**For discussion
on 10 April 2015**

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Legislative Council Panel on Security

**Replacement of the Infrastructure Platform for
the Police Operational Nominal Index Computer System and
the Criminal Intelligence Computer System**

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PURPOSE

   The infrastructure platform that currently supports the Police Operational Nominal Index Computer System (PONICS) and the Criminal Intelligence Computer System (CICS) is approaching the end of its serviceable lifespan. This paper consults the Panel on our proposal to replace the obsolete infrastructure platform. The proposed replacement is essential for maintaining an effective daily operation of law enforcement agencies and analysis of criminal activities.

BACKGROUND

2. The two operation support systems, PONICS and CICS, are currently residing on the same information technology (IT) infrastructure platform. The systems and the IT infrastructure platform were last upgraded with funds approved by Legislative Council in 2000 with procurement and development by 2005 and delivery of completed systems in 2007. The systems were assessed to have an estimated lifespan of ten years. The infrastructure platform currently support the daily operations of the Hong Kong Police (HKP), Correctional Services Department (CSD), Customs and Excise Department (C&ED), Immigration Department (ImmD) and Independent Commission Against Corruption (ICAC).

PONICS

3. PONICS was first installed in 1991. It maintains a central repository of criminal records in Hong Kong and details of all persons who are signified by the HKP as "Missing Persons" or "Wanted Persons". The system is vital to the daily operations of HKP, CSD, C&ED, ImmD and ICAC which rely on the system to retrieve and update criminal records. It serves as the single authoritative criminal record for the Hong Kong Special Administrative Region for reference and for production at the request of the Judiciary ahead of

sentencing. For instance, Criminal Record Summary and Case Result Reports are generated by the PONICS and are submitted to the Court by despatch before 9 a.m. on the first day of proceedings for its use in sentencing or imposing fines. The system is also vital to the process of locating "Wanted and/or Missing persons" by law enforcement agencies in their day-to-day operation. In addition to recording criminal conviction and "Wanted and/or Missing persons", PONICS contains information such as non-traffic arrest warrants and persons whose DNA samples have been taken for prevention and detection of crime, which are useful for day-to-day law enforcement functions.

4.   Another feature of the system is to automate the arrest processing in HKP, C&ED, ImmD and ICAC. An arrest form needs to be produced for each person arrested. He will also then be photographed and fingerprinted. The PONICS system automates these procedures by generating the electronic arrest forms, incorporating the digital photos taken for arrested persons and then linking the data with the fingerprint system of HKP to enable identification of the arrested persons and preparation of the required documents ahead of court proceedings.

5.   Any interruption to PONICS services will seriously affect the maintenance and production of criminal records for court proceedings, as well as HKP's daily policing if the system cannot be accessed to ascertain whether a person is wanted or missing. Likewise, operations by C&ED, ImmD and ICAC will also be seriously hampered. Moreover, the electronic arrest processing procedures for all their arrested persons cannot operate.

CICS

6.   The CICS, first developed in 1989 and subsequently enhanced in 1993 and 2007 respectively, is a system that assists HKP in preventing and detecting crimes by drawing together and analysing information related to criminal activities. Analysis of the crime information collated through CICS is to provide reliable and actionable intelligence to combat crimes and is essential for the prevention and detention of drug trafficking, organised crime and other violent and serious crimes. The criminal intelligence generated through CICS is also crucial in supporting HKP's capability and response in counter terrorism. The CICS provides analytical tools capable of performing timely and efficient correlation across data in support of ongoing investigations and operations against sophisticated or complicated crimes.

7.   To assist proactive operations against serious criminal activities and investigations into serious crimes, intelligence analysts conduct analysis in CICS to identify potential criminal targets, related addresses, associates, etc, to

establish clues and lines of investigations with a view to preventing and detecting the crimes.

8. Before CICS was introduced in 1989, the criminal intelligence repository of the HKP was a paper-based system operated manually within the intelligence arm of a Police Headquarters' Crime unit. In April 1989, the system was computerised with the introduction of CICS within the confines of the Criminal Intelligence Bureau (CIB) to enhance the Force's ability to investigate triad activities and to provide analytical capabilities for the measurement of the scope / sphere of triad and organised criminal activities in Hong Kong. With the advancement of computing powers, the second generation of the CICS (CICS II) was implemented in August 1993 and subsequently, its users were extended to other units at Headquarters, Regional and District levels, thus forming the 3-tier intelligence structure of the Force. The third generation of CICS (CICS III) was commissioned in January 2007 and featured with an enhanced user-friendly interface and the integration of analytical tools. Users at frontline level can use the system to identify blackspots, patterns and special crime characteristics so as to effectively deploy police resources to tackle the crimes on a daily basis.

PROPOSAL FOR REPLACEMENT OF THE PRESENT INFRASTRUCTURE PLATFORM

9. The existing infrastructure platform which supports the two systems is approaching the end of its serviceable lifespan. In 2013, the maintenance contractor examined the platform and found that a number of its components were showing signs of aging.

10. The existing maintenance support service will expire in May 2017. Support from the manufacturers after May 2017 will be minimal due to the lack of supply of major hardware components (e.g. hard disks, storage area network switches) and the outdated software, hence resulting in a high risk of system failure which cannot be recovered easily. Such a situation is highly undesirable and will affect the reliability and serviceability of the infrastructure platform and also the two systems riding on it. It is necessary to take action to assure business continuity by replacing the present infrastructure platform with a new one for PONICS and CICS.

11. While the replacement of the infrastructure will not bring about new functions to the PONICS and CICS, the new infrastructure platform will be more stable and reliable for supporting the PONICS and CICS system. The adoption of the latest hardware and software technology components will

enhance the processing speed and provide for automation in the inputting processes, which are in line with current technology standards. The resilience and disaster recovery design, in case of system failure, would also be improved so that the service availability of the infrastructure platform and the systems would be properly maintained in case of any unexpected incidents, e.g. fire outbreak, power outage. The new infrastructure platform and the systems are estimated to have a lifespan of about 10 years upon completion of the migration.

12. To ensure smooth migration without affecting the current daily operations of the law enforcement agencies in discharging their duties, we need to allow sufficient lead time for tendering, design, installation, testing and the actual system migration for the infrastructure platform to tie in with the expiry of the existing infrastructure platform in 2017. Subject to the approval of FC, HKP aims to commission the new infrastructure platform by 2017 for the affected systems to be migrated to the new platform.

FINANCIAL IMPLICATIONS

Non-recurrent expenditure

13. It is estimated that the non-recurrent cost of the proposed IT infrastructure project will be $81.672 million, with a breakdown as follows –

		$'000
(a)	Hardware for the infrastructure platform	13,842
(b)	Software for the infrastructure platform	21,996
(c)	Implementation services (including hardware and software installation, interface and system migration)	28,307
(d)	Project management (employment of contract staff)	10,102
(e)	Contingency (10% of items (a) to (d))	7,425
	Total:	**81,672**

Recurrent expenditure

14.   The estimated annual recurrent cost of the proposal is $13.957 million from 2019-20 onwards. A breakdown is provided at below. This recurrent cost will be partly offset by the savings mentioned in paragraph 15 below and the net additional recurrent expenditure of $7.919 million in a full year will be reflected in the Estimates of the relevant years. No additional staff cost will be incurred.

		$'000
(a)	Hardware Maintenance	2,104
(b)	Software Maintenance	4,388
(c)	On-going Support Services	7,371
(d)	Communication Network	94
	Total:	**13,957**

Cost and Benefit Analysis

15.   Upon completion of the project by late 2018, we anticipate that there would be realisable annual savings of $6.038 million arising from the annual maintenance cost of the existing platform which will be no longer required. In addition, the new platform will achieve notional annual savings of $5.242 million in staffing resources arising from improvement in efficiency through enhanced processing speed and automation in the inputting process.

IMPLEMENTATION PLAN

16.   Subject to the views of Members on the proposal, we plan to seek the funding approval from FC in the second/third quarter of 2015 and implement the project according to the following schedule –

		Timing
(a)	Preparation of tender documents	June – December 2015
(b)	Tendering, evaluation and award of contract	January – March 2016
(c)	Design of the infrastructure platform	April – August 2016
(d)	Delivery and installation of hardware and software, and testing of the infrastructure platform	September 2016 – April 2017
(e)	Commission of the infrastructure platform for system migration	May 2017 – November 2018

ADVICE SOUGHT

17.   Members' views are sought on the proposal.

Security Bureau
Hong Kong Police Force
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