

LEGISLATIVE COUNCIL BRIEF

The Secretary for Information Technology and Broadcasting submits the following note for Members' information -

<u>Title of Note</u>	<u>Date of ExCo</u>
Licensing of Local Fixed Telecommunication Network Services by Wireless Transmission, External Fixed Telecommunication Network Services by Satellites and the Hong Kong Cable Television Limited to Provide Telecommunications Services	18 January 2000

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Information Technology and
Broadcasting Bureau

LEGISLATIVE COUNCIL BRIEF

LICENSING OF LOCAL FIXED TELECOMMUNICATION NETWORK SERVICES BY WIRELESS TRANSMISSION, EXTERNAL FIXED TELECOMMUNICATION NETWORK SERVICES BY SATELLITES AND THE HONG KONG CABLE TELEVISION LIMITED TO PROVIDE TELECOMMUNICATIONS SERVICES

INTRODUCTION

At the meeting of the Executive Council on 18 January 2000, the Council took note of the information below.

BACKGROUND

2. At the meeting of the Executive Council on 4 May 1999, the Council ADVISED and the Chief Executive ORDERED, *inter alia*, that Government would issue licences

- (a) for the provision of fixed telecommunication services using non-wireline-based networks;
- (b) for the operation with effect from 1 January 2000 of non-cable-based external telecommunications facilities; and
- (c) to permit, with immediate effect, Hong Kong Cable Television Limited (HKCTV) to offer telecommunications services using cable modem technology over its hybrid fibre coaxial cable (HFC) network, subject to the company making binding commitments on the rollout of its cable network and the return of its Microwave Multipoint Distribution System (MMDS) frequencies on an agreed schedule.

3. By the closing date of 30 September 1999, the Telecommunications Authority (TA) received a total of 14 proposals for local wireless Fixed Telecommunication Network Services (FTNS) licences (of which two subsequently withdrew, see Annex A) and 20 external satellite-based FTNS licences (see Annex B). The response of the market has exceeded our expectations.

4. Two Working Groups, comprising members from the Office of the Telecommunications Authority (OFTA) and the Information Technology and Broadcasting Bureau (ITBB), with the Independent Commission Against Corruption as an observer, were formed to assess the applications received for the local fixed wireless FTNS licences and external satellite-based FTNS licences and to make recommendations to the TA. The applications, together with other supplementary information provided by the applicants, were carefully evaluated against the respective sets of criteria laid down in the Guidance Notes for the invitation of proposals, as set out in Annex C for local fixed wireless FTNS licences and Annex D for external FTNS licences. The TA has accepted the recommendations put forward by the Working Group on the selection and other licensing considerations.

5. HKCTV also submitted on 30 September 1999 an application for the provision of telecommunications services over its HFC network. The application from HKCTV was evaluated by OFTA, for recommendation to the TA, against the criteria laid down in the Guidance Note to HKCTV, as set out in Annex E.

LOCAL FIXED WIRELESS FTNS LICENCES

6. With the development in wireless technology, licensees of local fixed wireless FTNS services may deliver not only traditional telephone services to homes and offices, but also innovative broadband services, including e-commerce and multi-media applications, at video quality. Licensees will install communication hubs to send signals within the radio spectrum for the Local Multipoint Distribution System (LMDS) to cover the areas being served. To reach end-customers, they will need to access common areas within the building being served (such as rooftop or the Telecommunications and Broadcasting Equipment Room) to install customer-side equipment and interconnect them to either the In-Building Coaxial Cable Distribution System (IBCCDS) or the blockwiring system.

7. A key issue concerning the licensing of local fixed wireless FTNS services is the number of licences to be issued. The limited radio spectrum within which the TA may consider for allocation to licensing local fixed wireless services has been published in the Guidance Notes for the invitation to proposals. The TA has studied the requests for radio spectrum by the applicants and their response to factors relating to spectrum as well as other physical constraints. These included –

- (a) the width of radio spectrum earmarked for allocation to local fixed wireless FTNS services;

- (b) the applicants' proposed requirements for radio spectrum;
- (c) likely users demand upon the launch of the services;
- (d) the need to reserve additional radio spectrum for each service licensed to cater for future growth and new services;
- (e) the availability of channels in IBCCDS; and
- (f) the availability of space in buildings where customers are located for the installation of antennae and associated equipment for the local wireless FTNS.

8. Having considered the overriding constraint on the availability of radio spectrum for local fixed wireless network services, and in order to provide a satisfactory quality of service of the required data transmission rates to the projected number of customers in the operators business plan, the TA has estimated that a spectrum width of 300 MHz should be allocated to each operator at the launch of service. To cater for growth in the number of customers and the introduction of new services in the future, the TA has estimated that an additional spectrum width of 300 MHz for each operator (making a total of 600 MHz per operator) needs to be reserved. The TA therefore considers that the spectrum available for allocation is sufficient for the licensing of five operators for local fixed wireless services.

9. The prospective licensees have been duly advised during the evaluation process that the TA intends to issue five licences and will allocate to each licensee a spectrum width of 300 MHz at the launch of service, with another 300 MHz reserved for their future expansion. They have provided the TA with their final proposals for the performance bonds on that understanding. They therefore have full knowledge of the likely degree of competition in their new operational environment.

10. The twelve proposals (excluding the two subsequent withdrawals) were evaluated in accordance with the licensing criteria laid down in the Guidance Note. The TA accepted the recommendation by the Working Group to award licences to the five proposals which received the highest scores. The list of the five companies to which the TA will offer the local wireless FTNS licence is at Annex F. They would be bound by performance bonds, ranging from \$35 million to \$352 million, to guarantee the achievement of key milestones covering the service launch date, capital expenditure, service roll-out to the specified number of hubs and specified number of buildings contained in their proposals.

11. The licensing of the local wireless FTNS would benefit the industry and consumers in the following ways:

- (a) more effective competition in the local fixed telecommunications market with more choice on alternative service providers – the new operators have pledged to launch the new services within 4 to 16 months from licensing. The enhanced level of competition would also bring benefits to consumers in terms of lower prices, better quality and more innovative services (e.g., broadband Internet access services);
- (b) the new services can be made available to customers within the radio coverage (about 1-2 km radius) of hub sites in all of the 18 districts in three years, including both residential and commercial buildings. Within the first year of their service launch, the new operators will reach 12 districts; and
- (c) capital investment of \$2.8 billion within three years in building their broadband networks using wireless technology as well as the provision of broadband services.

EXTERNAL SATELLITE-BASED FTNS LICENCES

12. After careful evaluation of the proposals, the Working Group recommended and the TA agreed that there is no physical constraint which might limit the number of licences to be granted for the operation of external telecommunication facilities based on satellites. Transponder capacity is currently available for leasing in a number of operating satellites in geostationary orbital positions accessible from Hong Kong. The launching of new satellites being planned and the use of compression techniques will also increase significantly transponder capacity. There is no land constraint on the building of the earth stations required for the operation of satellite external facilities. As a result, the TA also accepted the Working Group's recommendation to license all applicants who meet the licensing criteria and who agree to offer a performance bond of \$3 million to guarantee their commitments on service launch date, capital expenditure and capacity of external facilities to be provided. The list of twelve companies to which the TA will issue external FTNS licence is at Annex G.

13. By liberalising the telecommunications facilities market to new licensees for external facilities, it will bring benefits in the following ways:

- (a) there will be more choice in the supply of external circuits. The increased competition in the market is expected to drive down prices, improve quality of service and induce more innovative services (e.g. broadband Internet access through satellites);
- (b) the external telecommunications capacity of Hong Kong will be increased by 3 Gigabits per second (Gbps) from 44 Gbps to 47 Gbps in the next three years; and
- (c) total capital investment will amount to \$770 million in the next three years.

14. Given that there is no constraint on the number of licences to be issued for external satellite-based FTNS licences, the TA has also decided to invite new applications soon after the completion of this licensing exercise. In line with our telecommunications policy, the TA will not pre-set a limit on the number of licences to be issued when there is no physical or other constraint.

FTNS LICENCE FOR TELECOMMUNICATIONS SERVICES TO HKCTV OVER ITS HFC NETWORK

15. After evaluation of the application from HKCTV against the licensing criteria laid down in the Guidance Note, OFTA found and the TA accepted that the application met the licensing criteria. HKCTV has agreed to return its MMDS in the 2 GHz and 12 GHz bands by the end of May 2001. The proposed roll-out of the HFC network in the application submitted is acceptable to the TA. Its HFC network rollout plan will extend from 957,00 premises passed at end 1999 to 1,737,000 by end 2002. Its capital investment will amount to about \$580 million during the same period. The TA therefore offered to HKCTV a draft licence on 23 December 1999. HKCTV confirmed its acceptance on 17 January 2000 and offered a performance bond of \$50 million which was accepted by the TA.

16. After the grant of the FTNS licence, HKCTV plans to launch its telecommunications service using cable modem technology, which is capable of providing broadband service for Internet access as well. Together with the five local fixed wireless FTNS licensees, they would increase the choice of customers in broadband Internet access. In this connection, the three existing new FTNS licensees^{Note} have also committed to rollout their networks in the Deeds of Memorandum in

^{Note} The three existing new FTNS licensees are Hutchison Communications (Hong Kong) Limited, New T & T Hong Kong Limited and New World Telephone Limited.

relation to the extension of moratorium. Competition with the dominant operator in local fixed telecommunications services, the Cable & Wireless HKT, will thus increase and be more effective, given the real choice that would become available to consumers as alternative local FTNS networks are being rolled out.

FINANCIAL AND STAFFING IMPLICATIONS

17. OFTA will collect from each new operator an FTNS licence fee of \$1 million per annum. This will cover the administrative costs plus the target rate of return to the OFTA Trading Fund. OFTA will strengthen its service to monitor and regulate the new services through internal deployment and hiring of new staff. A co-ordination team will be set up immediately to step up publicity to the public and property owners to facilitate access of the five new local wireless FTNS licensees into buildings, handle public enquiries, and liaise with the new entrants to share in-building facilities.

ECONOMIC IMPLICATIONS

18. This is a major step in liberalising our telecommunications market and in introducing competition to both the local fixed and external facility-based sectors. Total additional investments in the telecommunications infrastructure and the provision of innovative services by the local wireless FTNS licensees and the external satellite-based FTNS licensees would amount to about \$4.1 billion in the next three years. Since all the five new local wireless FTNS networks and the HFC network of HKCTV will all be able to offer broadband services, Hong Kong will enjoy much increased broadband capability. This will in turn facilitate the development of innovative broadband services, including those provided over the Internet. Furthermore, the increased competition which will result from the introduction of new networks will lead to lower costs of services and facilities, encourage better quality of service and stimulate demand, with direct benefits to our businesses and consumers. All this will help to strengthen Hong Kong's position as a leading telecommunications centre and Internet hub in the region. The overall economic benefits, including creation of jobs, are likely to be considerable.

PUBLIC CONSULTATION

19. We announced our policy decisions on the progressive liberalisation of the telecommunications market on 5 May 1999 and briefed the LegCo Panel on Information Technology and Broadcasting on the same day. Both the community and the telecommunications industry

welcomed the decisions to introduce more competition to the local fixed telecommunications market and to progressively liberalise the external facilities market when the monopoly of the Cable and Wireless HKT expired on 1 January 2000 under the Framework Agreement.

ENVIRONMENTAL IMPLICATIONS

20. The network roll-out of HKCTV will give rise to an increase in the number of road openings. These road openings will continue to be co-ordinated by the TA to minimise any environmental disturbance. Neither local wireless FTNS licensees nor external satellite-based FTNS licensees will be allowed to open up roads. They will use circuits leased from the four existing fixed line operators and HKCTV for interconnection with other telecommunications network providers or service providers.

PUBLICITY

21. A press release announcing the licensing decisions will be issued on 18 January 2000. The Secretary for Information Technology and Broadcasting and the Director-General of Telecommunications will hold a press conference on the same day. A spokesman will be available for answering media enquiries.

ENQUIRIES

22. For any enquiries relating to this Brief, please contact –

Ms Gracie Foo
Principal Assistant Secretary for Information Technology and
Broadcasting
Tel : 2189 2210
Fax : 2511 1458

18 January 2000
Information Technology and Broadcasting Bureau

**Licensing of
Local Fixed Telecommunication Network Services by
Wireless Transmission, External Fixed Telecommunication Network
Services by Satellites and the Hong Kong Cable Television Limited to
provide telecommunications services**

- Annex A - List of all 14 applications for local fixed wireless FTNS licences
- Annex B - List of all 20 applicants for external satellite-based FTNS licences
- Annex C - Criteria for selection of proposals for local fixed wireless FTNS licences
- Annex D - Criteria for selection of proposals for external satellite-based FTNS licences
- Annex E - Criteria for evaluation of HKCTV's application for a FTNS licence to provide telecommunication services over its cable television network
- Annex F - List of 5 successful applicants for local wireless FTNS licences
- Annex G - List of 12 successful applicants for external satellite-based FTNS licences

**List of all 14 Applicants for
Local Wireless FTNS Licences**

1. PSINet Hong Kong Limited
2. 大為電訊集團 (Davnet Digitel Hong Kong Limited)
3. 卓星資訊香港有限公司 (WinStar Communications Hong Kong Limited)
4. 明珠電訊科技有限公司 (Pearl Oriental Telecom & Technology Limited)
5. 香港多媒體有限公司 (Hong Kong Multimedia Limited)
6. 香港網絡拓展有限公司 (HKNet-Teligent Company Limited)
7. 香港寬頻國際有限公司 (Hong Kong Broadband Network Limited)
8. 冠博通訊有限公司 (Global One Communications Limited)
9. 栢衛通訊有限公司 (Pacific Satellite International Limited)
10. 華立電訊有限公司 (Onelink Communications Limited)
11. **裕基科技有限公司 (Eastar Technology Limited)**
12. 數碼通電訊有限公司 (SmarTone Mobile Communications Limited)
13. NEXTLINK Hong Kong Limited
(Proposal withdrawn)
14. Stubbs Limited
(Proposal withdrawn)

List of all 20 Applicants for
External Satellite-based FTNS Licences

1. GB21 (Hong Kong) Ltd.
2. Hutchison Telecommunications Technology Investment Ltd.
3. NTT Com Asia Ltd.
4. Pacific Century Matrix (HK) Ltd.
5. PhoenixNet Limited
6. PSINet Hong Kong Ltd.
7. Stubbs Ltd.
8. Teledesic Hong Kong Co. Ltd.
9. Teleglobe Hong Kong Ltd.
10. 中國衛星寬頻網絡有限公司 (China Digital satNet Ltd)
11. 天鴻信息發展有限公司 (Telhope Information Development Ltd.)
12. 永耀科技有限公司 (Eternal Bright Technology Ltd.)
13. 亞洲衛星有限公司 (Asia Satellite Telecommunications Co. Ltd.)
14. 城市電訊國際有限公司 (CTI International Ltd.)
15. 萬方科技有限公司 (Million Point Technology Ltd.)
16. 新加坡電訊香港有限公司 (Singapore Telecom Hong Kong Ltd.)
17. 遠東電信服務有限公司 (Far East Gateway Ltd.)
18. 銀河衛星廣播有限公司 (Galaxy Satellite Broadcasting Ltd).
19. 數碼通電訊有限公司 (SmarTone Mobile Communications Ltd.)
20. 廣像網絡服務有限公司 (ET Network Services Ltd.)

**Criteria for Selection of Proposals for
Local Fixed Wireless FTNS Licences**

1. Coverage of services
 - number of buildings
 - distribution of coverage

2. Financial soundness and commitment to investment in the proposed network and services
 - financial soundness
 - extent of committed investment
 - business plan
 - level of performance bond

3. Technical soundness and expected quality of service

4. Proven managerial and technical expertise

5. Technological innovation and services

6. Rapid development of the network and early introduction of service
 - roll out plan

7. Quality of proposal

8. Benefits to the local telecommunications industry to customers in Hong Kong and to the economy as a whole

9. Corporate structure

**Criteria for Selection of Proposals for
External Satellite-based FTNS Licences**

1. Scale of investment
 - capital investment
 - extent of commitment
 - business plan
 - level of performance bond
2. Financial capability
3. Technical soundness and a satisfactory quality of service
 - connectivity to places
 - increase in capacity of external connectivity
4. Proven management and technical expertise
5. Service quality and charges
6. Implementation schedule
7. Quality of proposal
8. Benefits to the local telecommunication industry, to customer, to the economy as a whole
9. Corporate structure

**Criteria for Evaluation of HKCTV's Application for
An FTNS Licence to Provide Telecommunication Services
over its Cable Television Network**

1. Further rollout of network and return of MMDS frequencies
2. Provision of open access to Internet Services Providers and other service providers
3. Financial soundness and commitment to investment in the network and the proposed services
4. Technical soundness and a satisfactory quality of service
5. Proven managerial and technical expertise
6. Technological innovation and new services
7. Rapid development of the network and early introduction of services
8. Quality of application

**List of Five Successful Applicants for
Local Wireless FTNS Licences**

1. PSINet Hong Kong Limited
2. 香港網絡拓展有限公司 (HKNet-Teligent Company Limited)
3. 香港寬頻國際有限公司 (Hong Kong Broadband Network Limited)
4. 裕基科技有限公司 (Estar Technology Limited)
5. 數碼通電訊有限公司 (SmarTone Mobile Communications Limited)

**List of 12 Successful Applicants for
External Satellite-based FTNS Licences**

1. Hutchison Telecommunications Technology Investment Ltd.
2. NTT Com Asia Ltd.
3. Pacific Century Matrix (HK) Ltd.
4. PSINet Hong Kong Limited
5. Teleglobe Hong Kong Ltd.
6. 中國衛星寬頻網絡有限公司 (China Digital satNet Limited)
7. 亞洲衛星有限公司 (Asia Satellite Telecommunications Co. Ltd.)
8. 城市電訊國際有限公司 (CTI International Ltd.)
9. 萬方科技有限公司 (Million Point Technology Ltd.)
10. 遠東電信服務有限公司 (Far East Gateway Ltd.)
11. 銀河衛星廣播有限公司 (Galaxy Satellite Broadcasting Ltd.)
12. 數碼通電訊有限公司 (SmarTone Mobile Communications Ltd.)