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?
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 (e.g. 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 (e.g., 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 harmoniation (e.g., 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