

IMT-2000 & SYSTEMS

BEYOND

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Overview of presentation

✿ Background

- Australian telecommunications regulatory environment
- 2G and 3G mobile in Australia and the Asia-Pacific region

✿ What does harmonisation mean to the regulator?

✿ What are the regulatory and user benefits of harmonisation?

✿ How should harmonisation work proceed?

Australian regulatory environment

- ✿ *Telecommunications Act 1997* introduced ‘full and open competition’
- ✿ Objects of regulatory regime include:
 - ensuring universal access to standard telephone services
 - promoting competition in supply of carriage services
 - providing appropriate community safeguards in relation to telecommunications activities
- ✿ Regulatory policy to encourage self-regulation and minimise financial and administrative cost to industry

Australian regulatory environment (2)

- ✿ Australian regulatory regime is ‘technology neutral’
 - spectrum licences authorise use of radio devices in allocated spectrum bands; no reference to technology *per se*
 - operator (carrier) licensing based on ownership and use of transmission infrastructure
 - regulatory obligations focused on service type, not underlying technology (eg. voice telephony services)
- ✿ Interconnection and access is a mixture of regulatory mandate and commercial arrangements (no mandated national mobile roaming at this time)

Australian regulatory environment (3)

- ✿ Access to standard telephone service regardless of place of residence or business (universal service obligation)
 - equivalent carriage service and customer equipment must be provided if voice telephony not appropriate for a particular user
- ✿ Competition related obligations
 - number portability, pre-selection
 - access and interconnection
- ✿ Public interest obligations
 - access to emergency call number (000, 106)
 - mobile origin location information (MOLI)
 - lawful interception

2G mobile in Australia

- ✿ Australia has four 2G mobile operators, with a total of five mobile networks
 - Telstra (GSM, CDMA)
 - Optus (GSM)
 - Vodafone (GSM)
 - Hutchison/Orange (CDMA)
- ✿ Approximately 11.1 million mobile subscribers (as at 30 June 2001)
 - growth of 25% since 30 June 2000
 - now more mobile subscriptions than fixed line subscriptions

3G in Australia

- ✿ 3G spectrum licences auctioned March 2001
 - licences take effect October 2002
- ✿ Six successful bidders (Telstra, Optus, Vodafone, Hutchison, Qualcomm, CKW Wireless)
 - Hutchison has forecast (3GPP/UMTS) network roll-out in late 2002/early 2003
 - Telstra, Optus have forecast roll-out in 2003; Vodafone 2004
- ✿ Anticipated that there will be both 3GPP/UMTS and 3GPP2/CDMA2000 IMT-2000 systems in Australia

3G in the Asia-Pacific region

- ✿ Likely to be mix of 3GPP/UMTS and 3GPP2 networks
 - NTT DoCoMo has rolled out 3GPP/UMTS based network in Japan (J-Phone to follow soon)
 - Korea likely to have 3GPP/UMTS and 3GPP2/CDMA2000 networks
 - China considering TD-SCDMA (part of 3GPP radio technology)
- ✿ Harmonisation is important for the region
 - increasing level of inter-regional trade and other activities
 - facilitates real-time services and applications
 - communication plays an important role for economic growth
 - harmonisation is seen as removing “communications barriers”
 - emphasis on (common set of) services and not technology

Harmonisation

- what does it mean?

- ✿ Harmonisation means different things to different people
 - vendors - same product
 - operators - common traffic and operational interfaces supporting services across platforms
 - regulators - common system capabilities
 - users - seamless any-to-any connectivity
- ✿ No one definition is absolute - all are valid
- ✿ This presentation focuses on network harmonisation from the regulator's perspective

Regulator's concept of harmonisation of IMT-2000 family systems

- ✿ A working definition ...

Common minimum set of technical capabilities and application protocol interfaces in IMT-2000 family members that support interconnectivity and the application of technology neutral regulatory requirements that promote public interest benefits to all users.

- ✿ Harmonisation should not impede flexibility of operators and application service providers to provide 'value added services'

Regulatory benefits of harmonisation

- ✱ Facilitates technology neutral regulation
 - regulatory obligations can apply to a service, independent of the underlying technology
 - minimises technical barriers to regulation and reduces industry costs of regulatory compliance
- ✱ Ensures public interest requirements available to users of all IMT-2000 systems
 - access to emergency call services
 - other user benefits, e.g.
 - ◆ harmonised lawful interception interface means lower costs to agencies (and therefore lower costs to taxpayers)
 - ◆ harmonised terminal standards facilitates user portability of terminals (global circulation)

What do users think about harmonisation?

- ✱ Users expect connectivity in services and applications
 - experience with SMS illustrates commercial benefits of connectivity across systems
 - in the IMT-2000 world, this expectation will extend to multimedia applications
 - expectation of connectivity may be supported by regulatory requirement (eg. coverage)
- ✱ Users do not necessarily 'see' harmonisation
 - for users, harmonisation may be seen as a means to an end, and not necessarily an end in itself
 - interworking between systems may be appropriate surrogate for harmonisation (eg. coverage obligations)

How do regulatory objectives assist users, operators and vendors?

✿ Competition related benefits

→ requirements such as portability and pre-selection promote competition in supply of services and applications and lower prices to consumers

✿ Commercial benefits to operators and service providers

→ 'multi-system' services and applications are more attractive to users

✿ Benefits to vendors

→ reduced compliance costs for vendors

→ access to markets with multiple systems

Regulatory issues and current harmonisation activity

✿ 3GPP/3GPP2 workshop 3-4 April 2002

→ agreed that harmonisation of IP multimedia core networks is a worthwhile and achievable goal that should be pursued by both PPs

✿ Areas identified for consideration included

→ location information

→ access to emergency services

✿ Other regulatory areas that could be considered

→ lawful interception

→ quality of service

→ billing

Who should do the work?

- ✿ Substantive technical activity is primary responsibility of partnership projects, IETF and other relevant industry based technical standards fora
 - 3GPP and 3GPP2 work programs can be engine for standards development
- ✿ ITU has facilitation role
 - SSG work activity to identify areas of technical activity for harmonisation
 - ITU can assist harmonisation efforts by facilitating compromise to achieve harmonisation

What is the responsibility of the regulator?

- ✱ Consistency and certainty in regulation
 - in a global market, technical basis for regulation should (so far as possible) be based on international standards
 - international standards must take account of multiple national markets to be appropriate for national implementation
- ✱ Regulators should promote harmonisation in regulatory requirements across markets
 - eg. global circulation of IMT-2000 terminals (user portability of terminal)
 - harmonised frequency allocation (reduction in “multi-band” – hence lower terminal costs)
 - minimising national regulatory (technical and non-technical) barriers to trade in line with WTO obligations

The way forward?

- ✿ Harmonisation should be considered from perspective of all interested parties
 - focus on the benefits that can be provided by harmonisation
 - harmonisation must not restrict the ability of operators to offer 'value added' services and applications
- ✿ Harmonisation should take account of needs of all regions and countries
- ✿ Inter-working between IMT-2000 systems and with legacy fixed and mobile systems is important issue
 - for the user, the end result (and not the means) is critical
 - inter-working (including with legacy systems) is important for coverage requirements

Thank you