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香港特別行政區政府

政府資訊科技總監
辦公室

**OFFICE OF THE
GOVERNMENT CHIEF INFORMATION OFFICER**

**THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION**

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17 December 2005

The Honourable SIN Chung-Kai
Chairman, Panel on Information Technology and Broadcasting
Legislative Council Building
8 Jackson Road, Central
Hong Kong

Dear Mr Sin,

LINUX Adoption in Government of HKSAR

At the Panel meeting on 12 December, you asked the Administration to provide the information requested by Dr LUI Ming-wah and to provide a written response to HKLIA's letter on the above subject. Enclosed please find the Administration's response to the letter for your consideration. Annex A of the response contains the information requested by Dr LUI.

Yours sincerely,

(Stephen H S Mak)
Government Chief Information Officer (Acting)

c.c. Clerk to Panel (Attn: Miss Polly Yeung)   Fax no. 2810 1691

 The Administration's Response to the Letter from Mr. Alan Kan, Acting Chairman of the Hong Kong Linux Association to the Panel on Information Technology and Broadcasting

Open Source Software/Linux Adoption in the HKSAR Government

Background

1.   The advent of Open Source Software (OSS) technology has contributed to the development of the commercial software market. We have seen the emergence of more products at competitive prices, and in some cases OSS solutions are free for download from the open network. The capability and quality of the new products are continuously improving and these products are gradually gaining acceptance by users as viable alternatives.

2.   Government welcomes the widening of product choice in the market and will take full advantage of the economic benefits, better quality and better service that product competition brings. Our principles for adopting products have always been centred on functionality, support, compatibility, security, and the total cost of ownership.

3.   The Office of the Government Chief Information Officer (OGCIO) closely monitors developments in the software market, liaises closely with software suppliers and provides advice and assistance where necessary to encourage them to provide the IT users in the Government with wider product choice.

Government's OSS strategies vis-à-vis Other Governments'

4.   We have studied the OSS strategies adopted by governments in other economies,[1] and observed that their strategies can broadly be classified into the following four types:

- An **indifferent** strategy where a government does not take any noticeable actions of ensuring that OSS is considered in software selection.
- A **neutral** strategy encouraging government departments to consider OSS alongside with proprietary software in software selection.
- An **enabling** strategy where policies are geared towards the creation of the capacity to implement and maintain OSS.
- An **aggressive** strategy where a government actively encourages the development or use of OSS under appropriate conditions through legislation and policy or direct investment in OSS development.

5.   The HKSAR Government (HKSARG) has adopted an '**enabling**' to '**aggressive**' strategy towards the consideration and adoption of OSS.   The initiatives undertaken by the Government focus on the following 3 areas:
- promoting the use of OSS within Government;
- promoting the use of OSS in the community; and
- facilitating OSS development by industry.

The following sections describe these initiatives in more detail.

Promoting the Use of OSS Within Government

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[1]   These include China, Finland, France, Germany, Malaysia, Netherlands, Philippines, South Africa, South Korea, Thailand, UK and the US.

6   The HKSARG adopts a fair and open policy in the procurement process and complies with our commitments to the WTO Agreement on Government Procurement (WTO GPA).   We select products and services on the basis of value for money.   Fitness for purpose, functionality, compatibility, support, and total cost of ownership are primary considerations in procurement, and we have no preference for brand names or particular technologies.   With these procurement principles, B/Ds hold an open view in the choice of software products, and select products that meet their requirements and offer best value for money for the intended applications.

7.   Recognizing the potential benefits of adopting OSS, we promote its use within Government aimed at making users aware of the choices available to them to enable them to make the most cost-effective purchase.   Similar to many other governments, we have launched a series of activities to facilitate the use of OSS such as publishing guidelines and sharing information on the use of OSS; conducting pilot projects to confirm the technical and functional feasibility of OSS applications; organizing training to promote and foster understanding of OSS; and facilitating procurement by encouraging the offer of OSS products in Government bulk contracts.

8.   Under the Accessibility Programme launched in 2004 to provide all Government employees with access to office automation, the Internet, and electronic service functionalities, we have been proactively promoting the use of OSS through the following activities :

   (a)   Arrangement of briefings, seminars and showcases (about 300 government staff have attended 4 OSS-related events);

   (b)   Provision of OSS information in newsletters, theme pages and web sites for users;

(c)   Demonstrations using OSS in training materials and roving shows;

(d)   Distribution of free open source software to B/Ds; and

(e)   Facilitation of services and experience sharing among B/Ds on the use of OSS.

9.   The use of OSS in Government has been on a rising trend. As of September 2005, 45 bureaux and departments (B/Ds) (i.e. more than half of all B/Ds) have installed OSS-based systems. The total number of OSS-based systems has increased from about 130 in 2002 to about 2,200 in 2005, representing a 17-fold increase. A steady increase in purchase value is also noted. Details of the quantity, amount and percentage of OSS-based systems purchased in the past 5 years are provided in **Annex A**. It should be noted that, despite industry projections about the potential impact of OSS, the level of adoption on a global basis is still relatively low. **Annex B** provides a summary of the penetration rate of OSS in various software sectors by a leading analyst. Part of the reason for this can be attributable to the fact that the numbers and types of proprietary software on the market still out-number their OSS equivalents by a significant margin.

Promoting the Use of OSS in the Community

10.   The Government has been collaborating with the industry to lead and promote the development and adoption of OSS products. We have been providing funding and various forms of support to major OSS initiatives which include :

(a)   Providing funds for setting up of a Linux Resources Centre to assist SMEs in the adoption of open source office automation software;

(b)   Conducting a survey to take stock of the adoption status of OSS in Hong Kong and identify obstacles for its further adoption for reference by the government and the industry;

(c)   Sponsoring and co-organising an Open Source IT Award Scheme in conjunction with HKedCity and HK Federation of Education Workers;

(d)   Providing funds for launching a "SME Linux Jump Start Programme" to provide integration testing service on Linux solutions. After testing, the field-tested integrated Linux solutions will be distributed free of charge to SMEs for deployment;

(e)   Providing funds for setting up a Linux Patch Management System to synergise the effort of applying patches to Linux systems;

(f)   Supporting the Linux World Conference & Expo in Hong Kong;

(g)   Co-organising the Linux Business Adoption Award in collaboration with the Hong Kong Linux Industry Association and the Hong Kong Productivity Council; and

(h)   Supporting the organisation of the "Linux Forum Asia - Brand Neutral Linux Promotion Campaign".

Facilitating the Development of OSS by Industry

11.   Supporting the wider use of OSS forms part of the focus areas on Technological Development under the 2004 Digital 21 Strategy.   The Government has published the Interoperability Framework (IF) which is a set of standards on data and interfaces to facilitate information exchange among IT systems.   The IF is updated on a regular basis to take account of industry developments.   It covers standards and interfaces applicable to both proprietary and OSS products.

12.   We supply information and assist software manufacturers who would like to enter into the Government market.   We help them to understand the general requirements of Government systems in terms of functions, specification, compatibility and services.   This should help them enhance the competitiveness of their product and service offerings.

13.   Under the contracts of the standing offer agreements (SOA) for PC/LAN and Server equipment, contractors have been encouraged to work with open source software suppliers to include new OSS products into the SOA contracts. Contractors have made available both open source and proprietary products to ensure availability of choice to B/Ds.   There are currently some 390 OSS product offerings under these contracts and contractors may add new product offerings to the contracts as and when required.

14.   As at the end of 2002, there was no input software available on OSS platforms to support the ISO 10646 ideographic characters (including Chinese) and the Hong Kong Supplementary Character Set (HKSCS) reference fonts.   In order to promote the wider adoption of the ISO 10646 and HKSCS and support accurate electronic communication in Chinese, the OGCIO engaged a contractor to develop a Unicode font[1] with input method program on the Linux platform.   The sample font software is now available to the public free of charge.

Outlook

15.   We will continue to feature OSS prominently in the Government's IT infrastructure, standards and transaction platform areas.   As OSS products mature and provide wider choice and interoperability with other systems, they will be given due consideration in our procurement of products and services. We will continue to work closely with local industry organizations to foster the development of OSS solutions for application in both Hong Kong and other places.   Under the new wave of E-government strategy initiatives that we have just launched, we shall adopt a Service-Oriented Architecture to facilitate the joining up of government services among various departments and potentially with the relevant counterparts in the private sector.   We will continue to look for opportunities to adopt OSS where it provides viable solutions and satisfies the procurement considerations set out earlier in this paper.

Office of the Government Chief Information Officer
December 2005

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[1] The font has around 28,000 characters, covering the Chinese characters in ISO 10646-1:2000 (Unicode 3.0) and HKSCS characters.

Purchase of Open Source Software through the centrally organized IT product contracts in the past 5 years

	11/2000 - 10/2001		11/2001 - 10/2002		11/2002 - 10/2003		11/2003 - 10/2004		11/2004 - 10/2005		Total	
	Quantity	*Amount (HK$M)*	*Quantity*	*Amount (HK$M)*	*Quantity*	*Amount (HK$M)*	*Quantity*	*Amount (HK$M)*	*Quantity*	*Amount (HK$M)*	*Quantity*	*Amount (HK$M)*
Open Source Software Purchase of OSS	16	0.02	51	0.05	348	0.32	206	0.63	270	1.00	891	2.02
Total Software Purchased	31,122	46.15	28,749	33.85	51,625	40.06	47,593	44.01	37,202	32.93	196,291	197.00
% of Open Source Software purchased	0.1%	0.1%	0.2%	0.2%	0.7%	0.8%	0.4%	1.4%	0.7%	3.0%	0.5%	1.0%

Notes:

a. The OSS-based systems include Linux operating systems, OSS office software, PCs preloaded with Linux and Linux server licenses

b. It should be noted that the above figures can only partially reflect the adoption status of OSS in the HKSARG. There could be more OSS installations than those reflected in the figures as OSS can commonly and legitimately be obtained through downloading or various distribution channels other than purchasing from suppliers.

Market Penetration of OSS in Major Application Segments[1]

Market Segments	Penetration of OSS
Enterprise Computing	
Horizontal portals (e.g. uPortal, Plone)	1-5%
Mission-critical applications (e.g. mission-critical database system, fault-tolerance system)	1-5%
Public-sector vertical applications (e.g. taxation, registration, fine payments, etc.)	< 1%
Business applications (e.g. SugarCRM, CentraView)	< 1%
Infrastructure	
Web infrastructure servers (e.g. Apache)	>50%
Linux infrastructure including DNS, VPN, Cache and Firewall	>50%
Messaging servers (e.g. Sendmail, qmail)	5 – 20%
File and print (e.g. SAMBA, CUPS)	5 – 20%
Database management systems (e.g. MySQL, PostgreSQL)	1-5%
Web content management (e.g. Open Cms, Zope)	1-5%
Directory server (e.g. OpenLDAP, Netscape Directory)	1-5%
J2EE Server (e.g. JBoss)	1-5%
Management tools (e.g. Ethereal (network analyzer), MRTG (traffic monitoring))	<1%
Desktop Computing	
Linux desktop for business users	1-5%
Office suite products (e.g. OpenOffice.org)	1-5%
Team collaboration (e.g. CollabNet, Jabber)	<1%
Security	
Security vulnerability assessment (e.g. Nessus)	>50%
Intrusion detection software (e.g. Snort)	20-50%
Web security/encryption (e.g. OpenSSL)	5-20%

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[1] Source: Gartner Research Paper – Hype Cycle for Open-Source Software 2005 (20 July 2005, ID Number G00129254)