“FROM INTELLIGENT ISLAND TO GLOBAL INFOCOMM CAPITAL”

1. Salutations
   a. Mr Lu XinKui, Vice Minister MII China

2. Informatization of Singapore – a 20 year process
   a. Start of Singapore’s informatization process in 1980 with the formation of Singapore’s National Computer Board (NCB) to
      i. Computerise Singapore’s civil service
      ii. Co-ordinate computer education and training, to train enough computer professionals to meet Singapore’s needs.
      iii. Develop and promote Singapore’s information technology (IT) industry
   b. Over the past two decades, the National Computer Board (NCB) has been spearheading the exploitation of information technology (IT) in Singapore through three national IT plans:
      i. Civil Service Computerisation Plan – 1981 to 1985
         • The first plan (1981-1985) saw the computerisation of the Civil Service, the development of the indigenous IT industry and the build-up of local IT manpower.
         • The second plan (1986-1991) focused on the integration of computer and communications technologies to enable electronic data interchange (EDI) between government departments and industry, resulting in greater efficiency. Successful applications of EDI included TradeNet, LawNet and MediNet.
iii. IT2000 – 1992 to 1999

- The third plan (1992-1999), also called IT2000, aims to transform Singapore into an Intelligent Island where IT is for everyone, pervasive in every aspect of economic and social activity.

3. Results of the Civil Service Computerisation and National IT plans

The first two plans help NCB achieve its basic goals within the first decade:

a. The computerisation of the whole Civil service led to the development of over 250 computerised information systems throughout various government ministries and departments. These systems enhanced the level of service to the public. Examples:
   - A joint Admission system for more than 30 educational institutions from polytechnics, junior colleges and technical speeded up the release of school posting results by 10 working days, thereby enabling the school term to start 2 weeks earlier.
   - A computer network, which linked 23 major government computer centres, facilitated the sharing of data across ministries and departments and thereby provided the foundation for Singapore’s work towards a one-stop, 24 x 7 government service.

b. In the area of computer education and training, the supply of professional IT managers reached a total of 10,000 in 1990. This trained manpower base provided us with a modest start to Singapore’s vibrant IT and infocomm industry in the ensuing years.

c. The IT industry in 1990 grew to reach $1.5 billion.

4. IT2000 – Towards an Intelligent Island

a. Building on the success of the Civil Service Computerisation and National IT plans, IT2000 aimed to turn Singapore into an Intelligent Island. The vision of an Intelligent Island was to make IT pervasive in homes, offices, schools and factories.

b. The concept of having an advanced National Information Infrastructure evolved from the development of the IT2000 masterplan as an important
component of national competitiveness. The improvement of Singapore’s economic competitiveness and the quality of life of its people will be through a service-rich multimedia information infrastructure linking businesses, schools, factories, homes consumers and government agencies.

c. As Singapore in the 1990’s already had a 100% coverage in terms of telecommunications infrastructure, the goal was to build an advanced national infrastructure by a nation-wide effort to:
   i. Roll out an islandwide fibre to the curb network
   ii. Roll out cable to every household by end 1998
   iii. Be ADSL (Asymmetrical Digital Subscriber Line) enabled by the same time
   iv. Build an Islandwide fibre backbone connecting 27 exchanges

d. Supporting the roll-out of this national infrastructure would be the other efforts which include:
   i. Development of common services and applications to be deployed on the infrastructure
   ii. Nurturing and promotion of the use of this infrastructure for schools, businesses and home consumers

5. Singapore ONE – One Network for Everyone

The good progress with IT2000 enabled the Singapore government in 1998 to launch Singapore ONE – Singapore’s national broadband programme. This programme spanned multiple government agencies, whose common target was to roll out a nationwide broadband infrastructure and develop interactive multimedia rich applications to be delivered via this broadband infrastructure. Singapore ONE’s four strategic thrusts are:

a. Provide access for everyone – from their homes, schools, libraries, community clubs and from BB internet public kiosks, everyone could access interesting and relevant broadband contents. By mid 1998, Singapore launched the world’s first nation-wide broadband information infrastructure that covers over 99% of the island accessible in schools, homes and businesses. Consumers and businesses have a choice of
multiple access options be it ADSL, cable or ATM. All Universities and polytechnics are wired with sophisticated campus-wide networks with broadband and in some cases wireless access. [At the primary and secondary school levels, the ratio of PCs to students will be two students to one PC and that 30% of the school curricula will be IT-based by 2002.]

b. **Provide compelling applications** – multimedia applications, key government services, build virtual communities, build partnerships between MNCs and local companies. Today we have over 200 broadband applications and services on Singapore ONE, and the list continues to grow. In recent years, with IDA’s help, Singapore broadband companies have developed broadband content partnerships with companies in China, Hong Kong, Taiwan, Korea, U.S., Sweden, UK, Australia, and India.

c. **Bring everybody on board** with high internet penetration, help companies computerize, foster the development of IT students and communities, provide en-mass training programs. Singapore continued to provide a multitude of programmes to bridge the digital divide. For example, we started a ONE Learning Place environment which enabled all citizens, the young and the old, rich and the poor, to experience Broadband internet through a 4 hour introductory hands-on course at a subsidised training fee.

d. **Provide global reach** through high speed international internet connectivity, government to government linkages, hosting of content, and helping companies access international markets. Today, Singapore has over 45 Mbps direct internet links with all the key cities in Asia Pacific, and over 1 Gbps direct internet links with U.S.

6. **Infocomm21 – To be one of the leading infocomm hubs in Asia**

a. 1999 marks the beginning of a new era as Singapore approaches the end of the second decade of informatization. With the rapid convergence of computing, telecoms and media presenting a new set of opportunities and challenges for Singapore, the Singapore government decided to merge the
National Computer Board (NCB) and Telecommunications Authority of Singapore (TAS) to form the Infocomm Development Authority of Singapore (IDA). This took place in December 1999.

b. The **Infocomm21** is a five-year strategic plan developed by the IDA to set out the broad directions and strategy for Infocomm in the new economy. It builds on the foundation that has been laid over the past 20 years.

c. Singapore’s vision is to develop herself into a vibrant and dynamic global Infocomm capital with a thriving and properous e-Economy and a pervasive and infocomm-savvy e-Society. As an Infocomm hub, Singapore aspires to be a centre of buzz and activity for infocomm industries and businesses, research and development, venture capital, intellectual capital, education and thought leadership.

d. The focus of **Infocomm 21** consists of four main thrusts. These are:

i. To build Singapore to be a premier Infocomm Hub

ii. Bringing Singapore Businesses online (e-Powering the Private Sector)

iii. Bringing Singapore Government online (e-Powering the Public Sector)

iv. Bringing Singaporeans online (e-Powering the People)

7. **Building Singapore to be a premier Infocomm Hub**

a. In order to be a **premier Infocomm Hub**, we recognise the need for a free and open telecoms services market in order to be competitive in the new economy and build a thriving Info-communications industry.

b. In April 2000 last year, we fully liberalised our telecommunications sector. All foreign equity limits on telecommunications infrastructure providers were lifted. As a result,

a. Today we have issued over 200 telecoms licenses for facilities-based operators and service-base operators. Some of these operators include Worldcom, Cable & Wireless, UUNet, AT&T and GlobalOne.
b. The new FBOs brought in total capital investment of $1 billion over the next 5 years. The total capital expenditure from the SBO (Individual) licensees is expected to about S$376 million over the next 2 to 3 years.

c. The liberalisation also brought a reduction of IDD rates by up to 58%, and 27% as the average reduction. The benefits of this can be seen in the creation of new jobs and foreign investments as well as substantial reductions in telecommunications costs for both consumers and businesses.

d. Besides providing an open and free market to be a Premier Infocomm Hub, it is also important to have a vibrant Infocomm Industry. Part of our efforts would be to attract leading Infocomm players to Singapore and promote the growth of the Infocomm Industry in key growth sectors. Some of the key sectors include Telecommunications, Wireless, Digital Media, Software & IT services and Internet Data Centres.

e. With over 6000 multi-national companies operating out of Singapore, many using Singapore as their regional headquarters, we welcome all telecoms service providers to join us in building a vibrant telecoms business in Singapore, and use Singapore as a base to launch into the west or the east. In the new internet economy, Singapore can be a useful cross-road between the east and the west.

f. To do this, programmes are put in place to facilitate the development of these areas by:

   i. Providing a platform for companies to participate in projects and pilots
   ii. Facilitating in Market Access Development with joint marketing and research activities
   iii. Helping to jumpstart the development of new and innovative technologies and services

An example of such a programme would be the Singapore ONE initiative where we encouraged the development of key applications and services to be delivered
over the broadband network. The result of such effort can be in the growth of number of broadband industry players from over 100 in 1998 to 300 this year and the consumer adoption numbers from 100,000 in 1998 to over 300,000 this year.

8. **Singapore Businesses Online or e-Powering the Private Sector**

In terms of bringing **Singapore Businesses Online or e-Powering the Private Sector**, the aim is to develop Singapore into a trusted global e-business hub in Asia Pacific where both business-to-business (B2B) and Business-to-Consumer (B2C) e-commerce play a dominant role in business and consumer transactions. To do this, four basic building blocks have to be put in place:

a. **Provide a robust and secure e-business infrastructure** through the use of security technologies. The Public Key Infrastructure (PKI) is one such technology that helps to authenticate transacting parties online. To help improve understanding and promote adoption of PKI – a PKI forum was formed this year with participation by 19 industry players to help promote, educate and drive adoption of security technologies for online transactions.

b. **Create a pro-business environment for e-commerce.** This is by having a clear transparent policy and legal framework. The Electronic Transactions Act and Regulations for example was put in place in Singapore to recognise electronic records and signatures. Other legal and regulatory issues that are being discussed include that of data privacy and Intellectual Property Rights protection.

c. **Putting in safeguards for businesses to help mitigate financial risks associated with e-commerce.** An example would be that of an escrow service which is an impartial, trusted third-party which facilitates buying and selling online by holding on to the payment until the goods and services are satisfactorily delivered to the buyer.

d. **Promote consumer confidence and encourage more online transactions with trusted vendors or merchants.** This is implemented through a TrustMark programme certifying online companies that
adheres to high commercial standards – these companies will carry a TrustSg logo which will mean that the consumers can be ensured that these companies have met certain criteria in terms of security and code of business conduct.

9. Bringing the Singapore Government Online or e-Powering the Government

a. The third thrust on bringing the Singapore Government Online or e-Powering the Government, the intent is to be one of the best e-Governments in the world with innovative and efficient delivery of high quality services to the public, private and people sectors of the new economy. The aim is to provide integrated services that cut across all government units and to make it “user-centric” rather than agency-centric. An eGovernment Action Plan was launched in 2000; this set aside S$1.5billion to reinvent e-Government and governance.

b. Today, all government departments are extensively computerised both for internal use and external links to support better delivery of online services to the public and stronger collaboration with the private sectors. Let me illustrate some examples in this area.

i. E-Filing of income tax returns. The Inland Revenue Authority of Singapore offers both phone and online income tax filing as alternatives to conventional filing through mail. Last year, about one-third of Singaporeans filed online putting away the messy forms and delays of conventional mail.

ii. Housing. Over 86% of the total Singapore population, almost 700,000 household units, stay in apartment buildings built by the Housing Development Board (HDB). The HDB initiated its Electronic Flat Application System, known as e-Flat in January last year. Today, 20 percent of the new flat or housing applications are submitted online. At the grassroots or constituency level, a housing portal was also launched to allow homeowners to post advertisements on the sale or rental of their flats.
iii. **Promotion of e-commerce with SMEs.** The Government also helps to encourage online adoption both for the private sector. For example, the **Singapore Government Electronic Business Partner (GeBIZ partner)** programme encourages the Small and Medium Enterprises wishing to do business with the Government to go online. These suppliers will interact with the Government on a range of activities from the submissions of quotations to invoicing for payment; from requisition to acceptance of items delivered - online.

10. **Bringing Singaporeans online or e-Powering the people.**
   a. The vision is to develop Singapore into a leading infocomm-savvy society with a pervasive e-lifestyle. Notwithstanding the fact that we already have 60% PC and Internet penetration, it is our concern to **bridge the digital divide** - regardless of social standing, income level, age group, ability or ethnic group, everyone will have the opportunity to benefit from the new economy and the use of Infocomm technology.
   b. Examples:
      i. PC Reuse Scheme where old PCs are collected from government agencies, private sector and member of the public and refurbished by grassroots associations, volunteers and self-help groups. These PCs are either given out free to needy families or they pay a nominal fee that will usually include training.
      ii. Another scheme for those who are not eligible for the free PCs can also purchase a new PC for as little as $1/- a day for three years under the National Trade Union Congress Easy PC plan.
      iii. There are also programmes to ensure that basic IT literacy for workers, housewives, unemployed, retired and disabled are being taught so that they will not disadvantaged or excluded in the new economy. Our efforts ensure that Singaporeans being our only resource will be equipped for the future job opportunities.
11. Conclusion

a. Singapore has undertaken steps in informatization for the past 20 years. The strategies that I have shared has enabled Singapore to achieve significant results within the scope of our size and limited.

b. Today, we have 60% PC and Internet penetration and over 300,000 broadband users. Besides having a pervasive national Information Infrastructure, we also have high-speed connectivity to more than 29 countries including China, US, Australia, Japan, India, Europe and all ASEAN countries.

c. Large Companies in all economic sectors have embraced at least some form of IT for their business operations. More than 95% of companies with at least 10 employers are already computerised.

d. In 1999, Singapore’s online business-to-business transactions totaled approximately $40billion. The local IT industry has registered a posting of $23billion in total revenue in 1999 – up from S$20billion in 1998. Almost half of the total revenue was derived from exports.

e. Our achievements in the Infocomm arena can be compared with most developed nations and the advancements in these areas exemplifies the progress that we have made over the past 20 years from building an Intelligent Island to becoming a Global Infocomm Capital. The Infocomm Sector will continue to be a key engine of growth for Singapore and Asia. We welcome joint collaborations with the industry players here today to leverage our experience in the deployment and use of Broadband, Wireless, e-Commerce, e-Government for the development of products and services for Shanghai and China. We also encourage greater collaboration and partnership between industries of Singapore and China and Asia to use Singapore as the internet cross-road of the east and west. May I warmly welcome you to join us tomorrow at the Grand Hyatt for the Singapore Day Symposium. At this event, we hope to provide you with more information relevant to your needs and to encourage you to establish direct links with some of the Singapore companies and
organisations which is helping Singapore progress from an intelligent island to a global infocomm capital.

12. Thank you