

## **ITEM FOR FINANCE COMMITTEE**

### **CAPITAL WORKS RESERVE FUND**

#### **HEAD 710 – COMPUTERISATION**

##### **Trade and Industry Department**

##### **New Subhead “Relocation and Re-provisioning of Information Technology Systems and Facilities to the Trade and Industry Tower for the Trade and Industry Department”**

Members are invited to approve a new commitment of \$52,542,000 for the relocation and re-provisioning of information technology systems and facilities of the Trade and Industry Department to the Trade and Industry Tower.

### **PROBLEM**

The Trade and Industry Department (TID) needs to relocate and re-provision its information technology (IT) systems and facilities to tie in with the relocation of the Department in 2015 to the Trade and Industry (TI) Tower – a new joint-user government office building at the Kai Tak Development Area, to ensure the economic and cost-effective use of government properties.

### **PROPOSAL**

2. The Director-General of Trade and Industry, with the support of the Secretary for Commerce and Economic Development and the Government Chief Information Officer, proposes to create a new commitment of \$52,542,000 to relocate and re-provision IT systems and facilities to the TI Tower.

**/JUSTIFICATION .....**

## JUSTIFICATION

### **The Need for Relocating and Re-provisioning of IT Systems and Facilities**

3. As the TID will be relocated to the new TI Tower in 2015, there is a need for the corresponding IT systems and facilities in the TID Tower (TIDT) in Mongkok to be relocated and re-provisioned accordingly.

4. To ensure the continued and smooth delivery of IT services to the trade and the public upon office relocation, and to meet the operational needs of the Department in the longer term, the TID commissioned a two-stage Feasibility Study/Technical Study (FS/TS) in 2009 to identify a secure and efficient IT solution for the proposed project. According to the study, TID needs to replace its aged IT systems approaching the end of serviceable life span to ensure reliability of service; to consolidate scattered server rooms and decentralised system monitoring to improve operational efficiency and management of servers; and to upgrade the network capacity/throughput to cope with the growing demands including notably access to multi-media information, etc.

5. Taking into account the result of the FS/TS, we consider that there is a business case to enhance and upgrade the IT facilities to meet the up-to-date standards and guidelines of the Office of the Government Chief Information Officer and, more importantly, to tie in with the latest business development and service needs.

### **Details of the Proposal**

6. In the light of the outcome of the FS/TS, we propose to enhance and upgrade the TID's IT infrastructure upon relocation of the IT systems and facilities to the new TI Tower. Details of our proposal are as follows –

- (a) To relocate all the 32 existing application systems and related facilities to the TI Tower. Among these systems, 15 would approach the end of their serviceable life by 2015-16. They would be replaced to ensure reliability of service, and to allow for enhanced functions in keeping with the latest technology;
- (b) To enhance the infrastructure supporting 11 existing systems, including the additional Storage Area Network<sup>1</sup> (SAN) for testing and securing the timely resumption of service at the TI Tower in case

/the .....

---

<sup>1</sup> A storage area network is a dedicated network that provides access to consolidated storage.

the production SAN cannot resume service within the planned schedule; the adoption of encryption functions of the SAN solution for critical applications; and the adoption of green IT operations to demonstrate Government's staunch support for green management<sup>2</sup>;

- (c) To upgrade the network capacity/throughput whereby enabling the wider use of multi-media information during daily operation; and
- (d) To consolidate the five scattered server rooms in the TIDT into two in the new office so as to improve operational efficiency.

7. The standard of the server room facilities will also be updated to meet the latest industry standards including gaseous type fire suppression system, hot/cold aisle cooling design and centralised monitoring.

8. The TID has drawn up a phased plan for relocation and re-provisioning to minimise as much as possible the service interruption to the department itself, the trading community and the public. In this regard, the relocation of IT systems and facilities will be carried out in two batches to ensure successful completion of system testing prior to the actual relocation of the primary servers. The TID will also put in place measures to ensure the reliability of systems, the smooth resumption of service, and data security during the transition.

### **Benefits of the Proposal**

9. The project will bring about the following benefits –
- (a) With the adoption of the latest IT standards such as Internet Protocol (version 6)<sup>3</sup> (IPv6), the IT system can better cater for the demand from Small and Medium Enterprises and the public;
  - (b) With the adoption of the latest standard on green IT management such as servers virtualization and mail archiving solution, the systems will be operated with less physical servers thus consuming less energy. The equipment racks will become more environmental friendly after they have been upgraded with efficient cooling feature;

/(c) .....

---

<sup>2</sup> The objective of green IT operation is to ensure the achievement of better energy-efficiency and environment impacts in government IT operation.

<sup>3</sup> As the successor to the current Internet Protocol, IPv4, IPv6 is critical to the Internet's continued growth as a platform for innovation and economic development.

- (c) The new dual source power supply system of the proposed IT infrastructure will minimise the chance of suspension of the TID's e-services provided to the trading community, hence ensuring a more competent and reliable service performance;
- (d) The new IT facilities will improve the throughput of the network and security infrastructure, hence enhancing the work efficiency and productivity;
- (e) The data encryption technology adopted in the IT systems could enhance application data security and better protect the interest of the trading community;
- (f) The upgraded infrastructure will better support the use of multi-media information, and will improve communication with the trading community via multi-media channels; and
- (g) The consolidation of server rooms will reduce overheads for supporting IT facilities, hence enhancing operational efficiency and management of servers.

### **Cost Savings/Avoidance**

10. We estimate that the proposal will bring about annual savings of \$5,396,000 from 2016-17 onwards, comprising the following –

- (a) *Realisable savings of \$2,459,000 per annum*

This represents the hardware and software maintenance cost of the existing equipment to be decommissioned. The savings will be ploughed back to offset part of the maintenance cost of the newly acquired hardware and software.

- (b) *Notional savings of \$2,402,000 per annum*

The notional savings will be achieved by efficiency gain through enhanced office automation process and the upgraded network throughput (\$2,227,000), and other relevant maintenance costs (\$175,000).

- (c) *Cost Avoidance of \$535,000 per annum*

This represents the additional staff cost for monitoring the departmental websites and periphery facilities, which would otherwise be required to oversee individual system consoles in a decentralised manner.

Encl. 11. A cost and benefit analysis for the proposed project is set out at the Enclosure.

## FINANCIAL IMPLICATIONS

### Non-recurrent Expenditure

12. It is estimated that the proposed project will incur a total non-recurrent expenditure of \$52,542,000 over a four-year period from 2012-13 to 2015-16 for acquiring hardware, software and professional services. A detailed breakdown is as follows –

	2012-13	2013-14	2014-15	2015-16	Total
	(\$'000)	(\$'000)	(\$'000)	(\$'000)	(\$'000)
(a) Hardware and Software*	-	1,090	2,905	26,055	30,050
(b) Communication Network	-	-	-	515	515
(c) Implementation Service	-	100	356	2,981	3,437
(d) Contract Staff	359	847	3,829	7,778	12,813
(e) Site Preparation	-	-	-	950	950
<b>Sub-total</b>	<b>359</b>	<b>2,037</b>	<b>7,090</b>	<b>38,279</b>	<b>47,765</b>
(f) Contingency	<b>36</b>	<b>204</b>	<b>709</b>	<b>3,828</b>	<b>4,777</b>
<b>Total</b>	<b>395</b>	<b>2,241</b>	<b>7,799</b>	<b>42,107</b>	<b>52,542</b>

\* Including \$6,507,000 for replacement of hardware reaching limit of serviceable life span.

13. On item (a) “Hardware and Software” above, the amount of \$30,050,000 is for the acquisition of hardware (e.g. servers and network equipment), software (e.g. server software and network software) and related facilities (e.g. back-up devices) for the implementation of the new network and security infrastructure, replacement of the aged servers and ancillary facilities. To ensure continuation and reliability of service, new server room facilities and network and security infrastructure equipment will be in place before the actual relocation for testing purpose.

14. On item (b) “Communication Network” above, the amount of \$515,000 is for the installation and provision of communication lines before the TID’s offices are relocated –

/(i) .....

- (i) to connect the TIDT and the TI Tower for system testing and temporary operation; and
- (ii) to connect the TI Tower to the Headquarters of the Electrical and Mechanical Services Department at Kowloon Bay and the Tsuen Wan Data Centre for disaster recovery of licensing and certification data respectively.

15. On item (c) “Implementation Service” above, the amount of \$3,437,000 is for hiring IT professional services in preparation for the relocation (e.g. security risk assessment and audit, wireless network implementation), and for the actual relocation of the TID’s IT facilities (e.g. the hiring of engineers, labour and transportation service for the physical relocation of network equipment, servers, personal computer (PC) workstations and printers).

16. On item (d) “Contract Staff” above, the amount of \$12,813,000 is for hiring contract IT professional staff to operate server rooms in the TI Tower before relocation, and provide day-to-day project management and other technical services in preparation for the relocation. The estimate also covers the cost required in 2015-16 for hiring contract technical staff in reconfiguring users’ PC workstations and network printers after the relocation.

17. On item (e) “Site Preparation” above, the amount of \$950,000 is for the network cabling in server rooms and office premises of the TI Tower.

18. On item (f) “Contingency” above, the estimate of \$4,777,000 represents a 10% contingency on the total cost covering items (a) to (e).

### **Other Non-recurrent Expenditure**

19. The implementation of the proposal will entail a total non-recurrent staff cost of \$4,699,000 over a period of three years from 2013. The cost represents a total of 51.3 man-months of IT professional, departmental and general grade staff for overseeing the implementation of the project, carrying out procurement exercise, liaising with contractors for installation and configuration as well as testing from the technical aspect and user acceptance. The TID will absorb the non-recurrent cost within its existing staff resources.

**/Recurrent .....**

### Recurrent Expenditure

20. The proposed new and replaced equipment will incur net additional maintenance expenses for hardware and software of \$116,000 in 2014-15. The net additional expenditure will increase gradually to \$2,927,000 per annum from 2016-17 onwards due to expiry of free warranty periods. Details are as follows –

	2014-15 (\$'000)	2015-16 (\$'000)	2016-17 onwards (\$'000)
Gross maintenance expenditure (a)			
• Hardware and software maintenance	116	380	4,646
• Communication Network	-	-	740
<b>Sub-total for (a)</b>	<b>116</b>	<b>380</b>	<b>5,386</b>
<i>Less</i> : Expenditure on existing equipment to be decommissioned (b)	-	252	2,459
<b>Net additional expenditure (a)-(b)</b>	<b>116</b>	<b>128</b>	<b>2,927</b>

21. On item (a) “gross maintenance expenditure” above, the estimated annual expenditure of \$5,386,000 is for the provision of hardware maintenance, licence fee for software and the rental of communication data lines.

22. On item (b) “expenditure on existing equipment to be decommissioned” above, the estimated annual saving of \$2,459,000 is for the expenditure on existing equipment to be decommissioned.

23. Taking into account the savings in hardware and software maintenance cost of \$2,459,000 for existing equipment to be decommissioned mentioned in item (b) above, the proposal will require a net increase in recurrent expenditure of \$2,927,000 per annum from 2016-17 onwards. The TID will absorb the net additional recurrent maintenance cost within its existing resources.

### IMPLEMENTATION PLAN

24. Subject to the approval of the Finance Committee (FC), the TID plans to commence the relocation of IT facilities according to the following schedule –

/Activity .....

<b>Activity</b>	<b>Target completion date</b>
(a) Phase 1 - Preparation Stage	December 2014
(i) Systems analysis and design	
(ii) Procurement	
(b) Phase 2 - TI Tower Site Preparation Stage	July 2015
(i) Site preparation of server rooms	
(ii) Provisioning of network and security infrastructure	
(iii) Security risk assessment on the newly established network and security infrastructure	
(c) Phase 3 - IT Facilities Relocation Stage	August 2015
(i) Relocation (1 <sup>st</sup> batch)	
(ii) Testing for production readiness	
(iii) Relocation (final batch)	
(d) Phase 4 - Nursing and Wrap Up Stage	December 2015
(i) System nursing	
(ii) Project wrap up	

## **PUBLIC CONSULTATION**

25. We consulted the Legislative Council Panel on Commerce and Industry on the proposal on 20 November 2012. Members supported the proposal and noted that we would seek funding approval from the FC.

## **BACKGROUND**

26. The TID (the then Trade Department) has been operating in the TIDT in Mongkok since 1990. To ensure a more economic and cost-effective use of government properties as advocated by the Government Property Agency, the FC approved on 6 January 2012 vide FCR(2011-12)63 the construction of the TI Tower<sup>4</sup> and the relocation of various government departments into the new premises. Accordingly, the TID will be relocated to the TI Tower in 2015.

/27. ....

---

<sup>4</sup> The construction works commenced in January 2012 and are expected to complete in December 2014.

27. To support the business activities of the TID, a total of 32 IT application systems have been developed over the years to provide on-line licence application and enquiry services to the public as well as office automation services for some 600 TID staff. Among these, 17 IT application systems provide round-the-clock (24 hours a day for seven days a week) services to support the business activities of the trading community.

-----

Commerce and Economic Development Bureau  
January 2013

**Cost and Benefit Analysis for the Relocation and Re-provisioning of IT Systems and Facilities to TI Tower for the TID<sup>Note</sup>**

	Cash flow (\$ '000)										
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
<b>Cost</b>											
Non-recurrent											
- Expenditure	395	2,241	7,799	42,107	-	-	-	-	-	-	52,542
- Staff cost	67	938	556	3,138	-	-	-	-	-	-	4,699
Sub-total	462	3,179	8,355	45,245	-	-	-	-	-	-	57,241
Recurrent											
- Expenditure	-	-	116	380	5,386	5,386	5,386	5,386	5,386	5,386	32,812
Sub-total	-	-	116	380	5,386	5,386	5,386	5,386	5,386	5,386	32,812
<b>Total cost</b>	<b>462</b>	<b>3,179</b>	<b>8,471</b>	<b>45,625</b>	<b>5,386</b>	<b>5,386</b>	<b>5,386</b>	<b>5,386</b>	<b>5,386</b>	<b>5,386</b>	<b>90,053</b>
<b>Savings</b>											
Recurrent											
- Realisable savings	-	-	-	252	2,459	2,459	2,459	2,459	2,459	2,459	15,006
- Notional savings											
- Efficiency gain	-	-	-	-	2,227	2,227	2,227	2,227	2,227	2,227	13,362
- Other relevant	-	-	-	-	175	175	175	175	175	175	1,050
maintenance cost											
- Cost avoidance	-	-	-	356	535	535	535	535	535	535	3,566
<b>Total savings</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>608</b>	<b>5,396</b>	<b>5,396</b>	<b>5,396</b>	<b>5,396</b>	<b>5,396</b>	<b>5,396</b>	<b>32,984</b>
<b>Net savings</b>	<b>(462)</b>	<b>(3,179)</b>	<b>(8,471)</b>	<b>(15,017)</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>(57,069)</b>
<b>Net cumulative savings</b>	<b>(462)</b>	<b>(3,641)</b>	<b>(12,112)</b>	<b>(57,129)</b>	<b>(57,119)</b>	<b>(57,109)</b>	<b>(57,099)</b>	<b>(57,089)</b>	<b>(57,079)</b>	<b>(57,069)</b>	<b>-</b>

<sup>Note</sup> The commercial value of the TID Tower site is not included in the calculation.