

# Technology Futures – 2011

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By

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## I. Last Year's Predictions

**A. Good - 11**

**B. Almost - 4**

**C. Poor - 1**

## II. Trends

### A. Companies

1. Google
  - a. The Numbers
  - b. Management
  - c. Prime Strategies
  - d. Acquisitions - (42 in 2010)
  - e. Challenges
  - f. Futures
2. Apple
  - a. The Numbers
  - b. Management
  - c. Prime Strategies
  - d. Acquisitions
  - e. Challenges
  - f. Futures
3. IBM
  - a. The Numbers
  - b. Prime Strategies
  - c. Acquisitions
  - d. Challenges
  - e. Futures
4. Microsoft
  - a. The Numbers
  - b. Management
  - c. Prime Strategies
  - d. Acquisitions
  - e. Challenges
  - f. Futures
5. HP
  - a. A company that has become much more comfortable and adept at execution rather than innovation

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- b. How it's positioned on the enterprise front
- c. Needs to replace lost PC revenues
  - (1) WebOS
  - (2) Pre3
  - (3) Veer
  - (4) Touchpad

## **B. Platforms**

- 1. The Post-PC Era
  - a. Old World vs New World
  - b. People are moving away from traditional PCs and laptops
  - c. Tablets are eating into PC market
- 2. What defines "Platforms"
  - a. Operating Systems
  - b. Mobile Hardware
  - c. Eco-systems
- 3. The Components
  - a. Mobile Hardware
  - b. Mobile OSs
  - c. Eco-Systems
  - d. What About Chrome?

## **C. Software**

- 1. Applications
  - a. Office 365
  - b. Google Cloud Connect For Microsoft Office
  - c. Java and it's future with Oracle
  - d. Microsoft Office Alternatives
- 2. HTML5 vs Flash
  - a. What HTML5 Does
  - b. WebKit-based Browsers
  - c. The fight over H.264
  - d. Browser HTML5 Compliance
  - e. Adult Film Industry
- 3. Virtualization
  - a. The game is still between VMWare, Microsoft, and Citrix
  - b. Market shares can be misleading
  - c. Features
  - d. Cost
  - e. Private Clouds
  - f. The Bottom Line

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## **D. Hardware**

1. Telematics
  - a. General
  - b. Ford
  - c. Auto WiFi capability set to soar
  - d. The New OnStar
  - e. Microsoft Windows Embedded Automotive
  - f. Toyota Entune
  - g. RIM's QNX Software for automotive
2. Hard Disk Drives
  - a. Hard Disk Drives (HDDs) will be replaced by Solid State Drives (SSDs)
  - b. A move from spinning disks to flash chips brings benefits in three areas
  - c. The biggest downside of the technology is cost
  - d. Some comparisons
  - e. It may take a generation for SSDs and HDDs to reach price parity
  - f. Microelectronics industry aligns behind JEDEC
3. Mobile Devices
  - a. SmartPhones
  - b. Mobile devices in the Enterprise
  - c. e-Readers
  - d. Tablets
  - e. e-Textbooks & Book Apps
4. Gadgets
  - a. Withings Scale
  - b. iGrill
  - c. Cobra PhoneLynx
  - d. SPOT Connect
  - e. Retro Handsets for iPhones
  - f. Inductive Power Systems
  - g. The Connected Car - Mavia

## **E. Communications**

1. Cloud Computing - Europe moves slowly
  - a. Eventhough Europe's economy is larger than the US
  - b. Global saies of cloud services - Gartner Group study
  - c. Lobbying lawmakers in Europe to loosen restrictions
  - d. Trying to make cloud computing work within Europe's complicated legal landscape

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2. Near-Field Communications (Mobile Payment Systems)
  - a. Mobile Payment Systems
  - b. Mobile Coupons
  - c. NFC is more than mobile payments
3. Making Wireless Like Wired
  - a. The Promise
  - b. FCC Opens Spectrum
  - c. Wi-Fi Direct
4. LTE Wins 4G Battle
  - a. But is it really 4G?
  - b. LTE Buries WiMAX

## III. Enabling Technologies

### A. Software

1. Augmented Reality - A Follow-Up
  - a. Refers to technology that superimposes computer-generated content over live images viewed through cameras
  - b. As location services are married to AR technology, mobile users have the opportunity to allow data about a particular location to tell them about their surroundings
  - c. Last year we discussed PresseLite's Metro Paris Subway application
  - d. Acrossair has developed a similar AR application for the New York Subway system
  - e. You look through the camera and see where the closest subway is
  - f. Points toward other destinations and landmarks and shows the approximate distances
  - g. Another iPhone app called Panoramascop
    - (1) Gives you information about your surroundings for tourists or hikers
    - (2) Such as the names of mountains you see on the horizon
    - (3) Island information while looking at it from a ship
  - h. Even though there are many AR apps, the technology has still not hit the mainstream
  - i. The technology has been more of a novelty
  - j. But, as devices, processors, and software add more horsepower and sophistication the level of information that can be added will increase geometrically

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## B. Hardware

1. Faster Compact Flash
  - a. Sony, Nikon and SanDisk have developed a new specification
  - b. The proposed new format, which doesn't yet have a name
  - c. Supports data transmission at up to 3X the current CF 6.0 spec or 500MBps
  - d. The cards will look similar to CompactFlash but with no backwards compatibility
  - e. It has the support of the CompactFlash Association
  - f. Card sizes will go up to 2 TB
2. USB 3.0
  - a. Manufacturers have ironed out interoperability problems and USB 3 is finally headed for the mainstream
  - b. The cost of USB chips have dropped from about \$7 each more than a year ago to about \$1 now for devices that plug in with USB 3 and \$2 for "host" systems such as computers
  - c. It goes by the name of "SuperSpeed USB"
  - d. Its data transfer rate is 5 Gbps or 10X that of USB 2 with the potential to scale to 25 Gbps
  - e. It cuts power consumption by a third
  - f. It can send over 80% more electricity to run or charge a connected device
  - g. It could still be late 2011 or early 2012 before we see chipsets supporting USB 3.0 in large supply
3. Intel's Thunderbolt
  - a. Thunderbolt is an optical interface that was developed as a single universal replacement for current buses such as SCSI, SATA, USB, FireWire, and PCI Express in an attempt to reduce the proliferation of ports on contemporary computers
  - b. Because of its speed, it can also replace high-speed display, disk and network protocols like eSATA, DisplayPort and Ethernet
  - c. It can handle most peripherals and display connections with a single daisy chained optical cable
  - d. Its data transfer rate is 10 Gbps or 10X that of USB 2 with the potential to scale to 100 Gbps
  - e. Apple has started shipping its MacBook Pro computers with Thunderbolt onboard
  - f. Intel has yet to support USB 3.0 in the chipsets that accompany its processors
    - (1) "We are absolutely committed to USB 3.0 and beyond that. But don't expect USB 3.0 support in Intel chipsets anytime soon."

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- g. There are reports of Thunderbolt detractors, who claim it won't be widely implemented and that PC makers are, instead, gearing up for USB 3.0
- 4. Bioprinting
  - a. Researchers at Wake Forest University are developing a method of implanting skin tissue onto burn victims for faster and more thorough healing
  - b. Uses a normal ink-jet printer where the ink cartridges are replaced with the patient's own skin cell proteins
  - c. The ultra-thin skin layers are printed one on top of another
  - d. As a new method of skin restoration, Bioprinting has many benefits over traditional skin grafts
  - e. It's been tested on mice and the US Army is now doing limited human testing
  - f. Could see Bioprinting in use by 2015

## IV. This Year's Predictions

**A. Hardware**

**B. Communications**

**C. Software/Media**