

Current and Future Trends in ICT

(Information Communication Technology)

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COM-FSM IT Director

Information Communication Technology

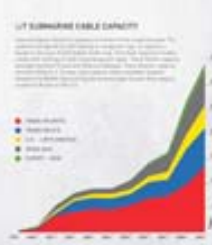
Technology continues to profoundly affect the way we:

- *Work*
- *Collaborate*
- *Communicate*
- *Play*
- *Learn*
- *Socialize*
- *Succeed in almost every arena*

Technology Tools

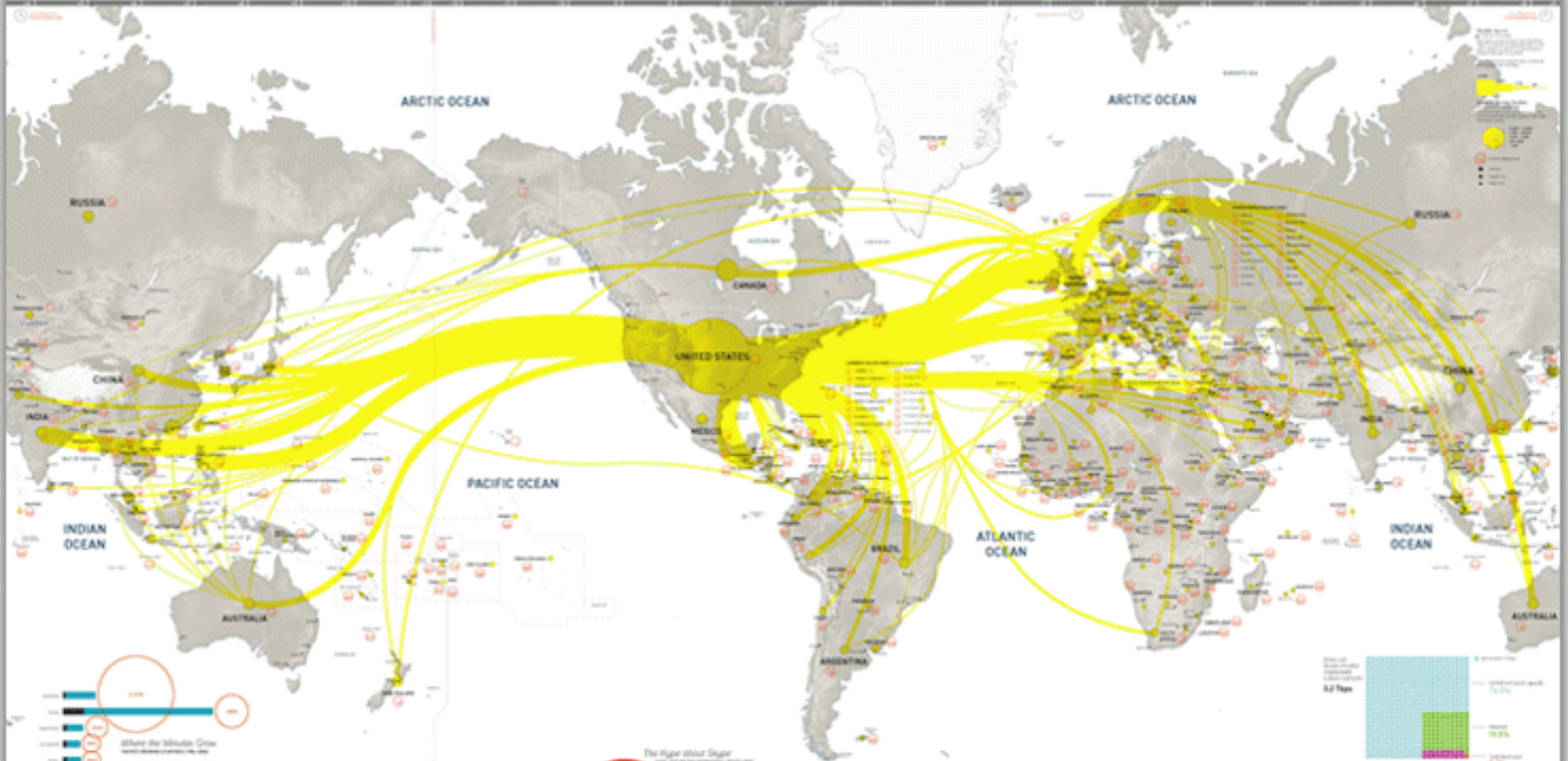
General Trends

- Smaller
- Cheaper
- More Powerful
- More integrated into our daily life





add life to life



Speaking in Volume

Carrier	Volume
AT&T	18.5%
Verizon	18.1%
Sprint	17.8%
Comcast	14.2%
Other	31.4%

Carrier Box

Carrier	Box
AT&T	18.5%
Verizon	18.1%
Sprint	17.8%
Comcast	14.2%
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Who are You Going to Call?

Carrier	Share
AT&T	18.5%
Verizon	18.1%
Sprint	17.8%
Comcast	14.2%
Other	31.4%

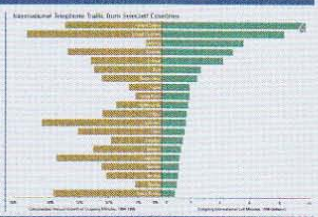
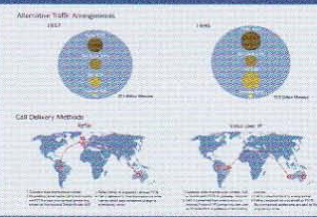
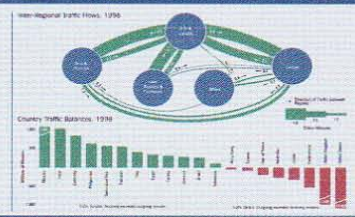
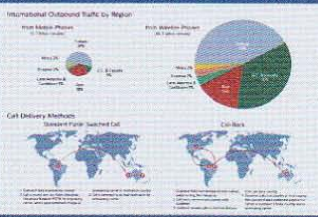
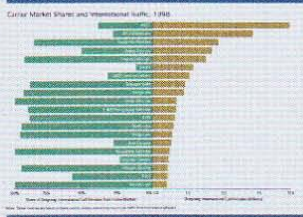
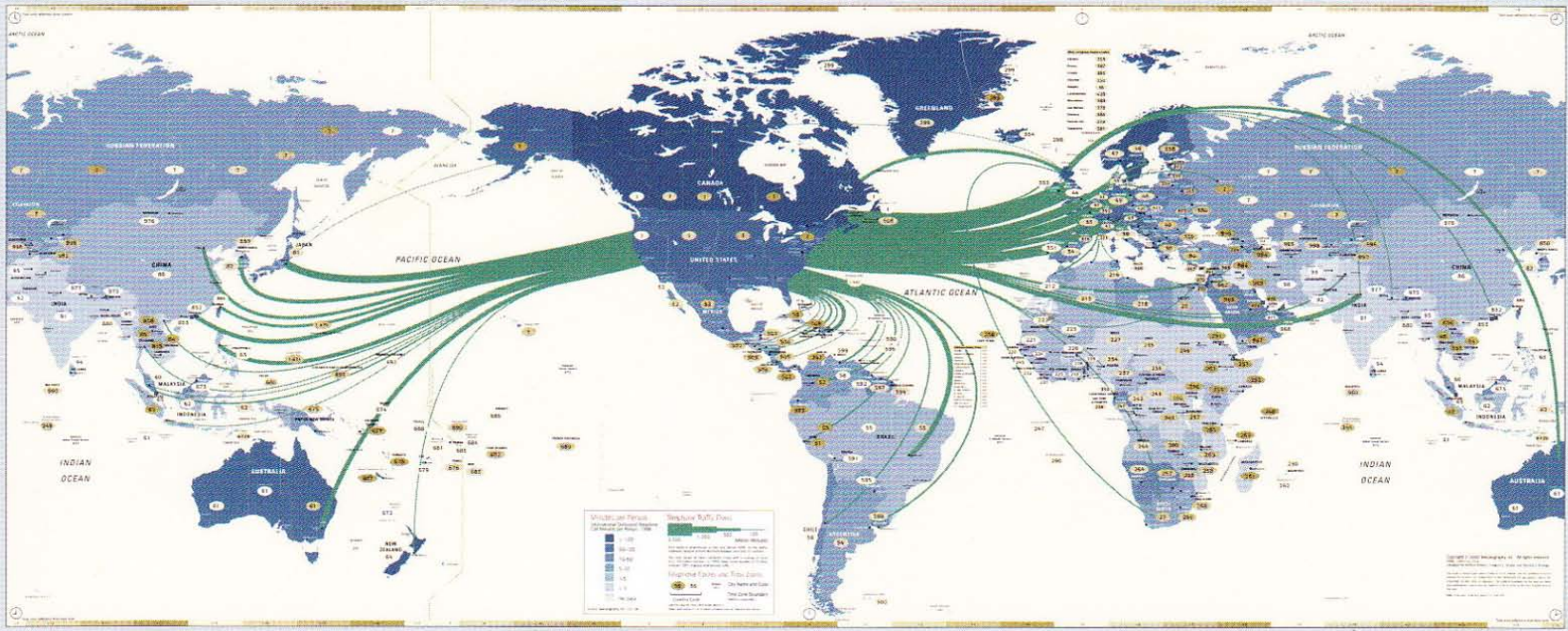


Global Communications Traffic Map 2000

Presented by
TeleGeography, Inc.
The Source for International Business Maps and Statistics

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The Bandwidth Exchange

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Connectivity

How We Connect

GLOBAL MOBILE, FIXED LINE AND BROADBAND PENETRATION (2007)

MOBILE

(2.68 billion subscribers)



FIXED LINE

(1.23 billion subscribers)



BROADBAND

(286 million subscribers)



Tech Cycles Tend to Last Ten Years

Entered Next Major Computing Cycle – Mobile Internet – 2 Years Ago

**Mainframe
Computing
1960s**



**Mini
Computing
1970s**



**Personal
Computing
1980s**



**Desktop Internet
Computing
1990s**



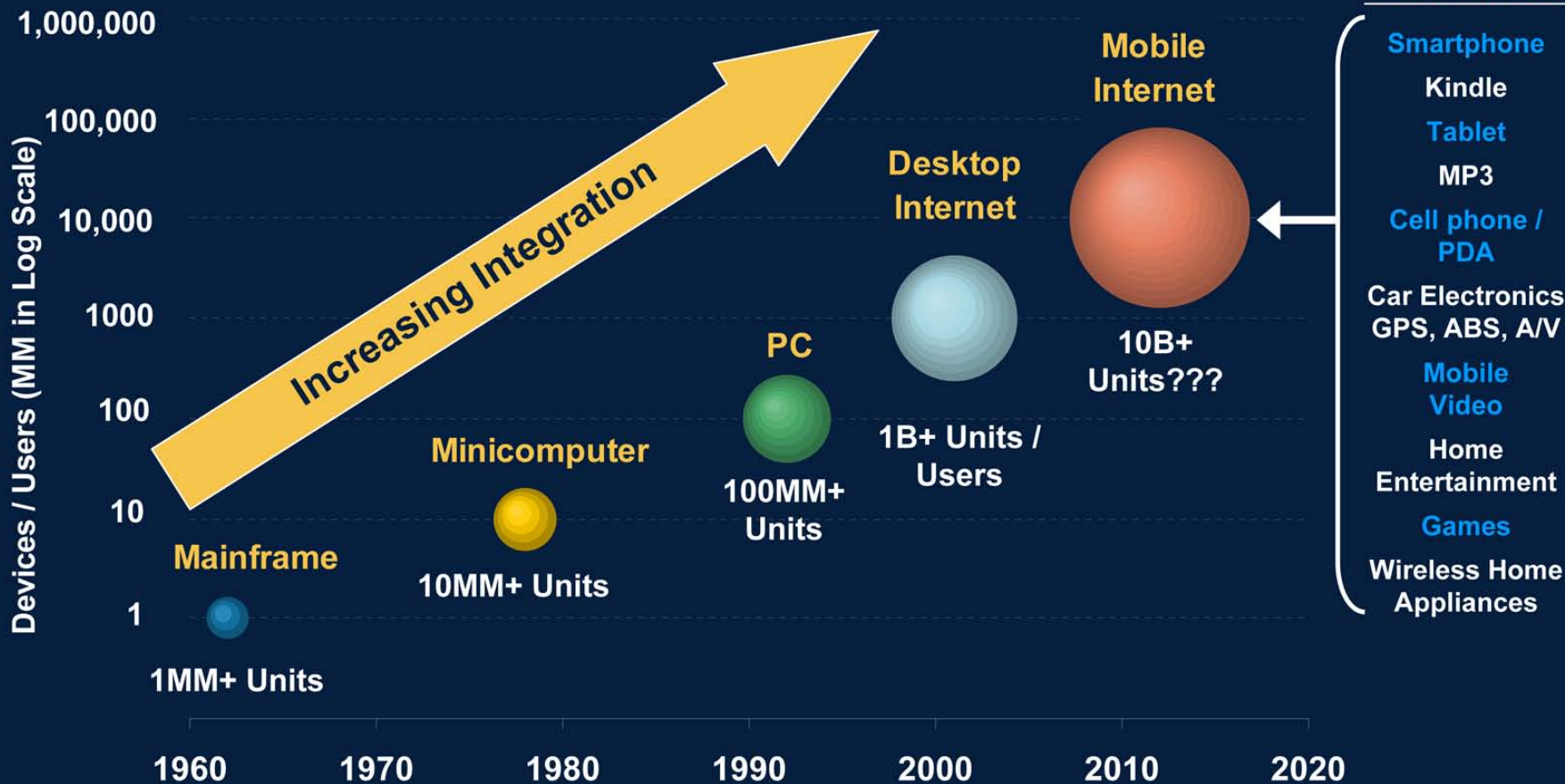
**Mobile Internet
Computing
2000s**



New Computing Cycle Characteristics

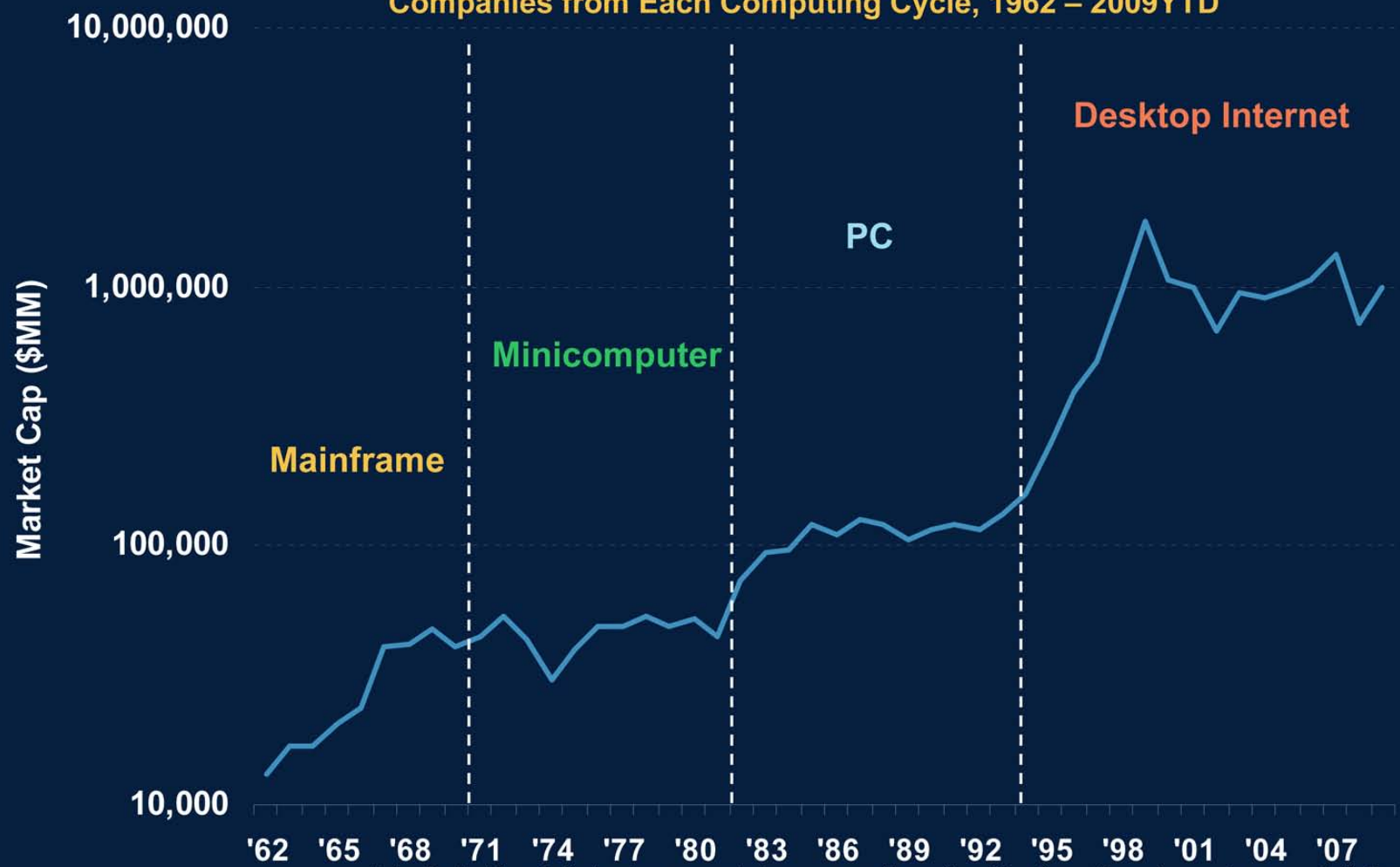
Reduce Usage Friction Via Better Processing Power + Improved User Interface +
Smaller Form Factor + Lower Prices + Expanded Services = 10x More Devices

Computing Growth Drivers Over Time, 1960 – 2020E



Winners of Each New Cycle Often Create More Market Capitalization than Winners of Prior Cycles

Cumulative Market Capitalization of Top 5 Computing Companies from Each Computing Cycle, 1962 – 2009YTD



Note: Dashed lines indicate when new cycle becomes wealth creation driver (in reality, cycles overlap somewhat). Companies include: Mainframe – IBM, Sperry, Honeywell, NCR, Unisys; Minicomputer – IBM, Honeywell, HP, DEC, Wang Labs; PC – IBM, Microsoft, Intel, Cisco, Sun Microsystems; Internet – IBM, Microsoft, Google, Apple, Yahoo!. Source: FactSet, Bloomberg, S&P Stock Guide, Morgan Stanley Research.

Trends

- **Convergence (3G mobiles + Social Networking + Video + VoIP + GPS = Impressive Mobile Devices).**
- **Massive Data Growth Driving Carrier / Equipment Transitions.**
- **Increasingly, Mobile Phone Usage is About Data, Not Voice = Average Cell Phone usage = 70% Voice / iPhone usage = 45% Voice**
- **Wireless Data Networking Equipment Cost Declining Rapidly.**

Augmented Reality: SixthSense

- Cell phone example



U.S. Example (ICT Trends)

- FCC wants to speed up overall connections
- 100 million households access to Internet connections that transfer 100 megabits of data per second.
- Average U.S. Internet speed today is much 3.9 megabits per second
- U.S. has the 18th fastest Internet connections in the world
- Each community in America to get access to at least one "ultra-high-speed" connection at a library, school or military base.
- Use educational programs and an expansion of broadband Internet infrastructure to give 90 percent of Americans high-speed Internet access at home by 2020.

So What?

- Submarine Fiber optics, terrestrial DSL links
- IPTV broadcast over WiFi networks.
- Cell phone banking with your mobile
- GPRS & EDGE cell internet services

Technology Trends in Education

- *Student Empowerment*
- *Collaborative environments and online communication tools.*
- *Capable Mobility*

Software Tools

- 1) Audio seminars/podcasting
- 2) wikis
- 3) blogs
- 4) collaboration tools/sites
- 5) mobiles applications/cell phones as personal learning devices
- 6) microblogging + twitter
- 7) flip cameras + youtube
- 8) facebook
- 9) student oriented portfolio
- 10) digital storytelling
- 11) citizen journalism
- 12) geotagging
- 13) social bookmarking
- 14) blended learning (hybrid courses)
- 15) blackboard
- 16) virtual world
- 17) webcasting
- 18) iphone mobile outreach
- 19) small screen learning objects
- 20) screen casting
- 21) camtasia
- 22) hi def video conferencing





Thank you