Çözümler Zirvesi 2013

Geleceği Şekillendiren Teknolojiler

Kürşad MANGALOĞLU

Brand Sales Specialist

IBM POWER SYSTEMS

AJANDA

- ✓ Power Systems Nedir?
- ✓ Neden Power Systems?
- ✓ Power Systems ve diğerleri...

Power Systems Nedir?

Performance Optimization With Enhanced RISC

AYAKTA KALABİLİRLİK	DAKİKA / YIL	MALİYET
99.997%	0:07:15	1.0
99.99%	0:52:35	7.3
99.90%	8:45:56	75
99%	87:39:29	751

✓ 'Advanced Interactive Executive' 1986 yılında çıkmış, IBM UNIX uyarlamasıdır.

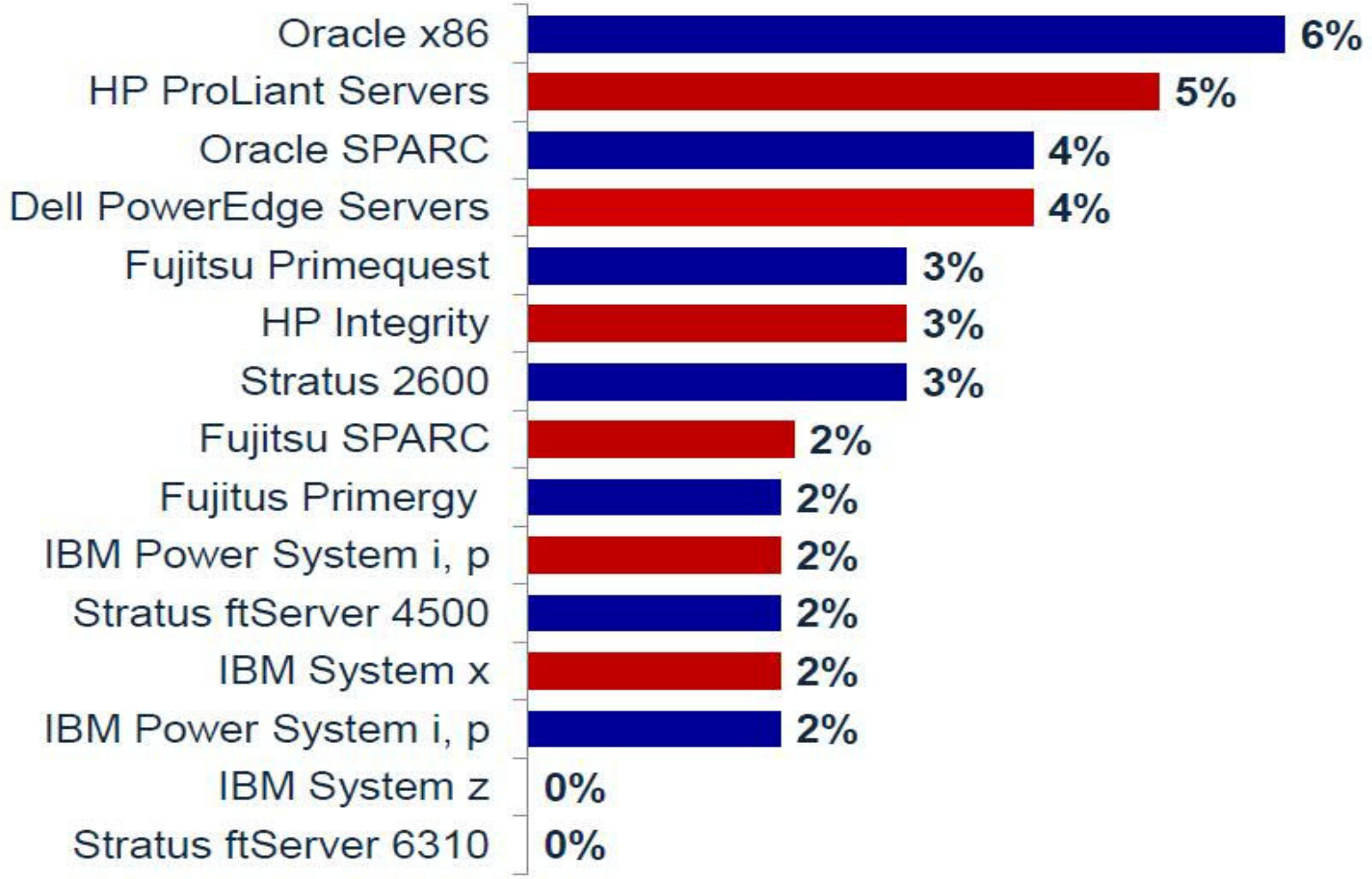
✓ Açık sistemlerde çalışabilirlik süresi en yüksek olan işletim sistemidir.

✓ Diğer İşletim sistemlerindeki gibi "MAVİ EKRAN" ile karşılaşmazsınız.

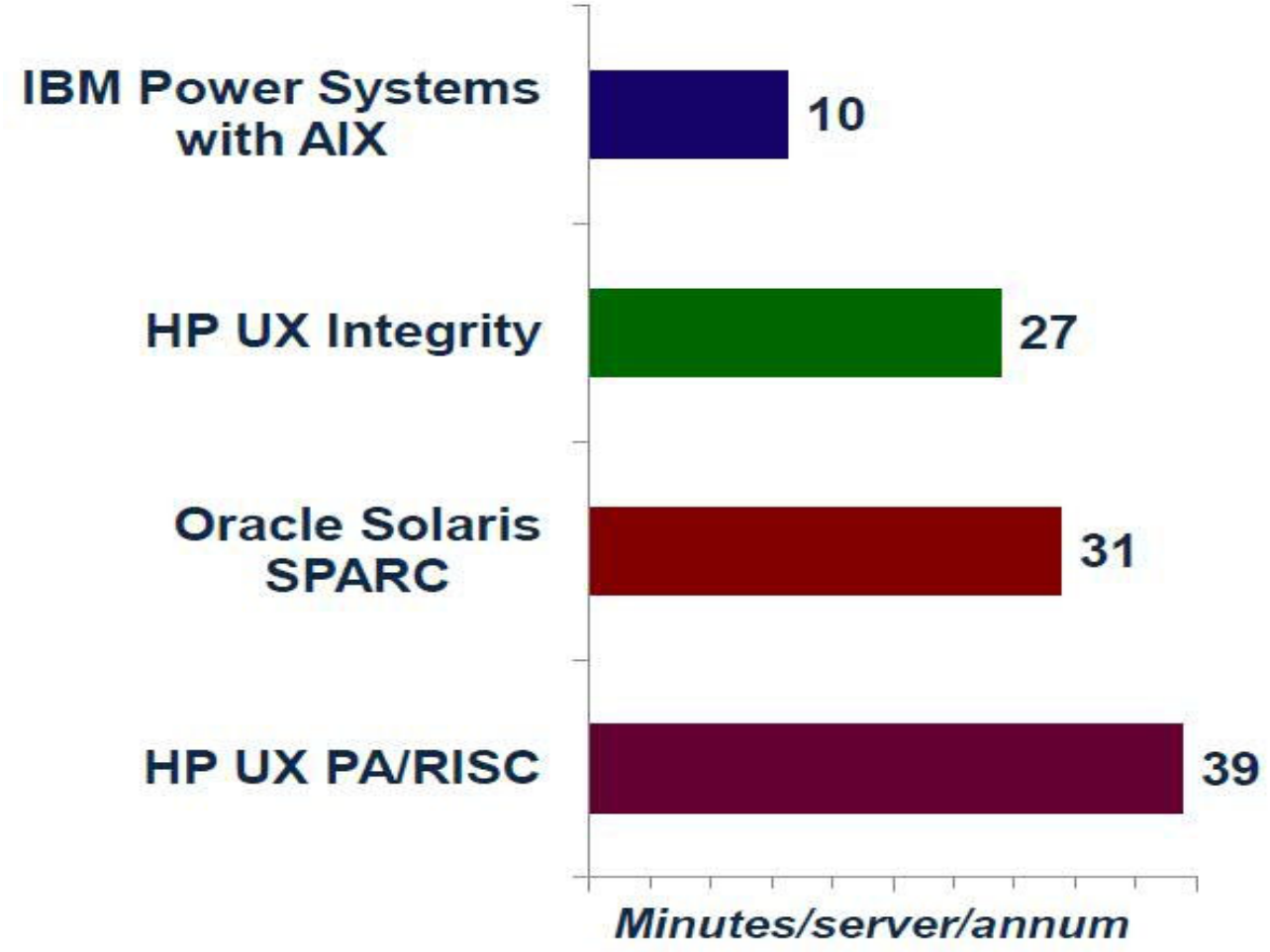
✓ Sisteminize virüs bulaşmaz.

✓ Devamlı olarak "YENİDEN BAŞLATMAK ZORUNDA KALMAZSINIZ"

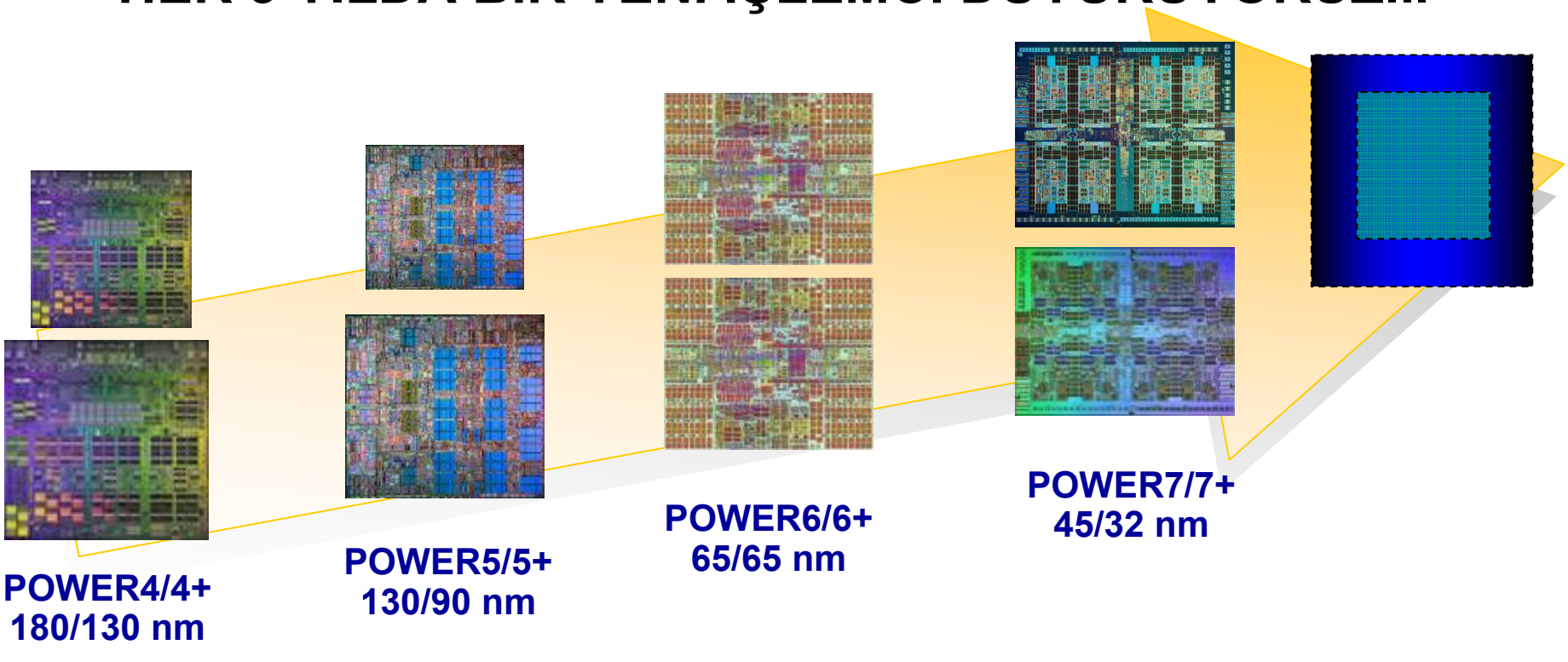
2012 – 2013
4 SAAT VE ÜZERİ PLANSIZ KESİNTİ / DONANIM



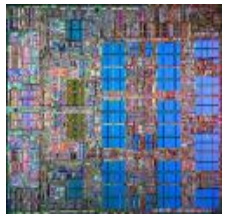
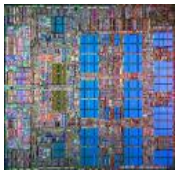
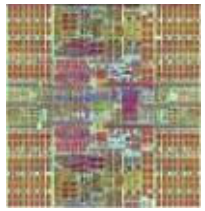
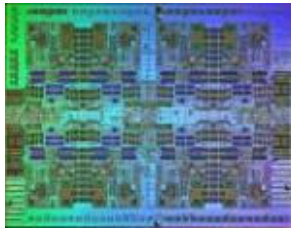
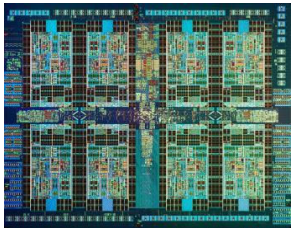
2012 – 2013
YILLIK PLANSIZ KESİNTİ SÜRELERİ /DAKİKA



YATIRIM YAPIYORSANIZ YOL HARİTASI ÖNEMLİDİR...
HER 3 YILDA BİR YENİ İŞLEMCİ DUYURUYORUZ...



IBM Power Systems İşlemci Dizaynı

	POWER5 2004	POWER5+ 2005	POWER6 2007	POWER7 2010	POWER7+ 2012
Technology	**130nm**	**90nm**	**65nm**	**45nm**	**32nm**
Size	**389 mm²**	**245 mm²**	**341 mm²**	**567 mm²**	**567 mm²**
Transistors	**276 M**	**276 M**	**790 M**	**1.2 B**	**2.1 B**
Cores	**2**	**2**	**2**	**8**	**8**
Frequencies	**1.65 GHz**	**1.9 GHz**	**4 - 5 GHz**	**3 – 4 GHz**	**3.6 – 4.4+ GHz**
L3 Cache	**36MB**	**36MB**	**32MB**	**4MB / Core**	**10MB / Core**
LPAR	**10 / Core**	**10 / Core**	**10 / Core**	**10 / Core**	**20 / Core**

NEDEN IBM POWER SYSTEMS ?

GERÇEK SANALLAŞTIRMA:POWERVM

- RAKİPLERDEN DAHA FAZLA PERFORMANS
- SANAL BÜYÜMEDE RAKİPLERDEN DAHA FAZLA VERİMLİLİK
- SIFIR GÜVENLİK AÇIĞI
- HYPERVISOR SEVİYESİNDE SANALLAŞTIRMA
- ÇEKİRDEK BAŞINA 20 VM

KOLAY YÖNETİM: SYSTEMS DIRECTOR

- KOLAY YÖNETİM ARAYÜZÜ İLE 2 KAT DAHA KOLAY YÖNETİM
- SYSTEMS DIRECTOR ile DAHA AZ YÖNETİM MALİYETİ

NEDEN IBM POWER SYSTEMS ?

AYAKTA KALABİLİRLİK

- %99.997 AYAKTA KALABİLİRLİK
- PowerHA CLUSTERING – AIX JFS – GPFS ile SIFIRA YAKIN RİSK, SIFIRA YAKIN KESİNTİ, SIFIR VERİ KAYBI

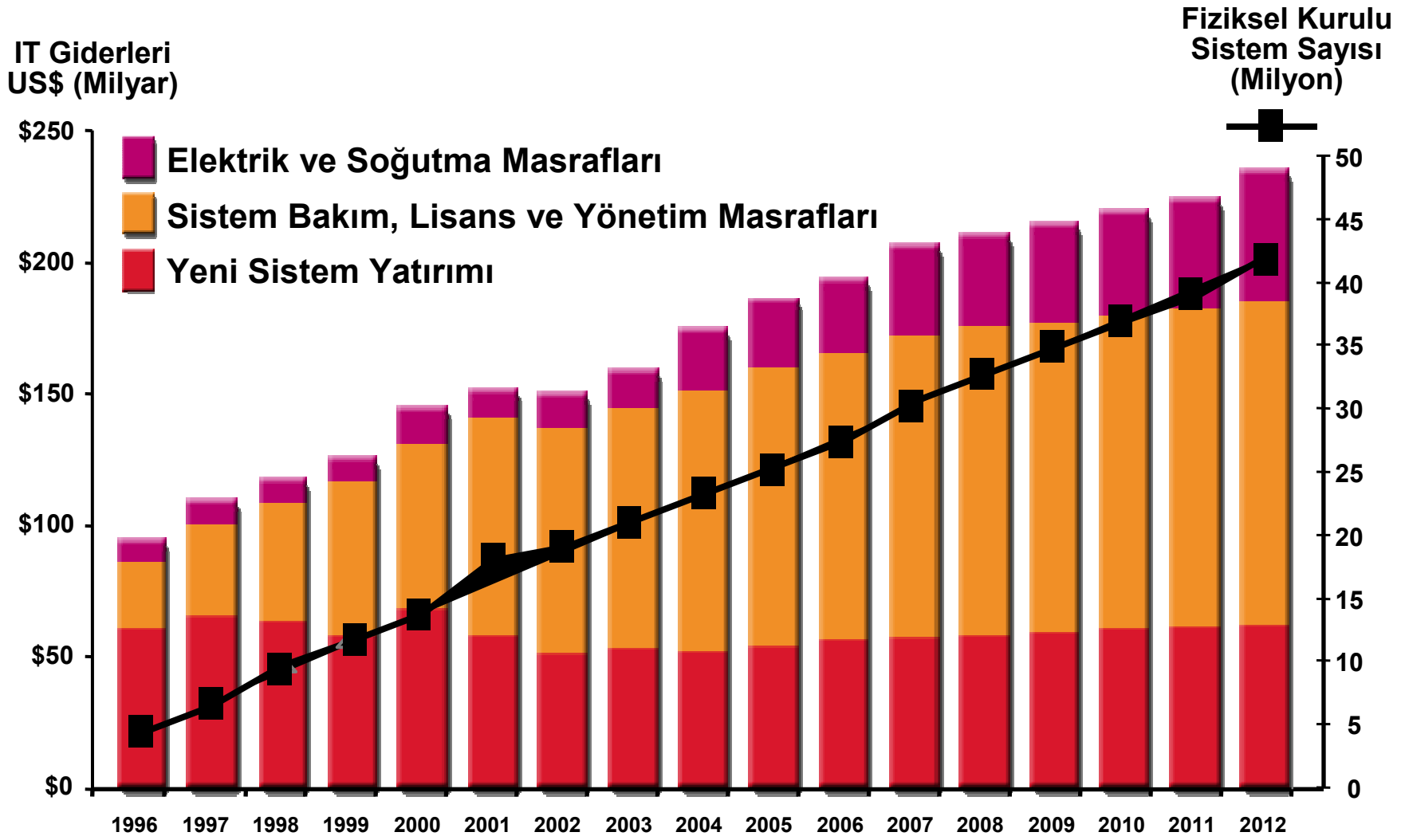
ÜSTÜN EKONOMİ İLE HİZMETLERİN SUNULMASI

- EN İYİ ÇEKİRDEK PERFORMANSI
- DAHA DÜŞÜK YAZILIM MALİYETİ
- EN İYİ ÇEKİRDEK / ENERJİ – SOĞUTMA MALİYETİ
- VERİ MERKEZLERİNDE DAHA AZ YER MALİYETİ

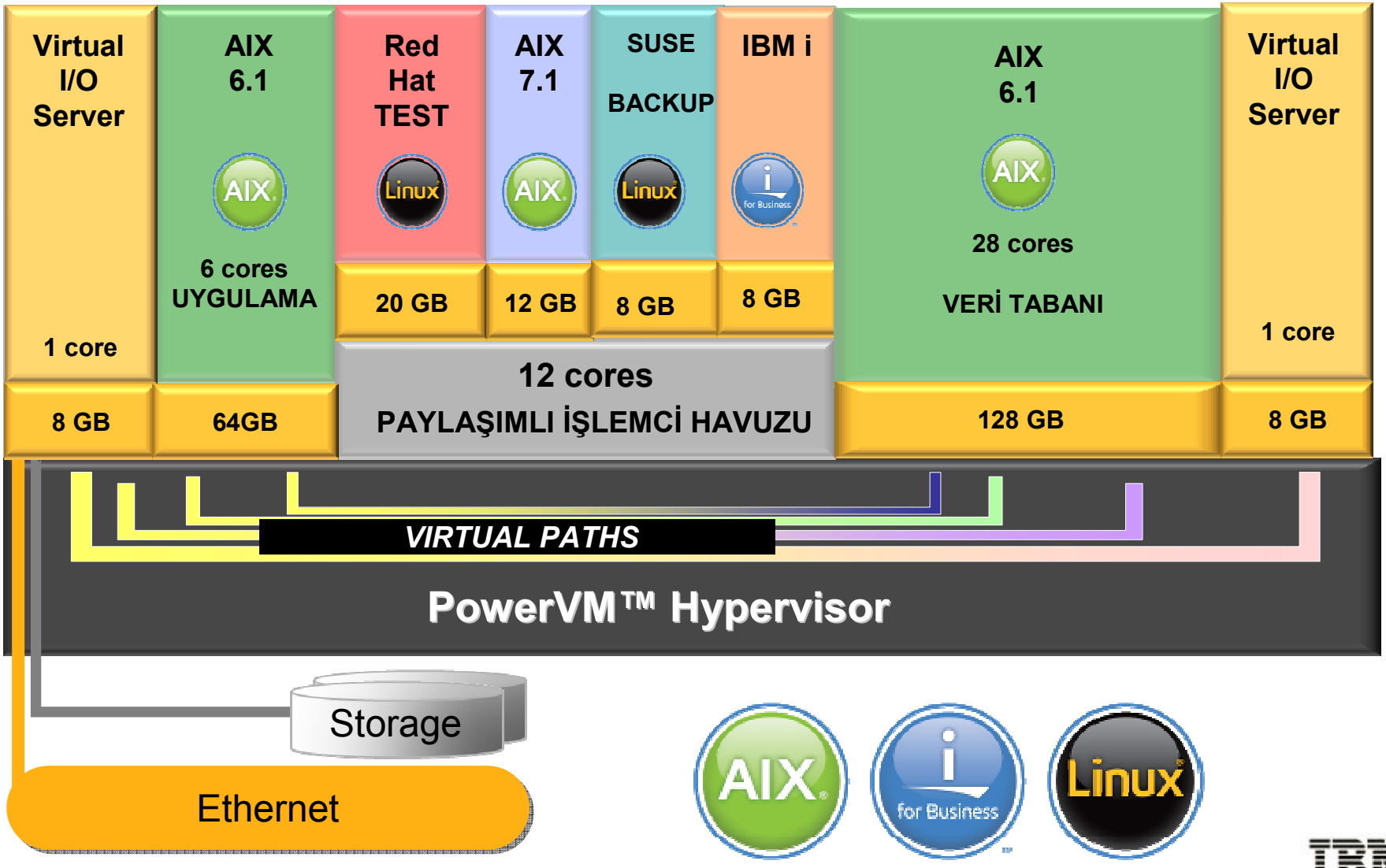
OTURDUĞUNUZ YERDEN 100'lerce SUNUCU YÖNETİN

Name		ID	Status	Processing Units	Memory (...	Active Profile	Environment
db2member1	5	5	Running	5	64	db2member1.prf	AIX or Linux
p770-1-vio02	1	2	Running	4	12	p770-1-vio02.prf	Virtual I/O Server
was1	4	6	Running	4	32	was1.prf	AIX or Linux
purescaleccf1	2	10	Running	4	128	purescaleccf1.prf	AIX or Linux
p770-1-vio01	1	3	Running	3.9	12	p770-1-vio01.prf	Virtual I/O Server
was3	3	7	Running	3	32	was3.prf	AIX or Linux
dwh-ds	3	12	Running	3	32	dwh-ds.prf	AIX or Linux
infoprint	2	18	Running	2	8	infoprint.prf	AIX or Linux
sysdir1	2	4	Running	2	12	sysdir1.prf	AIX or Linux
pl1	2	19	Running	2	16	pl1.prf	AIX or Linux
portal1	1	17	Running	1	16	portal1.prf	AIX or Linux
cdc-cdd	1	14	Running	1	16	cdc-cdd.prf	AIX or Linux
lombardi1	1	11	Running	1	16	lombardi1.prf	AIX or Linux
cognos	1	13	Running	1	16	cognos.prf	AIX or Linux
esb1	1	8	Running	1	16	esb1.prf	AIX or Linux
itcam	1	15	Running	1	16	itcam.prf	AIX or Linux
wsrr	1	9	Running	1	16	portal1.prf	AIX or Linux
tg	0.1	16	Open Firmware	0.1	15	tg.def	AIX or Linux
wasprd	0	1	Not Activated	0	6	def	AIX or Linux

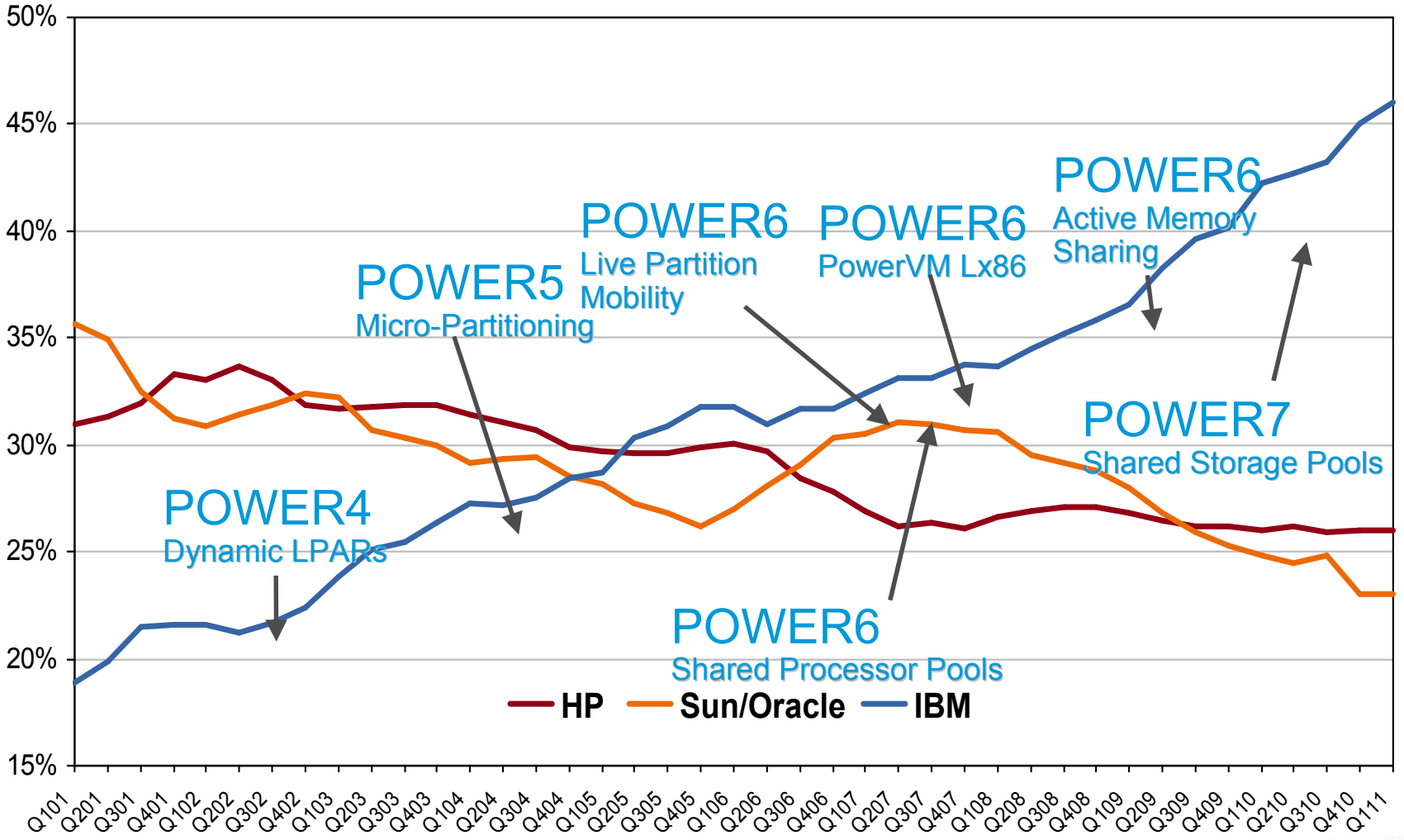
NEYE YATIRIM YAPIYORSUNUZ ?



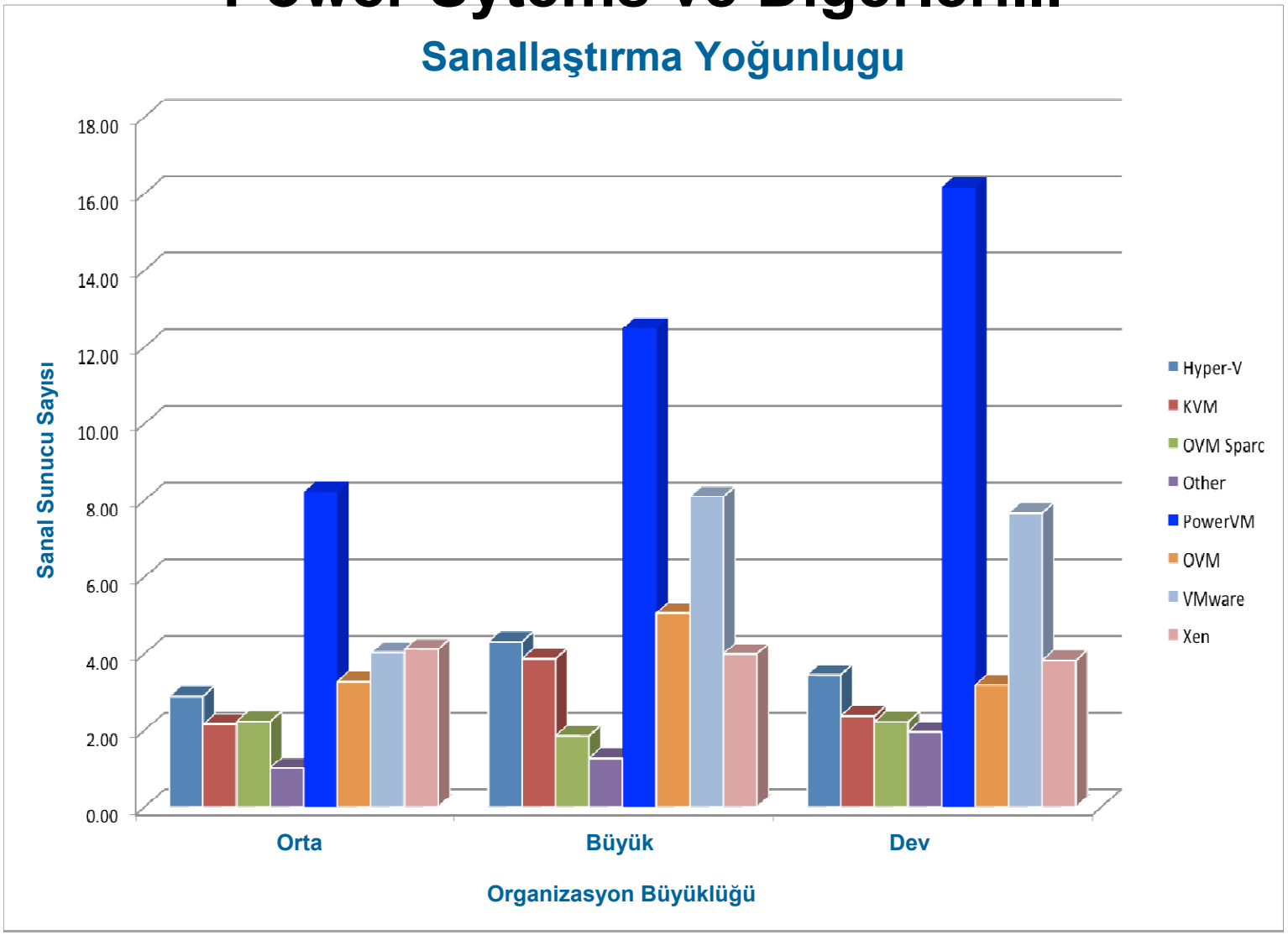
RISC ve x86 SİSTEMLERDE DÜNYANIN 1 NUMARALI SANALLAŞTIRMA TEKNOLOJİSİ : Power VM



UNIX PAZARININ AÇIK ARA LİDERİ : IBM POWER SYSTEMS



Power Sytems ve Diğerleri...



DOĞRU YÖNTEMLERLE KARŞILAŞTIRMA...

CERTIFICATION
SAP® Standard Application Benchmarks

The SAP Sales and Distribution (SD) Standard Application Benchmark performed on September 9, 2012, by IBM in Beaverton, OR, USA, was certified on October 3, 2012, with the following data:

Number of SAP SD benchmark users:	57,024
Average dialog response time:	0.98 seconds
Throughput:	
Fully processed order line items per hour:	6,234,330
Dialog steps per hour:	18,703,000
SAPS:	311,720
Average database request time (dialog/update):	0.009 sec / 0.014 sec
CPU utilization of central server:	99%
Operating system, central server:	AIX 7.1
RDBMS:	DB2 10
SAP Business Suite software:	SAP enhancement package 5 for SAP ERP 6.0

Configuration:
Central server: IBM Power 780, 12 processors / 96 cores / 384 threads, IBM POWER7+, 3.72 GHz, 32 KB (I) and 32 KB (D) L1 cache and 256 KB L2 cache per core, 10 MB L3 cache per core, 1536 GB main memory

CERTIFICATION
SAP® Standard Application Benchmarks

The SAP Sales and Distribution (SD) Standard Application Benchmark performed on March 5, 2013 by Oracle in Burlington, MA, USA, was certified on March 25, 2013, with the following data:

Number of SAP SD benchmark users:	40,000
Average dialog response time:	0.86 seconds
Throughput:	
Fully processed order line items per hour:	4,419,000
Dialog steps per hour:	13,257,000
SAPS:	220,950
Average database request time (dialog/update):	0.049 sec / 0.131 sec
CPU utilization of central server:	88%
Operating system, central server:	Solaris 11
RDBMS:	Oracle 11g
SAP Business Suite software:	SAP enhancement package 5 for SAP ERP 6.0

Configuration:
Central server: Oracle SPARC Server T5-8, 8 processors / 128 cores / 1024 threads, SPARC T5, 3.60 GHz, 16 KB (D) and 16 KB (I) L1 cache and 128 KB L2 cache per core, 8 MB L3 cache per processor, 2048 GB main memory

KAYNAK : SAP – www.sap.com

DÜNYANIN EN İYİ ÇEKİRDEK PERFORMANSI
DÜNYANIN EN PERFORMANSLI İŞLEMCİLERİ

İŞLEMCİ	ÜRETİM YILI	ÇEKİRDEK SAYISI	SAPS SD-2 TIER BENCHMARK	ÇEKİRDEK BAŞINA SAPS BENCHMARK
POWER6	2008	64	160.000	2.500
POWER7	2010	256	688.000	2.688
POWER7+	2012	96	311.720	3.247
DİĞER RISC İŞLEMCİ	2007	256	196.000	765
DİĞER RISC İŞLEMCİ	2013	128	220.950	1.726
DİĞER RISC İŞLEMCİ	2013	192	472.600	2.461

KAYNAK : SAP – www.sap.com

KARŞILAŞTIRMA YÖNTEMLERİNİN DOĞRULUĞU ÖNEMLİDİR !!!

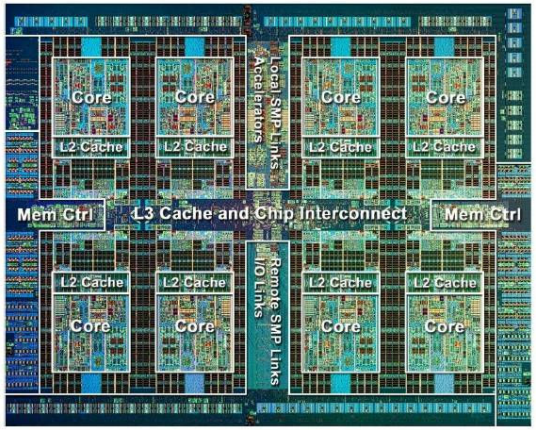
SPARC T5-8 Server Delivers World Record TPC-C Single System Performance Results

BENCHMARK OUTCOME

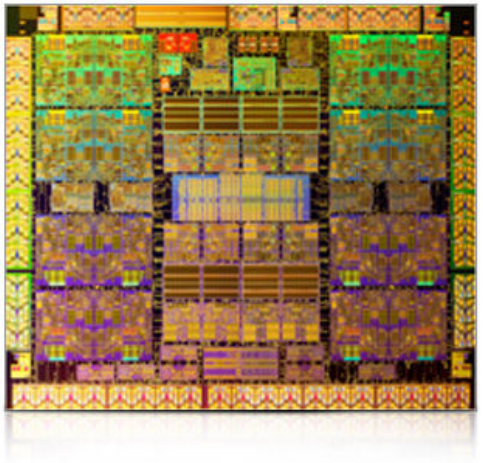
	SPARC T5-8	IBM Power 780 3-node cluster	IBM Power 595	IBM x3850 X5	IBM Flex x240
Processor Model (CPUs/Cores/Threads)	3.6 GHz SPARC T5 (8/128/1024)	3.86 GHz Power 7 (24/192/768)	5.0 GHz Power 6 (32/64/128)	2.40 GHz Intel Xeon E7-8870 (4/40/80)	2.90 GHz Intel Xeon E5-2690 (2/16/32)
tpmC	8,552,523	10,366,254	6,085,166	3,014,684	1,503,544
Price / tpmC	$0.55 USD	$1.38 USD	$2.81 USD	$0.59 USD	$0.53 USD
tpmC / CPU	1,069,065.4	431,927.3	190,161.4	753,671	751,772
Memory Size	4 TB	6 TB	4 TB	3 TB	768 TB
Database	Oracle Database 11g Release 2	IBM DB2 9.7	IBM DB2 9.5	IBM DB2 9.7	IBM DB2 9.7
Availability Date	9/25/2013	10/13/2010	12/10/2008	9/22/2011	8/16/2012

KAYNAK : http://www.oracle.com/us/solutions/performance-scalability/sparc-t5-8-single-system-1925151.html

POWER SYSTEMS ve DİĞER RISC SİSTEMLER



- ✓DUYURU: 2010 – 2012 / 2013
- ✓3,4 – 4,4 GHZ frekans
- ✓MAX 256 ÇEKİRDEK
- ✓20 VM / Çekirdek
- ✓10 MB L3 Cache bellek
- ✓POWERVM: "0" GÜVENLİK AÇIĞI
- ✓İŞLEMCİ : IBM
- ✓OS : IBM
- ✓SANALLAŞTIRMA: IBM
- ✓CLUSTER : IBM
- ✓PAZARIN %50'den FAZLASI...
- ✓%100 IBM AR-GE'si ve YATIRIMI



- -DUYURU: 2007 – 2013 - 6 yıllık gecikme
- -3,6 GHZ frekans – daha düşük frekans
- -MAX 128-192 ÇEKİRDEK – daha az ölçeklenebilme
- -VM / Çekirdek – yetersiz sanallaştırma
- -0,5 - 8 MB L3 Cache bellek – çok daha düşük bellek
- -İŞLEMCİ : DIŞ ÜRETİCİ
- -OS : DIŞ ÜRETİCİDEN BİRLEŞME
- -SANALLAŞTIRMA: DIŞ ÜRETİCİDEN BİRLEŞME
- -CLUSTER : DIŞ ÜRETİCİDEN BİRLEŞME
- -EŞİT PERFORMANS İÇİN 4 KAT FAZLA BELLEK, İŞLEMCİ VE DEPOLAMA ALANI KULLANIMI

PROBLEM ANINDA KİMİ ARAYACAKSINIZ ?

BİLEŞEN	IBM	x86
İŞLEMCİ	IBM	Intel
FIRMWARE	IBM	Phoenix, American Megatrends, Insyde SW
SANALLAŞTIRMA	IBM	VMware, Xen, KVM, Microsoft
İŞLETİM SİSTEMİ	IBM	Red Hat, Novell, Sun, Microsoft
SİSTEM	IBM	HP, Dell, IBM
DRIVERS	IBM	??
YÜKSEK ERİŞİLEBİLİRLİK	IBM	Symantec, Steeleye, Microsoft, VMware, Red Hat
VERİTABANI	IBM	Microsoft, Oracle, IBM
YEDEKLEME	IBM	Symantec, IBM, EMC
DİSK	IBM	EMC, HDS, IBM, HP, …
AĞ YAPISI	IBM	Cisco, HP, IBM, …

Çözümler Zirvesi 2013

Geleceği Şekillendiren Teknolojiler

TEŞEKKÜRLER

THANK YOU

IBM