

INTUG

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Wireless Internet

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INTUG contents

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- what is INTUG?
- an ecology of networks
- global best practice in regulation
- security
- recycling payphones
- policy issues
- conclusions

INTUG what is INTUG?

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

INTUG our aims

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- 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

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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

INTUG many different networks

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- fixed
 - copper (narrowband and xDSL)
 - cable television
 - Wireless Local Loop (WLL)
- cellular
 - 2G (CDMA and GSM)
 - 2.5G (GPRS, EDGE and cdma2000 1X)
 - 3G
- Wireless Local Area Networks (WLAN)
- Ultra-Wide Band (UWB)
- digital broadcasting
 - radio and television
 - IP data-casting

INTUG differentiation

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- networks:
 - bandwidth
 - coverage
 - cell-to-cell hand-over
- services
 - network-to-network handover
- use of spectrum
 - exclusive
 - shared

INTUG mobile voice telephony

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- GSM operators have extended service to millions of new customers
- however, many market abuses
- they do not seem (yet) to understand the mobile Internet

INTUG market abuses

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- highly confusing tariffs
- international mobile roaming
- fixed-to-mobile call termination
- Short Message Service (SMS)
- call origination for freephone

INTUG from 2G to 3G

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- HSCSD
 - died an obscure and unloved death
- WAP
 - died from an overdose of hype
- GPRS
 - extraordinarily expensive (£1 per Mb at home £10 when roaming)
- EDGE
 - supposedly coming soon (any handsets?)
- 3G
 - not just no killer apps, no applications at all

INTUG 3G business model

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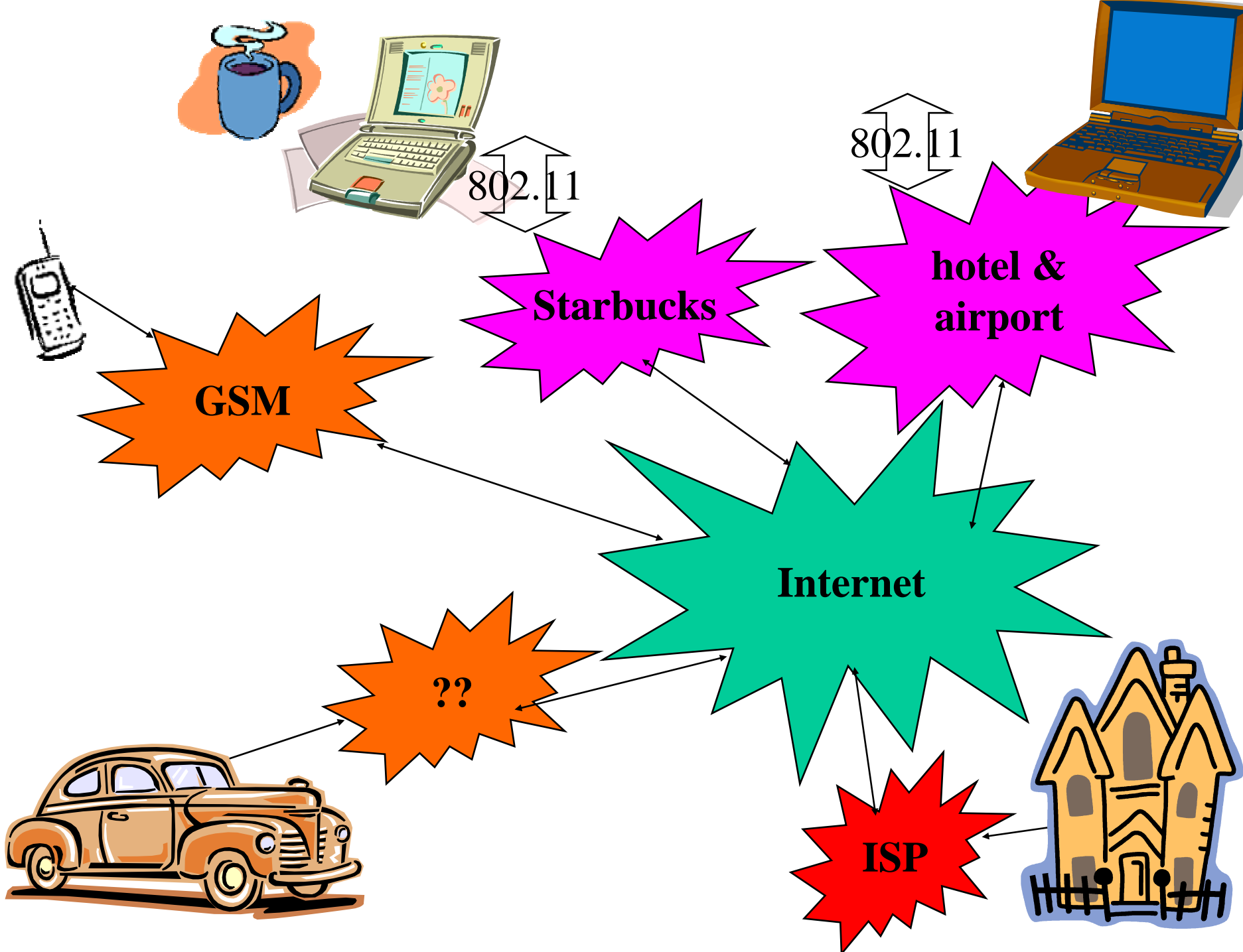
- did it exist or just another dot.com?
- do people want/need applications?
- data protection problems
 - especially location based services
- “walled garden” problems
 - customer reaction
 - competition law
 - regulation

INTUG WLAN

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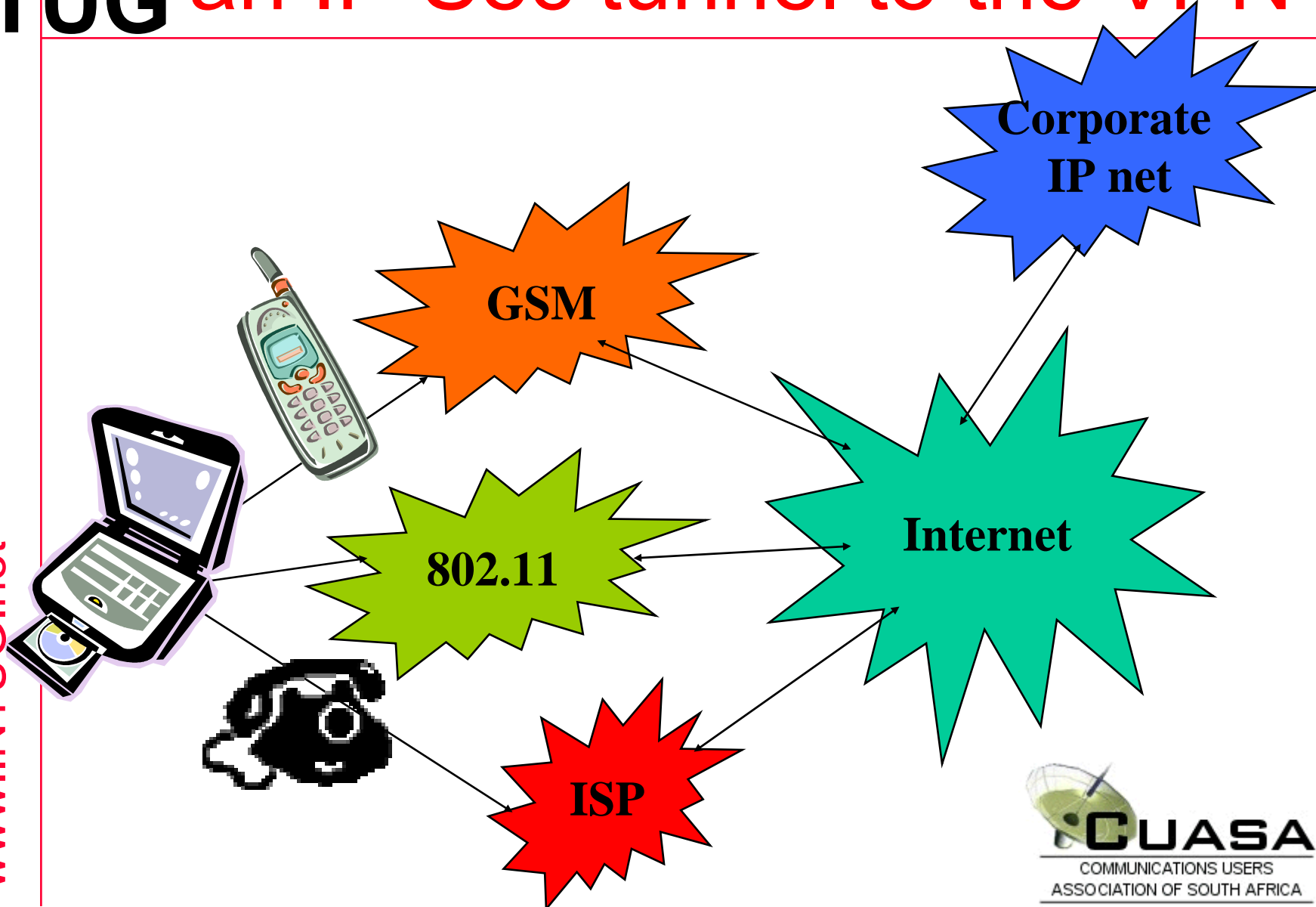
- adoption in:
 - corporations (rapid)
 - homes (add-on to ADSL)
- roll-out of hot spots:
 - airports (especially lounges)
 - railway stations (not trains?)
 - hotels
 - coffee shops
 - conference centres



INTUG an IP Sec tunnel to the VPN

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INTUG why WLAN not 2.5G?

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- what are the patterns of usage of the mobile Internet?
 - immediacy
 - location
- are they like access to:
 - mobile voice
 - fixed voice
 - fixed ISP
 - something else?

INTUG European Union

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- new telecommunications regulatory package from July 2003:
 - no licences only authorisations
 - minimal regulation
 - WLAN authorisations need not impose conditions
- European Commission pressured member states to regulate lightly
- coordination on 5GHz for WRC-03

INTUG Germany

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- RegTP ruled 3G and WLAN are complementary and not competitive
- opened 5 GHz band for unlicensed use
- hard for operators to disagree!

INTUG United Kingdom

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- Review of Radio Spectrum Management conducted by Professor Martin Cave for Department of Trade and Industry
- spectrum was available for WLAN, but “commercial” services were not
- authorised use of public access services on the licence-exempt spectrum

Given reasonable take-up and pricing assumptions, it is considered that allowing the introduction of RLANs would generate a very substantial consumer surplus in the order of £500 million per annum for the UK. The overall impact on economic welfare is likely to be of a similar order to this, regardless of whether market conditions are effectively competitive or not. The technical analysis suggests that allowing public access use of the 2.4 and 5GHz bands is likely to generate minimal additional interference costs for existing users ... this strongly suggests that allowing public access systems to use licence-exempt spectrum is likely to be beneficial, but that certain conditions ought to be put in place in order to make sure that congestion and interference are minimised.

INTUG BT openwave

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- BT sold off mobile telecoms arm O2
- now re-selling voice air-minutes
- supplementing this with WLAN hot-spots

INTUG KT - Nespot

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- WLAN service from incumbent TelCo in South Korea
- 120,000 customers at end of 2002
 - aim is for 1.2M by end of 2003
- 7,700 hot spots for:
 - notebook computers
 - Personal Digital Assistants (PDAs)
- rival Hanaro aims for 10,000 hot spots and another million customers

<http://www.nespot.com/>

INTUG recycling public phones

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- Bell Canada
 - adding ADSL splitter and WLAN to payphones
 - boosts declining revenue
 - avoids asking to close them
- PCCW - Hong Kong
 - total coverage of SAR

INTUG United States of America

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- Department of Defense has concerns about interference from WLAN in 5GHz band
- gradually being resolved in face of strong commercial pressure

INTUG WLAN policy issues

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- is the spectrum available or can it be made available? (2.4 GHz and 5 GHz)
- are “commercial” services allowed?
- will interference allow reasonable bandwidth?
- is there access to reasonable cost infrastructure?
- is there leverage of existing dominance when an integrated service is built?
- can you control a “land grab”?

INTUG security

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- many criticism of inadequate security
- warchalking of networks
- ICC Cybercrime Unit "Audit of Wireless LANs"
[www . wirelessaudit . Co . UK](http://www.wirelessaudit.Co.UK)
- risks from use of temporary connections for:
 - sending spam
 - hacking
 - are these greater than cybercafes?

INTUG VoIP, SIP and IM over WLAN

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- services can unify multiple networks
- personal identifiers can be:
 - Session Initiation Protocol (SIP)
 - Instant Messaging (IM)
- potential threat to revenues of
 - fixed network operator(s)
 - mobile network operators

INTUG future technologies

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- Ultra-Wide Band (UWB)
 - being pushed in the USA
 - decisions by FCC
- IP data casting

INTUG conclusions

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- GSM operators failed to build mobile Internet services or business model
- network operators are so afraid of market entrants using new technologies that they are trying to use regulation to kill them
- unlicensed bands will allow new service providers, both:
 - commercial
 - community access
- strong potential benefits

INTUG potential benefits

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- more competition
- cheaper services
- increased access to the Internet
- more market players
- community services
- better market dynamics
- sends a positive signal about the value of infrastructure competition

INTUG thank you

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<http://www.intug.net/talks.html>

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