

For information on
10 July 2012

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

Facilitating a Digital Economy

Purpose

This paper updates Members on the progress of initiatives made in facilitating a digital economy under the Digital 21 Strategy.

**Hong Kong Information and Communications Technology (ICT)
Environment**

2. Hong Kong has a world-class ICT infrastructure and an open, competitive and safe environment that is conducive to the development of a vibrant ICT industry. With the concerted efforts of the Government, the ICT industry, the academia and the community, Hong Kong has consistently performed well in international ICT rankings. Our household broadband penetration of 86.8% and mobile penetration of 215.3% (as of March 2012) are among the highest in the world. Our average peak Internet connection speed of 45.9 Mbps and average Internet connection speed of 9.1 Mbps are the second and the third fastest in the world respectively.¹

3. We work closely with the ICT industry to formulate and implement initiatives to drive the development of our digital economy. The major initiatives are highlighted in the following paragraphs.

Data Centre Development

4. Data centres are critical infrastructure to support all economic sectors of Hong Kong. They help entrench Hong Kong's overall competitiveness as an international financial and logistics centre by supporting high value-adding economic activities. The Government has adopted a multi-pronged approach to spur the development of data centres in Hong Kong.

¹ According to the "State of the Internet" report for the 4th Quarter, 2011 published by Akamai.

5. Hong Kong is ranked the safest place in Asia for setting up data centres by the Data Centre Risk Index² for two consecutive years in 2011 and 2012. Consultants estimated in 2010 that the demand for data centres in Hong Kong would grow by a compound annual growth rate of 9.8% from 2009 to 2015. In 2011 alone, the growth rate exceeded 18%.

6. Since 2010, over 10 hectares of land have been set aside in the Tseung Kwan O Industrial Estate alone for data centre development. This has enabled the development of a number of mission-critical and high-availability data centres for both local and international enterprises. Besides, the Chief Executive announced in the 2011-12 Policy Address that about two hectares of land in Tseung Kwan O have been reserved for high-tier data centre development. The first site of about one hectare would be available for open bidding around mid-2013.

7. Apart from greenfield sites, we encourage data centre operators to make use of existing industrial buildings or industrial lots. The Financial Secretary announced in the 2012-13 Budget two time-limited measures –

- (a) the Government will exempt the waiver fee for changing parts of eligible industrial buildings into data centre use; and
- (b) the Government will assess the premium for lease modification of industrial lots for development of high-tier data centres on the basis of actual development intensity and high-tier data centre use.

Applications under the two measures commenced on 25 June 2012 and will last until 31 March 2016.

8. The OGCIO set up a Data Centre Facilitation Unit (DCFU) with a thematic website (www.datacentre.gov.hk) in July 2011 to provide information and one-stop assistance to companies interested in setting up data centres in Hong Kong. The DCFU has handled over 100 enquiries since its establishment, and the number of enquiries has been increasing. It has also assisted a number of overseas companies in their plan to set up data centres in Hong Kong. One of them is establishing a data centre of over 150 000 square feet.

9. The DCFU will continue to enhance its services by providing more information on green data centre practices and government facilitation measures on its thematic website, and strengthening the liaison with the different government departments to better serve the unique operational requirements of

² The index was jointly published by the consulting firms Cushman & Wakefield and hurleypalmerflatt.

data centres. The DCFU will also organise a data centre seminar in mid-July 2012 to explain the details of our facilitation measures to major stakeholders, including data centre operators and end users, data centre consultants, data centre infrastructure and services integrators as well as related built-discipline professionals.

Collaboration with the Mainland

10. One of the focuses of the National Twelfth Five-year Plan is to uplift the Mainland's overall informatisation level, including e-business, logistics and cloud computing. This provides ample opportunities for the development of ICT in Hong Kong. To seize these opportunities, we collaborate closely with the Mainland as set out in the following paragraphs.

Mutual Recognition of Electronic Signature Certificates

11. Through pilot projects on "Mutual Recognition of Electronic Signature Certificates issued by Guangdong and Hong Kong" under the "Mainland and Hong Kong Closer Economic Partnership Arrangement" and the "Framework Agreement on Hong Kong/Guangdong Co-operation", it is affirmed that such mutual recognition helps facilitate cross-boundary trade by significantly cutting down the time and cost for the preparation of custom declaration documents. According to the organisations participating in the above projects, the preparation of customs declaration documents can be completed within one day instead of several days through the pilot projects, while the cost involved has been reduced from several hundred dollars to less than a hundred. As at March 2012, the total value of transactions under the pilot projects has accumulated to more than \$7 billion.

12. Making reference to the experience gained in the pilot projects, Hong Kong and the Mainland authorities are working closely to establish standing arrangement for mutual recognition of electronic signature certificates issued by Hong Kong and Guangdong. We will make necessary revisions to the "Code of Practice for Recognised Certification Authorities" and announce in August 2012 the standing arrangement for mutual recognition. This measure will further facilitate e-commerce between Hong Kong and Guangdong.

Cloud Computing

13. OGCIO established the "Expert Group on Cloud Computing Services and Standards" comprising members from the industry, the academia and the Government in April 2012. To join hands with the Mainland authorities on the development of cloud computing service specifications and standards, together

with Guangdong, we will establish the “Hong Kong/Guangdong Expert Committee on Cloud Computing Services and Standards”. We also encourage Hong Kong experts and industry members to collaborate closely with the Mainland and contribute to the development of cloud computing services and standards. For example, the Cyberport and the Hong Kong Applied Science and Technology Research Institute joined the Technical Committee on Standardisation of Information Technology of Guangdong Province in July 2011 and the Cyberport would also join the Guangdong Cloud Computing Industry Alliance.

Technology Exchanges

14. The Government collaborates with the Ministry of Industry and Information Technology (MIIT) and related organisations to host technology and expert forums. In March 2012, OGCIO and Cyberport organised the Next Generation Information Technology and Standard Symposium, with the participation of both local ICT industry and Mainland authorities and experts. In May 2012, together with the local ICT industry, OGCIO took part in the 16th International Soft China Expo held in Beijing, by setting up a Hong Kong Pavilion and organising a China International Cloud Computing Services Innovation Forum. For the Hong Kong delegation which comprised ICT award winners and Cyberport incubatees, the event provided exposure to the Mainland and international markets, and allowed them to showcase their services and products and seize business matching opportunities. On 17 July 2012, the Government, the MIIT, the Ministry of Science and Technology and the China Association for Science and Technology will jointly organise the Mainland and Hong Kong ICT Industry Innovation and Entrepreneurship Symposium to further promote the collaboration and development of the ICT industry of the two places.

Internet Infrastructure Development

Enhancing information security infrastructure

15. Security threats in the cyber space are borderless and on the rise. With the increasing use of mobile devices to access the Internet, the number of mobile security incidents was growing. To face the challenges, the Hong Kong Computer Emergency Response Team Coordination Centre (HKCERT) continues to enhance its computer security incident response capability for Internet users and businesses including small-to-medium sized enterprises (SMEs). For example, HKCERT launched in May 2012 a free mobile application for citizens to access latest security information and obtain information security advice directly from their smartphones.

16. Recognising HKCERT as an important information security infrastructure, the Government will continue to support it to be the centralised contact on computer and network security incident reporting and response in Hong Kong, as well as to help computer users to minimise services disruption, reduce loss and facilitate business operation recovery.

Strengthening Hong Kong Internet Exchange

17. The Chinese University of Hong Kong (CUHK) established the Hong Kong Internet Exchange (HKIX) in 1995 as a key Internet infrastructure for local Internet Services Providers (ISPs) and organisations to establish end-to-end connectivity and exchange network traffic locally. Over the years, HKIX has been developed as the major Internet exchange in Hong Kong and supporting some 98% of intra-Hong Kong network traffic.

18. With the rapid growth of mobile Internet activities, increasing access to image and video content and social networks, and more and more data centres and Cloud service providers in Hong Kong, HKIX projected that the demand for its service will continue to grow at 30% to 40% a year. To meet the challenge of such growth, a major infrastructure enhancement is needed. The Government intends to provide a one-off funding support of about \$9.8 million for HKIX to strengthen the Internet exchange infrastructure. The new services expected include enhanced capability with high bandwidth Internet traffic connections of supporting more than twice of the existing number of participants in 2017-18; enlarged Internet exchange infrastructure capacity with incremental upgrade reaching more than 100% increase in 2017-18; improved location resilience; as well as enhanced security. The new HKIX will be ready for use by end 2013, and will help Hong Kong maintain its leading position in telecommunications and the Internet in the Asia Pacific region.

Migrating to Internet Protocol version 6

19. To prepare for the migration from Internet Protocol version 4 (IPv4) to Internet Protocol version 6 (IPv6), the Government has enabled IPv6 support in the Government's core Internet infrastructure. The public can now access over two hundred government websites and exchange Internet e-mails with the Government using IPv6. The next generation Government Wi-Fi Programme to be launched in December 2012 will support both IPv4 and IPv6. We have set up an IPv6 thematic website, arranged IPv6 theme training courses and organised knowledge sharing sessions. We have also set up an IPv6 testing facility for bureaux and departments to test the IPv6 readiness of their electronic services. In addition, with the support of the Government, HKCERT has made its websites accessible from both IPv4 and IPv6 networks.

20. We actively promote the awareness of IPv6 among the general public. We sponsored the “IPv6 in Action” project, which comprises a thematic website³, a series of seminars, and publication of an IPv6 Consumer Guide. These efforts equip businesses and Internet users with the knowledge for the migration to IPv6.

Promoting the Adoption of ICT among SMEs

21. Over the years, the Government and the ICT industry have been joining hands to facilitate the wider adoption of ICT among SMEs, which is an important aspect for the development of our digital economy. Since 2004, through OGCIO’s Sector-specific Programme (SSP) and IT Training Programme for SMEs, we have provided e-business solutions and training to over 14 000 practitioners from SMEs to encourage them to use ICT to improve business processes, increase productivity and enhance efficiency. In August 2011, we invited proposals for applications in the business services and wholesale/retail sectors. Two projects were selected, namely a cloud-based teleprotection system to enhance the efficiency of security patrol operation and the safety of security guards, and a mobile application backed with a digital marketing platform to enable local SME retailers to disseminate more product information to customers. These two projects commenced in February 2012 for completion in the latter part of 2013.

22. We will launch the next round of SSP in the latter half of 2012. We will invite proposals for promoting ICT adoption by SMEs in two sectors, namely, accommodation and food services, and land transport. We will look for projects that aim at fostering the use of advanced technology, such as cloud computing, mobile technology and e-business applications.

Advice Sought

23. Members are invited to note the contents of this paper.

**Office of the Government Chief Information Officer
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³ www.ipv6now.hk