APEC TEL Broadband Workshop #3

Keynote Address by
Mr M H Au
Director-General of Telecommunications, Hong Kong, China

23 March 2004

Regulatory Policy to Encourage Broadband Uptake - The Hong Kong Experience

Madam Moderator, Distinguished Panelists, Ladies and Gentlemen,

It is my pleasure to speak to you this morning on this important subject of regulatory policy for broadband. I would like to give an introduction of the regulatory policy that we have pursued, areas in which we have done well, areas in which we may not have done so well and what can be learnt from our experience.

Before I go into the policy side of the matter, let us take a look first at the current broadband market in Hong Kong to put things in better perspective.

Current Status

Hong Kong has a population of over 6.8 million. The number of households is 2.2 million. By the end of December 2003, the number of broadband connections exceeded 1.2 million, of which 1.1 million connections were to households. This represented a penetration rate of 18% by population and 50% by households, up respectively from 14.6% and 42% for the end of 2002. In fact, more homes (84% of Internet connected homes) are now connected to the Internet by broadband than by narrowband.

The Policy Behind

Market liberalisation

The first element of our regulatory policy is to lower the entry barrier

into the market for those investors who identify business case in investing in the broadband infrastructure in Hong Kong. We began a progressive liberalisation of the local fixed network market in 1995, with the market fully opened up from January 2003. Through liberalisation, we enable new entrants to invest in the infrastructure, as well as spur the incumbent to invest in order to compete with the new entrants. Such investment in infrastructure is fundamental to the development of broadband, which requires quality networks capable of meeting the capacity demand for transmitting multimedia content and services.

Overcoming the "last mile"

We are a cosmopolitan city with a high population density. Telecommunications infrastructure can be rolled out in a relatively short time, and at a relatively low cost per customer, to cover a substantial section of the public. On the other hand, operators also face bottlenecks and congestion in rolling out the customer access networks, or the "last mile", to the users. We have taken measures to tackle these issues through a two-pronged approach - facilitating the construction of self-built customer access networks to bypass the local loops of the incumbent, and implementing the "Type II interconnection" policy.

Facilitating self-built customer access networks

In facilitating the construction of self-built customer access networks, we have adopted a technology-neutral approach, i.e. we allow the operators to adopt the technology that they consider most suitable from the business point of view. Apart from laying underground fibres to the customer buildings, we have set aside spectrum to allow operators to use radio means of access (e.g. Local Multipoint Distribution Systems) if they consider this technically and commercially viable. The cable television operator has been authorized to run a cable modem service over its hybrid fibre/coaxial cable (HFC) network since 2000.

The Government has not levied any wayleave fees for fixed network operators to lay ducts and cables underneath public streets. We also realize that uncoordinated road opening by telecommunications operators would cause obstructions to traffic and inconvenience to the public. If this should cause

public concerns, the authority regulating road opening would be less prepared to grant road opening permits. Therefore OFTA has set up procedures and issued guidelines to operators requiring them to coordinate and cooperate among themselves on road opening work and share duct routes underneath public streets and pedestrian pavements. OFTA takes up the role of facilitating such coordination and liaison among operators, resolves disputes, and provides guidance as new situations arise.

Gaining entry into multi-storey buildings to lay in-building wiring to reach their customers can be another challenge to operators in constructing their self-built customer access networks. We have included in our law a statutory right of access in the common areas of a building, i.e. the areas that are not under exclusive occupation, for fixed network operators to install equipment and cables to reach customers in that building. So long as the equipment and cables are for serving the customers in that building, under the law, they are not required to pay rent or access fee for the space so occupied. We have also requested the building authority to issue a practice note for architects so that in designing new buildings, they will include sufficient space for the equipment rooms and cabling facilities for telecommunications. We also have a team of staff to help operators to gain access to buildings for network rollout. They hold meetings with the building managers and owners' incorporations to explain the right and reasons of the operators seeking access. Our staff serve as an important communication channel and ease off a lot of wariness and suspicion from the owners towards the operators' entry into the building.

On a much wider scale, we also run publicity programmes to educate the public of the operators' statutory right of access and the benefits they will gain from having blockwiring systems rolled out in their buildings. These publicity programmes include radio programmes, road shows, as well as distribution of educational leaflets.

Type II interconnection

The second prong of our approach to over the "last mile" obstacle is the implementation of the "Type II interconnection policy" since 1995, which requires an operator to allow other operators to interconnect to the former operator's customer access network at a cost-based interconnection charge for

the latter operators to gain access to their customers. From March 2001, the Type II interconnection policy has been extended to cover broadband interconnection.

This "Type II interconnection policy" has in itself two parts - Type II interconnection to in-building wiring systems and Type II interconnection to the local loops underneath public streets.

Because of the inevitable space limitation within buildings and also commercial considerations, there is bound to be a limit on the number of in-building wiring systems that can be accommodated in a building. Therefore we have Type II interconnection policy applied to the in-building wiring systems installed by operators. These operators may have been appointed to be the in-building wiring system operators by coordination among the fixed network operators or appointment by the landlords or building managers. The policy requires the operators with in-building wiring systems to open their systems to Type II interconnection by other operators on cost-based terms. This prevents the operators owning the in-building wiring systems from becoming "gatekeepers" for access to customers in the building. This interconnection requirement has been extended to in-building wiring systems owned and operated by the landlords or building managers themselves under class licences to authorize such in-building wiring systems.

Type II interconnection policy to local loops underneath the public streets is applied only to copper-based local loops. In other words, optical fibres or wireless networks are not subject to such a policy. In practice, because only the incumbent operator owns and operate copper-based local loops, only the local loops of the incumbent have been subject to Type II interconnection policy. This policy is intended to lower the barriers to the new entrants in reaching their customers while they are building their own customer access networks, so as to enable the benefits of competition and choice to reach the customers without delay. This policy is also intended to promote efficient investment, with the cost-based interconnection charges giving an efficient "build or buy" signal for decision making by the new entrants.

Areas in Which We have Done Well

According to the Digital Access Index released by the International Telecommunication Union (ITU) in November 2003, Hong Kong's broadband penetration rate is among the highest in the world, second only to South Korea, and we also have the most affordable broadband Internet service charges.

The speed of our broadband connections is also relatively high, because the length of our local loops is short and enables DSL technology to run at higher speed (up to 6 Mbps). The high speed connections have enabled a variety of broadband symmetrical as well as asymmetrical applications, including voice over IP, video phone and broadcast quality television.

Our policy has resulted in wide coverage of self-built networks built by the new entrants in a relatively short period of time. We have estimated that by the middle of 2004, 45% of our homes will be located in buildings connected by at least one alternative customer access network based on fibre-to-the-building. This is on top of the near ubiquitous broadband reach of the incumbent's copper-based local loop network and the 85% household coverage of the cable modem service riding on the HFC network for cable television broadcasting.

Areas in Which We May Not Have Done So Well

Although we have been successful in bringing about competition in the retail market for broadband, we have less success in achieving "open access" of the new entrants' networks and bringing about competition at the wholesale level. A service-based operator has little choice for broadband conveyance service at the wholesale level to reach its customers, apart from that provided by the incumbent. Because of the aggressive pricing of the facilities-based operators at the retail level, service-based operators are finding the market very tough to develop their business. As service-based operators would also have the capability of enhancing consumer interest, particularly in bringing about wider choice, better quality and more innovative applications, contents and services, we have to consider if consumer interest would be further enhanced by a better balance between facilities-based and service-based competition.

A question open to us is whether the policy objectives would be better achieved by mandating access to the dominant network operator's wholesale broadband conveyance service at bottom-up cost-based, or top-down retail minus prices, a measure that many regulators have adopted but one which we have so far not adopted, than by mandating access to the local loops under the Type II interconnection policy that we have so far not implemented successfully for broadband (although we did have success in implementing that policy for narrowband to promote competition).

What can be Learnt from Our Experience

The current status of broadband development in Hong Kong is not the result of Government's participation, or subsidization, in the investment in the broadband infrastructure. The Government's role has been to provide a conducive environment for broadband to develop. The Government has implemented the Digital 21 Strategy that sets the scene for e-Government and e-Business to prosper, raises user awareness, enhances user skills and stimulates demand for connection to networks. In parallel we have adopted regulatory policy that has promoted competition to drive the prices of broadband services down to affordable level.

Because of technological development and the high population density in Hong Kong, competition has produced services which the users found very attractive not only in performance but also in prices. Not only are the speed and "always on" capability of a broadband connection so much more attractive than a narrowband dial-up access, the price of a broadband connection is actually not so much higher than a narrowband connection in the Hong Kong environment. This has resulted in takeoff of the broadband services in the recent years.

We cannot claim that the Hong Kong model is applicable to all economies due to vast differences in demographic, social and economic conditions. Yet we may be able to distill some principles from the Hong Kong experience.

We have promoted competition by *de-regulation*, i.e. removing regulatory entry barriers into the market. And yet we have to use *regulation* (statutory right of access into buildings, mandatory sharing of road opening

routes, Type II interconnection, etc.) to lower the barriers for the new entrants to reach their customers. Is there a conflict between our two approaches? Is it sufficient to leave it entirely to the market for competition to develop, or should competition be fostered by regulation?

Based on our experience, we do not believe that we can leave it entirely to the market. The lack of competition in wholesale broadband conveyance services despite the existence of competing networks in Hong Kong is a case in point. We are also not convinced that access to customers in multi-storey buildings would be entirely without obstacles if there were not at least a reserve power for the regulator to mandate access on fair terms to the limited number of in-building wiring systems. Some regulation that is proportionate would be necessary to ensure that competition will develop. The art of regulation is however in deciding when to stop it.

In deciding the question of mandated access where justified to the local loops or the wholesale broadband conveyance services, we are mindful that we have to preserve the incentive to operators to invest in the infrastructure to cater for the demand of the future. After all, DSL and cable modems are just technologies that cater to the present need and are not necessarily sufficient to meet the demand of the future. The future demand may require optical fibres to be terminated closer and closer to the users and ultimately on the users' premises. To maintain investment incentive in the network for the future at the same time when we try to foster competition by mandating access to network operators' facilities at regulated prices is a real challenge to the regulators.

Few people will dispute that the objective of regulation is to enhance consumer interest in terms of price, choice, quality and innovation. Every regulation is however inevitably associated with a cost. In the case of mandated access to an operator's network, the cost is not only the cost of regulatory compliance and enforcement, but also whether commercial incentive in continued investment in the infrastructure would be dampened. The test of whether a regulation is warranted is whether the extent of the consumer benefit gained justifies the cost of the regulation.

And we are not just concerned about the consumer interests in the short term, but also interests in the long term in an information society which

depends critically on the availability of high-speed high-capacity infrastructure.

The answer to this test may well be different for different economies and for different areas, urban or rural. Even in Hong Kong, the answer to the same test may not be the same at the time when a regulatory policy was first introduced and at the current time.

Therefore regulatory policy is not something static. It is necessary for us to keep track of the market development and ensure that our policies and regulation remain relevant to pursue our policy objectives. For this reason a review of our Type II interconnection policy was initiated since May last year.

The review has generated some very intense debate among the industry and the public on whether the Type II interconnection policy should continue or not.

Our current thinking is that in areas where it is either commercially not viable *or* technically not feasible for self-built alternative customer access networks to be constructed by the new entrants, Type II interconnection policy would not have undermined investment, because it would not happen anyway, but would enhance consumer interest through more competition and choice. Duplication of infrastructure in these areas may be a sub-optimal solution as it would represent inefficient investment.

In Hong Kong, these areas may be smaller than in other economies because of the cosmopolitan environment of our city. Development of new technologies, such as wireless access, may well shrink such areas even in other economies with larger land areas.

In areas where it is commercially viable *and* technically feasible for self-built alternative customer access networks to be constructed by the new entrants, Type II interconnection may undermine investment incentive when Type II interconnection is viewed as a lower-cost or lower-risk approach than self-built customer access networks.

Therefore in our second consultation paper released in December 2003, we gave the preliminary view that, subject to a transitional arrangement, the obligation of the incumbent to provide Type II interconnection to copper-

based local loops from telephone exchanges to customers' premises should be withdrawn in buildings to which at least one alternative customer access network capable of providing narrowband and broadband services has already been rolled out by a new entrant.

In making this proposal, we have taken the view that the connection of a second customer access network is proof of commercial viability and technical feasibility for the rollout of self-built alternative customer access network to a particular building. To continue the Type II interconnection policy irrespective of this market development will serve as a negative signal to operators who have been actively rolling out their own customer access networks. On the other hand, to maintain Type II interconnection in buildings where there has yet to be a second customer access network rolled out to them will ensure that residents inside the buildings will continue to enjoy competition and choices of services through Type II interconnection.

We expect to conclude this important review in the next few months. In reaching a final decision, we have to ensure that a right balance is struck between promoting competition and preserving investment incentives, for broadband and the telecommunications industry in general. It is only with the right policy at the right time that our consumers will enjoy the greatest benefits from the broadband technologies.

Thank you.

******