneath it looks very bad

INTUG home country + flat roaming

Vodafone

- EU plus some other countries
- not USA or Australia

DTAG

- EU plus USA

EC Health Warning
Neither has been cleared by DG Competition

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INTUG activities

- European surveys
- European Commission
  - Treaty Articles 81 and 82
  - an international competition authority
- International Telecommunication Union, CITEL and APEC TEL
- answering press enquiries

INTUG France to Belgium

	Buoygues	Itineris	SFR
Belgacom	1.40	-	2.72
Mobistar		2.18	2.18
KPN Orange	1.35		2.72
non-roaming	0.72	1.19	1.01

Fixed prices: Call-box 0.29-1.15, France Telecom 0.40 and Viatel 0.20 March 2000

2'15" call

INTUG UK to Belgium

Euros/minute	Peak	Off-peak
Proximus	1.20	1.20
KPN-Orange	1.52 to 1.34*	1.52 to 1.34*
Orange	0.32 to 0.28	0.32 to 0.28
BT Cellnet	1.44 to 0.27	1.44 to 0.27
BT fixed	0.27	0.14

* roaming on BT Cellnet

INTUG Belgium to UK

Euros/minute	Peak	Off-peak
Orange	0.96	0.96
BT Cellnet*	1.59 to 0.96	1.59 to 0.96
Proximus	0.2975	0.2231
KPN-Orange	0.21	0.21
Belgacom to fixed	0.17	0.09
Belgacom to GSM	0.47	0.39

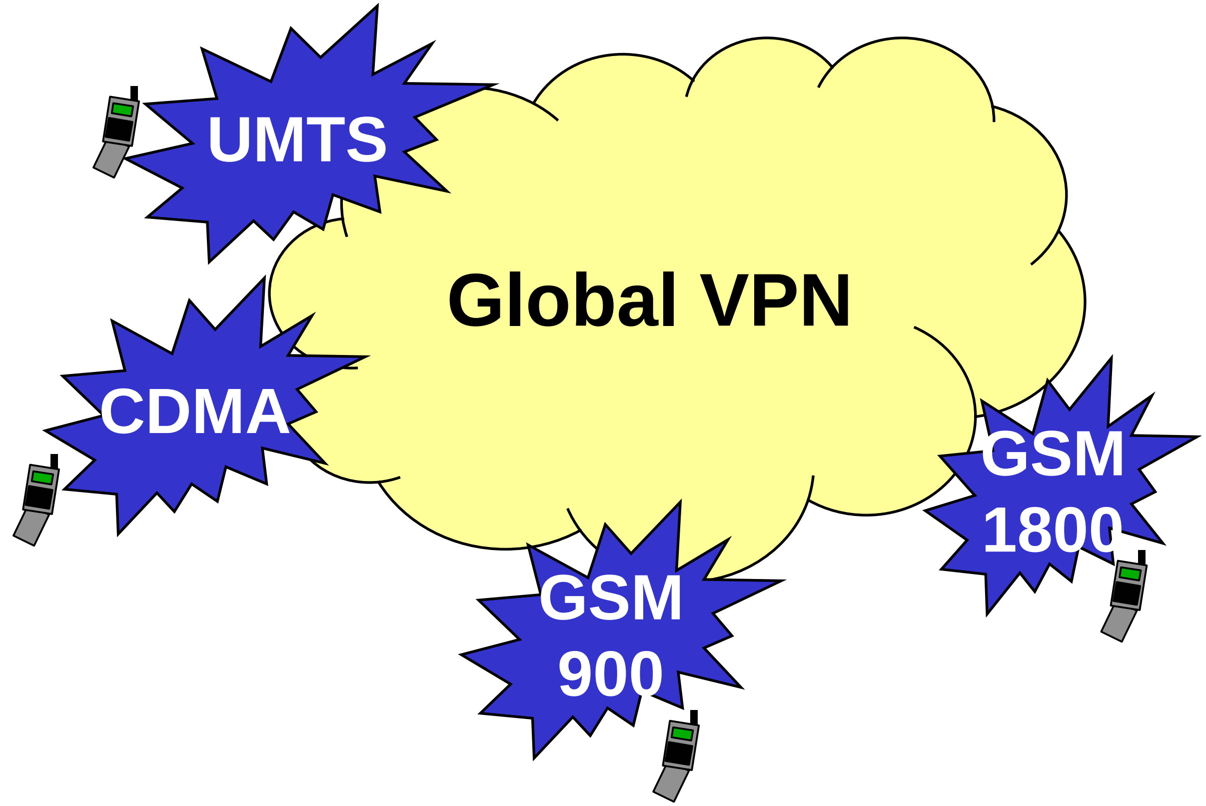
* depends on scheme, not roaming operator.

INTUG DG Competition

- launched inquiry - July 1999
- work began - January 2000
- working document - December 2000
- “dawn raids” - July 2001
- outcome - December 2002?

Based on this Wim van Velzen MEP called them a Cartel in February 2001

INTUG what businesses want



buying only transit over mobile networks

INTUG next generation roaming

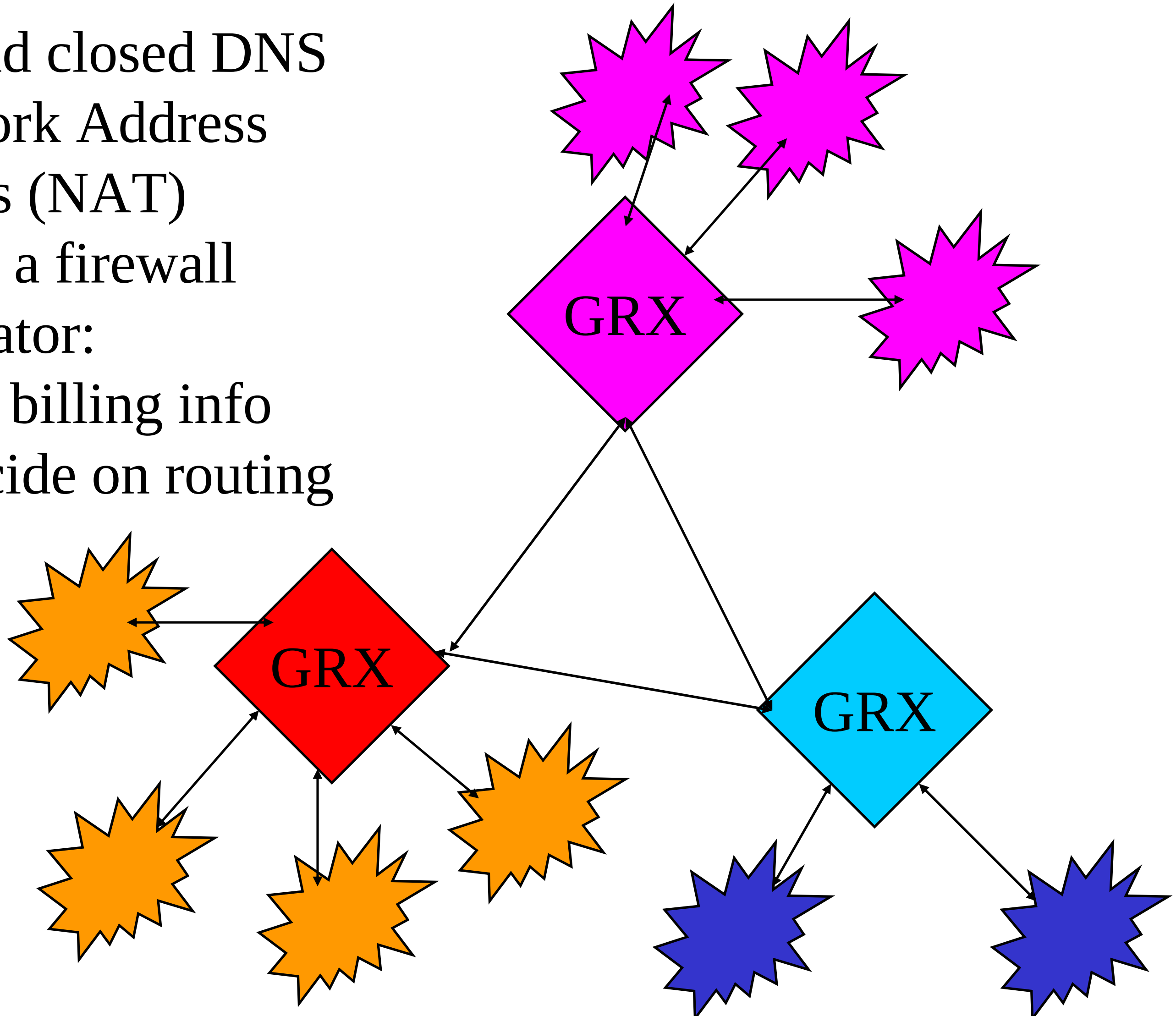
- does not exist yet
- HSCSD is almost a secret
- GPRS is exclusively national:
  - fine in USA, Australia and China
  - almost useless in Europe and SE Asia
- maybe (not) in 2002 Q3?
- EDGE in 2003 Q3?

INTUG failure of GPRS

- few handsets and badly delayed
- no international roaming
  - Denmark, Finland, Norway and Sweden
  - Austria, Liechtenstein, Croatia and Slovakia
- problems getting gateways to VPNs
- USA overtaking Europe in adoption

INTUG GPRS roaming

- separate and closed DNS
- uses Network Address Translators (NAT) effectively a firewall
- home operator:
  - gets all billing info
  - can decide on routing



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3G roaming means

- roaming onto 2 and 2.5G networks
  - nationally and internationally
  - 900, 1800 and 1900 MHz
  - GSM, GPRS and EDGE protocols
- IMT-2000
  - 750MHz in 5 bands
  - with 3 protocols
- bring a luggage trolley, a car battery and a technician

INTUG failure of 3G?

- self-immolation of operators in auctions
- out of favour with financial markets
- believed their own share prices
- caught on ARPU
- manufacturers cannot finance infrastructure building
- attempting to control downstream service markets
- would not see alternative technologies
- poor brand names

INTUG advice to business users

- take your calling cards with you
- USE THEM !!!
- if absolutely necessary use SMS
- investigate Wi-Fi (802.11b) and alert your travel department to this

INTUG Mobile Internet

- disappointments with 2.5
- a lot more than 3G
- competition from unlicensed spectrum
  - is it available?
  - are there restrictions?
- several technologies:
  - Bluetooth
  - WLAN
  - Ultra Wide Band (UWB)
- hot spots (homes, hotels, airports, coffee shops, etc)
- will 3GSM operators try to grab key locations?
- a blend of access technologies

m-commerce

- does it exist?
- is it different from E-commerce?
  - customisation?
  - location-based services?
- is ubiquitous commerce more accurate?
- what is the business model for this?

INTUG m-commerce

B2Consumer (B2C)

- access to services
- adverts

B2Employee (B2E)

- VPN access
- Intranet access

Peer-to-Peer (P2P)

- SMS and MMS
- Instant Messaging
- Napster

INTUG walled gardens

- customers do not want this
- strong competition case law:
  - customer reservations systems
  - electronic programme guides
  - France Telecom WAP case
- are highly unlikely to succeed
- greed on the part of the operators, to satisfy the financial markets

INTUG future issues

- data protection?
- regulating IP networks?
- LRIC for IP?
- content on mobile?
- advertising on mobile?
- P2P on mobile?
- health?

INTUG conclusions

- persistent market failures and abuses
- competition law is too slow for start-ups
- regulation has been political
- incumbent operators provide enormous resistance to new entrants