Summary

Singapore is a mature and sophisticated market for ICT products and services. The country is dependent on imports and U.S. products are traditionally well received in Singapore as the United States is seen as the source for state-of-the-art technologies. Singapore also serves as a major distribution center for companies interested in selling to the region as reflected by re-export data. Over 60% of ICT goods imported into Singapore are re-exported for third-country consumption.

The Singaporean government is the key catalyst in promoting the industry and the ICT market is expected to enjoy good growth over the next few years. The current ICT infrastructure is being upgraded through government initiatives that promote broadband, ubiquitous wireless Internet connectivity, digital technology, HDTV and IPTV. Many international IT, telecom and media service providers have established offices in Singapore, using the island city-state as a regional hub. There are excellent opportunities for U.S. vendors to sell new applications and solutions to the domestic market and through Singapore to the Asian region. Areas of best prospects include content, equipment, technologies and services for broadband, wireless, 3G, IPTV, and HDTV.

Market Demand

Singapore is one of the most wired countries in the world with a nation-wide network of fiber optic cables. There are more than 6,200 public Wi-Fi hotspots islandwide, which means there are more than 22 wireless LAN hotspots for every square mile of the country. 'Cyber cafes' are popular, and Internet connections are available in most hotels. 3.5G networks based on the HSDPA standard as well as WiMAX networks are being progressively deployed in the country.

According to the 2006 survey carried out by the Infocomm Development Authority (IDA) of Singapore, 77% of Singaporean households owned at least one home computer and almost 9 in 10 households with school-going children had access to a home computer. Seventy-one percent of households had home Internet access and in these homes, almost all (97%) used computers as the mode of access while 9% used Internet-enabled cell phones. Usage of computers was 100% in businesses with more than 250 employees but the usage level declined to 62% for companies with less than 10 employees. Usage of infocomm network technologies was similarly higher for larger companies. Details on infocomm usage in households and by individuals as well as businesses can be found at http://www.ida.gov.sg/Publications/20061205092557.aspx

Major Telecom Indicators

Population/ Households	Fixed-Line		Cellular Phone		Dial-Up Internet		Broadband Internet	
	# Of SS	HH P Rate (%)	# Of SS	P Rate (%)	# Of SS	P Rate (%)	# of SS	HH P Rate (%)
4.48m/1.12m	1.85m	95.3	5.34m	114.1%	1.07m	22.9%	2.97m	75.7

Notes: M - Millions, SS - Subscribers, P - Penetration, and HH - Households.

Statistics on telecom services can be found at http://www.ida.gov.sg/Publications/20070815141811.aspx

The Government of Singapore plays an active role in the ICT sector through its many initiatives in developing the industry. In early 2005, the Singapore telecom regulator issued six Wireless Broadband Access (WBA) spectrum rights in the 2.3GHz and 2.5 GHz frequency bands. In June 2006, the government announced iN2015 (http://www.in2015.sg/), a 10-year masterplan for infocomm implementation across industries estimated to cost S$4 billion (US$2.6 billion). Most significant is the Next Generation National Infocomm Infrastructure that includes a Next Generation National Broadband Network (NBN). Following a pre-

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qualification exercise in which 12 companies and consortia were selected, the Request for Proposal (RFP) was called on December 11, 2007. The RFP is now open to all interested parties to submit their bid to design, build and operate the passive infrastructure layer of the Next Gen NBN by March 25, 2008. The IDA is expected to award the winning bid in the third quarter of 2008. Details can be found at
http://www.ida.gov.sg/News%20and%20Events/20071211184512.aspx?getPagetype=20

The NBN also called for a wireless broadband network (Wireless@SG), which went online in December 2006. While the tender has already been awarded for this network, there are other wireless technologies the government is also pursuing. See http://www.ida.gov.sg/Infrastructure/20060816192935.aspx

Major Broadcasting Indicators

	TV		Cable TV		Satellite TV (DTH/DBS)	
Households	# Of HH	P Rate (%)	# of HH	P Rate (%)	# Of HH	P Rate (%)
	1,122,120	80.0*	499,000	44.3	0	0

*estimate

Sixteen satellite broadcasters have either set up base in Singapore or are up-linking from here. Singapore homes receive six terrestrial free-to-air channels provided by MediaCorp TV, the country's only terrestrial broadcaster. StarHub Cable Vision is the main provider of subscription television in Singapore. At end of September 2007, 499,000 households had cable TV -- a market penetration of 44.3%. TV Mobile is the only provider of outdoor digital television, mainly broadcasting to public transport buses. In July 2007, SingTel began an IPTV service delivered over a broadband connection called mio TV, currently the only pay-TV competitor to StarHub.

Singapore adopted the European standard DVB-T for digital TV along with all other ASEAN countries, and Eureka-147 Digital Audio Broadcasting System. Singapore, like other ASEAN members, will deliver all channels digitally in the next 3 to 8 years. A decision on a specific year for analog cut-off has not been made, but the Singapore government is encouraging manufacturers to bring more digital set-top boxes and TV sets into the market. The Singapore radio industry is already upgrading from analog to digital technology.

Over the next five to ten years, Singapore plans to move into the forefront of broadcasting, while the Government of Singapore will continue to take a proactive role in encouraging the growth of the broadcasting industry. The government is working closely with key industry players in the country to promote HDTV and IPTV. In January 2007, StarHub launched the first commercial HDTV channels (National Geographic and Discovery) in Singapore. SingTel's new mio TV service offers 6 HD channels with more to be introduced. The Media Development Authority (MDA) estimates that there were 140,000 HDTV-ready TV sets in Singapore households in 2006 and expects more than 210,000 new HDTV units to be sold in 2007.

Internet Protocol Television (IPTV) is another segment that is projected to experience growth over the next few years. In 2006, the MDA issued trial IPTV service licenses to 6 companies (MediaCorp, OBSTV Asia, Singtel, Anytime, ReeltimeTV, M2B).   Singnet, a subsidiary of Singtel, is currently the only company with a nation wide subscription TV license to provide IPTV services covering at least 100,000 subscribers. In January 2007, the MDA announced a new two-tier license framework for IPTV that aims to facilitate the growth of IPTV services in Singapore. More information can be found at http://www.mda.gov.sg/wms.www/thenewsdesk.aspx?sid=770. By 2015, the goal is to reach a 90% penetration rate of homes using broadband. Singtel's recently released IPTV service, mio TV, can currently reach 85% of Singapore's households with existing infrastructure using ADSL2+ technology.

Another sector with opportunities is mobile TV. Three local companies have been granted trial licenses by the MDA to operate mobile TV in Singapore. PGK Mobile has begun a trial program using the European DVB-H

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standard, which is currently the favored standard for eventual adoption. PGK Mobile is backed by NCS, Nokia, CNBC, ESPN Star Sports, and other industry participants. GoMobile and Innoxius Technologies, the other 2 licensees, are in the process of starting trials. SingTel launched its mio TV service on 3G-enabled mobile phones in August 2007. MediaCorp has been conducting broadcast trials on hand-held devices and plan to eventually launch a service.

Market Data
According to the latest survey by the IDA, total domestic infocomm revenue in 2006 grew by 3.9% to S$16.44 billion (about US$11 billion). Except for telecommunications services and hardware, the other segments (software, IT services and content) saw strong growth. Details can be found at:

http://www.ida.gov.sg/doc/Publications/Publications_Level2/20061205092557/ASInfocommIndustry06.pdf

We expect to see steady growth in the next few years as government initiatives come on stream and over 6,000 multi-national corporations in Singapore (as well as leading local companies) continue to invest in ICT. Consumers are expected to continue purchasing new IT equipment and gadgets.

Singapore is dependent on imports and U.S. products are traditionally well received in Singapore as the United States is seen as the source for state-of-the-art technologies. Singapore also serves as a major distribution center for companies interested in selling to the region as reflected by re-export data. Over 60% of ICT goods imported into Singapore are re-exported for third-country consumption. They include neighboring countries in Asia such as Indonesia, Malaysia, China, Hong Kong, India, Philippines, Thailand, Japan, Vietnam, as well as Australia.

Best Prospects
There are excellent opportunities to sell new applications and solutions to Singapore as the country is the leading adopter in the region. Best prospects include equipment, content, software and technologies for broadband, wireless broadband, 3G, IPTV, and HDTV.

The Singapore government's announcement of its plans to build a next generation national broadband network and pervasive wireless broadband network offers U.S. vendors the opportunity to participate in developing the new telecom infrastructure in Singapore. The Singapore broadcast market is expected to import more equipment due to major upgrades in the television industry. Besides the ongoing upgrading at its current facility, MediaCorp is building a new S$100 million (US$64 million) broadcasting facility that will be completed in three years. It is expected that small/medium companies will overhaul and upgrade their current studios as well. Demand for both HD and mobile TV content will increase significantly as infrastructure is expanded in both industry segments.

Key Suppliers
In the telecom market, major U.S. suppliers that have set up operations in Singapore include Motorola, Verizon, Lucent, Cisco, and Linksys.   Vendors from other countries include Alcatel, Nortel, Samsung, ZTE, Nokia, Huawei, Ericsson, and Agilent. Many of these offices have regional responsibilities.

In the broadcast market, the U.S. is dominant in providing the key editing and production equipment desired in both the radio and television market. Equipment such as non-linear editing software/systems, audio production equipment, news scripting systems, and microphones are among the areas where American products are dominant. Key companies competing in the market include Avid, Harris, Tektronic, Mackie, Associated Press, Omneon, Belden, Dolby, StorageTek (Sun MicroSystems), Wohler and RCS. The U.S., however, does not dominate all aspects of the broadcast market. Japanese suppliers are the leaders in cameras and videotape recorders. Companies from other countries have also found their niche in the market.

Prospective Buyers
The Singapore government will increase spending on ICT in FY 2007. It announced S$730 million (US$481 million) worth of new IT tenders for the fiscal year (April 2007 – March 2008) and as in previous years, it is

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expected to spend more than estimated. A major program under iGov2010 (http://www.igov.gov.sg/) is a government-wide Standard ICT Operating Environment (SOE) to be implemented by the 4th quarter of FY2010 across 60,000 seats and 87 different agencies. It will comprise a standard desktop operating environment, a standard messaging and collaboration environment, and a standard network environment. On June 21, 2007, four pre-qualified consortia submitted bids for the SOE, all of which include one or more US-based companies. The final contract, estimated to be worth S$1.5 billion (US$1 billion) over eight years, is expected to be awarded in 2008. More information on SOE program can be found at http://www.igov.gov.sg/NR/rdonlyres/FE46DD55-92C7-4A72-B9D2-1D11A7055539/0/SOE_Factsheet_12July07.pdf

There are excellent opportunities for U.S. equipment manufacturers to supply to the telecom service operators in Singapore. Existing service operators not only have recurring expenditure but are also making new investments in order to compete with existing and new market players.   A list of the existing operators can be found at: http://www.ida.gov.sg/Policies%20and%20Regulation/20060424172641.aspx and http://www.ida.gov.sg/Policies%20and%20Regulation/20060424160337.aspx.

Vendors of broadcast equipment and technologies can also expect increased investments from MediaCorp, other broadcasters, pre-production, production and post-production houses. A list of such organizations can be found at the MDA website, http://www.mda.gov.sg/wms.www/media_biz_mediadirectory.aspx.

Market Entry
A good way for equipment manufacturers to enter the Singapore market would be to work with local distributors and system integrators who are well versed with local conditions.

U.S. global telecommunication service providers should consider collaborating with the service providers in Singapore who can provide them with interconnect related services, domestic and international leased circuits, network infrastructure and local marketing expertise. Alliances eliminate heavy investment in infrastructure outlay as well as provide immediate marketing reach due to their existing networks. This is an attractive approach which most foreign companies adopt to penetrate and reach end-users in Singapore. With the liberalization of the Singapore telecom market, U.S. service providers can now apply for licenses directly from the IDA. U.S. media companies may also apply for licenses directly from the MDA.

There is no special legislation in Singapore covering agency agreements. Mercantile laws in Singapore are based on English laws. The contract sets the terms of agreement between vendors and buyers. The parties involved draw up a satisfactory contract that determines the conduct of both parties during the contract period including the terms of cancellation. U.S. firms interested to enter the Singapore and Asian markets might want to consider participating at CommunicAsia and Broadcast Asia, -- the largest ICT show in Asia -- it attracts over 50,000 visitors and more than 2,000 exhibiting companies annually. CS Singapore will actively support and provide value added services to the U.S. exhibitors at the show that will be held from June 17-20, 2008. More information on the two shows can be found at www.communicasia.com and www.broadcast-asia.com.

Market Access & Obstacles
Singapore is generally a free port and an open economy and maintains one of the most liberal trading regimes in the world. However, individuals are not allowed to import satellite-receiving dishes. There is no duty on the import of ICT products into Singapore. Telecommunication equipment suppliers are required to register their equipment for sale and use in Singapore. Details are given in the document entitled "Guide for Registration of Telecommunication Equipment" that is available online at

http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies_and_Regulation_Level2/20060421172414/EQRGuide.pdf

Singapore became the first country in Asia, and the third in the world (after the European Union and Canada), to operate a Mutual Recognition Arrangement (MRA) on telecom equipment certification with the United States of America. The MRA provides for direct entry of telecommunications into either market without the need for additional testing and certification. Under the Asian Pacific Economic Cooperation (APEC) Telecommunications MRA

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implemented between the US and Singapore, products can be tested and certified in the United States for conformance with Singapore's technical requirements. A list of the recognized U.S. testing and certification agencies can be found at: http://www.ida.gov.sg/Policies%20and%20Regulation/20060609145118.aspx.   U.S. suppliers will still require a local representative (dealer) who will be responsible for the import and sale of telecommunication equipment in Singapore.

For security purposes, voice scramblers, military equipment, scanning receivers/transmitters that could be used by unauthorized persons for unlawful transmissions, interception and jamming of signals are prohibited from entry into Singapore unless prior approval by the IDA has been obtained.

The IDA is the government regulator authorized to establish standards, codes and regulations to be observed by operators of telecommunications systems and services and to regulate the conduct of telecommunications licensees in the provision of telecommunications systems and services. Information on the various Acts and regulations can be found at http://www.ida.gov.sg/Policies%20and%20Regulation/20060418214814.aspx.

The IDA is also responsible for the management, allocation and use of the radio frequency spectrum. Singapore's spectrum allocation chart and the master spectrum allocation plan can be found at: http://www.ida.gov.sg/Policies%20and%20Regulation/20060421164253.aspx

The media industry in Singapore is regulated by various legislation and codes of practice and they can be found at the MDA website, http://www.mda.gov.sg/wms.www/devnpolicies.aspx?sid=153. Media businesses or professionals need to be licensed in order to provide services in Singapore. The various types of licenses required can be found at http://www.mda.gov.sg/wms.www/devnpolicies.aspx?sid=218. Currently, the MDA issues the TV Receive-Only (TVRO) System licenses to organizations that need to access time-sensitive information for business decisions. Direct-to-home (DTH) transmission is not allowed.

The U.S. Singapore Free Trade Agreement (USSFTA) went into force on January 1, 2004. This agreement, the United States' first FTA with an Asian nation, makes Singapore one of the strongest Intellectual Property Rights (IPR) regimes outside of the United States thus giving strong IPR protection to American firms doing business in Singapore. The USSFTA includes state-of-the-art protection for trademarks, including government involvement in resolving dispute between trademarks and Internet domain names; extended terms for copyright protection; strong anti-circumvention provision to prohibit tampering with technologies that are designed to prevent piracy; criminal penalties for companies that use unlicensed software; and protection for encrypted program-carrying satellite signals. The USSFTA also includes special provisions dealing with electronic commerce, competition policy and state enterprises, and customs cooperation. In addition, the agreement contains provisions for transparency and dispute settlement. Information on the USSFTA can be found at http://www.ustr.gov/Trade_Agreements/Bilateral/Singapore_FTA/Final_Texts/Section_Index.html

Trade Events
CommunicAsia/BroadcastAsia, June 17-20, 2008, Singapore
 http://www.communicasia.com, http://www.broadcast-asia.com

ITU Telecom Asia 2008, September 2-5, 2008, in Bangkok, Thailand
(http://www.itu.int/ASIA2008)

VietnamTelecomp 2008, November 26-29, 2008, in HCMC, Vietnam
(http://www.2456.com/vnc)
Resources & Contacts
Infocomm Development Authority of Singapore www.ida.gov.sg
Singapore Infocomm Technology Federation http://www.sitf.org.sg/marketplace/bizopp.aspx
Association of Telecommunications Industry of Singapore (ATiS) http://www.atis.org.sg
Market research portal http://www.export.gov/market_research/index.asp

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