

Establishment of an e-Business Infrastructure in Hong Kong
E-Business Technology Institute
Department of Computer Science and Information Systems
The University of Hong Kong

EXECUTIVE SUMMARY

The E-Business Technology Institute (ETI) and the Department of Computer Science and Information Systems (CSIS) of the University of Hong Kong have initiated a two-year (2002-2004) R&D project, codenamed *Phoenix*, to establish an electronic business infrastructure in Hong Kong using the international ebXML (electronic business extensible markup language) standard. Project *Phoenix* has received a funding of over HK\$9.54 million (US\$1.2 million) from the Hong Kong Government's Innovation and Technology Fund plus additional HK\$1.16 million (US\$150 thousand) industrial sponsorships totaled HK\$10.7 million (US\$1.4 million).

Regarded as the next generation of Electronic Data Interchange (EDI), ebXML is an international standard to facilitate global electronic trade and logistics on the Internet. Jointly developed by UN/CEFACT, a United Nations standards body, and OASIS, an international consortium of more than 170 technology firms formed to create interoperable industry specifications, ebXML has already gained the international acceptance as a unified standard for electronic business.

Designed 25 years ago, EDI (electronic data interchange) cannot pervade the commerce world because of its reliance on expensive technologies. For instance, EDI applications are mostly deployed on private Value-Added Networks (VANs) that are only affordable by large enterprises. In addition to the cost disadvantage, EDI's architecture is very complex; therefore, it cannot gain sufficient support from the software vendors.

Having been carrying out R&D and producing advanced solutions for industry in XML for two years, ETI has been following the global development of ebXML before all its specifications were finalized and approved in May 2001. Project *Phoenix* will help Hong Kong take a leading position in Asia in the adoption of ebXML technology and give local businesses a first mover advantage to participate in the global e-commerce arena.

The infrastructure will be developed based on the following three principles:

1. The infrastructure will facilitate the business communities to execute transactions for exchanging business documents electronically on the Internet, in an effective, secure, and economic manner.
2. The infrastructure will support deployment of different business processes, which govern the transaction exchange for different industries.
3. The infrastructure will adopt an open architecture and open standards so that enterprise systems of different platforms can connect to it and independent software vendors can develop third-party applications on it.

Project *Phoenix* will enhance Hong Kong's overall international competitiveness in several aspects. First, it will enable Hong Kong companies of various sizes to conduct business over the Internet with better global reach and service quality, at higher productivity and lower cost. Experience will be fostered in pilot projects to support full deployment of ebXML. Second, it will enable local software vendors to produce e-commerce application software that can compete in international markets. Lastly, with the support of ebXML and PKI, value-added Business-to-Government (B2G) services could be created to meet e-Government initiative targets.

PROJECT SPONSORS AND COLLABORATORS

- IBM China/Hong Kong Limited
- The Hong Kong General Chamber of Commerce
- MTR Corporation Limited
- Hong Kong Air Cargo Terminals Limited
- Saggio (Asia Pacific) Company Limited
- Hong Kong Article Numbering Association
- E1 Media Technology Limited

E-BUSINESS TECHNOLOGY INSTITUTE

E-Business Technology Institute (ETI) was established in October of 1999 as a joint effort between The University of Hong Kong (HKU) and IBM China/Hong Kong (IBM). Its creation was a follow-up of the HKSAR Government's policy to transform Hong Kong into a knowledge-based society. ETI is an independent R&D organization within the University of Hong Kong, conducting applied research and development on e-business related technologies and e-commerce systems for Hong Kong industry and society. Most ETI senior staff members were recruited from United States, Canada, Australia and Europe with many years of industry experiences on e-commerce software architecture, design, implementation and consulting. ETI has also gained important R&D support from University R&D fellows, including professors, postgraduate and undergraduate students. Since its foundation, ETI has developed a number of new e-business related technologies, systems and applications, some being used in local companies.

PROF. C J TAN, PROJECT COORDINATOR

Professor Tan is the Director of ETI. In the past 30 years, Prof. Tan has successfully supervised numerous R&D projects in computing, ranging from hardware and software systems design to e-commerce solutions development at the IBM T. J. Watson Research Center, New York. In 1997, he led the IBM team in a historical chess match with the IBM Deep Blue supercomputer against the world chess champion Garry Kasparov. Prof. Tan's current professional interests are in developing practical e-business technologies and solutions most relevant to the Hong Kong and China region. Prof. Tan will supervise the entire project to ensure its success.

DR. DAVID CHEUNG, PROJECT PRINCIPAL INVESTIGATOR

Dr. Cheung is the Advisor to Director in ETI. He is also on the faculty of the Computer Science and Information Systems Department of HKU. Dr. Cheung has extensive industry experience. He was a senior technical staff of Bell Northern Research, the research arm of Nortel Network, Canada, before joining the faculty of HKU. The Recovery System of the "1083" Phone Directory Enquiry System in PCCW-HKT was designed and developed by a team led by Dr. Cheung in HKU in 1995 - 1997. In 1999, in the Legislative Council inquiry of the disaster surrounding the opening of the Chek Lap Kwok new airport, Dr. Cheung and his three colleagues in HKU were invited to produce an investigation report to the Select Committee. Dr. Cheung's main research areas are database, data mining, XML technologies and e-commerce. He was the recipient of the HKU Vice-Chancellor's Outstanding Researcher Award in 1998. With his extensive industry and project management experience, Dr. Cheung will be in-charge of the management and delivery of the entire project.