For discussion on
10 June 2008

**Legislative Council Panel
on Information Technology and Broadcasting**

**Progress Update on the Implementation of the
Government Wi-Fi Programme**

Purpose

This paper updates Members on the latest progress on the implementation of the Government Wi-Fi (Gov*WiFi*) programme.

Background

2. The Finance Committee of the Legislative Council approved the funding commitment of $217.6 million in May 2007 for the provision of Wi-Fi facilities at government premises with high public patronage for free use by the public. These premises include all public libraries, public enquiry service centres, job centres, key cultural and recreational centres, community halls/centres, large parks and those government offices that are frequently visited by the public.

Update on Implementation of Gov*WiFi* Programme

3. The implementation of the programme is progressing well. Updates on the implementation since funding approval in May 2007 are provided in the ensuing paragraphs.

Procurement of Service

4.		The Government adopted a total outsourcing approach for the programme implementation. We commenced an open tendering exercise in May 2007 and awarded a service contract in December 2007. As the industry responded very positively to the Government's Wi-Fi initiative, the public tendering resulted in very competitive tender prices and the estimated value of the 5-year service contract is about $110 million. Under this contract, the contractor is required to install Wi-Fi facilities, provide broadband Internet connection as well as helpdesk services to the public.

Programme Launch

5.		On 27 March 2008, we launched the Gov*WiFi* service at over 30 government premises. We will complete Phase 1 implementation by end June 2008, by which time we would have rolled out the service with 660 access points installed at about 120 premises. We target to complete Phase 2 implementation by mid-2009 for providing services at an eventual number of some 350 premises and about 2 000 access points. A list of government premises to be equipped with Wi-Fi facilities is provided at **Enclosure 1**.

6.		In order to help members of the public identify Gov*WiFi* locations, we provide a Gov*WiFi* location map at the Gov*WiFi* portal and post signage at respective locations to indicate the availability of the free Wi-Fi service. We also provide 7x24 hotline helpdesk service to the public to help them use the service.

7.		As the service rollout is at an early stage, the usage of free Wi-Fi service is about 970 user connections on average per day. Public libraries are the most popular venues for Wi-Fi users with about 860 user connections per day. The Wi-Fi service is now available in all the 18 districts of Hong Kong. More information on usage statistics is provided at **Enclosure 2**. We expect that the usage rate of free Wi-Fi service will be further increased in coming years when more citizens are equipped with Wi-Fi enabled mobile devices, such as smart phone, and the availability of more online contents and applications for Wi-Fi users.

8.   As regards usage and performance, about 75% of the respondents to our on-line survey rated the service as "good" or "very good".   The most popular usage of the Wi-Fi service is on web browsing (85%), with the second popular one on communications such as e-mail (69%).

Promotion and Publicity

9.   We have organized various promotion and publicity activities, such as broadcasting Announcements for Public Interest (APIs) on television and radio, holding roving shows and exhibitions, and organizing a Logo and Slogan Competition to promote the Gov*WiFi* Programme to citizens.   We also make use of the opportunities in these promotion and publicity activities to allay public concerns on health issues and raise public awareness on information security issues in using Wi-Fi facilities.

Addressing Public Concerns

Security Issues

10.   To enhance protection for citizens in using public Wi-Fi services, the Government has jointly developed a set of security guidelines with the industry and relevant professional bodies.   The guidelines were published in October 2007 for public Wi-Fi service operators to follow.

11.   In the context of the Gov*WiFi* Programme, the service contractor is required to strictly follow the above guidelines.   They are also required to satisfy the Government's security requirements as stipulated in our tender by implementing relevant security measures.   These include the installation of firewall systems, peer-to-peer blocking, provision of data encryption service, and mechanism for detecting/preventing malicious attacks.

12.   To ensure the proposed security measures are fully in force and effective, the service contractor is required to perform full-scale security risk assessment as well as security audit on their central facilities and Wi-Fi networks.   To further ensure the satisfactory implementation of security

measures by the contractor, we also engaged independent security consultants to perform security risk assessment and audit on the central facilities and some selected sites.

Fair and Appropriate Use of Service

13.   We have implemented appropriate content filtering measures in our free Wi-Fi service to assure fair and appropriate use of service. We have made reference to industry best practices and sought advice from law enforcement agencies to work out a baseline policy for content filtering, which includes the blocking of access to obscene and illegal web sites, peer-to-peer file sharing and voice over Internet protocol applications.

Health issues

14.   To address public concern on health-related issues of using public Wi-Fi services, we measure radio frequency (RF) radiation levels of all Wi-Fi facilities installed at government premises to ensure that they are in compliance with international guidelines, i.e. the International Commission on Non-Ionizing Radiation Protection Guidelines. We have completed measurements on all the Wi-Fi sites installed and have found them to be all in order.

Development of Public Wi-Fi Service and Applications

Public Wi-Fi Service

15.   Since the announcement of the Gov*WiFi* Programme, we have observed a massive growth of public Wi-Fi networks in Hong Kong.   As at end April 2008, the number of public Wi-Fi hotspots (access points) is over 6 800.   This represents a 6-fold increase as compared with the figure in February 2007.   By the time the entire Gov*WiFi* Programme is completed in mid-2009, it would have put in place some 2 000 Wi-Fi hotspots, bringing the number of public Wi-Fi hotspots to over 8 400 even discounting the effect of additions by other private initiatives.   According to an

international measure[1], Hong Kong ranks very high (5th) among the cities in the world in terms of public Wi-Fi hotspot locations.

16.	Apart from the Gov*WiFi* Programme, the Government also facilitates provision of Wi-Fi service in public areas.	We make available government facilities in public streets (such as lamp posts) at nominal rental to authorized service providers for providing public Wi-Fi services.	The Government has received applications from operators and is now facilitating them to resolve installation related issues, such as electricity supply arrangements and safety installation of Wi-Fi facilities on lamp posts.	The Housing Authority also makes available facilities at housing estates for service providers to provide free Wi-Fi services to their tenants.	Free Wi-Fi services are being provided in around 120 public rental housing estates and will be expanded to cover another 26 estates by August 2008. The provision of public Wi-Fi services will continue to expand, maintaining Hong Kong's position as the leading wireless city in the world.

Way Forward

GovWiFi Programme Implementation

17.	We will progressively roll out Wi-Fi service to a total of about 120 government premises by end June 2008 and another 230 premises by mid-2009.	We continue to identify and include more government premises that are suitable for providing free Wi-Fi facilities in the programme.	To facilitate travelers to make use of the Wi-Fi service and to promote Hong Kong as a leading digital city, we have included in our programme new Government premises that are located near tourist attractions.	With this arrangement, around 3 out of 4 popular tourist spots in Hong Kong will have free Gov*WiFi* services available within a 5-minute walking distance. Tourist spots covered by the programme are given at **Enclosure 3**.

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[1] According to JiWire, a leading mobile broadband advertising network which maintains a worldwide registry of over 150,000 verified public hotspots and municipal networks, the ranking of Hong Kong is number 5 in terms of number of hotspot locations in end April 2008. More details about JiWire are available at its web site (http://www.jiwire.com/search-hotspot-locations.htm).

Application and Content Development

18.   Apart from developing our Wi-Fi infrastructure, we also encourage and facilitate the development of Wi-Fi applications. We have provided sponsorship to a "Ubiquitous City – HK" project initiated by the industry in November 2007 which aims at providing incentives to industry players to develop applications and content to ride on the Wi-Fi networks in Hong Kong. Four such applications have already been developed and we expect a dozen of these to be developed under this project.

Conclusion

19.   The Government will continue its efforts in closely monitoring the implementation and ensure completion of the programme on time, within budget and achieving its stated objectives.

Office of the Government Chief Information Officer
Commerce and Economic Development Bureau
June 2008

List of Government Sites to be equipped with Wi-Fi Facilities

(1) Government sites to be equipped in Phase 1 (by end June 2008):

	Venue	Number
1.	Public Libraries	64
2.	Public Enquiry Service Centres	20
3.	Government Joint-User Buildings	18
4.	Community Halls and Centres	8
5.	Central Government Offices	5
6.	Cultural and Recreational Centres - Hong Kong City Hall - Tsuen Wan Town Hall - Tuen Mun Town Hall	3
7.	Museum and Square - Hong Kong Heritage Discovery Centre - Statue Square	2
8.	Victoria Park	1
	Total	**121**

(2)   Government Sites to be equipped in Phase 2 (by mid- 2009):

	Venue	Number
1.	Sports Centres	79
2.	Indoor Cooked Food Markets and Centres	38
3.	Government Offices - Offices of Immigration Department (15) - Licensing Offices and Vehicle Examination Centres of Transport Department (6) - Integrated Family Service Centres of Social Welfare Department (2) - Offices of Legal Aid Department (2) - Office of Student Financial Assistance Agency (1) - Textiles Licensing Branch - Customer Service Centre & Central Registration Office of Trade and Industry Department (1) - Health Education Exhibition and Resource Centre of Food and Environmental Hygiene Department (1)	28
4.	Community Halls and Centres	24
5.	Job Centres	12
6.	Visitor Centres of Country Parks	9
7.	Museums	8
8.	Parks and Gardens - Bird Garden - Chater Garden - Hong Kong Park - Kowloon Park - Kowloon Walled City Park - Morse Park - Visitor Centre of Hong Kong Wetland Park	7
9.	Ferry Terminals	4
10.	Cultural and Recreational Centres - Hong Kong Cultural Centre - Kwai Tsing Theatre - Sha Tin Town Hall	3
11.	Piazza/Beach/Waterfront Mart - Hong Kong Cultural Centre Piazza cum Tsim Sha Tsui Promenade - Repulse Bay Beach - Stanley Waterfront Mart	3
12.	Sports Grounds	2

	Venue	Number
	- Wan Chai Sports Ground - Siu Sai Wan Sports Ground	
13.	Stadiums - Hong Kong Coliseum - Queen Elizabeth Stadium	2
14.	Public Libraries	2
15.	Others	8
	Total	**229**

Gov*WiFi* Usage Statistics

(1)   Daily and Hourly User Connections Statistics (in April 2008)

	Maximum	**Average**
Daily Connections		
Daily connections for 41 sites	~1 210	~970
Daily connections for most popular site (i.e. Hong Kong Central Library)	~670	~520
Hourly Connections		
Hourly connections for 41 sites	~165	~85
Hourly connections for most popular site (i.e. Hong Kong Central Library)	~85	~45

(2)   Usage Profile by Type of Application

Type of Application	**Percentage**
Browsing	85%
Communications (e.g. e-mail)	69%
Online chatting (e.g. instant messaging, blogging)	29%
Online entertainment (e.g. games, songs, movies)	23%
Upload/Download	16%
Online transaction (e.g. e-banking, online stock trading)	15%
Connect to company's intranet systems	12%

Remark : Users may select more than one type of application.

List of Tourist Spots

(1)   Covered by the Gov*WiFi* Programme

	Tourist Spots
1.	Avenue of Stars
2.	Bird Garden
3.	Cheung Chau *(at Public Library, Sports Centre and Public Enquiry Service Centre)*
4.	Clock Tower
5.	Hong Kong Cultural Centre Piazza
6.	Hong Kong Heritage Museum
7.	Hong Kong Museum of Coastal Defence
8.	Hong Kong Museum of History
9.	Hong Kong Park
10.	Hong Kong Science Museum
11.	Hong Kong Space Museum
12.	Kowloon Walled City Park
13.	Lamma Island *(at North and South Lamma Public Libraries)*
14.	Ngong Ping 360 (*at Ngong Ping Nature Centre*)
15.	Ping Shan Heritage Trail *(at Ping Shan Tang Clan Gallery cum Heritage Trail Visitors Centre)*
16.	Repulse Bay Beach
17.	Stanley Waterfront Mart
18.	Hong Kong Wetland Park *(at Visitor Centre)*

(2)   Within 5-minute walk to sites with free Gov*WiFi* facilities

	Tourist Spots
1.	Apliu Street Flea Market
2.	Golden Bauhinia Square
3.	Happy Valley Racecourse / Hong Kong Racing Museum
4.	Jade Market
5.	Ladies Market
6.	Lei Yue Mun Seafood Bazaar
7.	Sai Kung Town / Sai Kung Promenade
8.	Sha Tin Racecourse

	Tourist Spots
9.	Sik Sik Yuen Wong Tai Sin Temple
10.	Stanley Market / Murray House /Hong Kong Maritime Museum
11.	Temple Street Night Market
12.	Tsang Tai Uk
13.	Western Market & Sheung Wan Fong