

COMPETITION IN HONG KONG'S TELECOMS

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Competition in Hong Kong's telecoms

The opening of Hong Kong's domestic fixed line telecommunications services to competition has had some strange outcomes. The main one being a price war over international calls - which were supposed to remain the preserve of the previous fixed-line monopoly operator Hongkong Telecom until 2006.

Our briefing paper examines the regulatory background behind the emergence of competition in Hong Kong and how this has moved from domestic to international services. The first part, on the regulatory environment in Hong Kong, looks first at exclusive services - ones to which entry is restricted to a fixed number of companies granted licences to operate for a fixed period - then at Hong Kong Telecom International - the arm of Hongkong Telecom that supposedly has a monopoly over international calls until 2006 - and finally at non-exclusive services - ones that are open to other entrants.

The second part examines how the new operators have managed to establish themselves as international telecom service providers through an examination of the principles underlying charges between Hong Kong Telecom and the new operators.

EXCLUSIVE SERVICES

- a. **Fixed-line telephone network services (FTNS).** Hong Kong's four holders of FTNS licences are:

Hong Kong Telephone Co Ltd
Hutchison Communications Ltd
N T & T Hong Kong Ltd
New World Telephone Ltd

The policy objectives in extending the number of licences were:

1. The widest range of quality telecommunications services should be available to the community at reasonable cost.
2. Telecommunications services should be provided in the most economically efficient manner possible.
3. Hong Kong should serve as the preeminent communications hub for the region now and into the next century.

The licences were granted on the basis of a series of conditions:

The operators will provide public fixed telecommunication network services - that is telecommunications services between fixed points in Hong Kong.

The licences were issued for a term of 15 years renewable for a further 15 years.

The operators could deal in, import and demonstrate radiocommunications customer equipment to supply its fixed services.

FTNS licensees are obligated to supply services at tariffed rates to all comers including other carriers.

FTNS licensees are required by their licence to provide services at the tariffed rates to all customers whether or not the customer intends to utilise a service for its own use or third parties.

A dominant FTNS licensee is not entitled to offer discounts which are not encompassed in its published tariffs.

The published tariff represents a "cap" or the maximum price an FTNS licensee would expect to acquire a service from another FTNS licensee.

FTNS licensees may obtain services from a competitor at less than the published tariff or even obtain services that are not available to customers or resellers.

FTNS operators have the right of interconnection with HKTI for access to all external telecommunications services offered by HKTI.

FTNS operators have interconnection rights at the HKTI gateway and are entitled to a fee for outgoing and incoming international calls.

b. Hong Kong Telecom International Limited (also see below). The conditions and principles under which Hong Kong Telecom International Limited (HKTI) will continue to provide international services are:

External telecommunications circuits and services are provided by HKTI under an exclusive licence which will expire after 30 September 2006.

HKTI by virtue of its exclusive external licence represents the international carrier.

HKTI, holder of an exclusive licence for external public telecommunications circuits and services, has the exclusive rights to provide international telephone, telex and telegram and voice services, external circuits for voice, data and facsimile, external television programme transmission services.

HKTI is also permitted to operate certain non-exclusive services on the condition that fair competition with other service providers is not prejudiced.

Hongkong Telecom's cheap local network services are loss-making and have been subsidized by international telecom revenue.

Telephone tariffs have been partly rebalanced in the past three years by the combination of annual CPI-4 increases in local tariffs and a total 12% cut in international tariffs, effecting a fall in the level of cross-subsidization.

In OFTA's statement setting out its interpretation of the scope of the exclusive rights of HKTI in the provision of international telecommunications circuits and services a number of areas are open to competition without breach of HKTI's exclusivities:

1. Simple resale (that is, resale of circuits that connect to the PSTN at either end) of HKTI's international private leased circuits for fax and data services.
2. Virtual private networks for internal communications of companies and organizations.
3. Video-conferencing services and customer mobile terminals for mobile-satellite services.
4. Callback services
5. Self-provided circuits licensed under the current form of "self-provision" licences.

In addition OFTA has said it will allow users to share leased circuit capacity, a concept entirely different from sub-leasing of capacity. A number of parties could jointly assume responsibility as a customer for the lease of the circuit concerned, without any middleman or service contractor involved.

International simple resale of voice telephone services and video-telephone services connected to the public switched telephone networks are within HKTI's exclusivities.

NON-EXCLUSIVE

Telecommunications regulations

Under the Telecommunication Regulations, the following licences are issued to license public non-exclusive telecommunication services:

Public Non-exclusive Telecommunications Service (PNETS) Licence

Value added service providers such as Internet access service providers and call management service operators, who are deemed to operate a "means of telecommunications" - for example, a switching facility - and who make use of the fixed telecommunication networks, are required to obtain an annual PNETS licence (HK\$750) and pay HKTC's approved standard interconnection tariff of \$78 per month (previously \$69) per interconnection line plus a charge for traffic passed per line: previously \$0.09 per minute this has been reduced to \$0.042 per minute for VAS operators and \$0.067 per minute for PMRS

(mobile telephone) operators. There are four categories of PNETS licences: IVANS, Internet Access Service Providers, International Calling Card Service Operators, and Public Radio Paging Services.

Public Radiocommunication Service (PRS) Licence

Public non-exclusive telecommunication services using radio are licensed under PRS Licences, e.g. public community repeater service, one-way data message service.

Non-exclusive services include all forms of value-added services including international value-added network services, and public radiocommunication services.

A service which only sells information (e.g. financial information, computer databases, computer software) accessed via the public telecommunication networks.

Such services are generally not regarded as telecommunication services because the providers of these services are merely users of the public telecommunication networks to operate some other lines of business.

HONG KONG'S CHARGE STRUCTURE

Delivery fee

On 31 July 1993, initial delivery fees which were to apply between HKTI and the local fixed and mobile carriers in Hong Kong were introduced. These initial delivery fees were determined for the purposes of selecting new fixed telecommunication network service (FTNS) licensees and were envisaged to last for not more than three years.

The delivery fee arrangement is a matter between HKTI and the local network operators. These arrangements need to be struck so that local carriers are adequately compensated for providing Hong Kong consumers with access to and from the international gateway facilities of HKTI.

The ADC of HK\$0.45 per minute has recently been revised to HK\$3.58 and backdated with effect from 1 October 1995. The delivery fee arrangement will be independent of the existing ADC and any future universal service contribution (USC) arrangement which may be determined by the TA.

The previous delivery fee calculation was derived from the historical international revenue sharing arrangement between Hongkong Telecom's international and domestic operations; 40%:60% (short-haul traffic under 100 miles) and 60%:40% (long-haul traffic over 100 miles).

With 91/92 international telecoms revenue data, the previous delivery fee rates were:

	Incoming calls	Outgoing calls
Zone A	\$0.62*	8.19% of HKTI's average IDD tariff
Zone B	\$2.12*	8.19% of HKTI's average IDD tariff

**After deducting the ADC of HK\$0.45 per minute; Zone A - Guangdong Province, Shenzhen and Macau; Zone B - Rest of the World*

The weighted average delivery fee before the deduction of ADC was then HK\$1.50, representing 42% of the per minute IDD revenue after deducting accounting rate payments. Delivery fees are structured into three different payment streams: China short-haul, China long-haul and Rest of the world. The new delivery fee, effective from 1 October 1995:

	China Short-haul	China long-haul	Rest of world
All traffic	\$0.63	\$1.60	\$2.23

Under the old mechanism, the average delivery fee for incoming traffic was \$1.99, almost twice the amount for outgoing traffic. Thus operators had an incentive to turn outgoing traffic into incoming via callback mechanisms. By equalising the delivery fee in both directions, HKT will pay the same amount to the second carriers. Additionally, HK Telecom would pay carriers a higher proportion - 51% - of IDD net revenue based on 1994-95 data, and this percentage share would increase gradually given that per minute IDD revenue of HKT is expected to continue its downward trend.

Revenue Analysis

	Outgoing calls	Incoming calls	Net Revenue
Hongkong Telecom	IDD revenue <i>minus</i> any delivery fee to other FTNS <i>minus</i> the accounting rate settlement to the overseas carrier	The accounting rate settlement for the overseas carrier <i>minus</i> any local delivery fee to other FTNS	Net revenue from outgoing calls <i>plus</i> net revenue from incoming calls
Other FTNS	Fees for delivering outgoing calls to HKTI	Fees for delivering incoming calls from HKTI	Delivery fees <i>minus</i> the Access Deficit Charge to HKTC

Universal service obligation and the access deficit contribution

An access deficit contribution (ADC) arrangement was introduced by the Hong Kong Government in 1993 in preparation for the introduction of fixed network competition. It was introduced with a three-year life which will expire after 31 July 1996. The fee is based on the gross access deficit - the difference between the total revenue and cost attributed to local access services provided for all customers. Other local fixed and mobile networks pay the ADC whenever these networks pass traffic to or from the international gateway of Hong Kong Telecom International (HKTI).

Alternative carriers to HKTC may provide universal service, but to ensure that reasonably priced telecommunications services are available to all, the Government will maintain a universal service obligation (USO) on HKTC. The FTNS licence conditions for new operators are structured in such a way as to allow new operators to take up the USO in place of HKTC in particular areas.

Basic service is specifically defined in the special conditions of the FTNS licensees to include the provision of a public switched network, a reasonable number of payphones, and services for directory

inquiries, fault reporting, service difficulty, and connections. At the moment, HKTC must provide public switched basic voice telephone services to any consumer anywhere in the territory, within a reasonable period of time, in circumstances where HKTC remains the dominant local carrier.

Public mobile radiotelephone service (PMRS) operators and new FTNS operators effectively face the choice of either providing the universal service themselves or paying HKTC to provide universal service. The USO is based on the net costs of serving basic service to uneconomic customers. One of the problems involved in estimating which customers are and which are not uneconomic is the time profile adopted. Providing customer access cost more than the installation fee, but future usage of the basic and non-basic services, either by that individual customer or others who subsequently have access to the telephone, may prove profitable.

The USO franchise will last for five years and the amount of the USC paid out will be reviewed by OFTA on an annual basis. The USC surcharge would be applied to all networks which interconnect with the USO carrier, i.e., the non-USO FTNS operators, the PMRS operators and PNETS operators.

In the discussion paper issued by OFTA on USO, there are three basic options for settling the net universal service cost:

- General Tax Revenue
- Interconnection Charge
- Universal Service Fund

General Tax Revenue

The net universal service cost may be financed directly out of general tax revenue. The Universal service carrier would offer special tariffs for basic service. Those customers which meet a means test requirement would be allowed to use the special tariff. Thus basic telephone service would be seen as being on the same footing as education and health services. Anyone having difficulty in affording this basic social service should be subsidized.

Interconnection Charge

Interconnection Charge could be levied as surcharges to normal carrier to carrier interconnection charges applying between the USO carrier and other interconnecting carriers. The USC surcharge would be applied to all networks which interconnect with the USO carrier including the non-USO FTNS operators, the PMRS operators and public non-exclusive telecommunications services (PNETS) operators.

Universal Service Fund

Relevant carriers would be required to make contributions the USF for their share of USC. Payments would then be made out of the USF to the USO carriers. All FTNS, PMRS and PNETS operators who benefit from the wide access network of the USO carriers should contribute to the USF.

COMPETITION REGULATION

The TA (the Telecommunications Authority, who is also the Director-General of OFTA) has determined on a number of issues to promote competition, including number portability, Types 1 and 2 interconnection - Type 1 is through the local HKTC exchange centre and is thus indirect to the customer, while Type 2 involves direct customer access through a convenient Point of Interconnection - and interconnect charges.

Only New T&T seems concerned at this stage to push for Type 2 interconnection - New T&T seems to be the only new entrant targeting anything like a territory-wide market while Hutchison and New World are targeting, together with New T&T, business districts and larger affluent residential areas where they have influence. Most controversial from Hongkong Telecom's point of view is several times rejection by the TA of its Calling Plan proposal to offer discounts to its larger customers. The TA seems to be taking the view that the dominant carrier has to be constrained for a period while the new entrants establish a foothold.

COMPETITION IN INTERNATIONAL TELECOMS

Callback and Refile

Callback has attracted widespread publicity as a means for undercutting IDD tariffs. Callback companies make their profits from three sources. First, they take smaller margins, which underscores their precarious niche role in the market. Second, they trade on arbitrage between worldwide IDD tariffs. This again underscores their marginal role in the market place. Third, and vitally, they depend upon bulk discounts on international circuits mostly provided by North American carriers. All major carriers have unused exchange and transmission capacity outside their 'busy hour' and this can be put to earning marginal revenue. Time-zone differences offer opportunities to place off-peak capacity at the disposal of overseas service providers, and local wholesalers often provide this merchandising service between the carriers and the overseas service providers.

Callback services effectively reverse outgoing calls into incoming calls. They collect revenue from their customers, effectively depriving HKT of outgoing IDD revenues but bringing HKT incoming accounting rate settlement payments from the overseas carrier. If the wholesale rate the callback operator pays the overseas carrier is lower than its call collection charge then it makes money.

There are two critical considerations. First, within Hong Kong if other service providers gain a customer base then this threatens the long-run market of Hongkong Telecom. For this reason, the other FTNS operators are offering callback companies their facilities as well as operating as callback service providers themselves. In other words, they are in competition with their own callback customers, but this is 'co-operative competition' designed to access and win as many of Hongkong Telecom's customers as possible. This threat far outstrips the threat of callback companies grabbing market share of IDD. 'Owning the customer' is everything.

EXAMPLE

NT&T is currently charging HK\$2.84 per minute to the USA, almost 42% less than HKT's IDD rate. Under the callback mechanism, it pays HK\$1.95 per minute to a US carrier for an incoming call, but receives an incoming delivery fee of HK\$1.78 per minute from HKT. Therefore it achieves a profit of HK\$2.67 per minute, almost 94% of its IDD rate, and is able to reduce its tariffs substantially in return for a rapid build-up of market share.

Second, the bulk rate discounts being offering by North American carriers, which is sucking traffic in their direction, is undermining the existing international accounting rate regime through a process known as refile. Refile simply means that traffic from, say Hong Kong to Beijing, instead of being routed directly is routed through the USA. The 'transit' traffic appears in Beijing as if it originated in the USA since there is no way

of knowing its true origin. According to international convention, the rule of 'proportional returns' demands that a carrier will return overseas traffic to each country's carriers in the same proportion as it receives traffic. So if US Sprint, for example, increases its traffic share to the MPT in Beijing from 15 per cent to 30 per cent of US-China traffic through refile of traffic from Hong Kong, Taiwan, Malaysia and elsewhere, it can expect to receive back from the MPT 30 per cent of China-US traffic. Traffic in both directions pays the accounting rate, so the net benefit will depend upon the balance of traffic.

Hongkong Telecom's traffic routing is grossly distorting as a result, with apparently negative rates of acceleration on traffic streams that in fact are growing quite strongly. To reclassify transit traffic under the guise of refile breaks traditional international telecoms conventions, but is a clear sign of market forces replacing inter-state procedural arrangements. All the major carriers do it in a gentlemanly way through calling cards and third country calling schemes, but the outbreak of discounting has alarmed Hongkong Telecom and other dominant carriers in the region who see the USA as stealing hub traffic. As a result HKT threatened to exclude refile traffic in its proportional returns calculations. After objections from the Federal Communications Commission in the USA, OFTA ruled against Hongkong Telecom.

Callback companies have been the main beneficiaries of this rate war so far - including the new FTNS operators - but there are limits to the process. On callback traffic the North American carriers have to pay HKT the accounting settlement rate and if this is greater than the discount rate per they are offering callback companies on traffic to the US they have to compensate for it on the gains they make on refile using the proportional returns mechanism. But there are limits to the traffic share to be gained, so in the final analysis it is less about traffic share than about the traffic volume that share represents. Fifteen per cent of a big cake can be worth more than 30 per cent of a small cake, but 30 per cent is still a preferable percentage. Will discounts drive up traffic volumes? Is IDD price elastic? The evident is conflicting, but in Hong Kong IDD does not appear to be price elastic. (See 'Telecommunications' by John Ure in *The Other Hong Kong Report*, 1995 Chinese University Press).

If discounts are reduced the profit margins of callback companies will similarly reduce. Callback companies, and international discounts, and part of the international competitive pressure to force accounting rates down more realistically towards cost. The attitude of the FCC in the USA is to

encourage this process, and while the USA takes the lead the USA will also suck in the traffic. OFTA clearly does not regard this as a long term threat to Hong Kong's position as a hub, and following HKT's agreement to cut IDD tariff cuts 12% over three years the government is now likely to leave to market forces to determine the levels of IDD rates on various routes.

Hongkong Telecom International Licence

Singapore's decision, following the WTO talks, to end Singapore Telecom's international monopoly by 2000 in return for compensation is clearly now also in the mind of the Hong Kong government and seems already the subject of negotiations.