

Licensing Framework for Third Generation Mobile Services

Industry Briefing
4 October 2000

Policy Considerations

- To promote the development of the telecommunications and related IT industry
- To protect consumers' interests
- To maximize benefits to the economy as a whole

Key Issues

- Licensee selection method
- Width of spectrum per operator
- Number of licences
- Treatment of new entrants
- Technical standards
- Domestic roaming from 3G to 2G

Key Issues (Cont'd)

- 3G services in 2G spectrum
- Additional spectrum allocation for 3G
- Numbering
- Licensing
- Timing

Licensee Selection Method

Option 1: Selection by Merits

- Well-established method in HK to evaluate based on merits of application

PROS

- proven to be successful
- commitments by applicants on coverage roll out and investment
- does not incur high entry costs

CONS

- arguably less transparent and more subjective
- 3G business model not clear
- undesirable if windfall profits to licensees

Option 2 : Cash Auction

- Price level is successfully raised *UNTIL*
no. of bidders = no. of licences issued

PROS

- transparent and easy to administer
- efficient method for allocation of scarce resource

CONS

- lead to higher 3G platform price
- not conducive to e-commerce
- economists differ on whether spectrum cost is sunk cost, but banks may stay away from inflated 3G investments

Option 3 - Reverse Auction

- Bidders do not bid for cash payment to Government
- Instead, they compete on their proposed wholesale price for network capacity - the *LOWEST PRICE* commitments win

PROS :

- highest economic & consumer benefits

CONS:

- 3G services not clearly defined
- difficult to design bidding process
- difficult to bid for the right bid price

“Purist” Options 1 to 3 unable to meet policy objectives in dealing with 3G

Proposed Hybrid Approach

- Stage 1 - Pre-qualification
- Stage 2 - Auction
- “Open Network” requirement

Stage 1 - Pre-qualification

- Applicants to fulfill certain minimum requirements before proceeding to next stage
 - statement to substantiate financial and technical capability
 - business plan and proposals on network rollout, service level and coverage
 - agreement to minimum level of rollout over 5 years

Stage 1 - Pre-qualification (Cont'd)

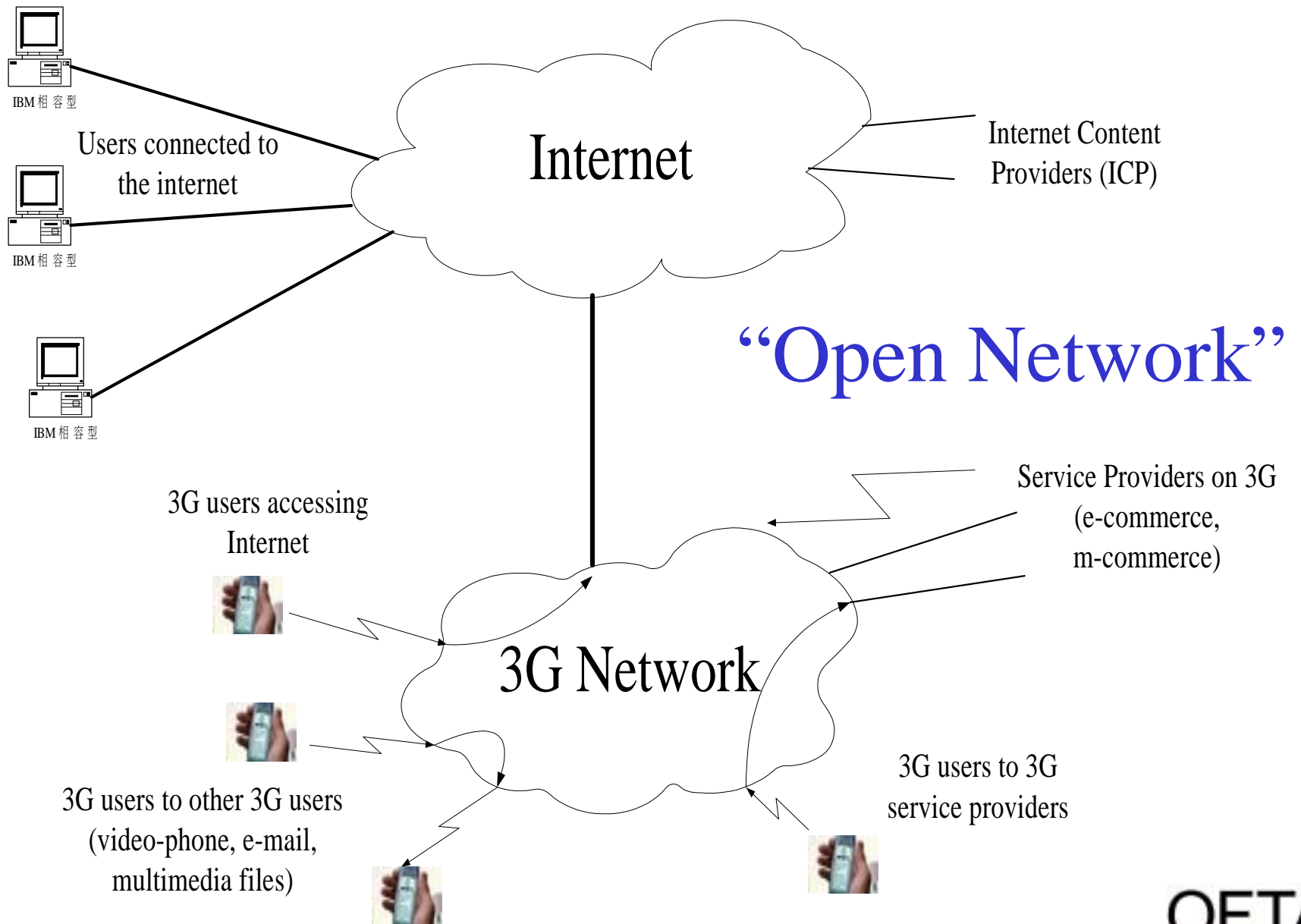
- (in case of 2G incumbents) agreement to provision of domestic roaming to 3G entrants
- financial guarantees on capital required to meet minimum network rollout conditions
- agreement to “open network” requirement
- lodging specified amount of deposit with Government

Stage 2 - Auction

- Variant 1 - cash auction
 - upfront payment
 - deferred payment
 - all or part to be deferred
 - could be structured as a number of deferred payments on straight-line basis, inflation-adjusted basis, or timed such that the bulk of obligation will fall in period after peak financing requirements of operator

Stage 2 - Auction (Cont'd)

- Variant 2 - royalties with guaranteed minimum payment
 - pre-qualified applicants bid on a percentage of their annual turnover to be paid as royalty
 - to avoid default, a minimum lump sum royalty is payable annually
 - a 5-year rolling guarantee on the minimum payment is required



“Open Network”

- To open specified percentage of network capacity to non-affiliated service providers
- Non-affiliated service providers can be “Mobile Virtual Network Operators (MVNO)” or “resellers”
- Percentage open could be 30 - 50% (industry comments solicited)

“Open Network”

- Percentage to be assessed in busy hour/busiest cell
- Wholesale price to be initially commercially negotiated
- TA may determine ceiling of wholesale conveyance price where necessary

“Open Network”

- Basis of wholesale conveyance price can be
 - retail-minus (retail price of services provided by network operator or affiliated service providers less cost of providing the services)
 - cost plus (long-run average incremental cost plus cost of capital commensurate with risk of investment in 3G network)
 - industry comments solicited

Proposed Hybrid Approach with Cash Auction

PROS

- allows all 6 existing 2G operators to take part in 3G business even if they lose out in 3G bidding
- high transparency
- revenue for Government, yet consumers protected
- promotes competition in content and service applications

CONS

- still introduces a relatively high entry cost
- open network requirement may make 3G licence less attractive

Proposed Hybrid Option with “Royalty” Auction

PROS

- reduces upfront cost for licensees, enables smaller operators to bid
- may attract more bidders, more successful auction
- licensees pay more if 3G business is more successful
- constant revenue stream for Government

CONS

- more complicated procedures, higher enforcement costs
- Government takes some risks

Spectrum Width per Operator

- Noted industry reservation about use of 2G networks as macro layer for 3G networks
- Noted industry's view on allocation of unpaired spectrum at the same time as allocation of paired spectrum
- Accepted that it is undesirable to introduce capacity constraints

Spectrum Width per Operator

- “Open network” provides opportunity for operators without 3G network licence
- “Open network” requires more spectrum per operator
- 15 MHz x 2 paired spectrum and 5 MHz unpaired spectrum to be assigned to each successful applicant upon award of licence

Number of Licences

- Four licences to be issued
- Incumbents and new entrants to be given equal opportunity to bid
- Unsuccessful bidder may participate in 3G business through “open network”

Treatment of New Entrants

- No licence specifically reserved for new entrants
- Same spectrum width per operator as for incumbents
- No foreign ownership restrictions
- Mandatory roaming for customers of new 3G operators onto existing 2G networks

Technical Standards

- Any radio interface standard adopted by International Telecommunication Union subject to
 - compatibility with band plans in Hong Kong
 - compatible between networks from users' point of view (to promote effective competition among networks)

Roaming from 3G to 2G Networks

- 2G incumbents successful in obtaining 3G licences have to allow customers of 3G new entrants to roam into their network
- Provides more effective competition between 2G/3G operators and 3G new entrants
- “Sunset” - 5 years from launch of service by 3G new entrants

3G Services in 2G Spectrum

- Use of existing 2G spectrum for 3G services after expiry of existing 2G licences to be subject to a separate consultation exercise

Additional Spectrum for 3G Services

- Use of additional spectrum allocated by ITU to 3G services to be subject to further discussions and industry consultation
- Not expected to be available until 3 - 4 years later

Numbering

- Mobile Number Portability to be mandatory for 3G services from launch of services
- Numbering ranges with prefix “9” and “6” usable for 2G and 3G services

Licensing

- Carrier (Mobile) Licence to be used to license 3G services (subject of current consultation exercise on carrier licences)
- Similar to Public Radiocommunications Service Licence but with special conditions appropriate to 3G services
- Licence validity period - 15 years

Way Forward

- Consultation period ends 13 November 2000
- Government to finalize licensing framework and invite applications - around end-2000 or early 2001
- Licence issued - 2001
- Service operational - 2002

Office of the Telecommunications Authority

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