

For discussion on  
10 January 2011

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

**New Hosting Infrastructure for E-government Services**

**PURPOSE**

This paper seeks Members' support for the development of a new hosting infrastructure for e-government services.

**BACKGROUND**

2. The Office of the Government Chief Information Officer (OGCIO) has been providing a central hosting infrastructure for e-government services since 2004 through its E-Government Infrastructure Services (EGIS) platform. With a shared hosting environment and various common modules for easy and quick adoption, EGIS provides bureaux/departments (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.

3. At present, EGIS is hosting 118 e-government services (e.g. e-TAX and application for HKSAR passport) provided by 20 B/Ds. With the continuous development of e-government services, we envisage that the existing EGIS will be unable to meet the on-going new demand for hosting capacity in the years ahead.

**PROPOSAL**

*Developing a new hosting infrastructure for e-government services*

4. To support the further development of e-government services, we propose to develop a new hosting infrastructure for e-government services so

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

5. 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. We will also equip the proposed central hosting infrastructure with energy-efficient servers so that we may double our hosting capacity without consuming more electricity.

#### *Progressive development in response to demand*

6. With the scalable design of the proposed new hosting infrastructure, we will increase the hosting capacity progressively in the coming five 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.

7. 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 existing 118 e-government services hosted by EGIS will also be gradually migrated to the new hosting platform as and when the EGIS equipment becomes aged or uneconomical to maintain. The pace of capacity building between October 2012 and March 2015 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 BENEFITS**

#### *Meeting on-going demand from B/Ds*

8. With its just-in-time provision of hosting capacity and round-the-clock monitoring and support, EGIS is a flexible, reliable and secure hosting platform for B/Ds providing e-government services. Since its

development in 2004, the number of e-government services hosted by EGIS has increased rapidly from six to 118 at present. With the continuous development of e-government, B/Ds will not only be expected to enhance their existing e-services, but will also continue to introduce new e-services (e.g. mobile public services) to meet the public's needs and expectations. The proposed new hosting infrastructure will provide strong support for B/Ds in their further pursuit of e-government initiatives.

### *Saving cost and time*

9. Without a central hosting infrastructure for e-government services, B/Ds will have to develop or acquire hosting services by themselves individually. That would be more costly than hosting services provided centrally because of the lack of capacity sharing and economy of scale among different B/Ds. Assuming that 100 new e-government services are to be introduced in the coming five years, there would be a potential saving of \$260 million in the overall capital expenditure if they are to be centrally hosted under our proposed new infrastructure.

10. Apart from capital expenditure, the administrative overheads incurred by maintaining a hosting infrastructure can be a disproportionate burden for B/Ds, particularly those providing smaller-scale e-government services. It is therefore more cost-effective for OGCIO to centrally maintain a shared hosting infrastructure for B/Ds. With a centrally-managed hosting infrastructure, B/Ds can enjoy hosting service with minimal administrative cost. Besides, a readily available central hosting infrastructure could significantly reduce the lead time for introducing new e-government services by 4 to 9 months.

## **FUNDING PROPOSAL**

### *Non-recurrent expenditure*

11. We plan to seek the approval from the Finance Committee for a non-recurrent provision of \$135 million over a four-year period from 2011-12 to 2014-15 under Capital Works Reserve Fund Head 710 for acquiring hardware, software and professional services to support the development of the proposed new hosting infrastructure. The indicative cost breakdown is as follows –

	<b>\$ million</b>
(a) Hardware and software	74.20
(b) System development and operation services	25.50
(c) System implementation service	23.00
(d) Contingency	<u>12.30</u>
<b>Total</b>	<b>135.00</b>

12. On paragraph 11(a), the estimate of \$74.20 million 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.

13. On paragraph 11(b), the estimate of \$25.50 million is for the acquisition of services from service providers and contract IT professional staff to develop and set up the infrastructure.

14. On paragraph 11(c), the estimate of \$23.00 million is for the acquisition of services from service providers and contract IT professional staff to implement shared common services (e.g. payment services) and provide advisory services to B/Ds.

15. On paragraph 11(d), the expenditure of \$12.30 million represents about 10% contingency on the cost items set out in paragraphs 11(a) to (c) above.

*Other non-recurrent expenditure*

16. The development of the proposed new hosting infrastructure will also entail a total non-recurrent staff cost of \$23.57 million 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*

17. The operation of the proposed new hosting infrastructure will incur expenses on hardware and software maintenance starting from 2012-13, which is estimated to be \$4.3 million, and will gradually increase to \$10.3 million and \$13.3 million in 2013-14 and 2014-15 respectively. Starting from 2015-16, on top of the hardware and software maintenance, professional on-going support services will also be engaged and the annual recurrent expenditure will rise to \$30 million.

18. In addition, an estimated cost of \$6.05 million will be incurred from 2012-13 onwards to cover the recurrent staff efforts required for providing on-going governance, administration and support services to the new infrastructure.

19. OGCIO will absorb the above-mentioned recurrent expenditure with existing resources. The recurrent cost will be partly offset by the savings in the maintenance expenses for the aging equipment to be phased out by the gradual migration of e-government services from the existing EGIS platform to the proposed new hosting infrastructure.

### **IMPLEMENTATION PLAN**

20. We plan to launch the proposed new hosting infrastructure by phases starting from late 2012 with a view to gradually increasing its capacity to take over the 118 e-government services currently hosted by EGIS, and to provide capacity for hosting another 100 new e-government services by early 2015.

21. The proposed implementation plan is as follows –

<b>Activity</b>	<b>Timing</b>
Procurement of hardware, software and professional services for development stage	April to December 2011
Implementation of new hosting infrastructure for development stage	January to September 2012

**Activity****Timing**

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

Incremental procurement of additional hardware, software and professional services for scale-up stage

October 2012 to March 2015

Progressive infrastructural enhancement for additional hosting capacity to meet the requests from B/Ds

October 2012 to March 2015

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

**ADVICE SOUGHT**

22. Members are invited to support the development of the proposed new hosting infrastructure for e-government services as set out in paragraphs 4 to 7 above.

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