INTUG

An update on international roaming

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INTUG contents

- INTUG
- avoiding roaming charges
- data prices
- voice prices
- conclusions

INTUG what is INTUG?

- members
 - national associations
 - corporations
 - individuals
- activities
 - ITU and WTO
 - OECD
 - APEC TEL, CITEL and EU

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 priorities

- 1. open access to global mobile networks
- 2. regulatory best practice
- 3. liberalization
- 4. leased lines
- 5. IP telephony
- 6. digital divide
- 7. universal access
- 8. numbering

EVUA Mobility, London 25 iii 2004 www.INTUG.net

INTUG mobile priorities

International Mobile Roaming (IMR)

- significant reductions in charges
- availability of a range of services, including global and multi-country tariffs, without necessarily having to pay roaming charges
- regulatory action to end the cartel of mobile network operators

Fixed-to-Mobile call termination (F2M)

- cost orientation of wholesale prices
- wholesale price reductions speedily passed onto users Mobile Number Portability (MNP)
- availability on demand
- inexpensive or free
- no consequential loss of facilities or special offers

Short Message Service (SMS)

- interconnection of all operators
- significant reductions in prices towards cost orientation
- regulatory action to end the cartel of mobile network operators

national mobile roaming

- availability in areas of low population density
- availability to support introduction of new operators and new technology

INTUG avoiding roaming charges

- need for policies
- need for to inform staff
- need for analysis of invoices
 - follow-up with operators
 - follow-up with individuals

Provide telephone and Internet access to visitors, so you can ask for it in return.

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

INTUG advice

- do ensure that your absence message invites callers to send you electronic mail in preference to calling your mobile phone
- do check your e-mail regularly and respond as promptly as possible
- do carry and use a telephone calling card
- do use a Wi-Fi hot spot or broadband connection for data access for your lap-top or PDA
- do ask the caller to ring you back on a nearby fixed line
- do take the number of the caller and call them back using your calling card on a fixed line

INTUG minimise use of

- your mobile phone and your hotel phone especially for long distance and international calls
- GPRS, EDGE and Internet dial-up with a mobile phone handset

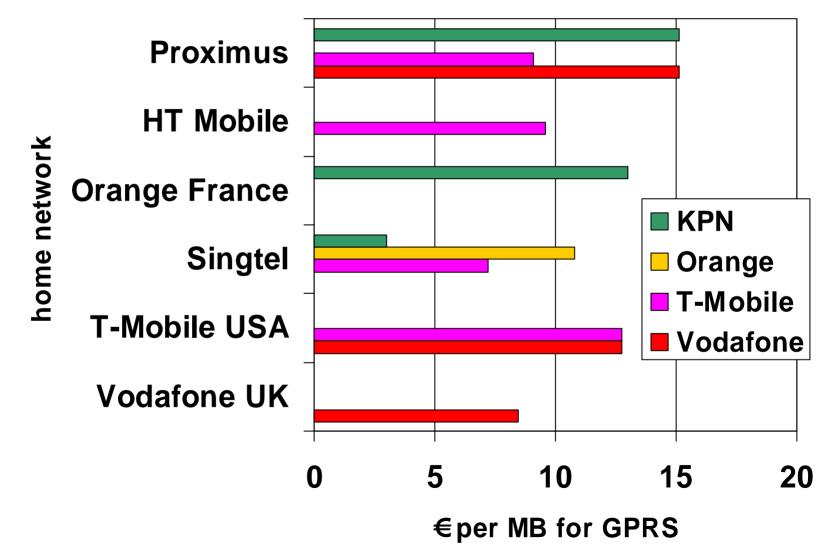
INTUG mobile data

- need global or European footprints
- need Service Level Agreements (SLAs)
- needs to be competitive with other forms of data access
- GSM networks are much more expensive than CMDA
- best practice is flat-rate and cheap
- very little evidence Europe
 - latest offer from T-Mobile UK?
 - only national, nothing yet on roaming

INTUG Japan and USA

- KDDI Au Win in Japan
 - cdma2000 1X EV-DO
 - ¥4,200 (€33) monthly unlimited
 - up to 2.4 Mbps downlink and 144kbps or more uplink (best efforts)
- Verizon
 - "national" cdma2000 1X coverage
 - US\$ 79.99 (€68) monthly unlimited
 - 40-60kbps, bursting to 144kbps
- AT&T Wireless
 - "national" GPRS/EDGE
 - US\$ 79.99 (€68) monthly unlimited
 - 100-130kbps, bursting to 200kbps

INTUG GPRS roaming in Netherlands

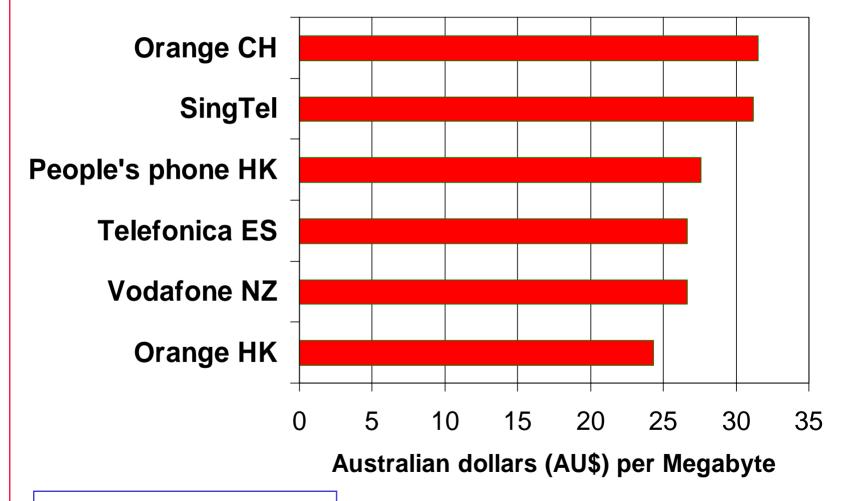


INTUG GPRS roaming charges

- Vodafone UK on Vodafone NL
 - £5.88 (£10.28 on Blackberry) €8.47
- T-Mobile USA on T-Mobile and Vodafone
 - US\$ 15.00 €12.75
- Singtel
 - KPN Mobile €3.00 (charging unit 1 kB)
 - T-Mobile €7.20 (charging unit 100 kB)
 - Orange €10.80 (charging unit 10 kB)
- Orange France on KPN
 - €13.00
- HT Mobile (Croatia) on T-Mobile
 - HRK73.20 per MB (€9.58)
- Proximus
 - KPN and Vodafone €15.13
 - T-Mobile €9.08

Source: operators web sites 25 November 2003

INTUG GPRS roaming in Australia



AU\$ 1 = EUR 0.611

INTUG GPRS roamers

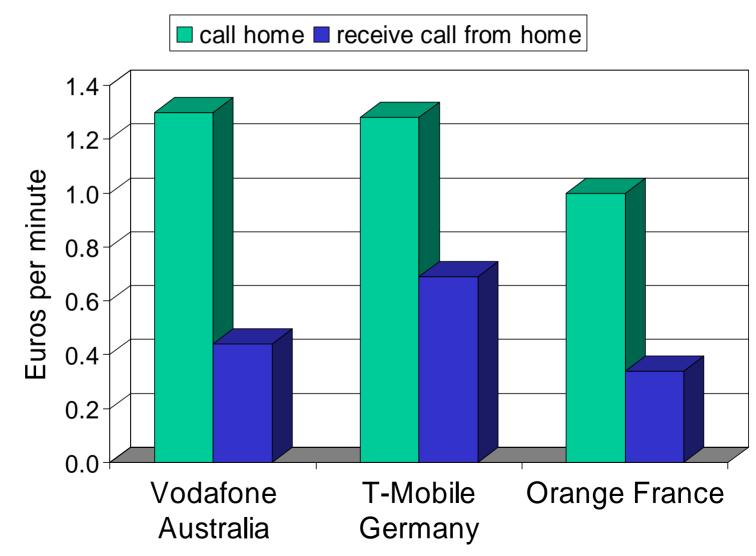
- Vodafone
 - from UK/Espana not available
 - from NZ NZ\$ 30/MB (AU\$ 26.67)
- Orange CHF 31/MB (AU\$ 31.53)
- SingTel Mobile AU\$ 31.20/MB
- Hong Kong
 - Orange HK\$ 150/MB (AU\$ 24.35)
 - People's Phone HK\$ 170/MB (AU\$27.60)
- Telefónica Móviles
 - on Telstra €16.69/MB (AU\$26.67)

HK\$ 6.16 = AU\$ 1 = NZ\$ 1.125

INTUG roaming voice prices

- operators claim wholesale market
 - is competitive
 - that market shares are changing
 - that prices that are declining
- some strange retail price movements
 - national calls equated to calls home
 - greater variation between operators

INTUG roaming calls in Belgium

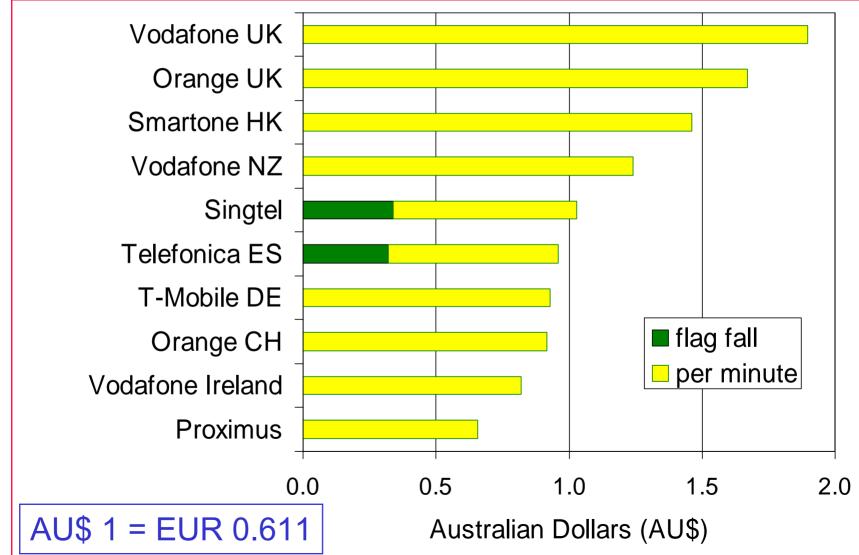


INTUG roaming in Belgium

- Vodafone Australia on Proximus
 - €0.18 to send an SMS (AU\$ 0.29)
 - − €0.58 to call Belgium (AU\$ 0.95)
 - €1.31 to call Australia (AU\$ 2.15)
- Orange France (on all 3 networks)
 - €0.34 for incoming call
 - €1.00 to call Belgium or France
 - €2.40 to call Australia
- T-Mobile Deutschland on Proximus
 - − €0.32 to send an SMS (free to receive)
 - − €0.69 to receive a call from Germany
 - €1.03 to call Belgium
 - €1.28 to call Germany

per minute

INTUG national calls in Australia



INTUG g'day roamers

- from T-Mobile USA
 - not available
- from Singtel
 - national call on Optus AU\$ 0.69 + 0.36
 - SMS send AU\$ 0.45 but free to receive
- from UK Vodafone World
 - national call 79p and to call UK
 - SMS send 75p receive 35p
- Vodafone Ireland
 - Inbound call EUR 1.77
 - National call EUR 0.52
- Orange France
 - Inbound call EUR 1.10
 - Call to Zone 3 EUR 2.40
- Proximus on Vodafone
 - national call EUR 0.41
 - Inbound call EUR 1.10
- T-Mobile on Telstra
 - National call EUR 0.58
 - Inbound call EUR 1.80

- Orange UK
 - Inbound call £0.35
 - Making a call £ 0.70
- Orange CH
 - Inbound call CHF 0.80
 - national calls CHF 2.00 or on "travel plan" CHF 0.90
- Smartone HK
 - Inbound HK 9.00
 - National call HK\$ 6.00
- Telefónica Móviles on Telstra
 - Incoming calls 0.3 €+ 1,29 €min
 - National calls 0.2 €+ 0,4 €min
 - Calls to Spain 0.32 €+ 0,56€min
 - SMS send 0.75 €and free for receive
- Vodafone NZ on Optus
 - incoming NZ\$0.44 NZ\$1.24
 - national NZ\$ 1.40
 - back to NZ NZ\$1.05
 - SMS send/receive "surcharge" NZ\$ 0.65

INTUG conclusions

- mobility is much more than GSM
- absence of pan-European services puts a heavy burden on business
- GPRS roaming is outrageously expensive
- voice roaming:
 - needs to managed much more tightly
 - prices vary enormously

INTUG thank you

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