

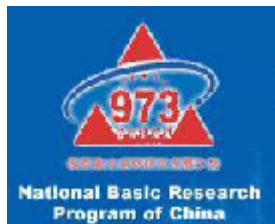
IT R&D in China (2006-2020): Enabling an innovative nation

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China Computer Market Trends

	GDP US\$Trillion	Computer Market US\$Billion	Internet Users (Million)	Client Devices (Million)
1995	0.69	7.4		
2000	1.08	25.9	22.5	8.9
2005	2.30	59.0	111(+80)	49.5
<i>2010</i>	<i>3.00</i>	<i>115.6</i>	<i>233</i>	<i>106</i>
<i>2015</i>	<i>4.75</i>	<i>217.3</i>	<i>411</i>	<i>191</i>
<i>2020</i>	<i>7.07</i>	<i>403.9</i>	<i>662</i>	<i>308</i>
20/00	6.5	15.6	29.4	34.6

Sources: China NBS, CCID, CNNIC, Goldman Sachs

China's e-Nation Strategy (3+5) 国家信息化发展战略 (2006-2020)

- Information resources are as important as energy and material resources
- IT is not just for economy, but should advance all aspects of the nation
 - economy, political system and spirit
- e-Nation does not replace, complement, industrial

Could lead to policies and other instruments mandating just and fair access of IT
As happening now for electricity, TV, telecom

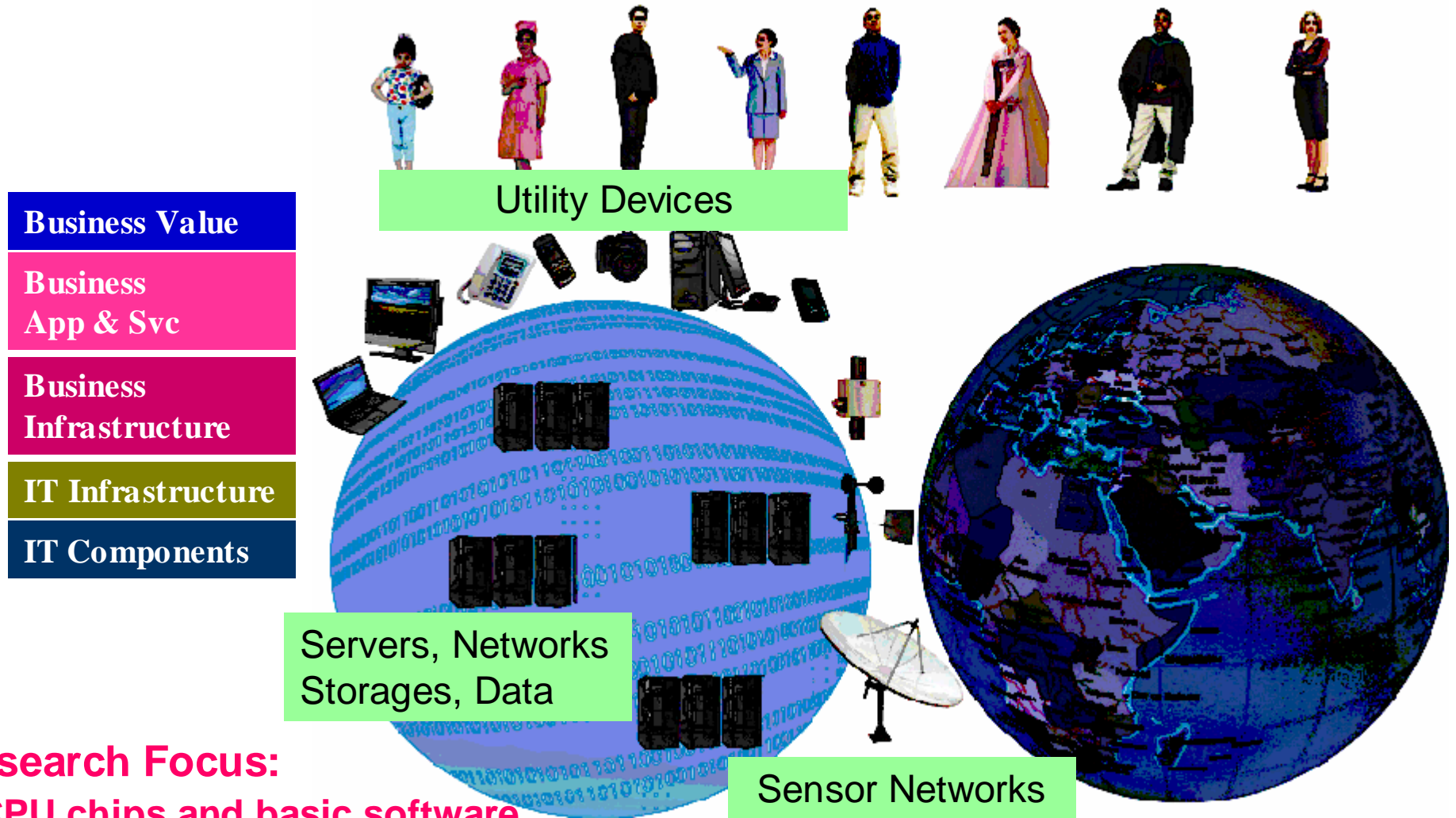
www.gov.cn

China's e-Nation Strategy

- Enhance innovation capability
 - IT itself
 - IT as an innovation platform for the nation
- Quicken institutional reforms
- Speed up e-Infrastructure construction
- Strengthen security, trust and privacy
- Enrich human capital
 - IT professionals
 - IT literacy for all

Towards 2020: Three Worlds in One

800 million IT users in China.



Research Focus:

CPU chips and basic software

Broadband mobile wireless communication

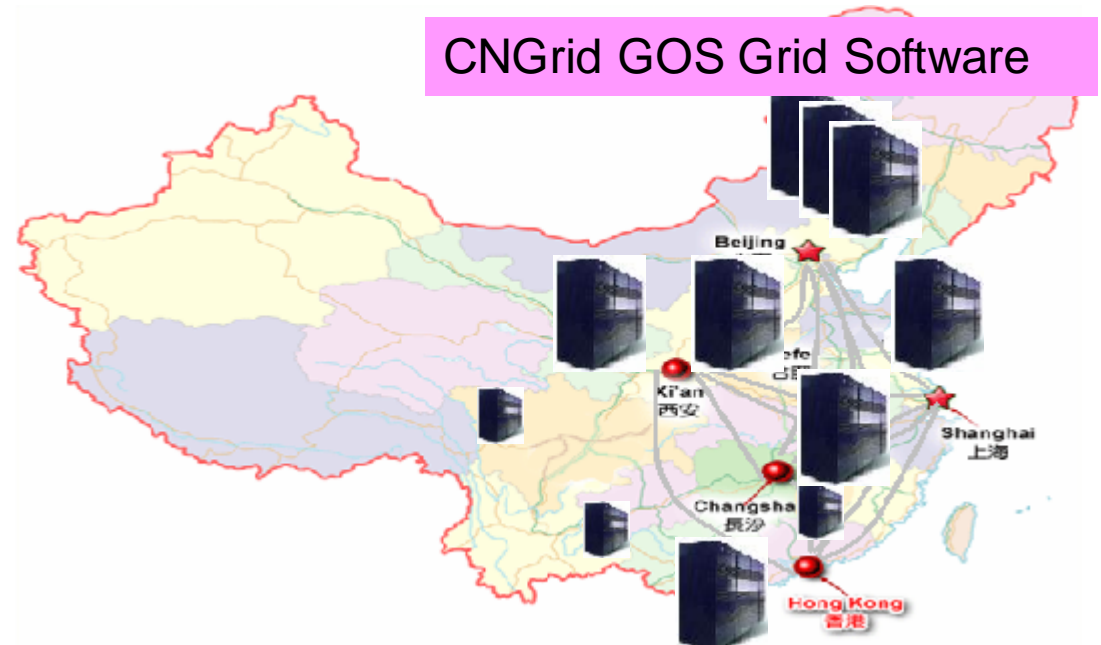
CNGrid (2006-2010)

- HPC Systems
 - 100 Tflop/s by 2008, Pflop/s by 2010?
- Grid Software Suite: CNGrid GOS
 - Merge with international efforts
 - Emphasize production
- CNGrid Environment
 - Nodes, **Centers, Policies**
- Applications
 - Science
 - Resource & Environment
 - Manufacturing
 - Services
 - **Domain Grids**



CACM, 2005.11
“Super Competition”

CNGrid GOS Grid Software



R&D Investment in China

- Total national R&D investment to increase
 - Now <8% of USA level, to 2.5% of GDP by year 2020
 - But will still be far behind Europe, Japan and USA
- IT R&D (2006-2010)
 - National programs
 - National High-Tech Program (863): ~\$400M
 - HPC & Grids, Storage, Trusted Networking, others
 - National Basic Research Program (973): ~\$50M
 - NSF of China (NSFC): ~\$100M
 - Other national programs (Chinese Academy of Sciences, etc.)
 - Others
 - Local governments
 - Industry (not including multinationals)
 - **Total IT R&D investment** ~\$3-6B
 - **Total IT (computer) market** >\$400B