IBM Systems & Technology Group

Competing against HP

With IBM eServer p5

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This educational piece is intended for your use in selling.
It is NOT a deliverable for your customers

About this session

- Abstract

  This session provides competitive positioning of the pSeries servers against HP's Integrity and PA-RISC servers. It includes how to position and develop stronger sales strategies vs. HP.

- Objectives

  1) Understand HP's strategy and sales tactics;
  2) Position pSeries and know the product differentiators;
  3) Learn from customer success stories on how to beat HP;
  4) Utilize available resources to win again HP

Agenda

- **Introduction**
- HP's UNIX line-up
- IBM's advantage over HP
- Itanium
- Call to action

Why HP is a Formidable Competitor

- Positions Itanium as only viable alternative to IBM, claiming that Itanium is the industry standard while IBM is proprietary
- Significant presence in the enterprise due to acquisition of Compaq (the only true benefit to the actual merger …. HP bought installed base
- Viewed as a “total solution” technology supplier – just like IBM
- Able to subsidize sales opportunities … and show a quarterly profit … due to size of printer/print consumables “cash cow”
- Well entrenched in corporate procurement process
- Aggressively acquiring SW and services to bolster “total solution provider” image
- Very loyal customers … no compelling reason to change
- Masters at spreading FUD (Fear, Uncertainly, Doubt) … a finely tuned marketing machine

What HP is Telling Your Customers

HP	High Technology Low Cost	High Total Customer Experience
IBM	High Technology High Cost	Low Total Customer Experience

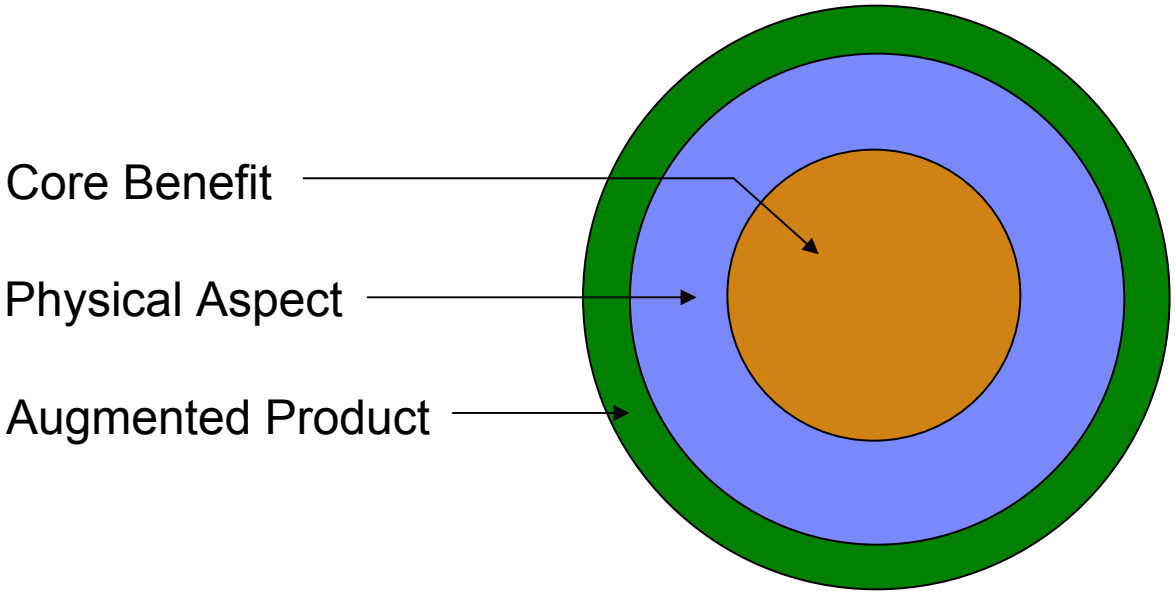
HP

- Open
- Partnering
- Customer focused
- Investment protecting
- Delivering Utility solutions
- Standards based
- WW share leader
- End2End, from Customer to DC
- Good enough/just right

IBM

- Proprietary
- Controlling
- Self focused
- Disruptive
- Trying to sell expensive services
- Still pushing expensive mainframes
- Only leads in EOL market segments
- Enterprise only
- Too much technology/over complex

What do you think your customer is looking for?



Dream

Context

Value Proposition

Business Need

Characteristics

Advantage

Business Benefit

Agenda

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- **HP's UNIX line-up**
- IBM's advantage over HP
- Itanium
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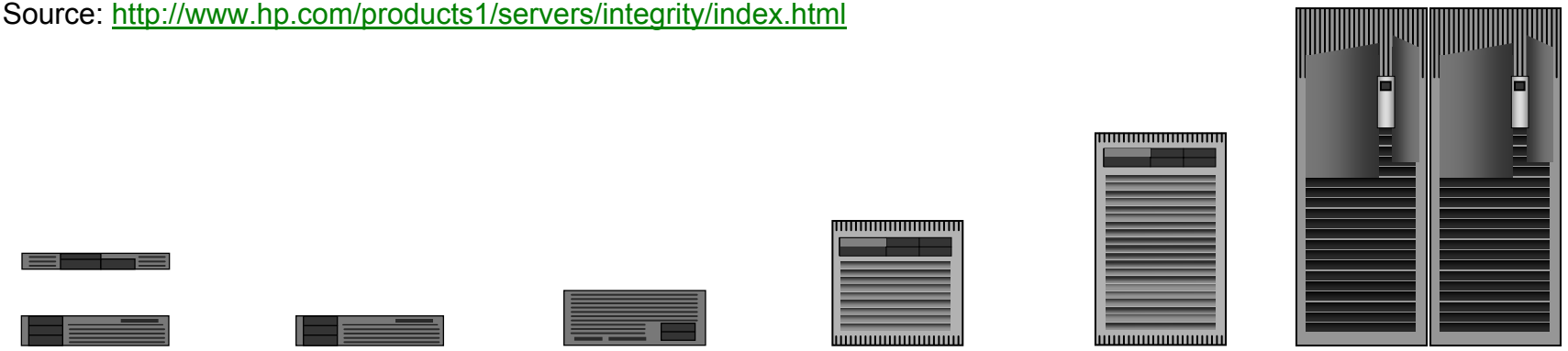
HP9000 and HP Integrity Product lines

Source: http://www.hp.com/products1/servers/HP9000_family_overview.htm
Source: http://www.hp.com/products1/servers/integrity/index.html



	rx1620-2	rx2620-2	rx4640-8	rx7620-16	rx8620-32	Superdome
Integrity	2 proc.	2 proc.	4/8 proc.	8/16 proc.	16/32 proc.	128 proc.
	1,3GHz/3MB 1,6GHz/3MB	1,3GHz/3MB 1,6GHz/3MB 1,6GHz/6MB	1,5GHz/4MB 1,6GHz/6MB 1,6GHz/9MB mx2 1,1GHz/24MB	1,3GHz/3MB 1,5GHz/6MB mx2 1,1GHz/24MB	1,3GHz/3MB 1,5GHz/6MB mx2 1,1GHz/24MB	1,5GHz/6MB mx2 1,1GHz/24MB
	16GB mem.	24GB mem.	128GB mem.	128GB mem.	256GB mem.	1024GB mem.

	rp3410-2	rp3440-4	rp4440-8	rp7420-16	rp8420-32	Superdome
HP9000	2 proc.	4 proc.	8 proc.	16 proc.	32 proc.	128 proc.
	0,8GHz	0,8GHz 1,0GHz	0,8GHz 1,0GHz	0,9GHz 1,0GHz	0,9GHz 1,0GHz	1,0GHz
	6GB mem.	24GB mem.	64GB mem.	64GB mem.	128GB mem.	1024GB mem.

IBM / HP UNIX Server Overview

IBM	
POWER	**clock (GHz)**
p520	1,500
	1,650
p550	1,500
	1,650
p570	1,500
	1,650
	1,900
p590	1,650
p595	1,650
	1,900

HP	
PA-RISC	**clock (GHz)**
rp2430	0,650
rp2405	0,650
rp5405	0,650
rp5430	0,750 - 0,875
rp5470	0,750 - 0,875
rp3410	0,800
rp3440	0,800 - 1,000
rp4440	0,800 - 1,000
rp7410	0,750 - 0,875
rp8400	0,750 - 0,875
rp7420	0,900 - 1,000
rp8420	0,900 - 1,000
SD 4	0,875
SD 4	1,000
SD 16	0,875
SD 16	1,000
SD 32	0,875
SD 32	1,000
SD 64	0,875
SD 64	1,000

HP	
Itanium	**clock (GHz)**
rx1600	1,000
rx2600	1,000 - 1,500
rx4640	1,300 - 1,500
rx5670	1,300 - 1,500
rx7620	1,300 - 1,500
rx8620	1,300 - 1,500
SD 4	1,500
SD 16	1,500
SD 32	1,500
SD 64	1,500

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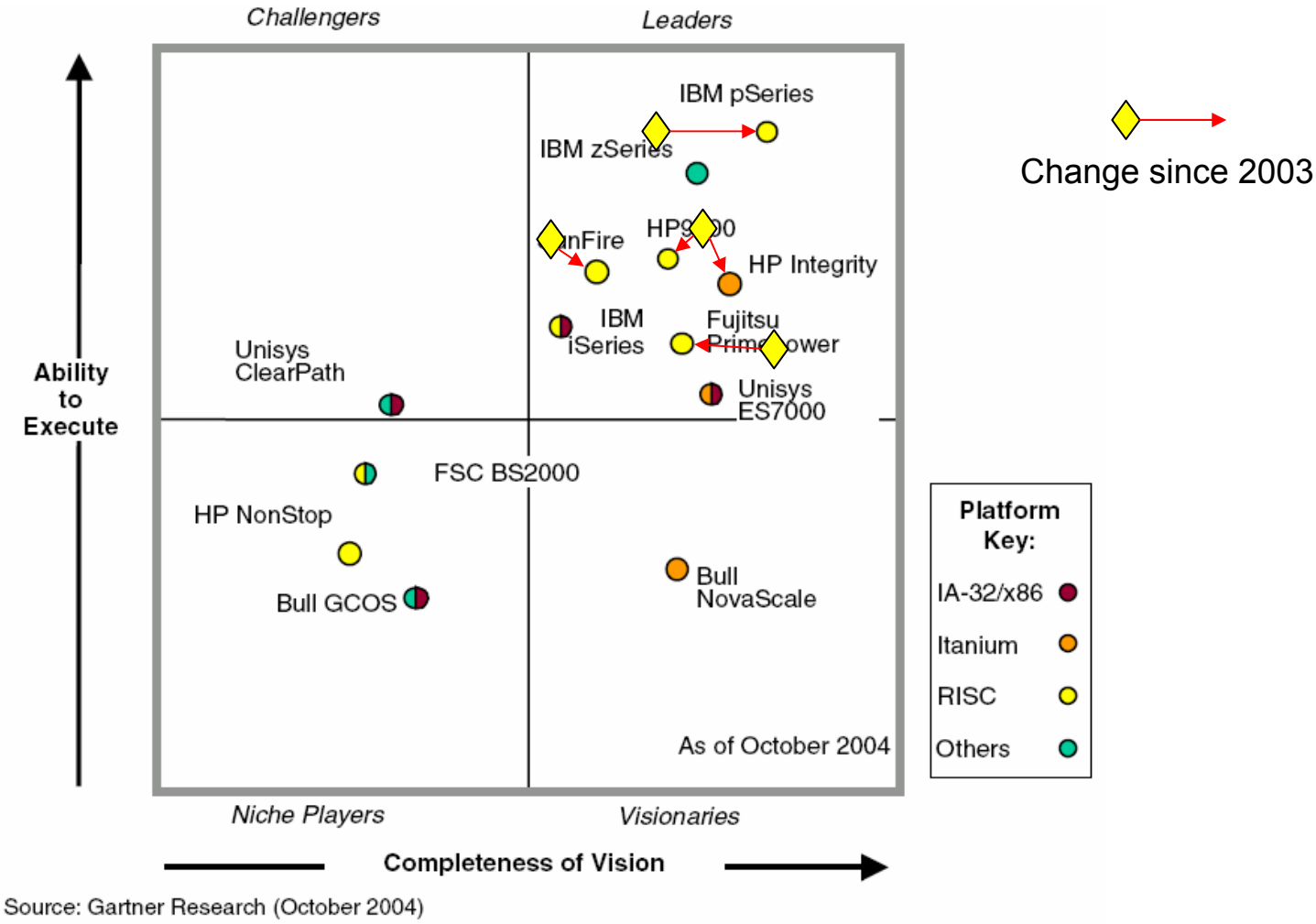
HP's IBM FUD factors

- Irrelevant benchmarks – using niche products like DB2
  - Moreover, a processor is a processor - ,max. 25% variance
- Unproven technologies – virtualization layers (AIX5.3, hypervisor)
  - Virtualization overhead, reliability, ISV pricing, failures cascade
- Forced hardware upgrades
  - No investment protection
- History of breaking binary compatibility (AIX4.3 to AIX5)
  - Recompiles and recertification across releases
- Single points of failure – hypervisor, interconnect
  - No concurrent maintenance, no blended technology, no partition isolation
- Dropping AIX in favor of Linux
  - AIX is different and low volume (ISV acceptance)
- POWER cannot run Windows – not industry standard
- IBM is a technology company – but no one would accuse them of being low cost

Gartner Group Magic Quadrant



Source: Gartner Research (October 2004)

The IBM eServer p5 Value Proposition

Doing things better

- Capacity — Fastest and linear scalable
- Reliability — Moving up to Mainframe levels

Doing better things

- Utilization — Highest granularity in resource allocation
- Flexibility — Only UNIX solution to offer resource virtualization

HP's Unprecedented and Sustained leadership

Page http://www.hp.com/products1/servers/integrity/performance.html says:
HP Integrity takes the hill with unprecedented and sustained performance leadership

HP claims, using IBM as reference point:

HP Integrity Superdome league

▪ TPC-C	HP: 22% better	Sun: n.a.	
▪ TPC-H	HP: 55% better	Sun: n.a.	
▪ Linpack	HP: 75% better	Sun: 44% worse	

HP Integrity midrange (rx8620, rx7620 and rx5670)

▪ SPECjbb	HP: 110% better	Sun: n.a.	
▪ SAP SD 2tier	HP: 23% better	Sun: 50% worse	
▪ TPC-C	HP: 150% better	Sun: n.a.	
▪ Oracle ASB	HP: 14% better	Sun: 8% worse	
▪ SPECweb99_SSL	HP: 91% better	Sun: 0%	no IBM benchmark

HP Integrity entry (rx2600)

▪ SPECint	HP: 100% better	Sun: 9% worse
▪ SPECfp	HP: 142% better	Sun: x% better

Three-tier SAP R/3 SD Benchmark

http://www50.sap.com/benchmark/

PUT IT IN
THE SERVER ROOM.
FEEL IT IN
THE BOARDROOM.

HP Integrity model SD64A

- Certification # 2004068
- SAP Release 4.7
- Users 100.000
- Average resp. time 1,75sec.
- Processor 64x Itanium2 9M 1,6GHz
- SW HP-UX 11i, Oracle 10g

IBM eServer pSeries p690

- Certification # 2002053
- SAP Release 4.6C
- Users 47.528
- Average resp. time 1,88sec.
- Processor 32x POWER4 1,3GHz
- SW AIX 5.1, DB2 V8.1

IBM eServer p5 model 570

- Certification # 2004076
- SAP Release 4.7
- Users 21.712
- Average resp. time 1,96sec.
- Processor 4x POWER5 1,9GHz
- SW AIX 5.3, DB2 UDB 8.2

TPC-H 10.000GB

THE BIGGEST PRODUCER ISN'T IN HOLLYWOOD.

http://www.tpc.org/tpch/results/tpch_results.asp

HP Integrity Superdome

- Result ID 104100701
- Metric 86,283 QphH
- Price/performance 161.00 US $ per QphH
- Processor 128x Itanium2 6M 1,5GHz
- SW HP-UX 11i, Oracle 10g

IBM eServer pSeries p690

- Result ID 102120502
- Metric 62,215 QphH
- Price/performance 243.00 US $ per QphH
- Processor 160x POWER4 1,3GHz
- SW AIX 5.2, DB2 UDB V8.1

SGI Altix 3700 8P

- Result ID 104101501
- Metric 8,828 QphH@300GB
- Price/performance 85.00 US $ per QphH
- Processor 8x Itanium2 6M 1,5GHz
- SW SLES9, DB2 UDB V8.2

IBM eServer OpenPower 720

- Result ID 104121601
- Metric 12,007 QphH@300GB
- Price/performance 40.00 US $ per QphH
- Processor 8x POWER5 1,65GHz
- SW SLES9, DB2 UDB V8.2

IBM eServer p5 Jaw Dropping Performance

TPC-C

Leverancier	Systeem	Processor	Klok (GHz)	Aantal proc's	tpmC	$/tpmC (USD)
IBM	p590	POWER5	1,9	64	3210540	5,19
HP	Superdome	Itanium2	1,5	64	1008144	8,33
IBM	p570	POWER5	1,9	16	809144	4,95

http://www.tpc.org/tpcc/results/tpcc_perf_results.asp?resulttype=noncluster

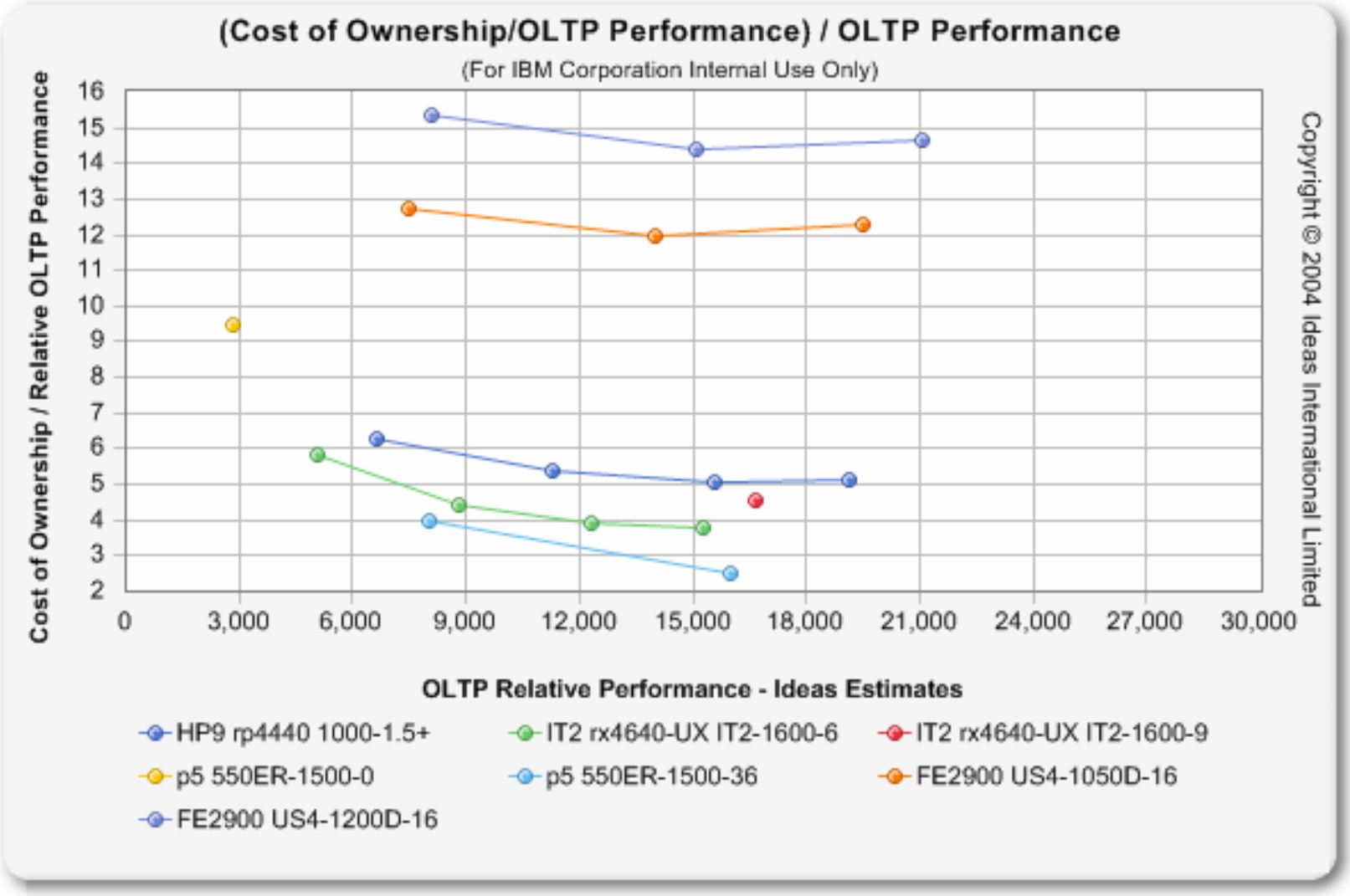
SAP

Leverancier	Systeem	Processor	Klok (GHz)	Aantal proc's	Gebruikers
IBM	p570	POWER5	1,9	16	5056
HP	rx8620	Itanium2	1,5	16	2880
Sun	E20k	US-IV	1,2	72	5050

http://www50.sap.com/benchmark/index.asp?content=http://www50.sap.com/benchmark/ato2tier.asp

And +50 more available

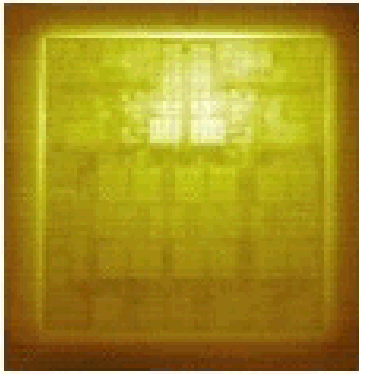
IBM eServer p5 Exceptional Price/Performance



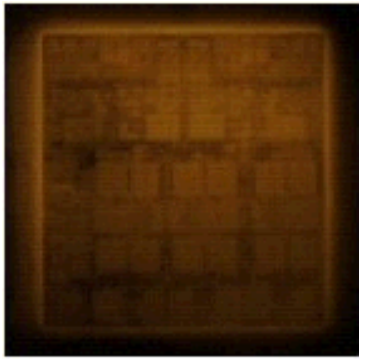
Why does IBM lead the performance game

- Technology
  - Developer and owner of the most important technologies
  - The knowledge about when and how to apply these technologies

No Power Management



Dynamic Power Management



Why does IBM lead the performance game

- Technology
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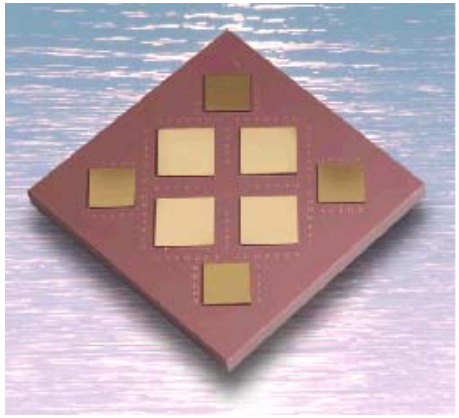
  - The knowledge about when and how to apply these technologies
- Packaging
  - eServer: x for cost, z for RAS
  - Superior level of integration



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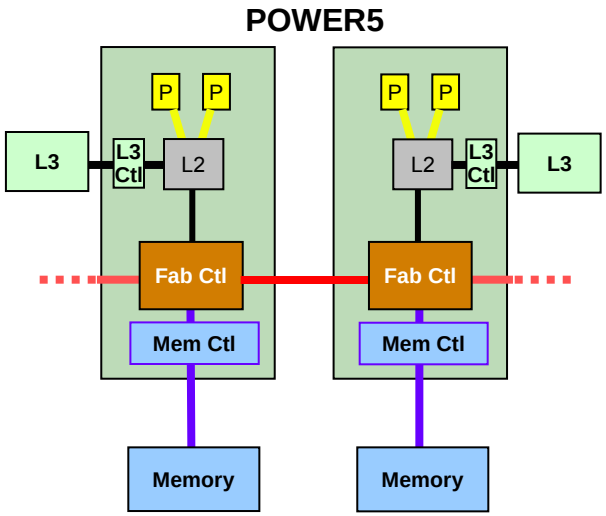
- Processor Design
  - It's not a component, but part of a whole system
  - Smart design features



PA8800

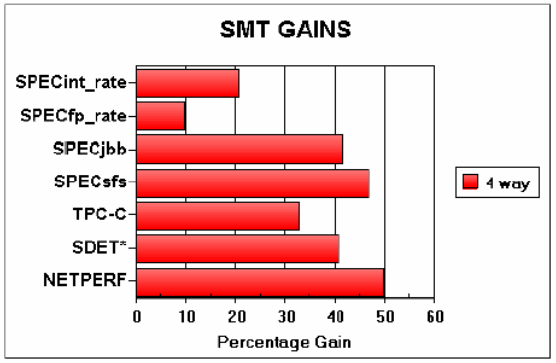


Figure 3-2 SMT gains for various workloads

Why does IBM lead the performance game

- Technology
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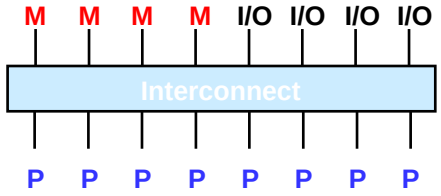
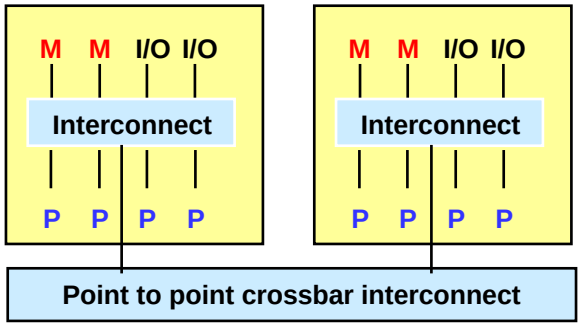
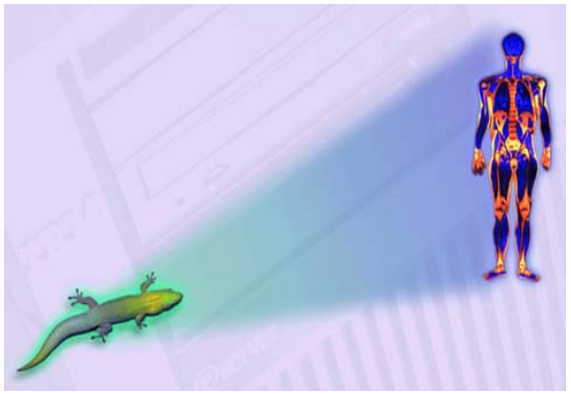
- Packaging
  - eServer: x for cost, z for RAS
  - Superior level of integration
- Processor Design
  - It's not a component, but part of a whole system
  - Smart design features
- System Design
  - Homogeneous, not a stack of 4-way low-end servers
  - Holistic approach





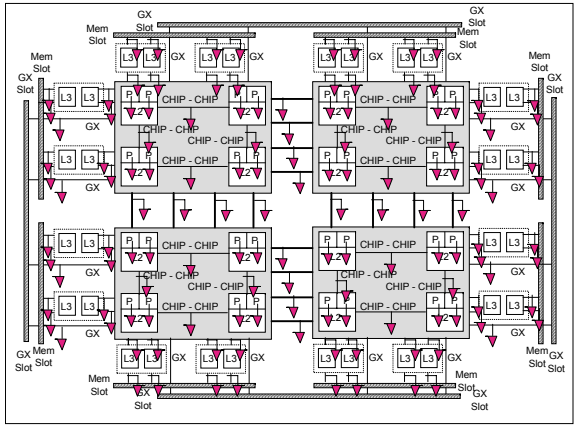
Why does IBM lead the RAS game

- Design Principles
  - Holistic – faults occur, but do not need to be fatal
  - Focus on prevention, recovery is second
  - Damage of failure is bigger than missing out on marketing features



Why does IBM lead the RAS game

- Design Principles
  - Holistic – faults occur, but do not need to be fatal
  - Focus on prevention, recovery is second
  - Damage of failure is bigger than missing out on marketing features
- Technology
  - Reduce the number of components – fast components, high quality components, high level of integration
  - Apply knowledge and insight about system failures – integrate system checks and preventive schemes



The IBM eServer p5 Value Proposition

Doing things better

- Capacity — Fastest and linear scalable
- Reliability — Moving up to Mainframe levels

Doing better things

- Utilization — Highest granularity in resource allocation
- Flexibility — Only UNIX solution to offer resource virtualization

HP's Partitioning Continuum & VSE

- Partitioning Continuum
  - Hyperplex — hard partitions with multiple nodes
  - nPartitions — hard partitions within a node
  - vPartitions — virtual partitions within a hard partition/node
  - PRM — resource partitions for highly granular resou
  - WLM — workload manager and goal based provisio
  - pSets — assigning processors

Leverage CSM or IBM Director

p5 excellent RAS

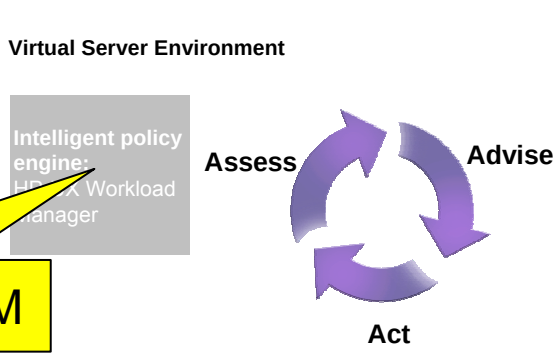
Near static/full proc.

Basically IBM's WLM

Based on dummy Txs.

Old technology

- Virtual Server Environment (for HP-UX only)
  - Most of it is 'future direction', except for UDC -> that's gone



Nothing like TIO & TPM

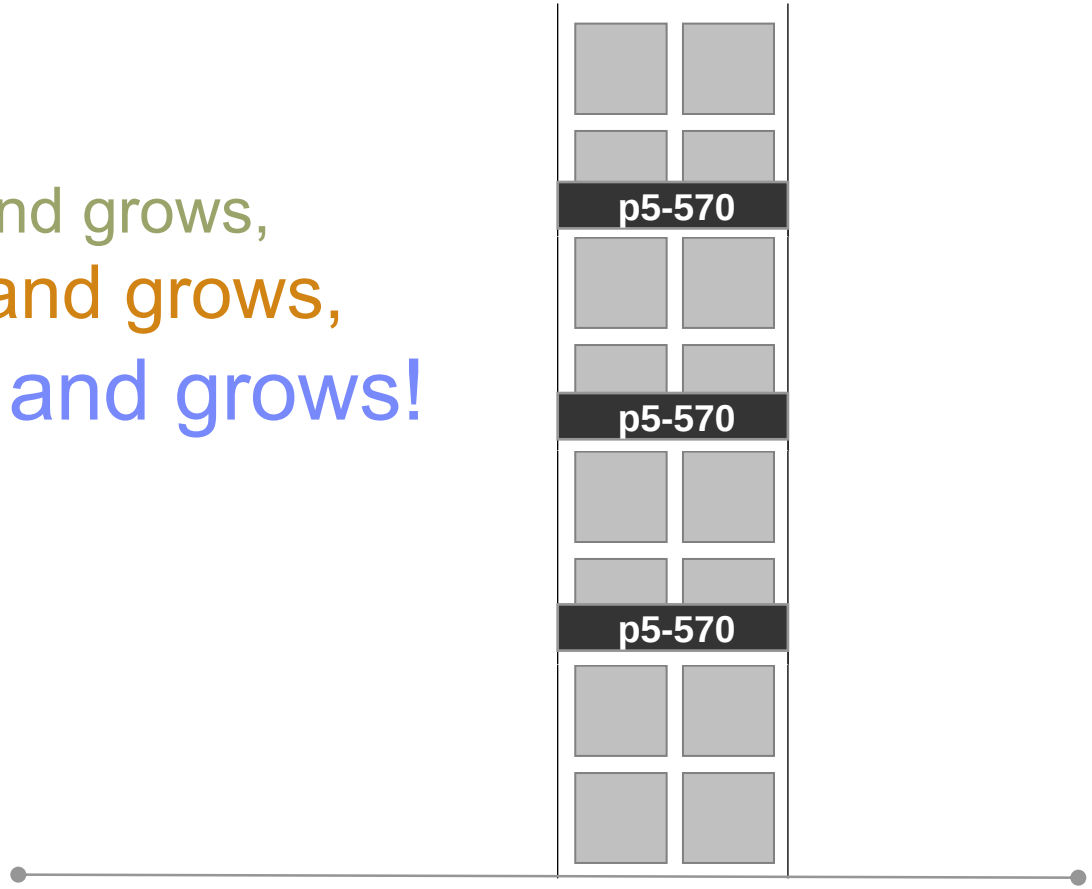
Ditched the Compaq stuff for Veritas

http://h71028.www7.hp.com/enterprise/downloads/5982-2121EN.pdf

IBM's real Virtualization ☺

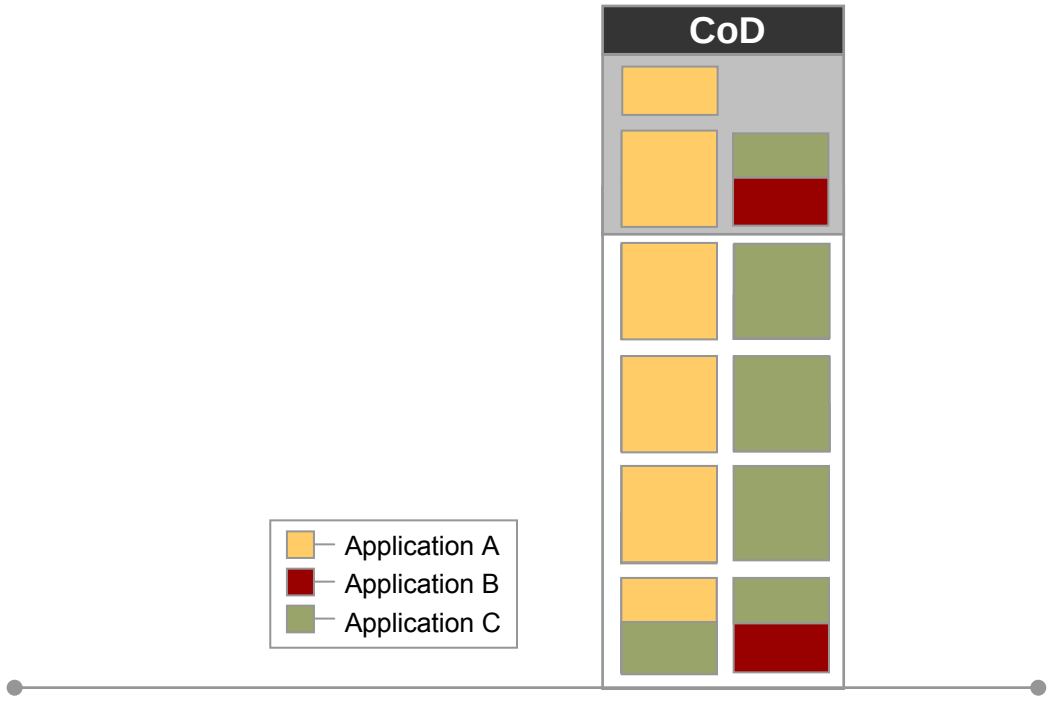
- Pay as you grow

and grows,
and grows,
and grows!



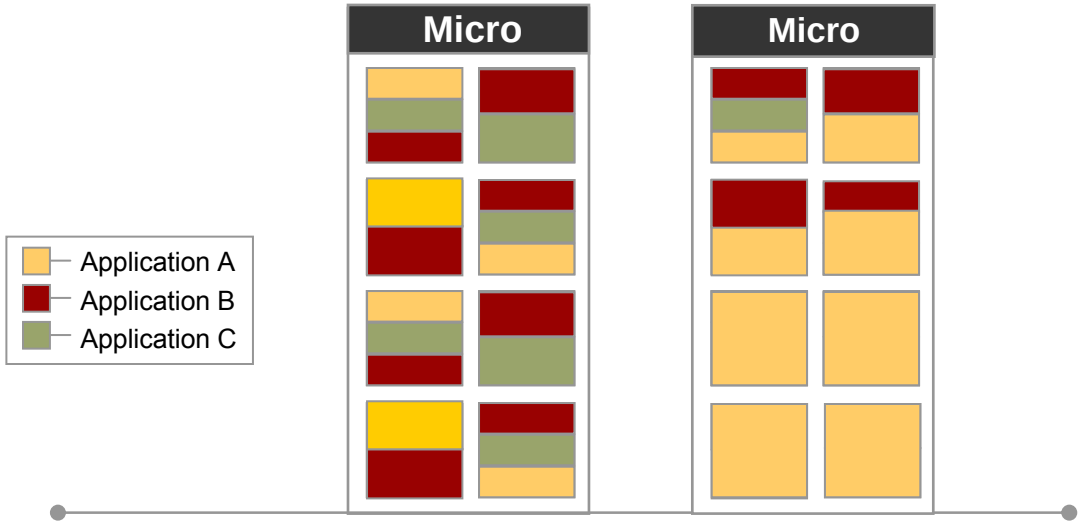
IBM's real Virtualization ☺

- Pay as you grow
- Capacity on Demand



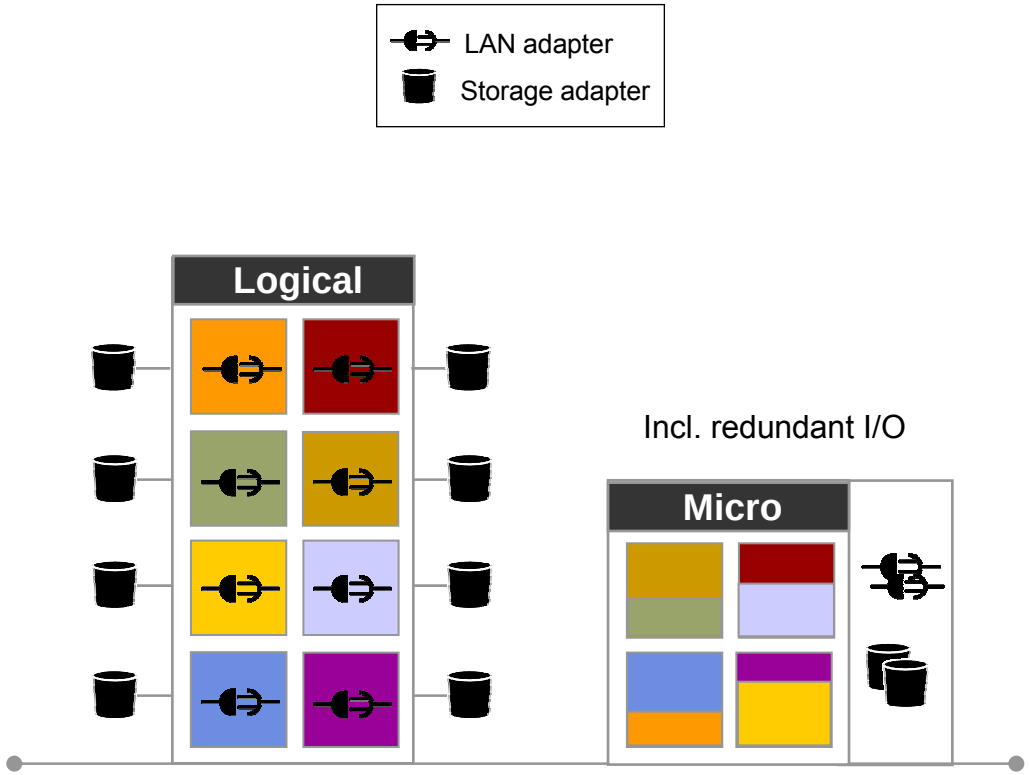
IBM's real Virtualization ☺

- Pay as you grow
- Capacity on Demand
- Micro-partitions



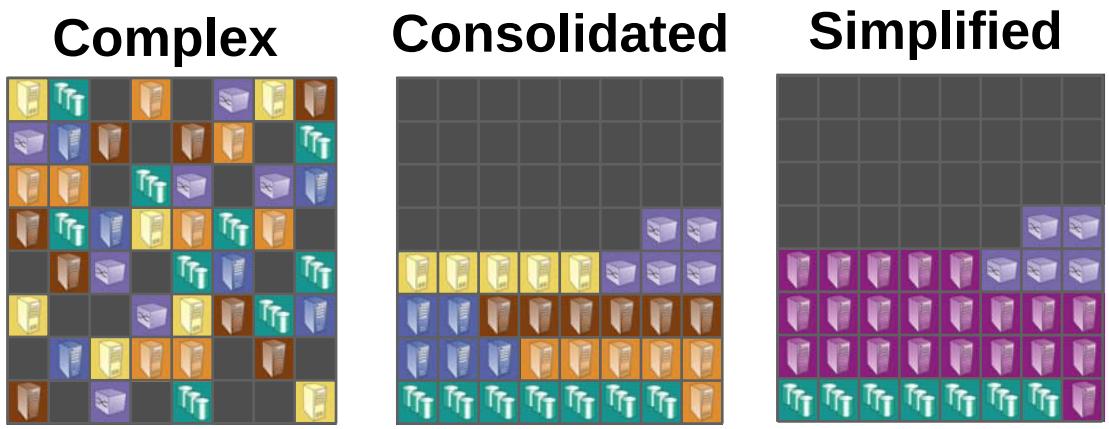
IBM's real Virtualization ☺

- Pay as you grow
- Capacity on Demand
- Micro-partitions
- Virtual Resources



IBM's real Virtualization ☺

- Pay as you grow
- Capacity on Demand
- Micro-partitions
- Virtual Resources
- Virtualization Engine



IBM Virtualization Engine

Open Based Interfaces and Standards - Services

Enterprise Workload Manager	Systems Provisioning	IBM Director Multiplatform	Grid Toolbox	Block Virtualization	File Aggregation	Storage Infrastructure Management

Open Based Interfaces and Standards - Technologies

z/OS® **AIX 5L** **Linux** **i5/OS** **Windows**

Hypervisors, Virtual I/O, Virtual LAN

IBM eServer and TotalStorage

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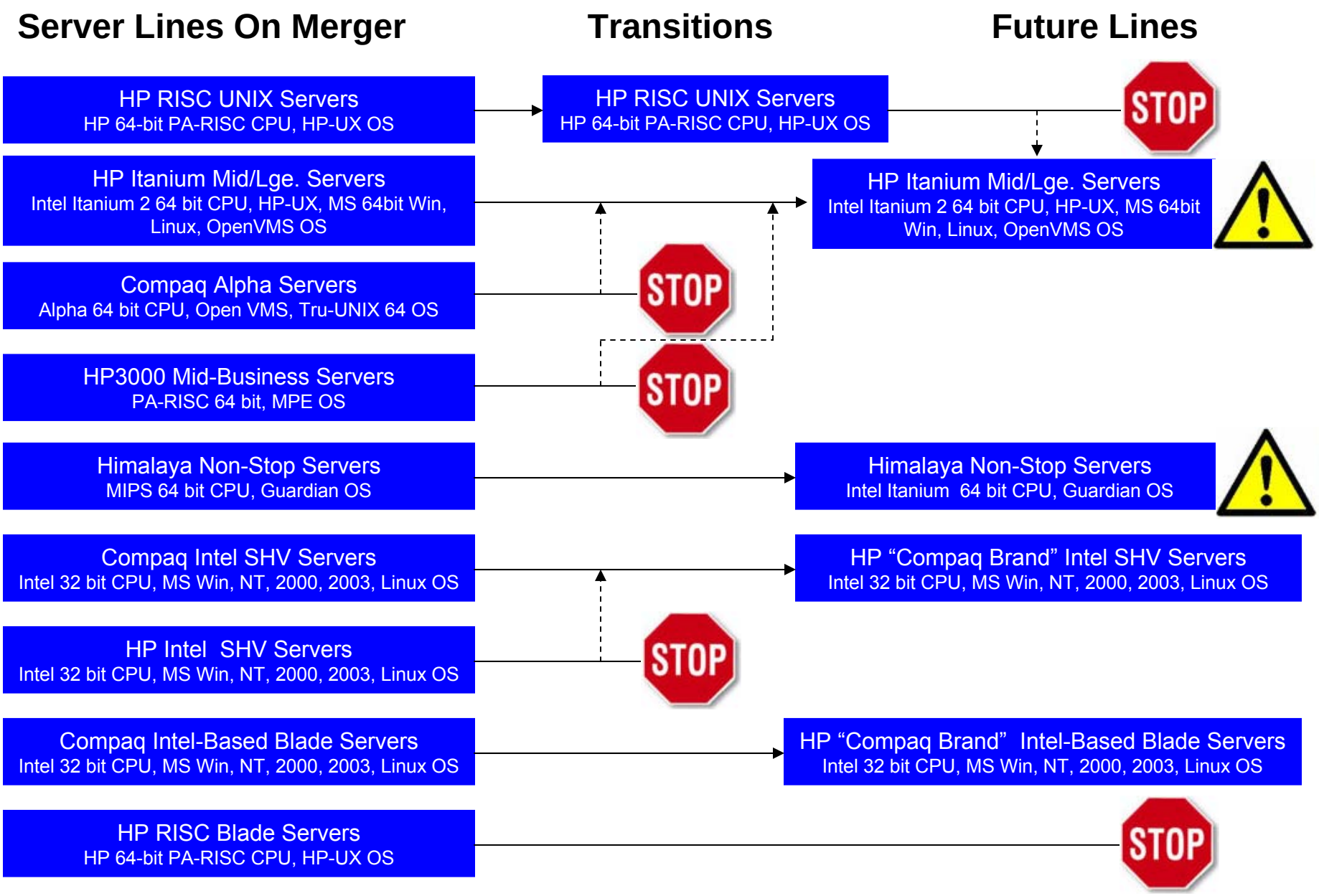
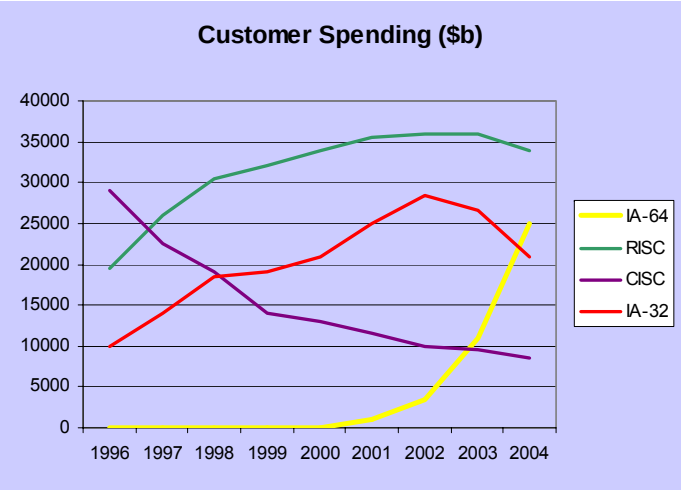


Source: Software Strategies, Technology Fit for Business, 2003

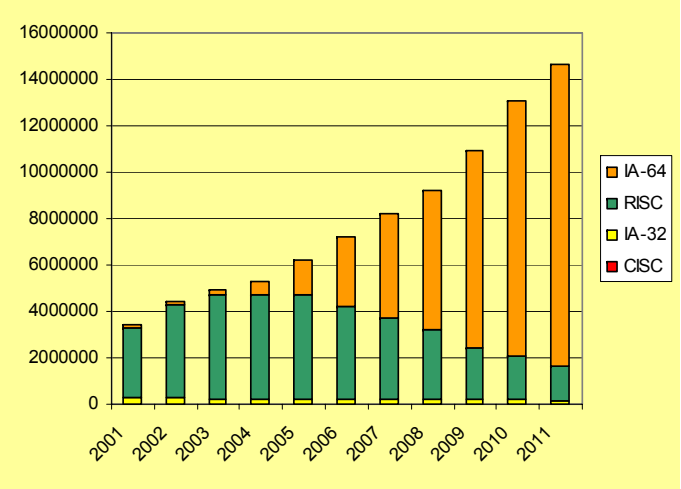
HP – IPF Architecture Consolidation – *Plan/Promise*

Itanium will be the pervasive computing platform for the future



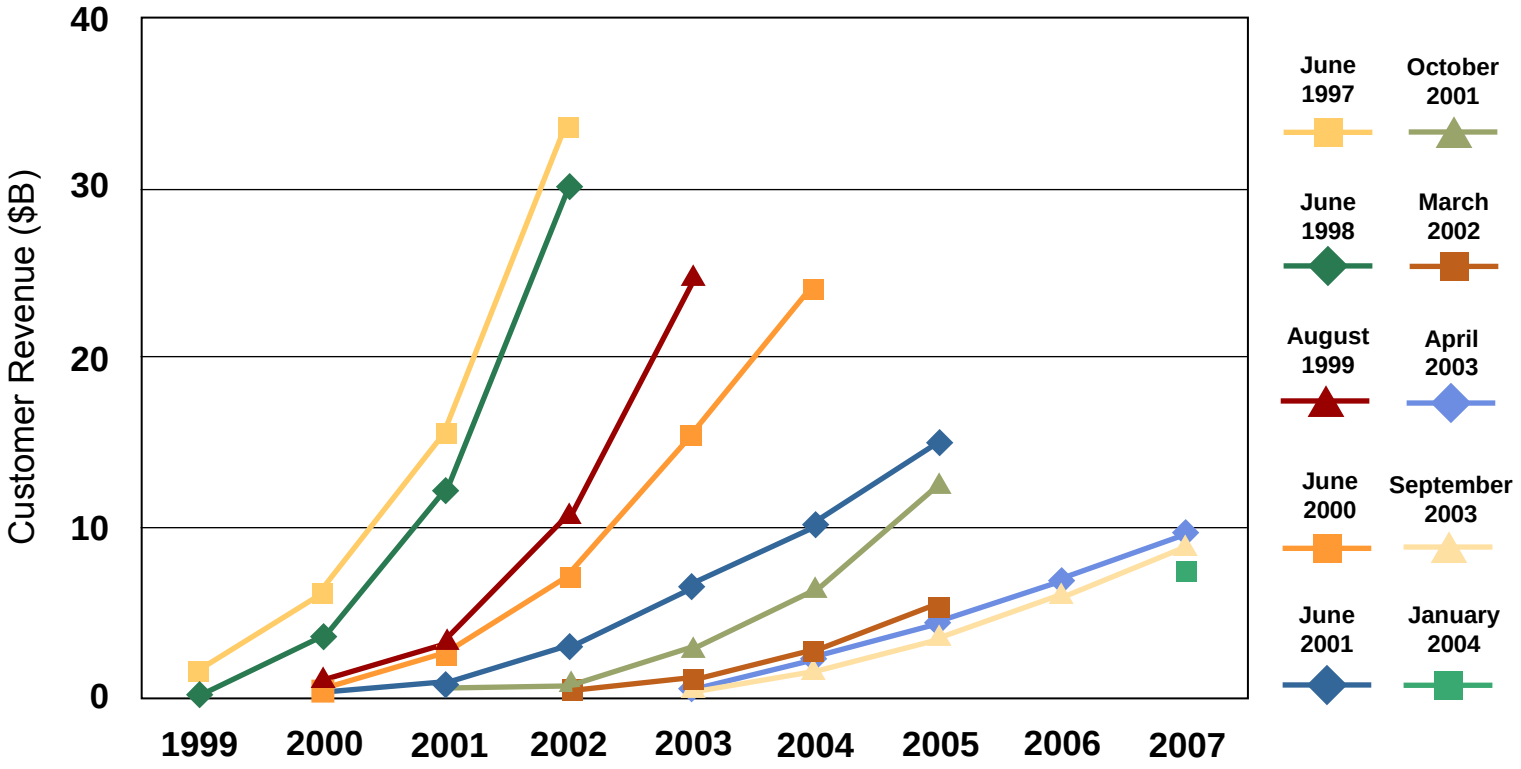
Customer benefits include:

- **Lower cost of computing**
- **Broader apps availability**
- **More focus beyond HW**
- **More speed to meet business needs**



http://www.interex.org/conference/hpworld2001/sessions/sn454/
ftp://198.151.251.239/pub/conference/hpworld2001/proceedings/5454/5454.pdf

IDC Tracker 64-bit market: Itanium forecast



Source: IDC Tracker 2000, 2001, 2002, 2003 and IDC (Annual) Server Market Forecast for 2001-2007 (Sept, 2003) & forecast update preview Jan 2004

EPIC benefits over previous architectures

Early 80ties
- CISC – Complex Instruction Set Computing
- 3 instructions per cycle
- Single core, single thread

Late 80ties/early 90ties
- RISC – Reduced Instruction Set Computing
- <1 instruction per cycle
- Single core, single thread

Mid 90ties
- Super scalar RISC (parallel execution units)
- <2 instructions per cycle
- Minor additions over time with dual core and multiple threads

2000
- EPIC – Explicit Parallel Instruction-set Computing
- Even greater number of instructions per cycle
- Significant gains through multiple cores and multiple threads

http://www.hcs-group.de/pdf/Itanium.pdf / http://www.shannonknowshpc.com/archives/CTUG_v3.ppt

Itanium Reality Check

- The Inquirer: Chip analyst says Intel has failed to prove case for Itanium
  http://www.theinquirer.net/?article=12654
- GEEK.com: Microprocessor Report sees Itanium as a failure
  http://www.geek.com/news/geeknews/2003Nov/bch20031113022666.htm
- The Register: Have a reality check, you Itanium lover
  http://www.theregister.co.uk/2004/01/27/have_a_reality_check_you/
- ComputerWeekly: Countdown starts for HP switch to Itanium
  http://www.computerweekly.com/Article133091.htm
- BusinessWeek: Goodbye To The Chip Of The Future?
  http://www.businessweek.com/magazine/content/04_10/b3873008_mz001.htm
- The Register: Intel is killing Itanium one comment at a time
  http://www.theregister.co.uk/2004/11/19/intel_itanium_mainframes/print.html

Our expectation is Intel will shut down the Itanium development process by '07

Technology Business Research, Oct. 27, 2004 Intel Corp., TBR Position Statement

Agenda

- Introduction
- HP's UNIX line-up
- IBM's advantage over HP
- Itanium
- **Call to action**

HP's value (11/11/04)

- Bank of America — Downgraded HP from Buy to Neutral
- UBS — Downgraded HP from Buy to Neutral
- Jyske Bank — Downgraded HP from Buy to Sell
- Morgan Stanley — Downgraded HP from Overweight to Equalweight
- J.P. Morgan — Downgraded HP from Overweight to Neutral

http://www.newratings.com/companies/headlines.asp?isin=US4282361033

- BusinessWeek (13 Dec. '04) — **Carly's Challenge**
  Hewlett-Packard still needs to prove it can execute its broad strategy. If not, pressure will build to break up this Silicon Valley icon

http://www.businessweek.com/magazine/content/04_50/b3912001_mz001.htm

IBM HP SAP Winbacks

- On demand deal for AstraZeneca hits at HP heartland:
  http://w3-5.ibm.com/emea/uk/w3uk.nsf/pages/cdd0edccdd01e2d680256f250034d9e7
- Winback at CPG:
  http://w3-5.ibm.com/emea/uk/w3uk.nsf/pages/cpgreplaceshpservers
- HP loses out to IBM on Unipart's SAP migration project:
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/unipart.html
- Unilever deal confirms growing confidence in IBM:
  http://w3-5.ibm.com/emea/uk/w3uk.nsf/pages/unileverdeal
- 2004 HP Win: Clarks Shoes:
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/clarksshoes.html
- 2004 HP Winback: Telekom SA:
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/telkom.html
- Sanlam Insurance (South Africa):
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/sanlam1.html
- UCS (South Africa):
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/ucssolutions.html
- KPN Netherlands:
  http://w3-5.ibm.com/emea/nl/w3nl.nsf/pages/597ef12983b3ca87c1256f4e00423231
- PinkRoccade:
  http://w3-1.ibm.com/sales/emea/comp_sales/hp/wins/pinkroccade.html
- Innovia Films: Packaging company rejects ‘gift-wrapped’ HP solution for IBM:
  http://w3-5.ibm.com/emea/uk/w3uk.nsf/pages/innovia
- BMW the "Ultimate Driving Machine“ races ahead with eServer:
  http://w3.ibm.com/news/w3news/top_stories/2004/08/bmw.html

Act with confidence

- First things first
  - Qualification (both the opportunity and yourself as a viable solution provider)
  - Differentiation
- Spotting opportunities 3 P's
  - Problem in **personal** relationship
  - Problem in **performance**
  - **Project**
- Keep it simple
  - Customers like simple solutions
  - Talk simple, write simple, execute simple, and deliver
  - Distinguish between NEED to know/write/tell and NICE to know/write/tell
  - Quantity can't compensate the lack of Quality

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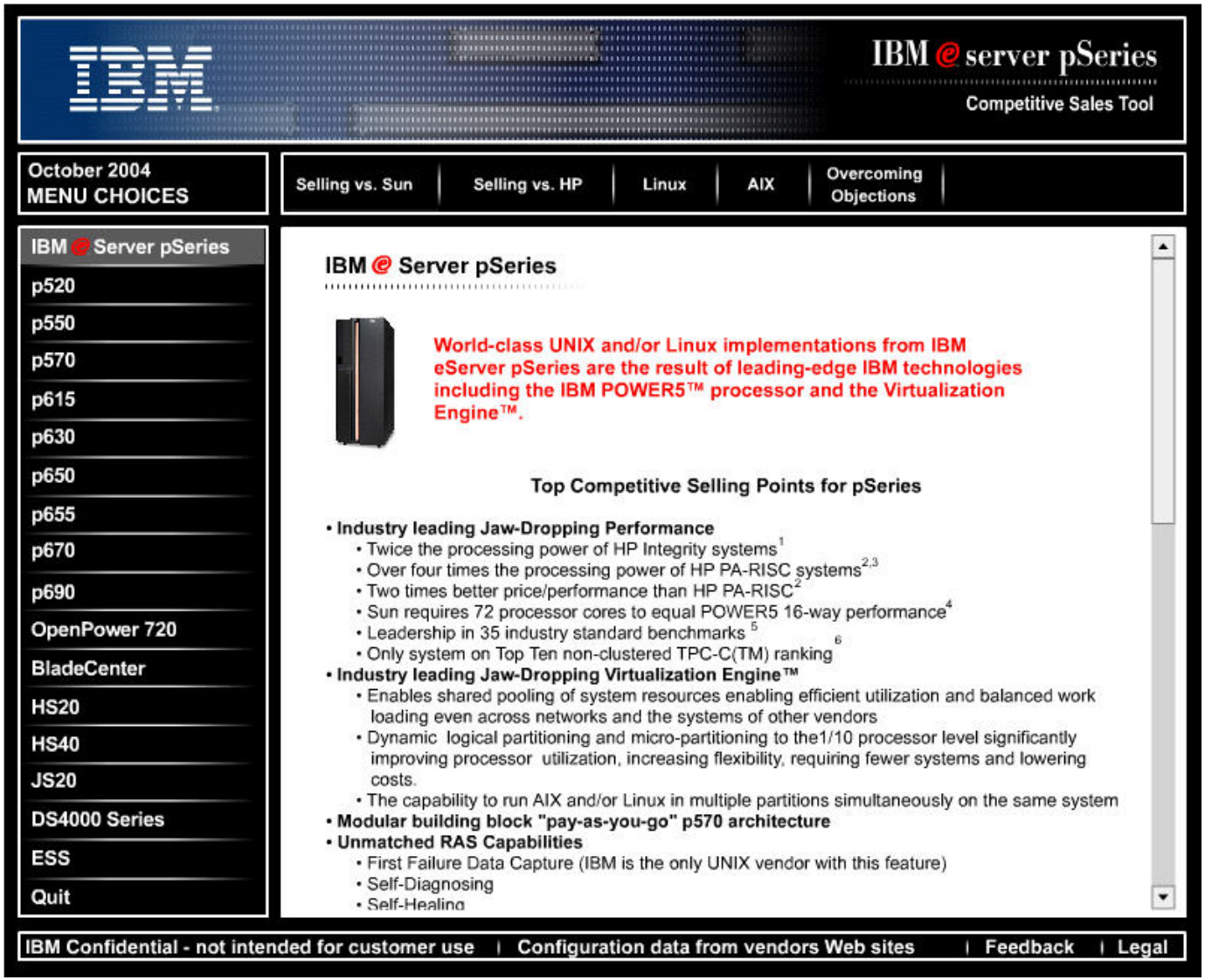
COMP IBM:	http://w3.ibm.com/sales/competition

competitive Profiles

EMEA/Regional: Competitive Sales Teams
Competitive Consultants

Competitive Sales Tools



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