

Opinions on Digital21 Consultation Paper

In response to the Public Consultation on 2014 Digital 21 Strategy, the following comments are provided with regard to a more popular with wider usage application of digital identity (eID) in Hong Kong, this is seen as imperative to achieve the “Smarter Hong Kong, Smarter Living” vision brought forth by the Government.

The benefits of introducing “Free and User-friendly Digital Identity” (the “Initiative”) have been eloquently articulated in the Consultation Paper. To further the cause, we believe the key to the eventual success of the Initiative rests on the important factors to be illustrated hereafter. The Consultation Paper has touched on some of the thoughts; we would like to echo their importance so that they can be adequately addressed in the further planning of the Initiative.

To start with, we think that to enhance the public awareness that the digital signature carries the same legal weight as a handwritten signature as stated under the Electronic Transactions Ordinance which is by design will support the use of eID in online services. Re-enforcing the general public know that the use of eID is already protected by an established laws and regulations can boost their confidence in accepting the eID initiative.

So far, digital certificate has not been very popular in the city mainly due to lack of awareness by the general public, lack of killer application and not enough user-friendlily in certificate application / renewal processes. We believe the following topics are necessary for consideration in order to improve the situation:

- i. Ease of use – The following questions is all related to this important aspect: (a) how easily can these eIDs be distributed to the qualified subscribers? (b) How conveniently can an average user use this eID in conducting electronic transactions of his/her choice? (c) What type of “storage medium” that can be used to hold the eID? This storage medium needs to be easy-to-carry (if it is to be *physically* carried by the users), convenient-to-use, inexpensive to replace when damaged or lost, reliable and secure enough for the layman to use on a regular basis.
- ii. Availability of applications – We need to encourage and facilitate the private sector as well as NGOs to develop more applications that makes use of eID for the identification and authentication of the users. As the adoption rate reaches the tipping point, usage of more advanced applications such as digital signing as a proof of authenticity of electronic documents would be possible. To assist the industry to move towards that goal, a practice guide and reference implementations is suggested to be published through the concerted effort of the OGCIO, professional organisations and trade bodies.
- iii. Convenience to online transactions / accessing credentials – Since digital signature supported by a recognized e-Cert is legally binding; a further enhancement with time stamp would be welcome for time dependent transactions in order to demonstrated the a document had been sign on a specific date and time. This would be useful in case of digitally signed transaction agreement and receipt for online transaction between buyer and seller. Likewise, student credentials and awards could be digitally signed by authentic endorser to establish its true digital copy with trustworthiness. Nonetheless, people’s lack of understanding of PKI technologies, coupled with complicated procedures of using digital signature, has hindered its adoption among the public.
- iv. Control of associated costs – Currently, there are several cost concerns of wider adoption of eID in Hong Kong, including administrative cost involved in the e-Cert service, such as the issuance of eID, as well as maintenance for its physical “containers” and “readers”. Of the latter, we suggest that, in the long run, e-Cert can be directly loaded into smartphones and other portable devices to give users more convenience to use and reduce administration cost. Meanwhile, Bluetooth-enabled e-Cert reader compatible with various majority of smart phones can be promoted to e-Cert users.

The factors highlighted above have hampered our effort in the past decade to drive for a wider promotion and adoption of the PKI technologies in Hong Kong. Leveraging on the experience that we have gained, we are confident that the new push will bring very positive results to the community.

Besides, we would like to point out the importance of using digital certificates with root generated and host in Hong Kong, as e-Cert users are highly concerned about the security and confidentiality of interacting with counterparts on other countries. A closed-loop online trust ecosystem, which is formed by both e-Cert server and users using recognized e-Certs issued by Hongkong Post Certification Authority (HKPCA) should be therefore be encouraged. As an initiative for a strong foundational infrastructure of the online trusted ecosystem, we suggest that all governmental websites should be HTTPS-ready, in other words, foreign SSL certificate is not recommended for accepting eID to provide online services so as to enforce added security between governmental websites and users with HKeID.

It is recommended to deploy e-Cheque initiative, the electronic means of payment which brings a lot of benefits including reduction in cheque payment processing costs for banks and merchants as well as removing the need for postage by customer, in addition the processing time would be short as well as improvement in the data capture accuracy for echeque processing. Other intrinsic value would also be realize including reduction in use of paper creating a leading push toward less paper usage towards more environmental friendly. This is an important initiative to reinforce Hong Kong's position as a financial hub. If e-Cheque is used by Inland Revenue, then it would not cause controversy in the media (such as OrientalDaily on 26 Nov 2013) showing concerns on the related costs associated with issuing a paper cheque of HK\$1 for tax return. The combination of eID and echeque could be used for implement schemes such as the "Scheme \$6,000" in 2012.

Being an active player of the digital certificate industry, we can see a great possibility of increasing the penetration of e-Cert in Hong Kong by issuing free eID to all school-registered students. It is, in principle, feasible once the student's English name in full and an authenticated email address (e.g. a school-domain email account assigned to the student) are available for the subscription of an e-Cert. Once such e-Cert is issued, the student's eID can be used for authentication in online activities and searchable from HKPCA's repository for the purpose of identify verification. Additionally, the student can obtain his/her credentials (e.g. academic transcript, learning experience certificate, etc.) with the e-Cert for a better protection of privacy and storage, and for opportunities of more frequently using information technology in daily life (such as cloud computing, as such credentials and awards may be uploaded and saved in a cloud-based system).

In advanced cities like Hong Kong, an increasing demand to strengthen identify authentication of the users on the Internet, coupled with the need to trace the origins of electronic documents and to protect their authenticity, will undoubtedly drive a wider adoption of not only digital certificates, but also the related e-commerce activities and online services. It is certain that Hong Kong's success in promoting eID application can set a good example for other economies.

We have only scratched the surface of the immediate application that are possible, following is a list of application that could be implemented as follows:

- Digitally signing student credentials (e.g. academic transcript, learning experience certificate, etc.)
- Digitally signed tax bill for Hong Kong citizen to demonstrate genuine copy as income prove
- Digital Cheque to improve cost and efficiency of cheque payment
- Digital signing with time stamp of Intellectual property related material as proof of time of authorship

- Combination of server and user eID e-cert to establish strong identification and verification for provide services based on the security level to for a closed-loop trusted ecosystem. The ecosystem services would include eCommerce, finance, education and Medical as the starting point

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