ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND
HEAD 710 - COMPUTERISATION
Office of the Government Chief Information Officer
New Subhead "Provision of Wi-Fi Facilities at Government Premises"

> Members are invited to approve a new commitment of
> $217.6 million for the provision of Wi-Fi facilities at
> Government premises for free use by the public.

PROBLEM

The Government's vision is to make affordable broadband Internet access available to all citizens in Hong Kong. At present, the majority of citizens are using wired broadband access to the Internet. The development and adoption of wireless broadband Internet access is slow, and this is not conducive to the development of Hong Kong into a digital society with ubiquitous access to information, applications and services on the Internet.

PROPOSAL

2.　　　　The Government Chief Information Officer, with the support of the Secretary for Commerce, Industry and Technology, proposes to create a new commitment of $217.6 million to provide wireless Internet access facilities with the Wireless Fidelity[Note] (or commonly known as "Wi-Fi") standards and technology in around 350 Government premises for free use by the public.

/JUSTIFICATION …..

[Note]　Wireless Fidelity ("Wi-Fi") is a brand originally licensed by the Wi-Fi Alliance to describe the embedded technology of wireless local area networks based on the IEEE 802.11 specifications. It is a technology which can support the connection and access to the Internet through Wi-Fi enabled mobile devices, including but not limited to notebook computers, personal digital assistants (PDAs) and mobile phones.

JUSTIFICATION

3.   With the fast development of Internet technologies, tools, content and applications, the population of Internet users has been growing significantly in recent years. With the increasing prevalence of Wi-Fi enabled mobile devices, Wi-Fi network has become a common solution for providing wireless Internet access to the public. To facilitate wireless Internet access by citizens, some Asian cities, such as Seoul, Taipei, Singapore, and Tokyo have started or have plans for rolling out Wi-Fi networks to cover major parts of the cities.

4.   According to a survey conducted by the Census and Statistics Department in late 2006, some 3.7 million citizens aged ten and above in Hong Kong have used Internet services in the past 12 months. Of these Internet users, 99.5% have used Internet services via non-mobile devices and about 10% via mobile devices. These figures reflect the great demand for Internet services as well as the potential in the provision of wireless Internet access in the community.

5.   At present, the provision of wireless Internet services at the metropolitan level is driven by the market. Commercial service providers are providing Wi-Fi services at commercial premises such as cafés, restaurants and shopping malls. To further facilitate citizens to access the Internet in a wireless mode, we plan to launch a programme to install Wi-Fi facilities at major Government premises. Through this programme and in concert with other Wi-Fi initiatives in the private sector, we envisage that ubiquitous access to the Internet would progressively be made available in all built-up areas of Hong Kong.

The proposed programme

6.   Under the proposed programme, we plan to install Wi-Fi facilities in approximately 350 Government premises. For cost-effectiveness, we will provide Wi-Fi facilities only at premises with high public patronage. A list of the proposed Government premises to be equipped with Wi-Fi facilities is provided at Enclosure.

Encl.

7.   We will adopt an outsourcing approach for implementing the programme. Whilst the Office of the Chief Government Information Officer (OGCIO) will centrally oversee, co-ordinate and manage the whole programme, the installation of Wi-Fi facilities, implementation of Wi-Fi service as well as their on-going operations will be outsourced. The service providers should comply with the requirements of the relevant laws and regulations, and should possess the necessary licences for providing the required Wi-Fi services at respective Government premises. Also, the access capacity for individual sites may vary, depending on the number of users and their usage patterns. We will specify in the relevant tender the requirements to cater for a specified target level of concurrent users.

8.   To prevent citizens from entering into obscene web sites with the Wi-Fi facilities, appropriate filtering software will be installed. Network monitoring systems will be implemented to monitor and stop improper use of the service, such as spamming. Relevant security measures, such as user isolation and data encryption, will also be introduced to ensure the proper use of the service by citizens. Helpdesk support will also be provided to assist users of the Wi-Fi service.

9.   Through the Wi-Fi facilities provided under the programme, we will provide patrons of the selected Government premises with free connections to the Internet. However, where individual transactions and services are chargeable, for example in the case of e-commerce or e-government transactions that are related to the users' personal accounts, they will be charged by respective service providers or Government bureaux/departments.

10.   To facilitate the use of Wi-Fi service under this programme, we will launch a series of publicity and promotional activities which would include dissemination of guidelines and leaflets and arrangement of road shows. We will educate the public on the necessary security measures in using Wi-Fi services and the proper use of the Internet. To allay concerns of the public, we will also raise their awareness and knowledge on the health effects of Wi-Fi through various channels.

BENEFITS

11.   We expect that the programme will bring benefits on all fronts, including citizens in general, the Government, the commercial sector, the information and communications technology (ICT) industry and Hong Kong as a whole.

Providing convenience and affordable solution to the public

12.   The installation of Wi-Fi facilities at Government premises will significantly increase the number of Wi-Fi access points (commonly known as "hotspots") available in Hong Kong. This will greatly enhance the accessibility of hotspots both in terms of number and geographic coverage. Citizens can get access to the Internet for business, studies or leisure ubiquitously. This will enable much quicker and more convenient access to necessary information, thereby helping improve productivity and enhancing the quality of life of the users.

13.   Moreover, Internet access through Wi-Fi facilities at Government premises will be provided free of charge to citizens. This would help lower the economic barrier for Internet access and help bridge the digital divide in the community.

Providing more diversified and effective Government services

14.   The wider availability of Wi-Fi networks would facilitate the delivery of more e-government services through the wireless and mobile channel, and allow multiple users to obtain the same Government service simultaneously.

Facilitating businesses in all sectors

15.   The programme aims to help stimulate and facilitate the development of wireless and mobile applications in all sectors. The large number of hotspots, the wide geographic coverage of the Wi-Fi networks, as well as the free Internet access offered by the Government are all incentives for this development.

Fostering development of the ICT Industry

16.   Since the implementation and on-going operation of the programme will be outsourced, they should mean additional employment and new business opportunities for our ICT industry. Apart from this direct benefit, we expect that the programme would also catalyze the development of related Wi-Fi solutions in the market.   These solutions would include Wi-Fi applications in both e-government and e-commerce arenas; mobile devices or consumer products with Wi-Fi capability; and supporting services such as Wi-Fi network design, Wi-Fi security, etc.. All these would help foster the development of the ICT industry.

Promoting the image of Hong Kong

17.   The programme will not only bring benefits to the local community, it would also facilitate visitors' business and leisure activities in Hong Kong. For example, business travelers to Hong Kong can make use of the Wi-Fi service and associated applications to perform government or commercial related activities in a ubiquitous manner. With the help of Wi-Fi networks installed at some tourist spots such as museums, tourists would enjoy better informational/tourist services. All these would help build a positive image for Hong Kong and uphold our status as a leading digital city.

/FINANCIAL …..

FINANCIAL IMPLICATIONS

Non-Recurrent Expenditure

18.   We estimate that the implementation of the proposed programme will require a total non-recurrent expenditure of $217.6 million from 2007-08 to 2009-10, with breakdown as follows –

	2007-08 $ million	2008-09 $ million	2009-10 $ million	Total $ million
(a) Installation and implementation services	12.8	79.4	33.4	125.6
(b) Site preparation	7.7	39.8	6.1	53.6
(c) Programme co-ordination and management	1.5	7.9	1.2	10.6
(d) Publicity and promotion	2.5	4.5	1.0	8.0
(e) Contingency	2.4	13.2	4.2	19.8
Total	**26.9**	**144.8**	**45.9**	**217.6**

19.   On paragraph 18(a), the estimate of $125.6 million is for the acquisition of external services to provide wireless Internet access facilities and related services in Government premises. The service providers will provide the required hardware and software; system and network installation and implementation services; and initial support and maintenance services during the implementation phase. The hardware includes access points, wireless local area network switches and controllers, and network infrastructure. The software includes packages to drive and support hardware, network management and content filtering.

20.   On paragraph 18(b), the estimate of $53.6 million is for site preparation work such as the setting up of network equipment rooms; installation of power and signal conduits/cables; fitting out the power sockets and mounting of equipment, etc..

21.   On paragraph 18(c), the estimate of $10.6 million is for programme co-ordination and management, including the hiring of contract staff to co-ordinate the requirements of about 350 sites, liaise with contractors and departments on site requirements, study and vet the designs of wireless Internet networks, monitor implementation progress, perform acceptance of services, and plan and oversee all implementation activities.

22.   On paragraph 18(d), the estimate of $8 million is for publicity and promotion of the programme, including the printing of leaflets and posters, conducting roving shows, production of Announcements in the Public Interest, preparing promotional articles, etc..

23.   On paragraph 18(e), the estimate of $19.8 million represents an approximately 10% contingency on the cost items set out in paragraphs 18 (a) to (d) above.

Other Non-Recurrent Expenditure

24.   The implementation of the programme will also entail an additional non-recurrent staff cost of $4 million, with breakdown as follows –

	2007-08 $ million	2008-09 $ million	2009-10 $ million	Total $ million
Staff cost	0.5	3.1	0.4	4.0
Total	**0.5**	**3.1**	**0.4**	**4.0**

25.   The staff cost estimated above represents a total of 45 man-months of Analyst/Programmer grade staff for programme co-ordination, tendering and contract management. OGCIO will absorb the requirement within its existing resources.

Recurrent Expenditure

26.   We estimate that the recurrent expenditure arising from the programme will be $19.2 million per annum from 2010-11 onwards, with breakdown as follows –

		2010-11 and onwards $ million
(a)	Data communication and Internet service	7.2
(b)	Hardware & software maintenance and support	6.7
(c)	Operation and helpdesk support	5.3
	Total	**19.2**

27.   On paragraph 26(a), the estimated annual expenditure of $7.2 million is for the data communication lines connecting individual sites to the Internet gateways at data centres of the service providers, as well as the Internet connection and access services.

28.   On paragraph 26(b), the estimated annual expenditure of $6.7 million is for the maintenance of wireless network equipment and Internet gateways, as well as the software licence fees.

29.   On paragraph 26(c), the estimated annual expenditure of $5.3 million is for help desk service, network monitoring and management service, and security services to protect the Wi-Fi networks and systems from hacking and cyber attacks.

30.   This programme would have no impact on fees and charges for services. The Wi-Fi facilities at the selected Government premises will provide the public with free connections to the Internet.

IMPLEMENTATION PLAN

31.   The proposed implementation plan is as follows –

	Activity	**Timing**
(a)	Procurement of services for implementation and operation of Wi-Fi service	June to November 2007
(b)	Progressive roll-out of service to the priority sites (please refer to the Enclosure)	December 2007 to June 2008
(c)	Progressive roll-out of service to the remaining sites	July 2008 to June 2009

32.   To ensure cost-effective procurement, we will adopt an open tendering approach. In order to expedite the implementation process and to enable more industry players to participate in this Government-wide programme, we plan to engage more than one contractor to deliver the services.

PUBLIC CONSULTATION

33.   We held a forum on the proposed programme on 3 April 2007, with attendance of about 300 participants from the ICT industry. The participants are supportive of the programme in general, and they offered valuable suggestions and positive comments.   Three third-generation mobile communication service operators and the Wireless Technology Industry Association made a joint submission to the Government on 11 April 2007, seeking clarifications on whether the implementation of the programme in outdoor public areas would constitute an infringement of the business of the mobile operators and whether the Government would be extending the interpretation of the Class Licence regime to outdoor areas such as parks.

34.   We consulted the Legislative Council Panel on Information Technology and Broadcasting on the proposal on 17 April 2007. Members are generally supportive of the proposal and raised no objection to submitting it to the Finance Committee for funding approval. In supporting the proposal, Panel Members requested the Administration to provide information on the mechanism and measures to assess the cost-effectivess of the proposal. To ensure cost effectiveness in implementing the proposal, we will provide Wi-Fi facilities at premises with high public patronage by making reference to the number of visitors to respective premises in determining the premises to be included in the Wi-Fi Programme. We will also implement a governance system to monitor the contractors' performance.   For the purpose of assessing and ensuring

cost-effectiveness, we will require the contractors to keep statistics on the usage of Wi-Fi services at respective premises, perform annual review on service requirements after service rollout, and adjust the bandwidth arrangement of individual sites on need basis.

35.   Panel Members were also concerned about the perceived Government's competition with commercial service providers for profits and issues related to the Class Licence regime and requested the Administration to provide response. In response to the joint submission from the ICT industry mentioned in paragraph 33 above, we have clarified that the Government will be adopting a user role in the programme but not the role of a carrier or service provider to the extent of competing with the mobile operators. The choice of Wi-Fi standards and technologies for the programme is the result of an extensive and careful study of international and industry developments. The adoption of Wi-Fi technologies does not constitute any form of subsidy to any operator or service provider. As regards the subject of licensing regime, we have clarified that we had no intention at all to extend the interpretation of the Class Licence regime to outdoor areas. In the tender exercise, we will set out clearly the requirement for the contractors to possess the necessary licences, where applicable, for the provision of Wi-Fi services in respective Government venues. We have provided our response to Panel Members' concerns.

BACKGROUND

36.   Wi-Fi is a technology which can support the connection and access to the Internet through Wi-Fi enabled mobile devices, such as notebook computers, PDAs and mobile phones. The provision of public hotspots has become a global trend nowadays. The impetus is largely fuelled by the increasing availability of mobile devices equipped with Wi-Fi capability in the market.

37.   As at February 2007, there are 29 registered service providers operating more than 1 000 hotspots and providing commercial Wi-Fi services in Hong Kong. They provide services in densely populated commercial and residential areas, for example, Central, Causeway Bay, Tsim Sha Tsui and Mong Kok. The hotspots are mainly installed in fast food shops, cyber cafés, restaurants, convenience stores and shopping malls.

Office of the Government Chief Information Officer
Commerce, Industry and Technology Bureau
May 2007

List of proposed Government premises
to provide Wi-Fi Facilities

The Government plans to progressively install Wi-Fi facilities in around 350 Government premises with high public patronage within two years after funding approval.

Priority Sites

2. During the first year, priority will be given to installing Wi-Fi facilities at the following sites –

	Venue	**Number**
(a)	Libraries	66
(b)	Public Enquiry Service Centres	20
(c)	Government Joint-User Buildings	18
(d)	Central Government Offices	5
(e)	Community Halls and Centres	5
(f)	Cultural and Recreational Centres	3
(g)	Park	1
	Total	**118**

Remaining Sites

3.　　　　During the second year, we plan to install Wi-Fi facilities at the following sites –

	Venue	Number
(a)	Cultural, Recreational and Sports Centres	84
(b)	District Environmental Hygiene Offices	33
(c)	Community Halls and Centres	21
(d)	Job Centres	12
(e)	Visa Document Related Offices	11
(f)	Birth / Marriage / Death Registration Offices	9
(g)	Polyclinics/ Health Centres	6
(h)	Transport Licensing and Examination Centres	6
(i)	Museums	5
(j)	Stadiums	4
(k)	Ferry Terminals	4
(l)	Field Unit and Service Centres of Social Welfare Department	3
(m)	Parks	2
(n)	Others	32
	Total	**232**

Note: there may be minor revisions to the numbers of sites mentioned in the above tables at the implementation stage when detailed implementation arrangements at respective sites can be worked out.