ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND
HEAD 710 – COMPUTERISATION
Office of the Government Chief Information Officer
New Subhead "New Hosting Infrastructure for E-government Services"

>   Members are invited to approve a new commitment
> of $135,000,000 for the development of a new hosting
> infrastructure for e-government services.

PROBLEM

        With the continuous development of e-government services, the Office of the Government Chief Information Officer (OGCIO) envisages that the existing E-Government Infrastructure Services (EGIS) platform will be unable to meet the growing demand for hosting capacity in the years ahead.

PROPOSAL

2.   The Government Chief Information Officer, with the support of the Secretary for Commerce and Economic Development, proposes to create a new commitment of $135,000,000 to develop a new hosting infrastructure for e-government services.

JUSTIFICATION

On-going demand from Bureaux/Departments

3.   With its just-in-time provision of hosting capacity and round-the-clock monitoring and support, the EGIS is a flexible, reliable and secure hosting platform for Bureaux/Departments (B/Ds) to provide e-government services. Since its inception in 2004, the number of e-government services hosted by EGIS has increased rapidly from six to 118 at present.

4.   We envisage that B/Ds will continue to introduce new e-services to meet public needs and expectations. In fact, a number of B/Ds have already expressed interest in introducing some 80 mobile public services in the coming years, including the search of various types of government information and booking of different public services via mobile devices. Some also plan to link up with MyGovHK[Note] to roll out about 20 new personalised e-government services in the coming years, including making appointments for clinical services, online enquiry of the status of applications for student financial assistance schemes, etc.

5.   The existing EGIS infrastructure has already reached its full capacity. With the ageing of the existing EGIS equipment, maintenance will become uneconomical in the coming few years. Upgrading the existing system or adding smaller-scale supplements to the system when demand warrants would not be cost effective. We therefore plan to gradually migrate the existing 118 e-government services hosted by EGIS to a hosting platform.

6.   The proposed new hosting infrastructure could provide central resources to meet the anticipated demand for hosting services from B/Ds more efficiently and effectively. We estimate that, when fully developed, it will be able to host 100 additional e-government services on top of the 118 e-government services currently hosted by EGIS.

Progressive development in response to demand

7.   With the scalable design of the proposed new hosting infrastructure, we will increase the hosting capacity progressively in the coming years having regard to the actual demand by B/Ds in delivering their e-government services. With this on-demand incremental approach, we will be able to match capacity building with capacity utilisation as closely as possible to avoid idling of capacity.

8.   Assuming project commencement in April 2011, the new platform should be able to host 20 additional e-government services by October 2012. Between October 2012 and March 2015, we will be able to scale up the hosting capacity progressively to host another 80 new e-government services. The pace of capacity building will depend on the actual demand by B/Ds in delivering new e-government services as well as the gradual migration of existing e-services from EGIS.

/Potential …..

[Note] MyGovHK is an integrated service delivery platform launched on GovHK, an one-stop shop for online government information and services. It enables the public to create their own accounts and to have a personalised webpage to access their registered public services with more user-friendly and personalised user experience in interacting with the Government.

Potential benefits

9.   Developing a new central hosting infrastructure for e-government services with sufficient capacity to accommodate new demands will avoid the need for B/Ds to develop or acquire hosting services by themselves individually. It will enable capacity sharing and create economy of scale. We plan to acquire 22 groups of servers (including hardware and software) by phases for the proposed new hosting infrastructure to support 100 new e-government services on top of the existing ones. If these 100 new services are to be hosted by different B/Ds separately, many more groups of servers may need to be acquired.

10.   Apart from capital expenditure, the administrative overheads required for maintaining a hosting infrastructure (e.g. formulating technical specifications, procurement, and managing and monitoring the service contractors) can be a disproportionate burden for B/Ds, particularly those providing smaller-scale e-government services. With a centrally-managed hosting infrastructure, B/Ds can enjoy hosting service with minimal administrative cost. It is therefore more cost-effective for OGCIO to maintain a shared hosting infrastructure for B/Ds.

11.   In addition, with the adoption of new technologies, the proposed hosting infrastructure will achieve a higher hosting sharing ratio (i.e. hosting more e-government services given the same capacity), shorter configuration time and more dynamic capacity allocation to deal with increases in demand. A readily available central hosting infrastructure could reduce the lead time for introducing new e-government services by four to nine months. The proposed central hosting infrastructure will also be more friendly to the environment than the existing one as it will use energy-efficient servers and equipment.

Cost Savings/Avoidance

12.   We estimate that the gradual migration of e-government services from the existing hosting platform to the proposed new one will bring about annual realisable savings in the staff and maintenance cost for the existing platform of around $10,400,000 in 2012-13, rising to $14,600,000 in 2013-14, $18,900,000 in 2014-15 and $36,100,000 from 2015-16 onwards. The savings will be used for covering the expenses incurred by the new platform.

13.   In addition, we anticipate that there will be a maximum one-off cost avoidance of about $260,000,000 for building a central hosting infrastructure instead of development of multiple ones by individual B/Ds. This represents a potential maximum saving of 78 groups of servers, which is estimated to cost $3,300,000 each, under the proposed approach.

Encl.

14.   A cost and benefit analysis for the proposed project is at the Enclosure.

FINANCIAL IMPLICATIONS

Non-recurrent expenditure

15.   We estimate that the proposed new hosting infrastructure would require a total non-recurrent expenditure of $135,000,000 for acquiring hardware, software and professional services. The indicative cost breakdown and cashflow requirements by financial years is as follows –

		2011-12 $'000	2012-13 $'000	2013-14 $'000	2014-15 $'000	Total $'000
(a)	Hardware and Software	21,800	30,300	15,600	6,500	74,200
(b)	System development and operation services	4,600	6,900	7,000	7,000	25,500
(c)	System implementation service	5,400	8,200	4,700	4,700	23,000
	Sub-total	**31,800**	**45,400**	**27,300**	**18,200**	**122,700**
(d)	Contingency	3,200	4,600	2,700	1,800	12,300
	Total	**35,000**	**50,000**	**30,000**	**20,000**	**135,000**

16.   On paragraph 15(a) above, the estimate of $74,200,000 is for the acquisition of hardware (e.g. servers and network equipment), software (e.g. server and network software) and related facilities (e.g. back-up devices) for the implementation of the new hosting infrastructure.

17.   On paragraph 15(b) above, the estimate of $25,500,000 is for the acquisition of services from service providers and contract IT staff to develop and set up the infrastructure.

/18. …..

18.   On paragraph 15(c) above, the estimate of $23,000,000 is for the acquisition of services from service providers and contract IT staff to implement shared common services (e.g. payment services) and provide advisory services to B/Ds.

19.   On paragraph 15(d) above, the estimate of $12,300,000 represents about 10% contingency on the cost items set out in paragraphs 15 (a) to (c) above.

Other non-recurrent expenditure

20.   The development of the proposed new hosting infrastructure will entail an additional non-recurrent staff cost of $23,600,000. The cost represents a total of 252 man-months of IT staff for planning and overseeing the implementation of the infrastructure, advising and liaising with potential user B/Ds, as well as overseeing the performance of service providers. OGCIO will absorb the non-recurrent staff cost with existing resources.

Recurrent expenditure

21.   We estimate that the recurrent expenditure arising from the project will be $30,000,000 per annum from 2015-16 onwards. Such requirements will be reflected in the Estimates of the relevant years, with breakdown as follows –

		2012-13 **$'000**	**2013-14** **$'000**	**2014-15** **$'000**	**2015-16 onwards** **$'000**
(a)	Hardware and software maintenance	4,300	10,300	13,300	14,600
(b)	On-going professional support service	-	-	-	15,400
	Total	**4,300**	**10,300**	**13,300**	**30,000**

22.   On paragraph 21(a) above, the estimated annual expenditure of $4,300,000 in 2012-13, $10,300,000 in 2013-14, $13,300,000 in 2014-15, and $14,600,000 from 2015-16 onwards are for hardware and software maintenance (e.g. maintenance expenses of servers and license fees of server software).

23.　　　　On paragraph 21(b) above, the estimated annual expenditure of $15,400,000 from 2015-16 onwards is for the acquisition of services from service providers and contract IT staff to provide on-going system operation, support and maintenance services.

24.　　　　After offsetting the realisable savings as outlined in paragraph 12, no additional recurrent expenditure will be required from 2015-16 onwards .

25.　　　　OGCIO will deploy within the existing resources a total of 66 man-months of IT staff to provide on-going governance, administration and support services for the new infrastructure, entailing a recurrent staff cost of $6,100,000 per annum starting from 2012-13. No additional recurrent staffing will be required.

IMPLEMENTATION PLAN

26.　　　　The tentative implementation plan is proposed as follows –

	Activity	Target Commencement Date	Target Completion Date
(a)	Procurement of hardware, software and professional services for development stage	April 2011	December 2011
(b)	Implementation of new hosting infrastructure for development stage	January 2012	September 2012
(c)	Live-run of the new hosting infrastructure capable of supporting up to 20 new e-government services on top of the existing e-government services	October 2012	October 2012
(d)	Incremental procurement of additional hardware, software and professional services for scale-up stage	October 2012	March 2015

/(e) …..

Activity		Target Commencement Date	Target Completion Date
(e)	Progressive infrastructural enhancement for additional hosting capacity to meet requests from B/Ds	October 2012	March 2015
(f)	Live-run of the new hosting infrastructure capable of supporting up to 100 new e-government services on top of the existing e-government services	March 2015	March 2015

PUBLIC CONSULTATION

27.   We consulted the Legislative Council Panel on Information Technology and Broadcasting on 10 January 2011. Members sought clarification on the nature of the 100 new e-government services envisaged and details on the $260,000,000 savings identified. We have provided the information vide paragraphs 4 and 13 above. Members generally supported the proposal and raised no objection to its submission to the Finance Committee for funding approval.

BACKGROUND

28.   The OGCIO has been providing a central hosting infrastructure for e-government services since 2004 through its EGIS platform. With a shared hosting environment and various common modules for easy and quick adoption, EGIS provides B/Ds with speedy, flexible and cost-effective hosting services, saving the time and resources that they would otherwise need for developing and maintaining their own hosting services.

29.   At present, EGIS is hosting 118 e-government services (e.g. e-TAX and application for HKSAR passport) provided by 20 B/Ds.

Office of the Government Chief Information Officer
April 2011

Cost and Benefit Analysis for the Proposed New Hosting Infrastructure for E-Government Services

	Cash flow ($'000)									
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Cost										
Non-recurrent										
- Expenditure	35,000	50,000	30,000	20,000	-	-	-	-	-	135,000
- Staff cost	5,000	6,200	6,200	6,200	-	-	-	-	-	23,600
Sub-total	40,000	56,200	36,200	26,200	-	-	-	-	-	158,600
Recurrent										
- Expenditure	-	4,300	10,300	13,300	30,000	30,000	30,000	30,000	30,000	177,900
- Staff cost	-	6,100	6,100	6,100	6,100	6,100	6,100	6,100	6,100	48,800
Sub-total	-	10,400	16,400	19,400	36,100	36,100	36,100	36,100	36,100	226,700
Total cost	**40,000**	**66,600**	**52,600**	**45,600**	**36,100**	**36,100**	**36,100**	**36,100**	**36,100**	**385,300**
Savings										
Non-recurrent*										
- Cost avoidance	65,000	65,000	65,000	65,000	-	-	-	-	-	260,000
Recurrent #										
- Realisable savings	-	10,400	14,600	18,900	36,100	36,100	36,100	36,100	36,100	224,400
Total savings	**65,000**	**75,400**	**79,600**	**83,900**	**36,100**	**36,100**	**36,100**	**36,100**	**36,100**	**484,400**
Net savings	**25,000**	**8,800**	**27,000**	**38,300**	**-**	**-**	**-**	**-**	**-**	**99,100**
Net cumulative savings	**25,000**	**33,800**	**60,800**	**99,100**	**99,100**	**99,100**	**99,100**	**99,100**	**99,100**	

* The figures represent estimation of maximum one-off cost avoidance on hardware and software by other bureaux/departments.

\# The figures do not cover the recurrent savings incurred by other bureaux/departments for set up of hosting infrastructure separately.