

December 15, 2003

Mr. John C Tsang, JP  
Secretary for Commerce, Industry and Technology  
Government of the Hong Kong Special Administrative Region  
2/F., Murray Building  
Garden Road  
Hong Kong

Dear John,

Many governments around the world are putting enormous effort in reviewing and implementing their information technology strategy with a view to embrace the changes and challenges posed by the information technology industry. While Microsoft recognizes that the Hong Kong Special Administrative Region Government has already started numerous exciting initiatives under the "Digital 21 Strategy", I am pleased that the Government has decided to sustain this momentum by revising and updating the strategy for the future, and by offering the opportunity for public consultation on the strategy.

I find that the new "Digital 21 Strategy" proposal has touched on strategic areas that will be of utmost importance for Hong Kong in harnessing the benefits of information technology for businesses, the community, and Hong Kong's position in the world. With that in mind, I enclose herewith some of our thoughts on the major areas that the Hong Kong Special Administrative Region should address. I hope you find these comments useful as you refine the new "Digital 21 Strategy", and I look forward to the opportunity to discussing with you or your colleagues on the key issues raised in our submission in more depth and details.

Yours sincerely,



Alexander Huang  
Regional Director  
Microsoft Corporation Greater China Region

cc: Mr. Francis Ho, Permanent Secretary for Commerce, Industry and Technology  
Bureau (Communications and Technology Branch)

Mr. Alan Wong, Director of Information Technology Services

## 2004 Digital 21 Strategy

### Response to the Hong Kong Government's Consultation Paper Submitted by Microsoft Corporation

#### Introduction

Microsoft supports and commends the Hong Kong Special Administrative Region Government for its vision and initiatives under the "Digital 21" strategy to transform Hong Kong into a world digital city. Many key projects and milestones have been accomplished since the first Digital 21 strategy in 1998, and we commend the Government's continuing pursuit to elevate the importance of information technology (IT) as outlined in the 2004 draft of Digital 21 (Digital 21).

In the spirit of building an even stronger and more competitive Hong Kong, Microsoft wishes to make the following comments on Digital 21.

#### 1. Government Leadership (¶12 – 14)

We firmly agree that the Government's leadership and commitment are vital in realizing the goal to transform Hong Kong into a leading digital city in the region. This commitment needs to be sustained and deepened in order for initiatives such as e-government and e-business to truly become a part of everyday life. By facilitating the innovative capacity of both industry and the community, encouraging investment and innovation in IT, and fostering an open competitive market whereby market participants compete on the merits without government preferences, the Government can lead Hong Kong to this goal.

##### 1.1 Outsourcing (¶ 14)

With respect to IT outsourcing, the Government reports that it outsourced 88% of its new projects in 2002-03 period, and has plans to expand its outsourcing strategy even further. While outsourcing is the right choice for Government offices in many instances, expansive outsourcing should be considered carefully given the critical function IT can play in the operation of government and the provision of government services. It is important for the Government to maintain control over its IT strategy, management, performance and costs, in the short, medium and long terms. Analysis of any outsourcing proposal should therefore include questions addressing the role of this outsourcing in the context of the broad IT strategy, the ability of the Government to maintain control over critical aspects of its infrastructure, the role of outsourcing over time in the IT plan, and the ability to control overall costs over time.

The Government faces budgetary constraints and is looking for ways to improve efficiency and reduce costs. We believe that the right IT strategy and the right execution can help to achieve this objective.

#### 2. Sustainable E-government Programme (¶15-16)

The Government has undertaken a number of exciting projects on e-government since the first release of the Digital 21 strategy in 1998, including the ESD Life and Smart Identity Card initiatives. We commend the progress made thus far on the ESD Life scheme with its e-service portals which allow citizens and business to interact with the Government. However, the ESD Life scheme does not facilitate the service request from the user in an efficient and effective manner. There is no "collaboration platform" which can support the information flow among different systems existing intra and inter Government departments. To increase productivity and better



leverage its existing IT investments, the Government should adopt a service-oriented architecture (SOA), which is based on business process automation and takes advantage of XML (eXtensible mark-up language) web services to enable data flow and exchange. With a "collaboration platform" that is based on open standards in place, applications such as customer relationship management system (CRM), human resource management system (HRMS) and e-procurement systems can then be integrated to facilitate information exchange across a heterogeneous environment of different applications and systems. Such an environment would notably improve ESD Life's utility, efficiency, integration of services and the user's experience, all of which are goals identified by the Government for its e-government initiative.

Looking beyond the ESD Life project, promotion and implementation of open standards, such as XML web-services, is a critical component for a successful e-government initiative. As further discussed in Section 5 of this submission, open standards enable interoperability among different products and services, and facilitate the seamless exchange of data and information, which is the underpinning of any effective e-business infrastructure. We urge the Government to commence a public and private sector dialogue on open standards.

### **3. Infrastructure and Business Environment (¶17-21)**

We agree with the Government that a free and competitive market and an excellent legal system that vigorously protects intellectual property rights are critical elements to a favorable business environment (¶17).

#### **3.1 Free and Competitive Market**

Hong Kong has an enviable reputation as being one of the most, if not the most, free and open market economy in the Asia region. This characteristic has provided Hong Kong with an advantage in the competition for inward investment, technology transfer and establishment of business operations in the region. The Government should ensure that such an environment continues and is not compromised in any way. It should, for example, ensure that products and services compete on their relative merits in the marketplace, without government intervention or preferences.

#### **3.2 Intellectual Property Rights**

Intellectual property rights lie at the core of the incentive structure necessary to promote investment in the creation of new and innovative technologies. They are also critically important when technology transfer decisions are being made. Recognizing this, Hong Kong has been one of the leaders, if not the leader, in the protection of intellectual property rights in region. Hong Kong has some of the strongest laws and its authorities effectively partner with industry in addressing the piracy problem. However, Hong Kong still faces a software piracy rate of well over 50%, a rate that is far too high for an economy with Hong Kong's level of development and its focus on developing a vibrant IT industry. Along with the rest of the software industry, Microsoft urges the government to take additional and ongoing steps to address this problem.

#### **3.3 Anti-SPAM**

Spam is a growing global problem that threatens to destroy the value of e-mail for consumers and businesses worldwide, eroding customer trust in technology and the technology from realizing its full potential. Recent industry estimates indicate that nearly half of all e-mail sent today is spam, putting a heavy strain on networks and wasting significant time, money and resources for consumers and businesses in Hong Kong and elsewhere in the world. Spammers also often prey on less sophisticated e-mail users, including children, and can pose genuine threats to personal



security and privacy. The increasing use of spam as a means for launching malicious attacks on computer systems is a growing concern.

We are working to prevent fraudulent, deceptive and unwanted commercial e-mail messages from flooding the accounts of Internet users, including through partnership with industry leaders and governments. We believe that only a coordinated approach that includes technology solutions, industry self-regulation, consumer education, effective legislation and targeted enforcement will lead to a solution.

The solution lies squarely on the shoulders of industry and government and, working together, government and the technology industry can help to restore to consumers the promise of a more trustworthy and more productive e-mail experience. We urge the Hong Kong government, as part of that effort to: (1) move forward in developing anti-spam legislation; (2) support efforts to raise awareness, including through education campaigns for both consumers and IT professionals; and (3) engage in regular dialogue with industry on opportunities for collective action to address the problem.

#### 3.4 E-Business (¶20)

As commented in Section 2 regarding e-government and explained in more detail in Section 5, we would urge the Government to commence dialogue between the public and private sectors on the promotion and adoption of open standards, particularly as a means to facilitate e-business and e-government.

#### 3.5 Security (¶ 21)

We commend the Government's recognition of the growing global concern over information security, and its commitment to maintaining a secure environment from both the legal framework standpoint and through comprehensive security policies and practices.

Security is an important issue for everyone, but it is particularly important to the public sector. Software experts know that because of the complexity of software and the determination of malicious hackers and virus writers to cause harm by exploiting software in unintended ways, it is not currently possible to create software that is completely immune to attacks. For that reason, security is a journey rather than a destination, and it can only be improved by partnerships involving government, industry, responsible security researchers, and customers around the world.

Security is a top priority for Microsoft. In 2002, we launched our "Trustworthy Computing" initiative in the wake of a series of cyber attacks. This initiative has a key focus on security and involves designing programs and systems that are resilient to attack so that the confidentiality, integrity, and availability of data and systems are protected.<sup>1</sup> We are working to create software and services that are secure by design, secure by default and secure by deployment, and we will also broadly communicate and share internally and externally what we learn in order to create a more trustworthy and secure computing environment.<sup>2</sup> For more information on our Trustworthy

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<sup>1</sup> This effort, which can cost hundreds of millions of dollars and delay the software's release to the market, is a critical step in improving software security and reliability. We are seeing a quantifiable and dramatic decrease in vulnerabilities: for example, Windows Server 2003 followed this process and in the first ninety days, we reported and patched three critical or important security vulnerabilities and six total in the first 180 days. Whereas in Windows Server 2000, we found eight critical or important vulnerabilities in the first ninety days, and twenty one in the first 180 days. While there has been notable improvement, we acknowledge that much more needs to be done to improve security in technology.

<sup>2</sup> For example, following the Blaster attack, we launched the *Protect Your PC* campaign, urging customers to take three steps to improve their security: install and/or activate an Internet firewall, stay up to date on security patches, and install

Computing and other security-related initiatives, we encourage you to visit our website at <http://www.microsoft.com/mscorp/innovation/twcl/>.

### 3.4.1 *The Government's Role in Security*

Recognizing as we do our responsibility in helping to build a more secure computing environment, we also understand that the private sector cannot resolve the security issue alone. The Government also plays a key role in efforts to secure consumers' software and data. Government initiatives can be particularly helpful in promoting cybersecurity in these specific areas:

- Sustained public support of research and development continues to play a vital role in advancing the IT industry's efforts to secure consumers' software and data. Microsoft itself allocates a significant portion of its \$6.9 billion annual R&D investment to address security-related issues. The public sector should increase its support for basic research in technology, including university-based research. It should continue its general practice of making the results of this publicly funded R&D available to the private sector in a form that allows for its ultimate inclusion in new and existing commercial products for all society's benefit.
- Government can evangelize the implementation of reasonable security practices by enhancing the security of its own systems and using its own practices to instruct the public on the steps they should take. Steps include the implementation of reasonable yet effective security practices, use of software that is engineered for security, and enhanced training for systems administrators.
- Government can promote security awareness among both home consumers and businesses, on its own and in partnership with the private sector.
- Government and industry should continue to examine and reduce barriers to appropriate exchanges of information, and to build mechanisms and interfaces for such exchanges.
- Government should more aggressively root out and prosecute those who hack into computers and propagate destructive worms and viruses that harm millions of computer users. This will require the allocation of additional resources, personnel, and equipment to law enforcement.
- Given the inherently cross-border nature of cybercrime, Government should promote greater cross-jurisdictional cooperation among law enforcement in the investigation and prosecution of these crimes.

In the end, a shared commitment to reducing cybersecurity risks and a coordinated response to cybersecurity threats of all kinds — one that is based on dialogue and cooperation between the public and private sectors — will be the most effective one.

## 4. **Institutional Review** (§ 25)

We support the Government's idea to consider the creation of a Chief Information Officer function within government. As the Government has identified, the CIO can enable the Government to

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an anti-virus solution and keep it up to date. The [www.microsoft.com/protect](http://www.microsoft.com/protect) web site serves as the focal point for the campaign.



better manage information for the benefit of the community, to effectively perform cross-agency leadership and to take a whole-of-government approach to driving e-government.

In addition to a CIO, we encourage the Government to also consider appointing a Chief Security Officer (who can report into the CIO), which position would lead and coordinate the government's strategy on security issues by working with both the public and private sectors.

## **5. Technological Development (§§26 – 27)**

We cannot agree more with the Government's well written statements that "the opportunities afforded by technology are enormous. It enhances the innovative capacity of industry and the community. It also builds the foundation of the knowledge base of society. Information technology plays a particularly important role in these aspects. It is a strong driver for productivity enhancement of any advanced economy." (§§26)

### **5.1 Open Standards and the Goal of Seamless Computing**

With respect to "openness in technological and standards adoption" we highlight the importance of fostering the development of software and other technologies that are based upon "open standards" and which will facilitate the seamless interoperability and communication across diverse software applications and systems.

We are living in a digital decade—a time when the information, work processes, relationships and experiences in people's lives are increasingly facilitated by computers. But the complexity users face today keeps us from realizing the full potential of computing. We believe that software is the key to tackling this complexity and sparking a new wave of innovation and growth for the high-technology industry. In the past, software innovation was held back by hardware and connectivity limitations, but these are disappearing fast. This makes it possible to weave today's diverse technologies into a seamless computing experience. In a seamless computing world, the smart devices, software and systems that people use form a connected and unified system that works on their behalf and under their control. Seamless computing enhances personal and business connections through rich communication and powerful, flexible collaboration tools; helps diverse technologies, groups and organizations work together; and is flexible and intuitive enough to adapt to the ways people and companies want to work.

One of the keys to seamless computing is the development and adoption of "open standards" which enable interoperability among products and services offered or used by different vendors, users, researchers, and individuals, based on certain minimum requirements for purposes of establishing interconnection or communications among such products and services. They are technical specifications that are developed and adopted through an open-consensus-based process and licensed on reasonable terms and conditions. Microsoft participates in and contributes to hundreds of standards setting initiatives and is a member of most of the core IT standards bodies such as W3C and ECMA. Microsoft's products and services are built on many open standards and Microsoft has been a leader in developing technology that has become the foundation for important open standards such as XML web-based services. In addition to software, Microsoft has also been a significant leader in the development and adoption of many hardware-related standards in the IT industry such as USB, PCMCIA, Bluetooth, and IEEE 802.11 to name a few.

The eXtensible Markup Language (XML) is a language for describing structured and semi-structured data format for the World Wide Web. Being a widely-adopted open standard, it provides access to a rich family of technologies for processing the data it describes. XML is extensible, platform-independent, and supports internationalization by being fully Unicode



compliant. XML is not tied to any programming language, operating system or software vendor. In fact, it is fairly straightforward to create applications that produce or consume XML using a variety of programming languages. Platform independence makes XML very useful as a means for achieving interoperability between different programming platforms and operation systems. The benefits of exposing data as XML have been acknowledged by many, and have led to a proliferation of XML data sources. Business documents, databases and inter-business communication are all examples of information sources that are moving or have moved to using XML as a representation format. XML vocabularies, or more commonly known as schemas, can also be customized specific to particular applications or industries.

As Hong Kong strives to build a city that is digitally and seamlessly connected – internally and with the rest of the world – and to aggressively pursue e-government and e-commerce initiatives, the adoption and use of open international standards (such as XML) in both the public and private sectors is of critical importance. We encourage the Hong Kong Government, and governments around the world, to promote interoperability through the support and adoption of information technology products and solutions built around “open standards.” We also note, as other industry leaders and associations have emphasized, that IT development should take place in an open and competitive market in which participants compete on market-oriented principles and governments refrain from picking technological winners in the marketplace on anything other than their merits.

We note that in the consultation paper, under the subheading of “Openness in technological and standards adoption,” the Government states that it plans to promote the development of “open source software” (¶ 27). It bears emphasis that “open standards” does not mean “open source software,” and the fact that a particular software program was developed on an “open source” model does not mean it adheres to open standards or that it will interoperate effectively with other programs and across multiple devices. There has been and continues to be a great deal of confusion surrounding these two terms, and it is common to find the label “open source” improperly linked to, or confused with, the very different concept of “open standards.”

## **6. A Vibrant IT Industry**

We support the Government’s vision to promote a vibrant, competitive and innovation-driven IT industry in Hong Kong, which in turn will contribute to innovation in applications and services and technological development (¶ 28). The open source, commercial and hybrid development models collectively help to achieve this goal, contributing to a dynamic and competitive software industry. This contributes to the broader IT ecosystem, which in turn contributes to the overall health of the Hong Kong economy.

### **6.1 Economic Contributions of the IT Industry**

When forming or implementing its IT strategy (e.g., procurement, outsourcing), the Government should naturally consider the economic impact of its decisions on the local IT industry, innovation, job creation, tax revenue generation, and increasing GDP. Microsoft has been and will continue to be a strong contributor to the local IT industry and the overall economy in Hong Kong. A study carried out with our partners in Hong Kong, including original equipment manufacturers (OEMs), independent software vendors (ISVs), retailers and other IT vendors, indicates that in 2002 the IT industry in Hong Kong that relates to Microsoft products, services, support, and training generated a turnover of HK\$17 billion, tax contributions of HK\$2 billion, and a training investment of approximately HK\$200 million. Furthermore, this IT ecosystem currently employs over 30,000 people in Hong Kong and is expected to generate an additional 1,400 jobs in 2003. This is a good sign for the IT industry and the broader economy in Hong Kong.

**6.2 CEPA and Pearl River Delta (¶30)**

The Closer Economic Partnership Agreement contains provisions for Hong Kong and the PRC to cooperate in the areas of customs clearance and e-commerce. The IT industry in Hong Kong and the Government can take the lead in developing state-of-the-art supply chain automation and management of platform and solutions to facilitate this closer cooperation and also bring greater efficiency and cost-savings to both sides of the border.

Leveraging its great infrastructure, geographic proximity and trade relations with China, particularly the Pearl River Delta, Hong Kong has the opportunity to both drive economic change and foster the trade that forms one of the bases for its position in world commerce. E-government can provide the fundamental building blocks to deliver increased development in this area.

**7. Human Resources in a Knowledge Economy (¶31)**

The Government is facing budgetary constraints and is considering cutbacks in education funding. IT should be a fundamental component of education today, and we encourage investment in this area. Government should further develop e-learning programs and expand its IT training programs for teachers and students to enable greater productivity and self-sufficiency. ITSD can play a role in driving coordination between the Education and Manpower Bureau and the private sector to expedite this training process, and to provide teachers with the necessary IT skills to compensate for any cuts in IT resources.

**8. Bridging the Digital Divide (¶32 – 33)**

We praise the Government for making significant inroads in bridging the digital divide in the community. This path should continue by making government information and services more accessible to all citizens, including those with economic hardships, the elderly and those with disabilities. To better ensure universal access, the Government should take disabled accessibility features into account when purchasing IT products and developing its e-government programs. In addition, accessibility features can be incorporated into the Government's procurement policies for information technology.