

For information
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Legislative Council Information Technology and Broadcasting

Administration and assignment of Internet domain names in Hong Kong

Purpose

This paper briefs Members on the existing arrangements for the administration and assignment of Internet domain names in Hong Kong.

Background

2. An Internet domain name is a character-string representation of an Internet address. This address locates the web site of an organisation or entity on the Internet. All Internet domain names can be broadly categorised under either the generic top level domains (such as .com, .org, etc.) or the "country-code" top level domains (such as .hk, .cn, .au, etc.).

3. There are currently seven generic top level domains, namely, **.com** for commercial entities, **.org** for non-profit-making organisations, **.edu** for academic institutions, **.net** for network providers, **.gov** for the US Government, **.mil** for the US military and **.int** for international databases or organisations established by international treaties. Companies accredited by the Internet Corporation for Assigned Names and Numbers (ICANN) may act as registrars and offer registration services for the .com, .net and .org generic top-level domains. There are currently 110 such accredited registrars.

4. "Country-code" top level domains, on the other hand, are assigned to local Internet communities according to the two-letter codes in the ISO 3166-1 standard, "Codes for the Representation of Names of Countries and Their Subdivisions". Under the "country code" top level domain, there is often a number of second-level domains by generic description. In the case of Hong Kong, there are five second-level domains under .hk,

i.e. .com.hk, .org.hk, .net.hk, .edu.hk and .gov.hk. At present, the Hong Kong Network Information Centre (HKNIC) is the only organisation which provides registration service under these domains.

Recent global developments on domain names

5. The Internet Assigned Numbers Authority (IANA) was set up by the US Government in the 1970s to manage Internet domain names and Internet protocol addressing systems. IANA derived its authority under a contract from the US Government, which financed the original research network, ARPANET, from which the Internet has developed.

6. The need to internationalise the governing of the Internet led the US Government to recommend the establishment of ICANN as a global entity independent of governments to manage the systems and protocols that keep the Internet going. In October 1998, ICANN was formed as a non-profit-making corporation that will take over, by September 2000, the responsibility for IP address allocation, protocol parameter management, domain name system¹ management and root server system management currently undertaken by IANA.

7. The Board of Directors of ICANN (19 directors in total with the President and Chief Executive Officer of ICANN as an *ex officio* director) is to be elected through an open and global election process so as to ensure its representation of the geographically diverse Internet user communities. Under the ICANN Bylaws, no Government official may serve as a Director in the ICANN Board. Notwithstanding this, ICANN has set up a Governmental Advisory Committee² (GAC) to consider and advise on the activities of ICANN as they relate to the concerns of governments, particularly on matters where there may be an interaction between ICANN's policies on the one hand and local laws and international agreements on the other. The Director of Information Technology Services represents the Government of the Hong Kong SAR on the GAC.

¹ The domain name system is the computer system in which Internet domain names are stored and translated into Internet protocol addresses, which can uniquely identify a computer on the Internet.

² There are currently two Advisory Committees under ICANN, namely the GAC and the DNS Root Server System Advisory Committee. Advisory Committees have no legal authority to act for ICANN, but will report their findings and recommendations to the Board.

8. Since its establishment in October 1998, ICANN has passed a number of resolutions, mostly related to organisational issues and the setting up of its supporting organisations. Of these, two have a general bearing on the administration of domain names worldwide. One of them relates to the registrar accreditation policy and the other to the uniform dispute resolution policy for generic top level domains registrars³.

Administration and assignment of Internet domain names in Hong Kong

9. In April 1990, the University and Polytechnic Computer Centre, the predecessor of the Joint Universities Computer Centre⁴ (JUCC), registered the country-code top level domain, i.e. ".hk", for Hong Kong. This is a reflection of the historical development of Internet usage in Hong Kong, which was confined to the academic sector in the early days. The assignment of second level domains under .hk (i.e. .com.hk, .net.hk, .edu.hk, .org.hk and .gov.hk⁵) is at present administered by the HKNIC, whose technical operations are undertaken by the Computer Services Centre of the Chinese University of Hong Kong. HKNIC does not currently register domain names under the generic top level domains such as .com, a responsibility which is to be undertaken only by registrars accredited by ICANN.

10. HKNIC charges a one-off fee of \$200 for each application for registration of new domain names or modification of existing domain names. It does not charge any annual fee or renewal fee. As of January 2000, the number of domain names ending with .hk is around 30 000 whereas the number of monthly new applications exceeds 1 500. Currently, it takes about two working days to register a new domain name and seven working days to modify an existing domain name.

³ The two policies are applicable to .com, .org and .net top-level domains.

⁴ The JUCC is jointly run by the computer centres of the eight tertiary institutions funded by the University Grants Committee in Hong Kong.

⁵ HKNIC as a matter of routine refers all applications for third level domain names under .gov.hk to the Information Technology Services Department for comment before an assignment is made.

11. The HKNIC normally receives applications for domain names via Internet Service Providers (ISPs) to ensure that the essential technical services for the end-users have been catered for. Only organisations registered with a public registry in Hong Kong (e.g. a company/business registered with the Companies Registry, an educational institution registered with the Education Department, etc.) are eligible for application. Each organisation may register only one domain name and registration by individuals is not allowed.

12. Currently, the HKNIC registers .hk domain names on a first come, first served basis. Before approving a domain name registration application, HKNIC will only check that the application is made by a company or an entity from the relevant category and that the domain name has not been registered before. Largely due to resource constraints, HKNIC does not screen the domain names being applied for to determine whether they may infringe upon the rights of a third party. In case there is a dispute related to the use of the trademark or service mark of a third party, HKNIC will request the domain name owner to provide evidence of ownership of a trademark or service mark. Under HKNIC's dispute resolution policy, the authority for resolving disputes on the use of domain names rests with the courts in Hong Kong. There is no established mechanism for invoking an alternative dispute resolution procedure (e.g. mediation or arbitration) to resolve disputes concerning domain name registration in Hong Kong.

13. There is wide appreciation for the pioneering work carried out by the JUCC on the administration of Internet domain names in Hong Kong. However, given the rapid development of Internet and electronic commerce locally, views have been expressed as to whether the JUCC is able to adequately represent the interests of different sectors in Hong Kong in carrying out this function. Suggestions have also been made that greater flexibility should be allowed in the domain name registration system in Hong Kong to facilitate the development of the Internet and e-commerce locally.

Review on the administration and assignment of Internet domain names and Internet protocol addresses in Hong Kong

14. In view of the foregoing and having regard to the initiatives and directions set by ICANN, a task force has been set up under the Information

Infrastructure Advisory Committee (IIAC)⁶ in October 1999 to review the administration and assignment of Internet domain names and Internet protocol addresses in Hong Kong with a view to recommending a framework of arrangements which best suits Hong Kong's needs. The terms of reference of the Task Force are at the Annex. The Task Force is now examining the subject. It will draw up a set of draft proposals on the future arrangements for public consultation in the first half of 2000. Taking account of the views received during the consultation exercise, the Task Force will submit its final recommendations to the IIAC for consideration.

Chinese domain names

15. Recently, i-DNS.net International, a Singapore-based company, has announced its capability to register multi-lingual domain names on the Internet. Through its partners in different locations, Internet users can register Internet domain names in 36 major languages (including Chinese, Japanese, Korean, Thai, Spanish, French, German, etc.) except English. Internet domain names in English continue to be administered under ICANN's existing domain name system⁷. Starting from January 2000, two Hong Kong companies have partnered with i-DNS.net International to offer generic top-level Chinese domain name registration service for .公司, .組織 and .網絡. As the multi-lingual domain name system maintained by i-DNS.net International is not implemented on a global and international basis, only those Internet subscribers of ISP partners of i-DNS.net International are able to access Internet sites registered with Chinese domain names. According to i-DNS.net International, it has not established any formal dialogue with ICANN. Neither has ICANN publicly expressed its views on the subject.

16. In a separate development, the China Internet Network Information Centre (CNNIC) launched a test-bed project in January 2000 for a period of six months on the registration of Chinese domain names ending with the country-code top-level domain .中國. The service operates on a different basis from that of i-DNS.net. CNNIC currently accepts applications for

⁶ The IIAC was established in August 1998 to advise Government on the ways and means to promote the development of Hong Kong into a leading digital city. It is chaired by the Secretary for Information Technology and Broadcasting, with members drawn from a wide cross-section of industry, business and academia.

⁷ Domain name system accepts only domain names which contain an acceptable set of ASCII (American Standard Code for Information Interchange) characters (i.e. "a" to "z", "0" to "9" and "-").

domain names in simplified Chinese characters only. But its system is reported to be capable of expansion to cover multi-lingual domain names. According to available information, CNNIC has not yet established any formal dialogue with ICANN either.

17. Based on developments to date, the operation of Chinese domain names is still at an experimental stage. Whether the aforementioned solutions will gain wide acceptance in the global Internet community and whether a single international standard will emerge remain to be seen.

**Information Technology and Broadcasting Bureau
March 2000**

Task Force to Review the Administration and Assignment of Internet Domain Names and Internet Protocol Addresses in Hong Kong

Terms of Reference

- (a) to review the existing policy and arrangements related to the administration of the country-code top level domain (ccTLD) of Hong Kong, i.e. .hk;
- (b) to review the existing policy and arrangements related to the administration of Internet protocol addresses used by the community of Hong Kong;
- (c) to review the existing system and procedures for assigning and managing Internet domain names and Internet protocol addresses in Hong Kong; and
- (d) to make recommendations on how the existing arrangements and procedures can be improved to the best advantage of the Hong Kong community having regard to international and regional developments.