

15 November 2011 - RTP



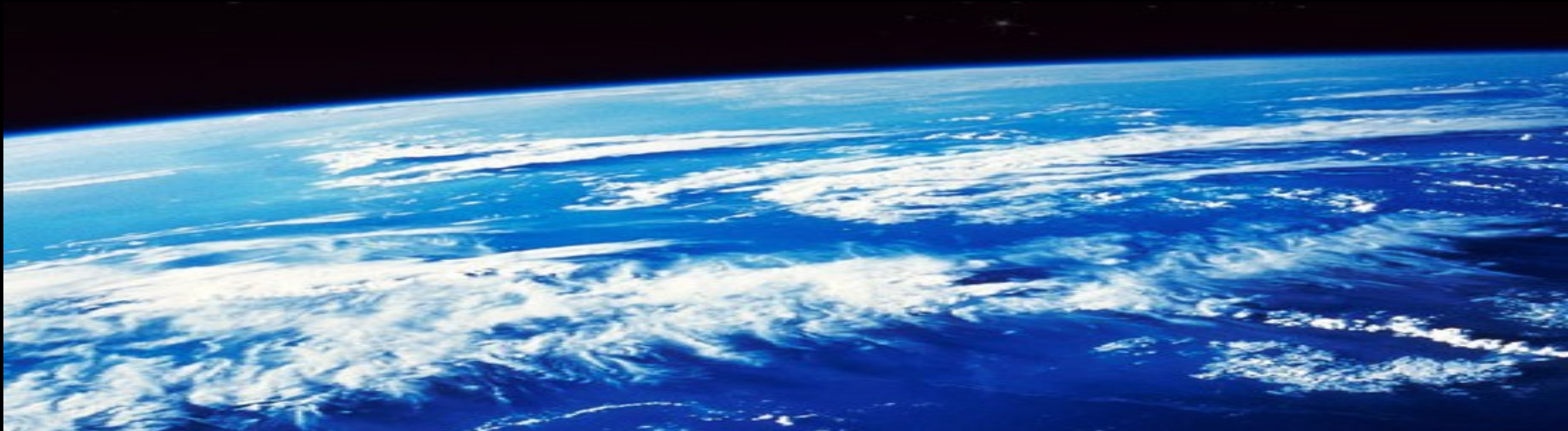
2011 IBM PCB Symposium



Technology Integration

Mark Morizio

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THANK YOU!!

Logos in this quadrant include: XTALIC, tuc, Nittobo, PPG, EMIC, NOUYA, Panasonic, Material, isola (The Base for Innovation), OAK-MITSUI, Hitachi Chemical, ITEQ, and PARK ELECTROCHEMICAL CORP.

Logos in this quadrant include: FOXCONN, Amphenol, InterCon Systems, Amphenol TCS, Interconnect, molex, and TE connectivity.

Logos in this quadrant include: HITACHI (Inspire the Next), Elec & Eltek, GCE, TNCSI, COMPEQ, FLEXTRONICS, SANMINA-SCI, PCB/Flex, molex, MULTEK, Endicott Interconnect Technologies, Inc., and TTM Technologies Meadville.

Logos in this quadrant include: IPC, Endicott Interconnect Technologies, Inc., Celestica, introbotix, ECAT, Test & Spec, FOXCONN, ANSYS, IBM LPAT, and UL.

Logos in this quadrant include: AcBel, DELTA, Power, and EMERSON.

Consider how your future industry trends influence each other
Start discussing future challenges today !!

	1Q	2Q	3Q
Revenue	\$24.6B +8% (5%@CC)	\$26.7B +12% (5%@CC)	\$26.2B +8% (3%@CC)
Operating EPS (Non-GAAP)	\$2.41 +21%	\$3.09 +18%	\$3.28 +15%

	1Q	2Q	3Q
Software PTI (yr/yr)	+10%	+17%	+12%
Hardware PTI (yr/yr)	+19%	+17%	+8%
Services PTI (yr/yr)	+6%	+10%	+8%

- Revenue growth driven by:
 - Growth Markets: +18% (12 % CC), +23% (13%), and +19% (13%) for 1Q, 2Q and 3Q respectively
 - System z up 41% yr/yr in 1Q and 61% yr/yr in 2Q
 - Power Systems up 15% yr/yr in 3Q
 - Smarter Planet Revenue up 50% year-to-date
 - Cloud revenue has doubled full year 2010 revenue
- Expanded operating gross, pre-tax and net margins
- Returned \$4B to shareholders
- Full-year 2011 Operating (non-GAAP) EPS expectations raised to at least \$13.35 from at least \$13.25
 - 2015 projection of at least \$20 EPS expected

2011 Systems & Technology Results

Better/(Worse) Yr/Yr

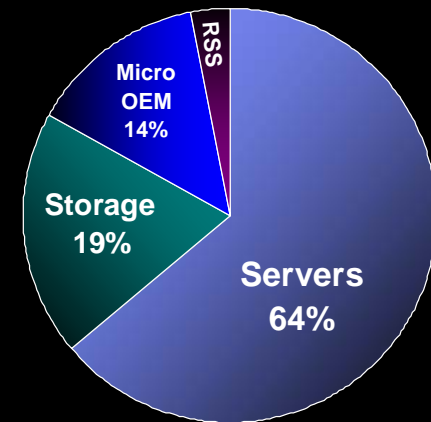
	<u>3Q11</u>	<u>Rptd</u>	<u>@CC</u>
Revenue (External)	\$4.5 B	4%	1%
Gross Margin (External)	39.8 %	3.4 pts	
PTI Margin	6.8 %	0.3 pts	

3Q11 Revenue

Yr/Yr

	<u>Rptd</u>	<u>@CC</u>
System Z	(5%)	(7%)
Power Systems	15%	12%
System X	1%	(3%)
Storage	8%	5%
Retail Store Solutions	14%	11%
Total Systems	6%	2%
Microelectronics OEM	(6%)	(6%)
Total Systems & Technology	4%	1%

3Q11 Revenue
(% of Total Systems & Technology)



Power Systems extend Unix leadership

Our Values



IBMers Value:

Dedication to every client's success.

Innovation that matters—for our company and for the world.

Trust and personal responsibility in all relationships.



Committed to environmental leadership and corporate responsibility to the environment

“We accept our responsibilities as a corporate citizen in community, national and world affairs; we serve our interests best when we serve the public interest....We want to be at the forefront on those companies which are working to make our world a better place.”

...Thomas J. Watson, Jr., IBM chairman and chief executive officer, 1969

U.S. Companies - Green Rankings 2011 PAGE: 1

RANK	COMPANY	COUNTRY	INDUSTRY SECTOR	GREEN SCORE
1	IBM	United States	Information Technology & Services	82.5
2	Hewlett-Packard	United States	Technology Equipment	75.8
3	Sprint Nextel	United States	Telecommunications	75.6
4	Baxter	United States	Healthcare	74.9
5	Dell	United States	Technology Equipment	74.7

October 2011

First wind, now waves: IBM bullish on renewable energy: IBM and The Sustainable Energy Authority Ireland (SEAI) are working together to understand and minimize the environmental impact of converting wave energy into electricity.

October 2011

Newsweek published its environmental ranking of the top international and US-based companies, and IBM is number one on the list of US companies and number 2 on the global list. Companies ranked on their overall "green score" based on an accumulated score of three components: Environmental Impact Score (EIS), Green Policies Score (GPS) and Reputation Survey Score (RSS).

Global Companies - Green Rankings 2011 PAGE: 1

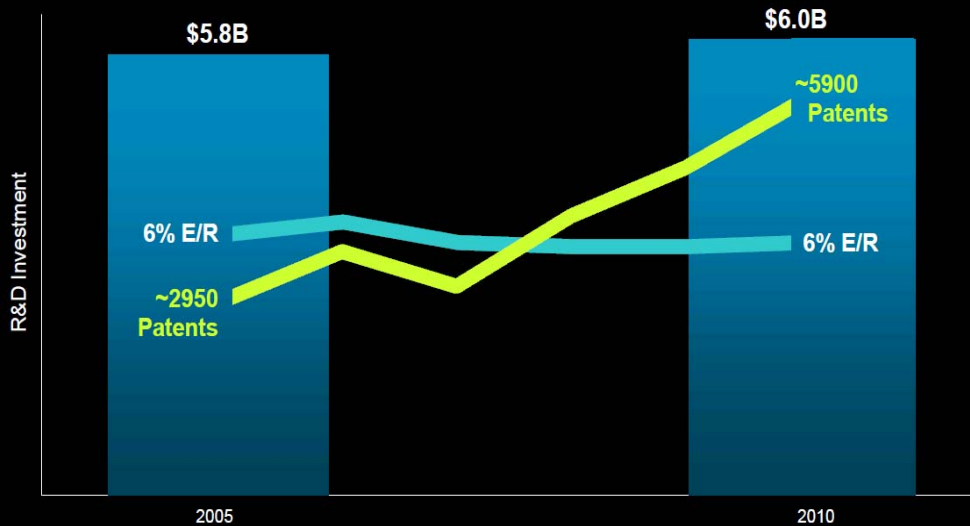
RANK	COMPANY	COUNTRY	INDUSTRY SECTOR	GREEN SCORE
1	Munich Re	Germany	Financials	83.6
2	IBM	United States	Information Technology & Services	82.5
3	National Australia Bank	Australia	Financials	82.2
4	Bradesco	Brazil	Financials	82.2
5	ANZ Banking Group	Australia	Financials	80.9

October 2011

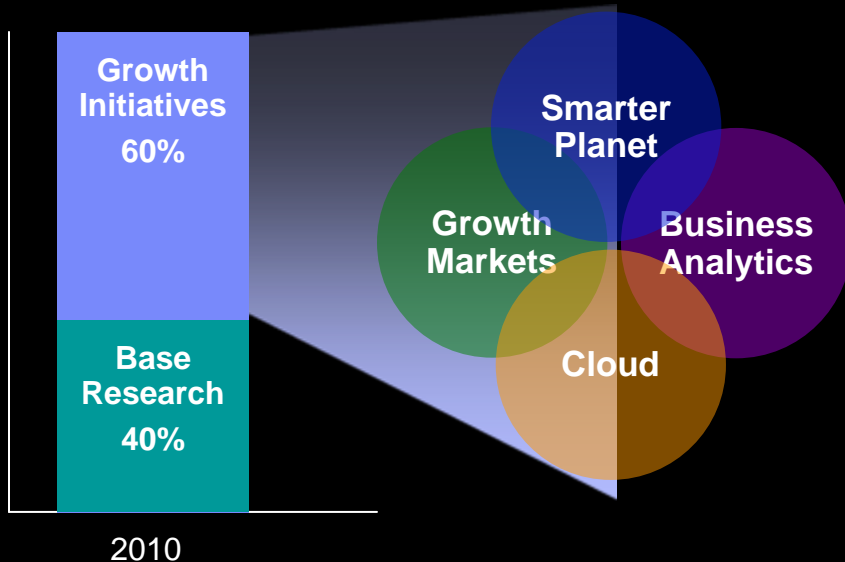
IBM Joins European Consortium to Build a Smart Grid Using Renewable Energy: IBM announced it has joined a collaborative consortium to help develop an energy grid that uses at least 50 percent of renewable energy sources, such as wind power, solar energy and biogas. Led by a European Union-funded consortium, the EcoGrid EU project will demonstrate a smart energy grid that will allow smart devices to use renewable electricity based on near real-time pricing and availability.

IBM Research: Supporting IBM's Growth Initiatives

IBM continues to make consistent and sizable investments in R&D



- 18 years at the top of the patent list
- 9 major IBM labs around the world + countless other R&D centers / partners
- 3,000 IBMers in Research
- ~5,900 patents in 2010
 - Exceeds Oracle, Microsoft, HP, EMC & Google combined



- 60% of Research applied to Growth Initiatives
 - ~1000 researchers globally focused on Services & Business Analytics
 - More than the total number of researchers at HP
- 40% of Research applied to Base Research
 - Support current products and exploratory research such as the Watson System

IBM's Ongoing Transformation Journey

The "Smarter" phase of our transformation is underway

2002

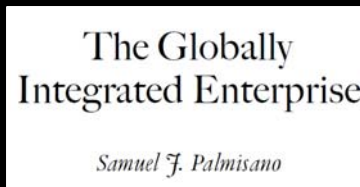
Sharing & partnering



- Consistent set of processes worldwide
- Leverage best practices
- Standardize and reduce waste
- Governance and performance discipline

2006

Globally integrating



- Right skills, right place, right cost
- Rationalize support functions for greater efficiency
- Radically simplify processes

2010

Making things smarter



- Instrumented, interconnected, intelligent
- Enable growth and productivity
- Optimize the whole system

IBM's Growth Initiatives



Growth Markets

Opportunity:

The emerging market GDP growth rate - expected to be 5 percent through 2015 - is more than double that of major markets.

- Economic expansion in emerging markets (middle class growth & economies joining global marketplace)
- IBM expanding branch locations in BRiC countries
- Other growth markets (Africa) leveraging our clients



Cloud

Opportunity:

Cloud is a new, highly efficient model for consuming and delivering IT-based services. It is made possible by virtualizing resources, automating processes, and standardizing tasks so they can be offered as easy-to-use services.

- Supporting diverse clients (banking, healthcare, & government) to build their own clouds or securely tap into IBM cloud-based business services
- Clouds enable our clients to better service their clients and business partners



Business Analytics

Opportunity:

Global data volumes are predicted to increase by 29 times over the next 10 years to 35 zettabytes.*
(A zettabyte is a 1 followed by 21 zeros)

- Enable Enterprises to manage and mine the deluge of potentially valuable information



Smarter Planet

Opportunity:

The infusion of digital intelligence into industries, infrastructures, processes and cities can make them more productive, efficient and responsive.

- Smarter Cities initiative (integrating real-time information and processes across many city departments)
- Instrumented, Interconnected, Intelligent

ISC (Integrated Supply Chain): Supporting IBM's Growth Initiatives



- Become an optimized flexible Smarter Value Chain
 - Enable pervasive predictive analytics
 - Integrate, Simplify, Converge Processes and IT
 - Transform our business to drive Client Value
-
- Drive End to End network optimization
 - Build smarter processes
 - Sell what we do; Become a Showcase for ISC & IBM
-
- Enable growth market expansion
 - Collaborate & influence from sourcing, to development, through to delivery for competitive advantage
 - Enable & optimize Solutions delivery
 - Cultivate broad & deep skills

Supply Chain Risk Management

Financial
Risk

Regulatory
Risk

Environmental
Risk

Strategic
Risk

Operational
Risk

- **Build Smarter Processes**
 - Integrated process controls in logistics and operations
 - Compliance programs with suppliers (Product Environmental Compliance)
 - Supplier Financial Risk Assessment
- **Become an optimized flexible Smarter Value Chain**
 - Integrated risk strategies & mitigation policies in supply chain planning
 - Single / Dual sourcing plans
 - Pandemic Contingency Planning
- **Enable pervasive predictive analytics**
 - IT enablement to monitor and act on disruptive events (Cognos Technology)
 - Impact Likelihood Model
 - IBM ILog based instantaneous alert functionality and process

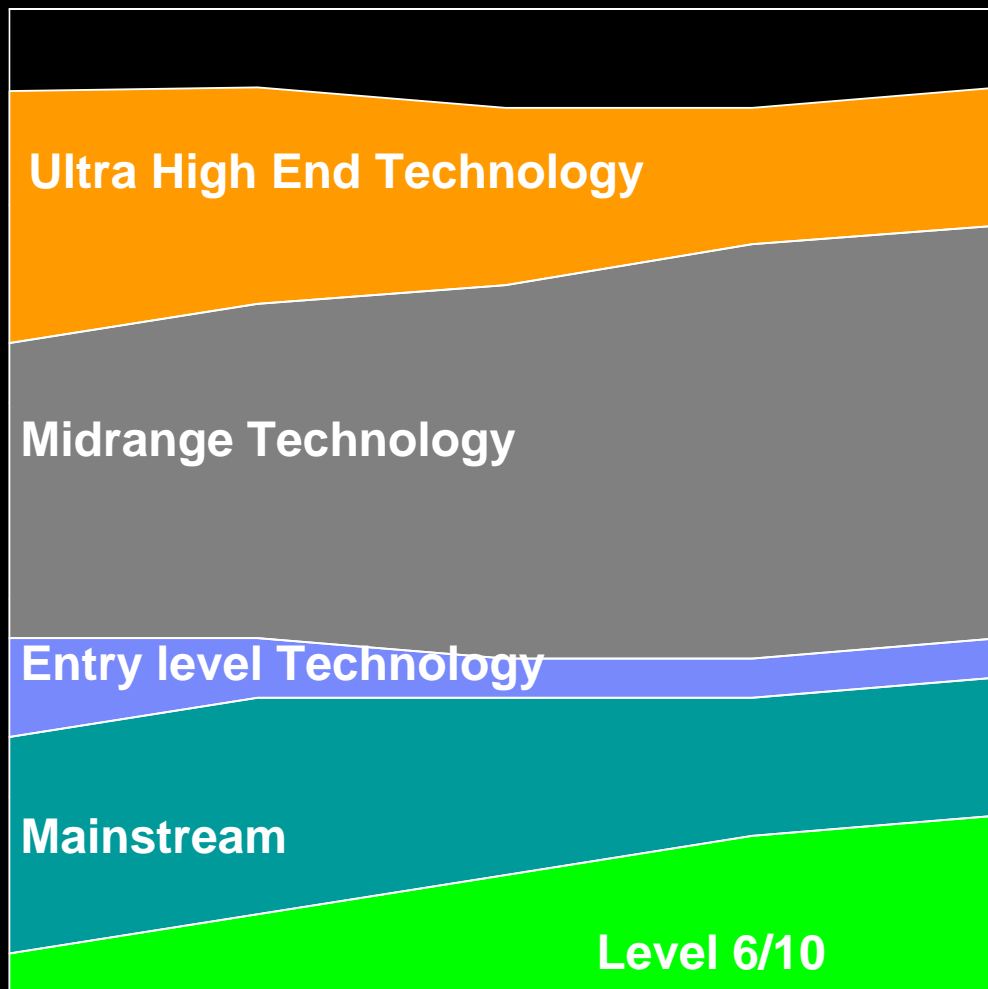
IBM Technology Trends

Today



Future

Vol/\$



- Share will decrease as
 - Complexity of boards decreases
 - Commonly spend
- Difficult manufacturing
 - PCB practices becoming smaller
- Interconnect ~ \$330 mil
- Share will increase as
 - Midrange absorbs high end technology "trickle down"
 - ECAT ~ \$1.12 bil
 - Power ~ \$360 mil
- Share will decrease slightly
- Total entry technology trends towards Midrange
 - Low complexity moves into Mainstream
- Mainstream share will decrease
 - Very low complexity cards move to level 6/10
- Level 6/10 increases

Shortened development cycles

Overlap of product development cycles



Increasing wage and benefit costs

Increasing raw materials costs

Increasing transportation costs

Maintain technology leadership while using industry standard components and designs

Manufacturing and testing of higher performance products

Turnover rate of experienced employees

Staffing reductions as a result of cost pressures

Unique designs drive complex manufacturing challenges

Our Challenges For This Week



▪ **Design Efficiency**

- Design for manufacturability and technology integration
 - Identify areas of wasted effort or added cost
 - Eliminate over specing / Over testing / Over qualification
 - Identify industry trends and established supplier processes



▪ **Technology Integration**

- Collaborate across commodities to identify future challenges/interactions
 - Form teams to address challenges before they become problems
- Understand current technology limitations impacting IBM's future requirements
 - Recognize the similarities and difference between IBM brands
 - Address technology challenges in signal integrity, power, PCB and ECAT
- Discuss how best to address environmental drivers, cost, and time to market



▪ **Quality**

- Identify IBM or industry trends that are driving quality risk factors
- Identify areas both inside of IBM and at suppliers that need improvements to protect IBM quality

**Value
Cost**



Questions & Answers

