

The New Internet (IPv6):

**What it is, and how to make
money with it**

CES 2006

WELCOME
TO THE
NEW INTERNET!

**“Everything will be brand
new...again!”**

Agenda

- The New Internet: What is it?
- What is it good for?
- What is its status?
- How can we make money with it?
- What do we need to do next?
 - Implications for Buying Products/Services
 - Starting New Businesses or Initiatives
 - Investment Ideas

What is it?

- **How the Internet Works**
 - All content broken into “packets”
 - Similar to letter: address, content, special instructions, sent from A>B
 - Receiver (“B”) puts the packets into order to produce email, video
 - Since 1973: Internet Protocol version 4, IPv4

Problems with IPv4

- It's 32 years and 6 months old!
- No built-in, always-on security
- Not enough addresses for all the people (billions) or products and networks (trillions of trillions)
- Fix to address problem leads to “middle men” in the A>B path – you no longer know who's on the other end
- IPTV – poor quality, high cost
 - No end to end quality control
 - Must send one stream for every customer -- \$\$\$
- VoIP: Difficult to control quality
- NOTE: These problems cannot be solved system-wide with IPv4

New Internet (IPv6) Features

- Huge number of addresses means every important thing can have its own address
 - No “middle men,” guaranteed end-to-end svc
 - Can check quality A>B, authenticate source
 - Online, connected products – thousands
- Built in, always-on security (home, mobile)
- Save \$\$ on TV-over-Video (IPTV)
 - With MUCH better quality, system-wide
- True mobility with seamless service

New Internet Status

- Available in limited areas in the US (dep. on ISPs)
 - Mandated by Department of Defense, Fed. Government
- Widely available in Japan, Korea, Europe
- First consumer products now available
 - Video cameras, cell phones, homer routers
- Supported by consumer browsers (XPv2, OSX, Linux)
- Status is similar to introduction of digital cell phones
 - Analog more widely available, but its end is foreseeable
 - Dual-capable equipment for near future

New Internet (IPv6) Future

- Japanese Government Report: \$1.55T in 2010!!
 - Rapid growth from 2005 (few hundred \$Ms)
- New IPv6-enabled chips support consumer products (CPUs, wireless, IP access)
- New browsers strongly support IPv6 (Vista)
- Broadband growth in home, wireless
- “Triple Play” – everything moving to IP
- Result: hundreds of new products 2007/08

How Do We Make Money?

- Improve existing businesses
 - IPTV (cheaper, better), VoIP, cell phones (better access, mobility)
 - Empower cameras, etc. with Tracking (RFIDs)
- Start new business area
 - IPTV (new niche channels for education, politics, religion, children's programming, etc.)
 - New home, business products and services (Access: keys, video, music, phone, fridge, front door, safety devices)
 - NEW types of videogames (local net, LBG), mobile products, content delivery, automotive products, iTV, everything the Internet touches!!!

Money Making Trends

- First movers get the most of new markets
 - Digital cameras: Firefly, etc.
- New Businesses lead to many support businesses/services
 - Digital cameras: Firefly, etc.
 - Connected home devices: new types of wireline connections
 - Connected everything: new GPS markets (esp. indoors, city “canyons” – TVGPS, other technologies)
- New model of technology transition in some areas
 - Old: government > professionals > consumers
 - New: professionals > PROSUMERS > consumers > gov’t

Specific Business Areas

- Home Networking
 - Powerline accesss, IP-enabled products, entertainment/education content access
- Home Entertainment
 - Entertainment access, new models
- Home Office
 - Working in “connected” office with access to globe
- Security and Mobility
 - New types of mobile content, platforms
 - New types of “staying connected to stay secure”

SUMMARY

- IPv6 is a major enabling technology and new business area for CE
- Rapid acceleration in 2007
- Affects services (IPTV, VoIP) as well as products
- Urgent for firms to get trained/educated on both business and technology aspects
- Wise to investigate IPv6 and “dual capable” IPv4/IPv6 equipment (vs. “IPv4-only”)