Global Forum 2011
Vision for the Digital Future

Session 2 - TOWARDS INTELLIGENT PLATFORMS

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November 7, 2011

Verizon Communications

Innovative Communications, Information and Entertainment – Around the Globe

Wireless	Consumer and Small Business	Enterprise Business
107M total connections	Largest 100% fiber-optic network in the U.S.	Enterprise (including 96% of Fortune 1000) and government customers worldwide
America's largest and most reliable wireless network	Transforming from traditional telecom into a broadband and entertainment business	The world's Most Connected Global IP Network. *
Launched next-generation, 4G high-speed broadband wireless network in 2010	4.6M FiOS Internet subscribers and 4.0M FiOS TV subscribers	Manage 260K+ servers, routers, devices
Broadband access in 264 U.S. major metropolitan areas	8.6M Wireline Broadband connections	Leading provider of managed information security services
Industry-leading customer loyalty for U.S. wireless providers		150+ countries, 2700+ cities
		485,000 route miles of cable over six continents

** Telegeography, Global Internet Geography Report, 10 Dec. 2010*

Statistics as of 10/11

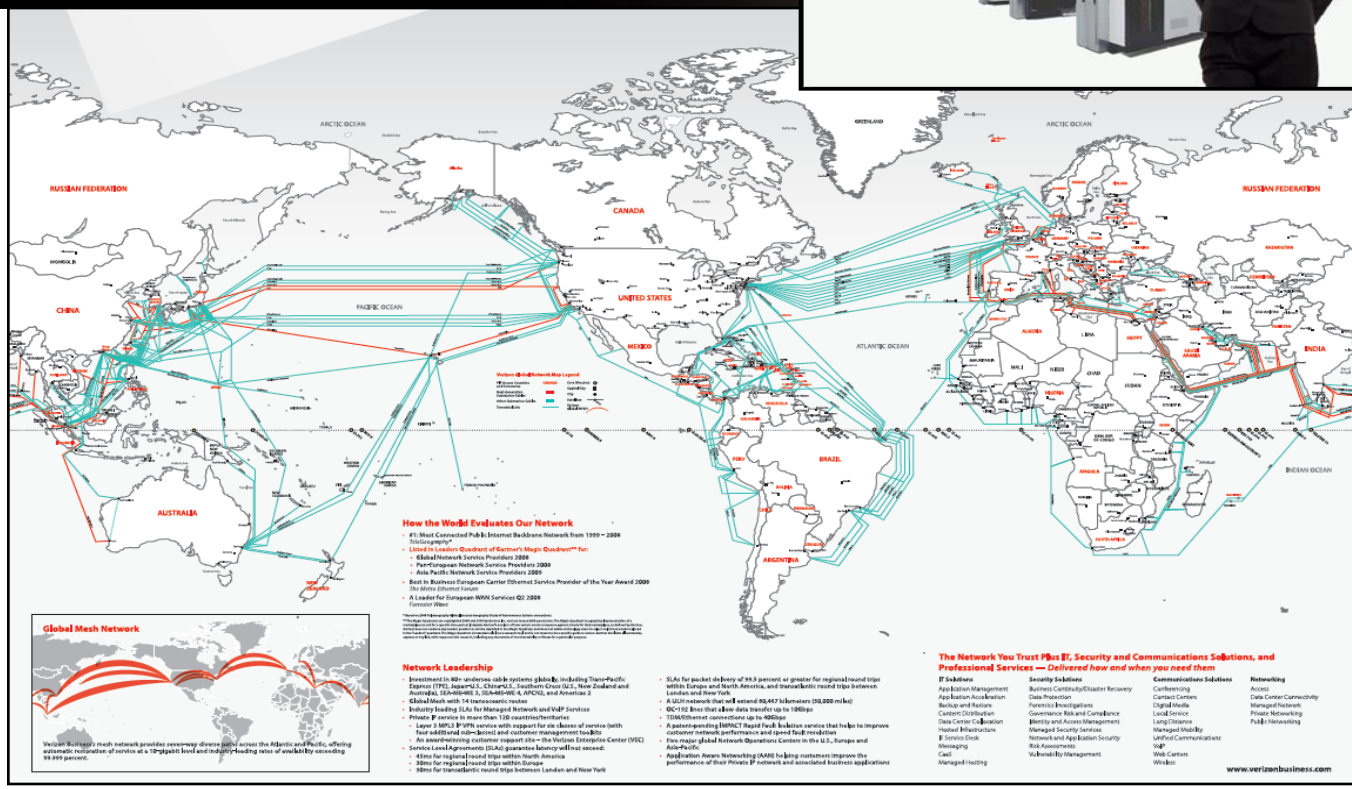
Verizon's International Presence

Global Internet Backbone

Investments in more than 80 Undersea Cables

Europe-India Gateway (EIG) next

International IP Network for Enterprise services



Verizon Business in Europe:

- **Voice, Global Data Link (GDL), Private IP (PIP), Frame/ATM, IP, Dial, and a premiere suite of managed service solutions, including – IT, security, communications, cloud-based applications and networking**
- **VzB-International Headquarters located in Reading, U.K. (approximately 1,800 employees)**

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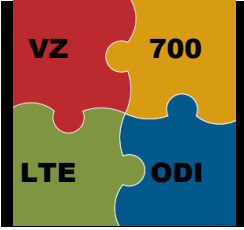
Long Term Evolution (LTE)

The LTE Revolution Has Begun

LTE is changing the way people think about wireless

- Service quality equivalent to fixed broadband
- High throughput speeds
  - Peak: 100 Mbps downlink / 50 Mbps uplink (2x20 MHz)
  - Average: 5-12 Mbps downlink / 2-5 Mbps uplink
- Support for innovative devices and applications
  - VoIP, high-speed Internet, high-definition video, interactive gaming
  - Machine-to-machine, medical services, energy management
- Global standard with worldwide support
- Excellent coverage and in-building penetration



Advancing 4G Wireless Broadband with LTE/700MHz

Why Long Term Evolution (LTE)?

- Significant throughput
- Low-latency, IP-based
- Global standard
- Scale economies

What is our Open Development Initiative (ODI)?

- Any device
- Any application
- Any content
- Any distribution

- Currently covering more than 160 million Americans in 143 markets; more than 185 million in 175 markets by EOY-2011
- Expand to national coverage of the U.S. by 2013
- Speeds 10 x faster; latency reduced by 50%
- LTE being deployed globally
- "It's about a firefighter who can download the design of a burning building onto a handheld device, a student who can take classes with a digital textbook, or a patient who can have face-to-face chats with her doctor." *

* U.S. President Barak Obama, State of the Union Message, 25 January 2011

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Machine to Machine (M2M)

How Verizon Defines Machine to Machine

VERIZON CUSTOMERS
UNRESTRICTED VOICE AND DATA COMMUNICATIONS

VERIZON M2M CONNECTIONS
RESTRICTED COMMUNICATIONS, PRIMARILY DATA

H — H

Devices that enable traditional, human-to-human communications

H — M

Devices that enable the transfer of data between humans and devices

H — M

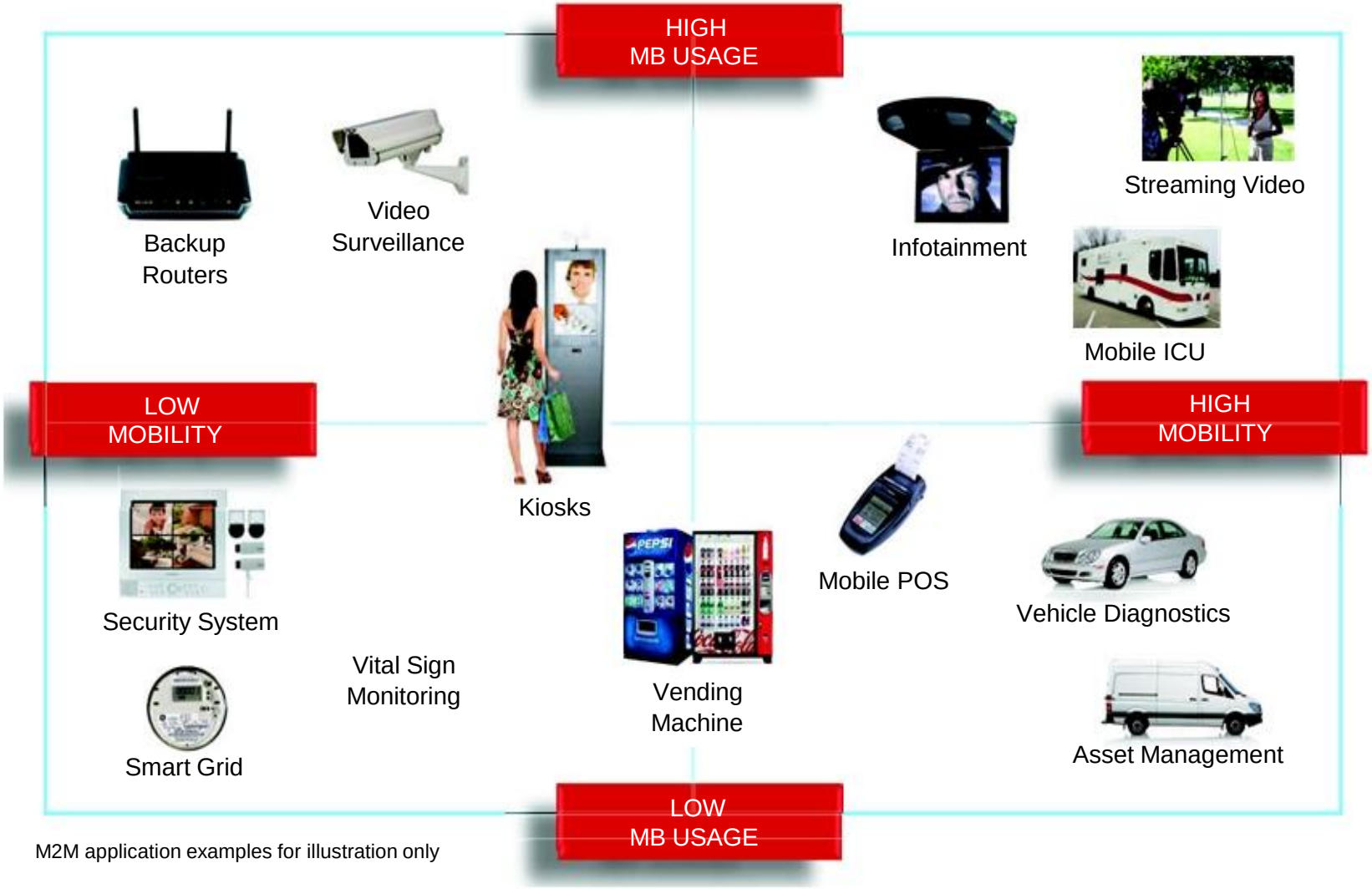
CONNECTED DEVICES

M — M

PURE MACHINE TO MACHINE

Exchange of data between business infrastructure and remote assets

Not All M2M is the Same



M2M application examples for illustration only

Future Technology

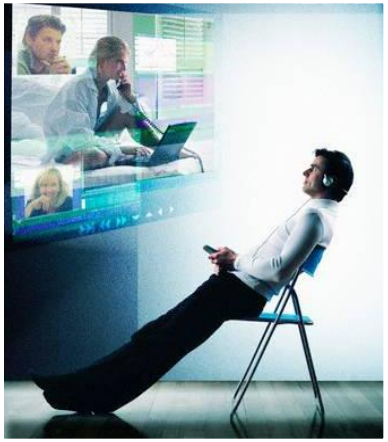
- In 2009, nearly 50,000 blood-pressure monitors were used in telehealth applications, but shipments of these devices will hit 500,000 by 2013
- Wireless devices that monitor patients' conditions and report the data to healthcare providers will show a 77 percent compound annual growth rate (CAGR) that will create global revenues of $950 million by 2014, according to a 2009 report from ABI Research
- By 2016: 100M wearable wireless sensors
- The market for wearable devices will exceed 100 million units annually by 2016
- Adoption over the next five years will be driven by devices, ranging from heart rate monitors to wearable blood glucose meters
- New, low-power wireless technologies such as Bluetooth 4.0 will combine with social networking and smartphone integration to drive adoption

Future High Bandwidth Services

Downloading of HD video content

3D TV

Multi-location HD and/or 3D video conferencing



3D HD medical imaging

UGC content uploading and downloading

HD home security monitoring

Multiple image TV content (180 or 360 degree) image, an IMAX-like experience

Cloud Services: An Illustration of the Dynamics of the Internet Ecosystem

- **Verizon, as a high-tech company, is delivering a rapidly evolving combination of services, including those "in the cloud."**
- **This is no longer the "traditional telecom service" space, but one where flexibility and innovation shape industry identities. The industry's boundaries are evaporating – wireline, wireless, operating systems, content, search, multiple services, devices.**
- **All members of the Internet ecosystem increasingly collaborate *and* compete with one another, leading to a virtuous cycle of innovation and competition that benefits consumers.**
- **This also requires thinking about competitive dynamics and complex policy issues in new ways, for instance:**
  - Cloud-based security (e.g., through more extensive use of security measures, and redundancy in routing and storage capability).
  - National rules that impact cross-border service deployment should be harmonized and minimally intrusive, in order to enable key IP-based services such as cloud computing.
  - Data Protection – thinking in terms of how data is used and secured and by whom, regardless of jurisdiction, rather than on the basis of where it comes from.
  - As business models and data flows evolve, parties exchanging data should continue to have the flexibility to enter into commercial arrangements regarding such data transfers.

Action Agenda – Unlocking Potential From the Internet Ecosystem

- **What we know: The Internet Economy, supported by information and communication technologies, will strengthen our capacity to improve the quality of life for all our citizens. ***
- **What we need:**
  - **A stable, reliable and trusted infrastructure**, capable of addressing and responding to emerging risks and threats. *
  - **Foster innovation and ongoing expansion of the Internet** by avoiding regulation that could jeopardize "the open, decentralized and dynamic nature" of the Internet. **
  - **Stimulate investment and competition** in the development of high-capacity information and communication infrastructures. **

* From the "Declaration on the Future of the Internet Economy."
** From "Internet 2018: a Business Vision paper for the OECD Ministerial."

Thank You