Are you overpaying Oracle?
Move to DB2

Serge Rielau
STSM, SQL Architect
IBM Canada

InformationOnDemand**India2011**

The Premier Conference for Information Management
Manage. Analyze. Govern.

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Hyatt Regency I Mumbai, India

When you hear...

DB2

what do you **think?**

Performance

Manageability

IBM®

Security
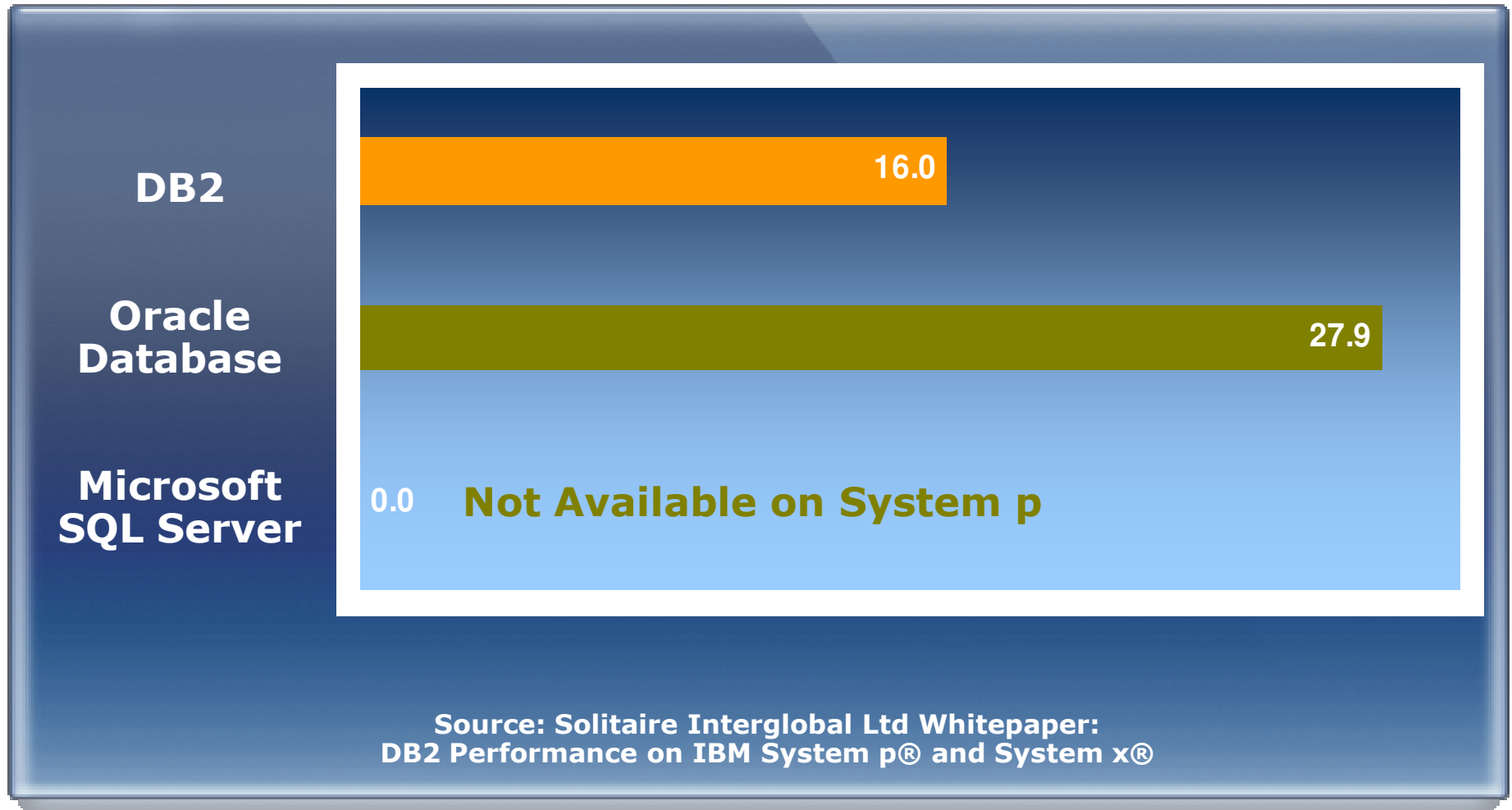
Reliability

Ease of Use

Governance

Do you also think...

lowest cost of operation?

Easier
database administration
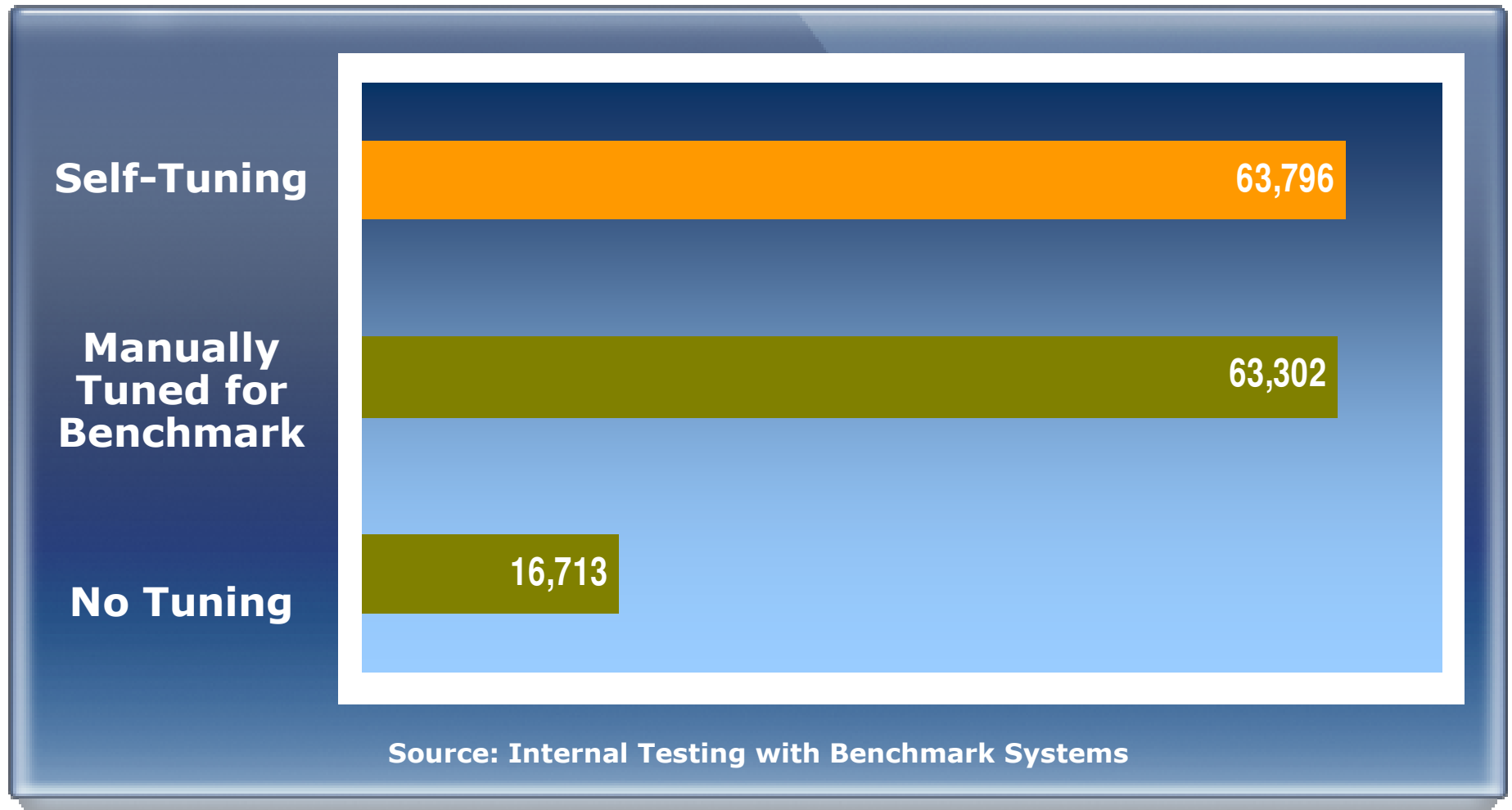
DB2 Needs 43% Less Staff on System p

DB2	16.0
Oracle Database	27.9
Microsoft SQL Server	0.0 **Not Available on System p**

Source: Solitaire Interglobal Ltd Whitepaper:
DB2 Performance on IBM System p® and System x®

DB2 Manages Storage Allocation

DB2 Tunes Itself

DB2 Self-Tuning Gives Best Performance

Self-Tuning	63,796
Manually Tuned for Benchmark	63,302
No Tuning	16,713

Source: Internal Testing with Benchmark Systems

"**DB2's automated administration features are going to save me 30% to 35% of my support costs.**"
—*Bob Maddocks, Maddocks Systems*

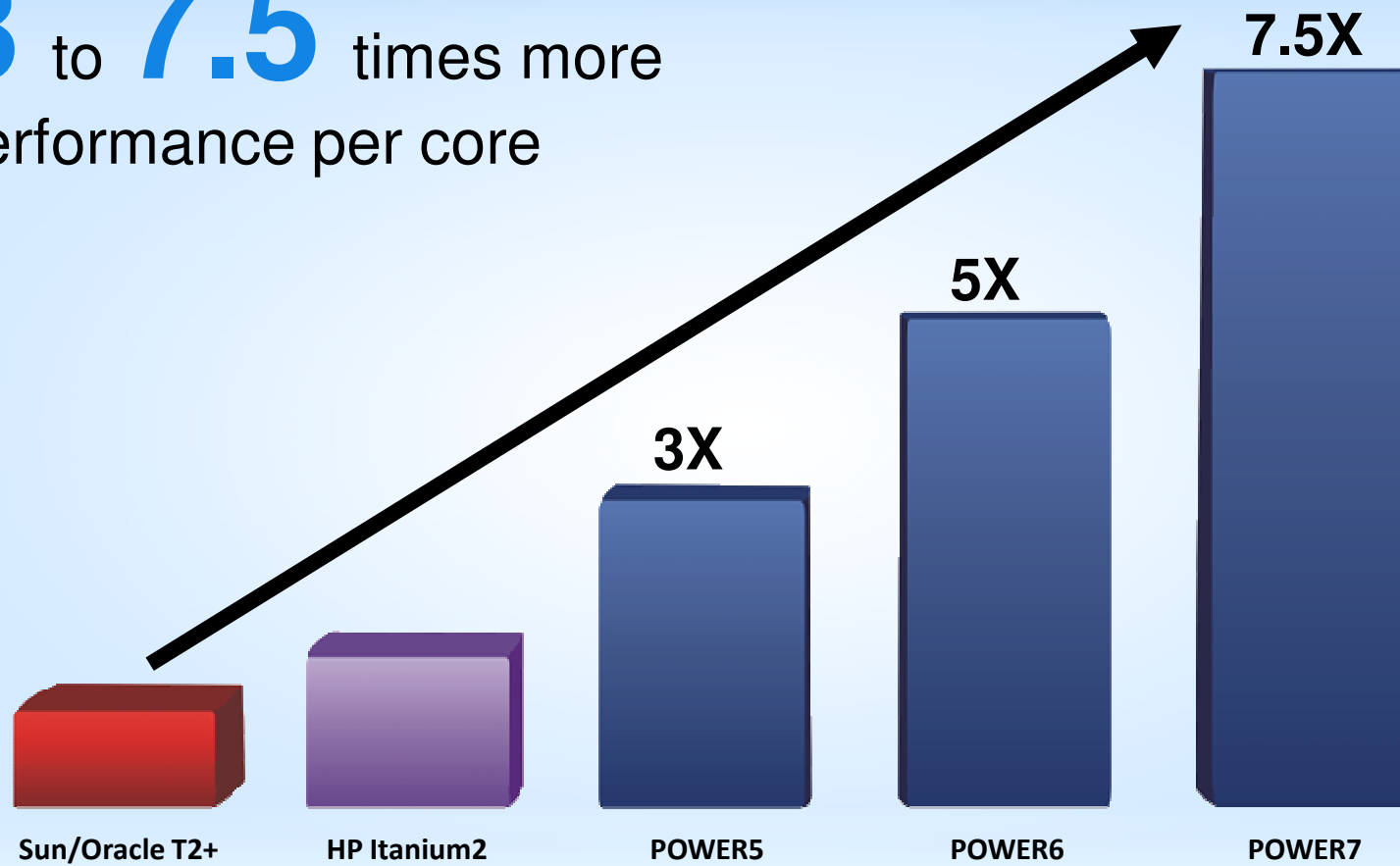# Easier administration means

IT staff focus

on high-value tasks

Get **more**
from your servers

More TPC-C performance per core than anyone else

3 to **7.5** times more performance per core

3X — POWER5
5X — POWER6
7.5X — POWER7
Sun/Oracle T2+ · HP Itanium2

Best results listed for IBM POWER, HP, and Sun/Oracle systems over 1M tpmC.
Source: http://www.tpc.org as of 4/1/08. See Power 780 benchmark details for specific results.

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**Industry benchmarks are like
a game of leapfrog...**
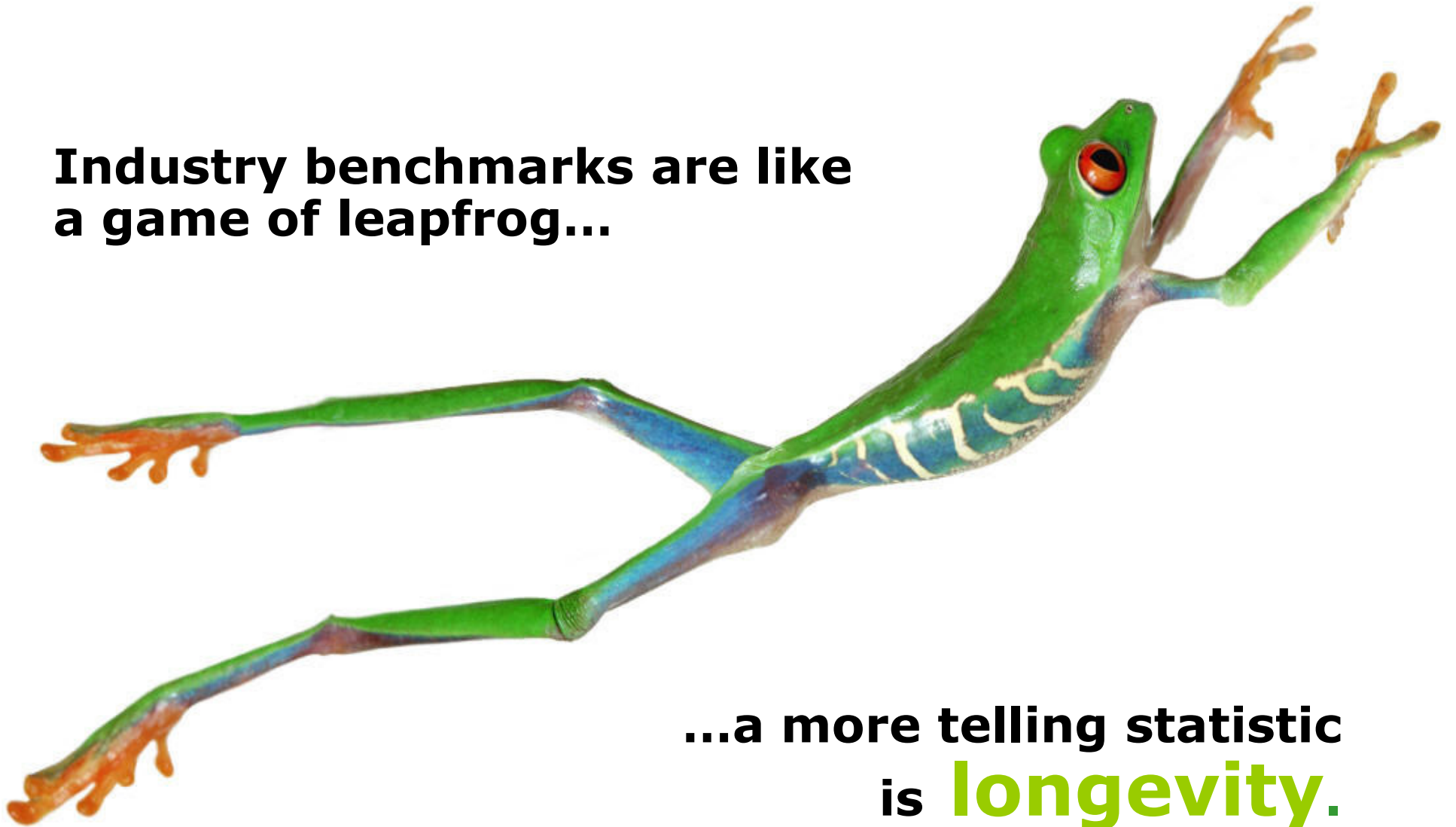
**...a more telling statistic
is longevity.**

Trusted performance
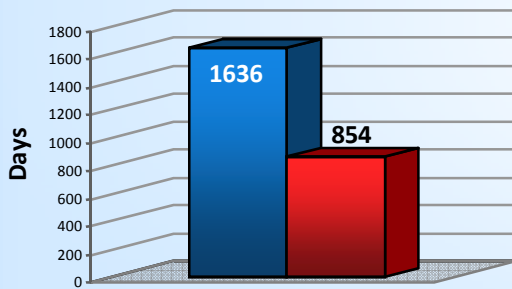## *IBM has an unmatched record for benchmark leadership*
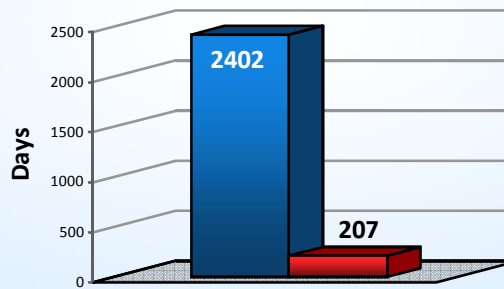
TPC-C performance leadership	SAP SD performance leadership	SPECjEnterprise2010 performance leadership
Days of TPC-CPC-C Leadership	**Days of SAP 3-Tier SD Leadership**	**Days of SPECjEnterprise2010 Leadership**
Since Jan, 2003	Since Jan, 2003	Since Jan 1, 2010

IBM   Oracle

POWER7 and DB2 lead in performance, cost and efficiency

1st to top10 million tpmC

- ✓ 10.36 million tpmC demonstrated on Power 780 and DB2 with TPC-C
- ✓ The highest TPC-C benchmark result ever recorded

2.7x faster per core

- ✓ 2.7x better performance per core than the best Oracle/Sun TPC-C result
- ✓ 35% greater throughput on ½ the cores than the best Oracle/Sun TPC-C result

41% lower cost per transaction

- ✓ 41% lower cost per transaction than the best Oracle/Sun TPC-C performance result
- ✓ The lowest cost per transaction for any result over 1.21M transactions

35% less energy per transaction

- ✓ 35% less energy per transaction (Watts/tpmC) than published Oracle energy usage data

"...we have observed a 40% cut in response times with DB2..."
—Peter Boegler, SAP IT

IBM provides the leading systems for SAP environments

- **Smarter systems are optimized for SAP environments**
  - Joint SAP and IBM teams optimize systems
  - Lower costs and risk by using WebSphere together with SAP NetWeaver

- **DB2 is easy to administer in SAP environments**
  - IT staff perform all DB2 admin tasks from the SAP tools.
  - DB2 automates reorgs, tuning, statistics collection, backups, etc.

- **IBM systems offer more efficient storage**
  - DB2 offer strong advantages when it comes to minimizing storage

DB2 optimizations reduce infrastructure requirements

SAP and DB2 on Power 780

1/4th

The number cores required for
IBM DB2 and Power 780
than Oracle Database on Sun M9000

**SAP Sales and Distribution
ERP 6.0 EHP4 2-Tier performance**

	IBM DB2 on Power 780	Oracle Database on Sun M9000
	37,000	32,000
	SD Users[1]	SD Users[2]
	64 cores POWER7	256 cores SPARC64 VII
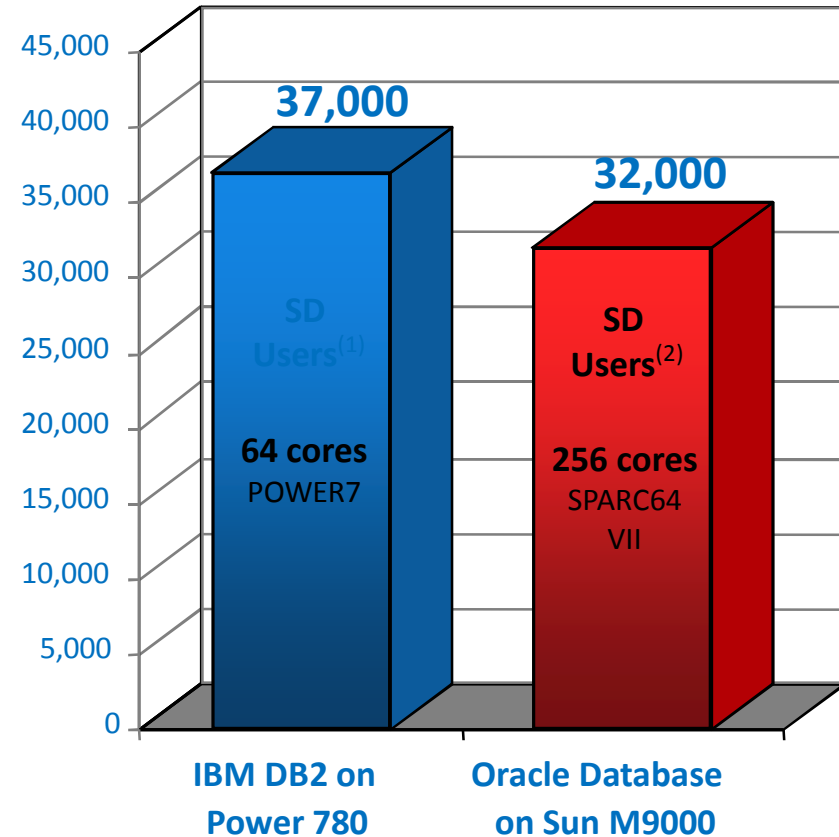
Results as of 4/02/2010

IBM Power System 780, 8p / 64–c / 256–t, POWER7, 3.8 GHz, 1024 GB memory, 37,000 SD users, dialog resp.: 0.98s, line items/hour: 4,043,670, Dialog steps/hour: 12,131,000, SAPS: 202,180, DB time (dialog/ update):0.013s / 0.031s, CPU utilization: 99%, OS: AIX 6.1, DB2 9.7, cert# 2010013; **SUN** M9000, 64p / 256-c / 512–t, 1156 GB memory, 32,000 SD users, SPARC64 VII, 2.88 GHz, Solaris 10, Oracle 10g , cert# 2009046; **All results are 2-tier, SAP EHP 4 for SAP ERP 6.0 (Unicode) and valid as of 4/2/2010.**

Better database performance means...

lower server costs
and
lower power costs

Get **more**
from your storage

DB2 has deep compression for:

Tables

Temporary tables

Indexes

"...up to 83%... helps us minimize storage costs and increase performance"
— Jean Holley, CIO, Tellabs, Inc.

Save 30% on

storage costs when compared to

other databases

* Based on Internal IBM tests.

"...cost savings are more than $2M initially, with ongoing savings of $500k a year"
—Michael Henson, SunTrust Bank, Inc.

Better data compression means…

lower storage **costs**

and lower power **costs**

and less administration

and better performance

DB2 pureScale

- **Unlimited Capacity**
  - Buy only what you need, add capacity as your needs grow

- **Application Transparency**
  - Avoid the risk and cost of application changes

- **Continuous Availability**
  - Deliver uninterrupted access to your data with consistent performance
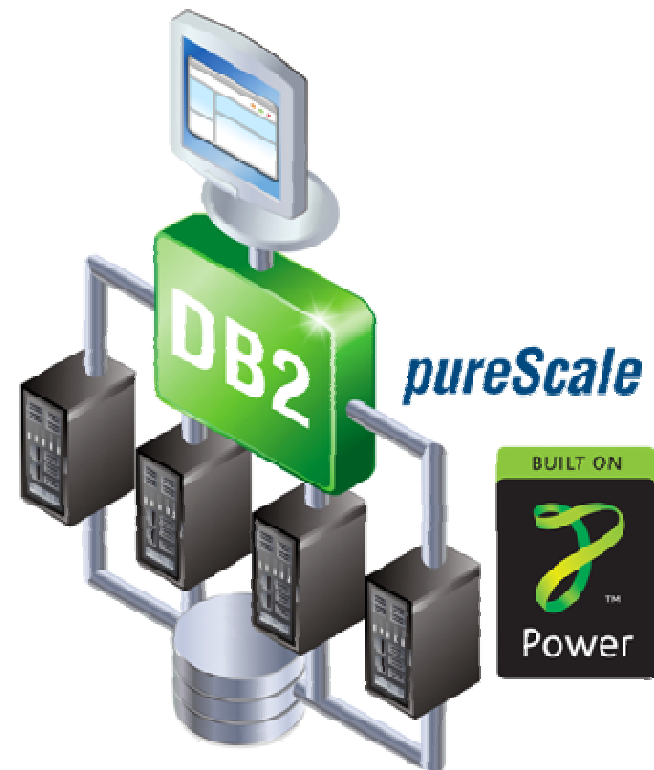
Learning from the undisputed Gold Standard... System z

Highest levels of availability for critical business systems
Data availability after node failure

Node Failure

% of Data Available

Time (~seconds)

DB2 pureScale
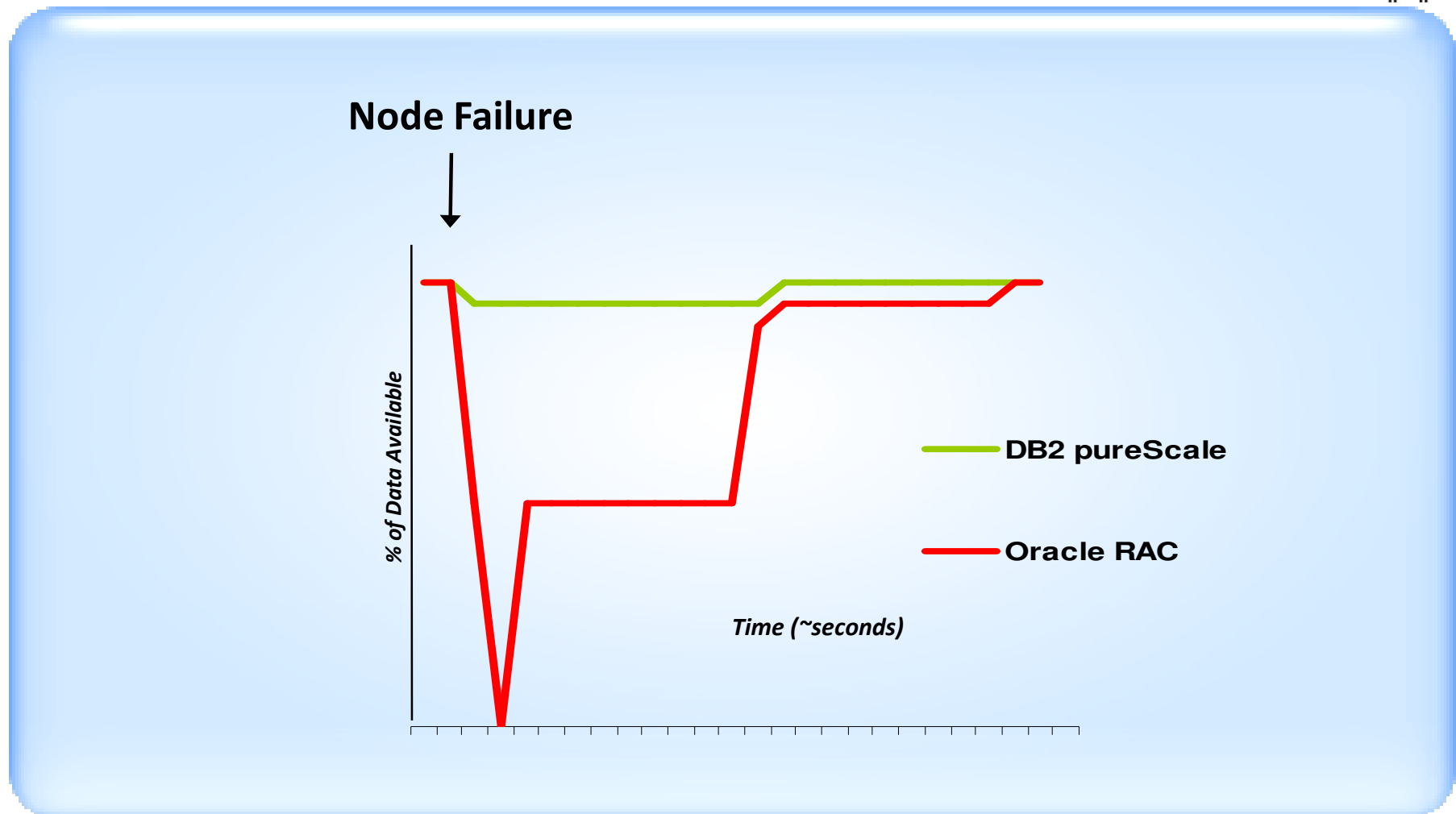
Oracle RAC

Source: Internal IBM testing for DB2 pureScale availability combined with several public sources for Oracle RAC availability.

Why DB2 pureScale is better than Oracle RAC
Throughput efficiency declines as you add nodes to Oracle RAC

Oracle RAC
Poor Scalability

- Perfect Linear Performance
- Effective Nodes

Effective Nodes

Wasted Resources

2.44

1.69

Productive Resources

Data Base Nodes in Cluster
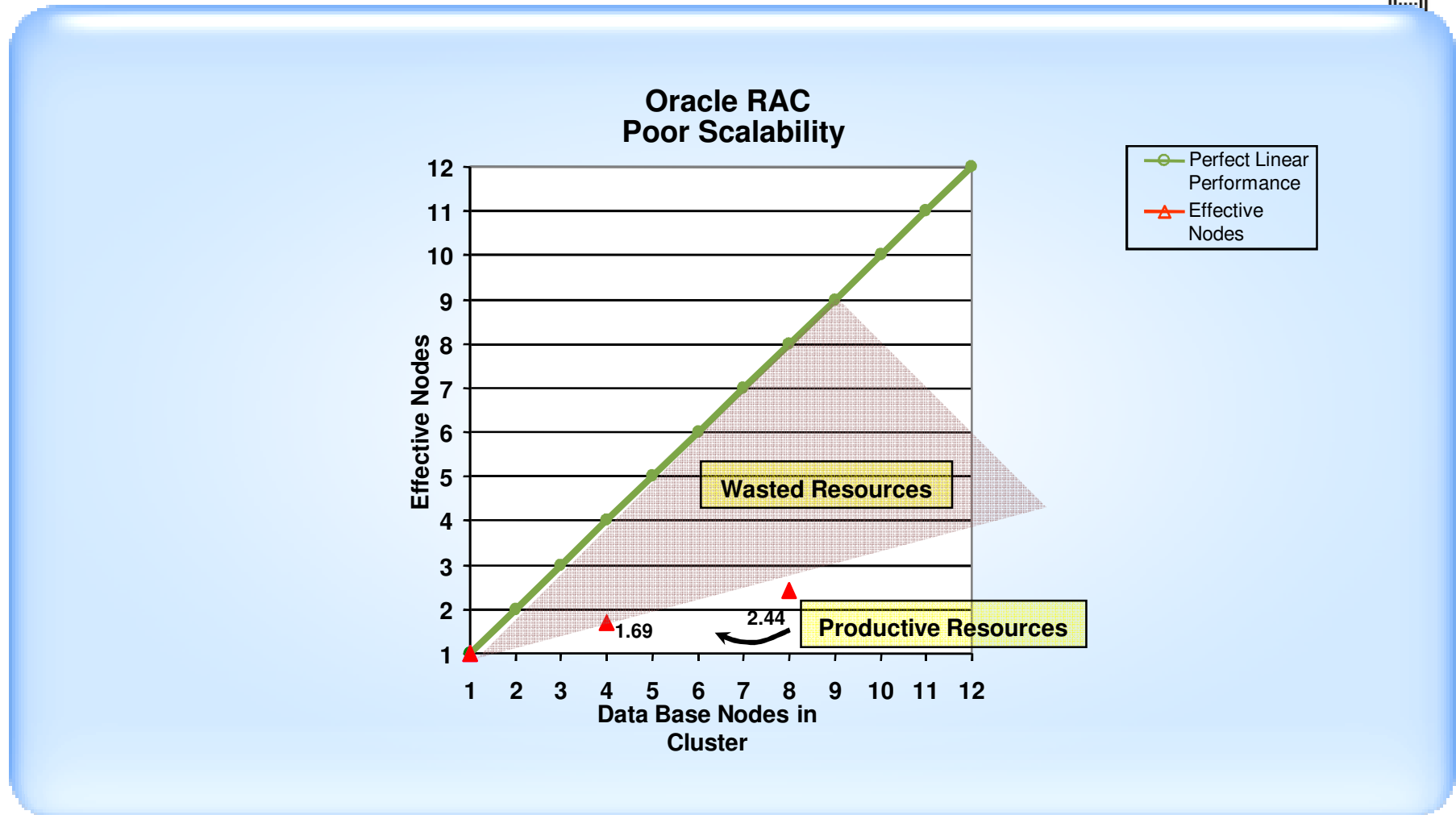
Source: Oracle RAC characteristics as published in Dell test results.

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Why DB2 pureScale is better than Oracle RAC
Near-linear scale-out efficiency of DB2 pureScale

DB2 pureScale
Near Linear Scalability

Wasted Resources

Productive Resources

10.33

7.54

3.90

1.98

Effective Nodes

Data Base Nodes in Cluster

Perfect Linear Performance

Effective Nodes
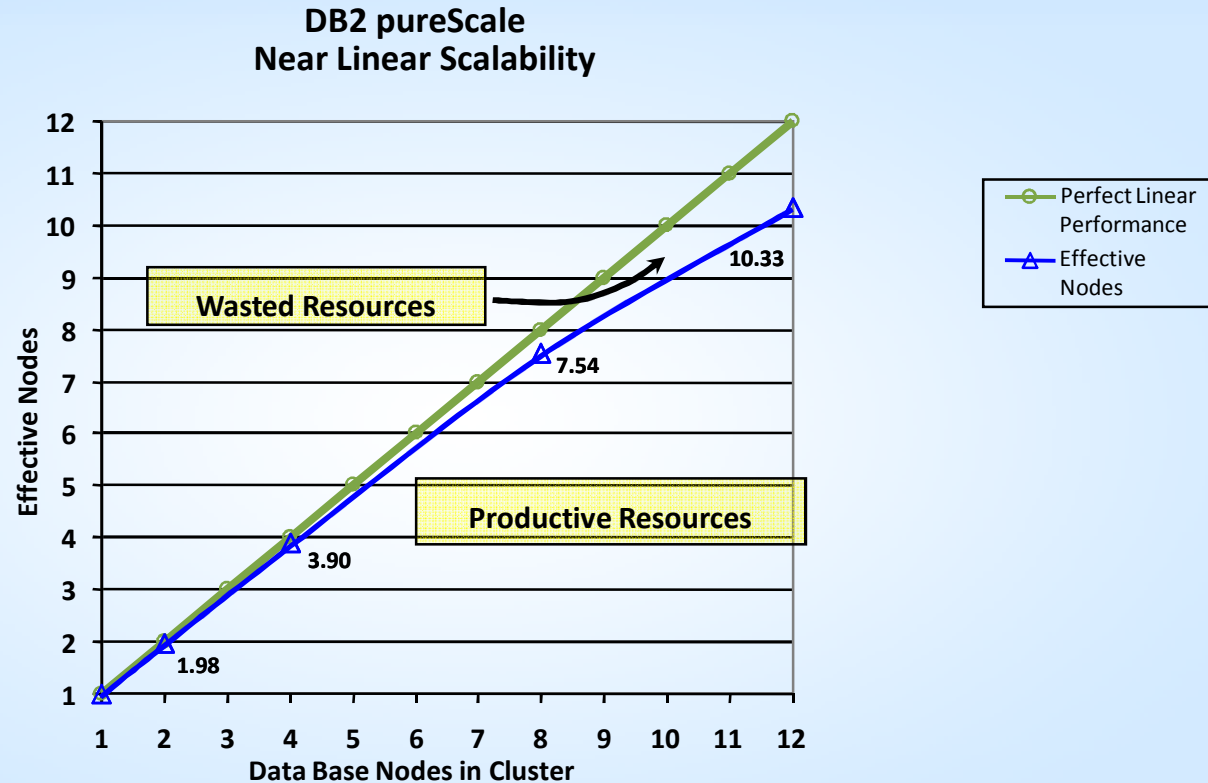
Source: DB2 pureScale characteristics as shown in IBM published results from internal tests

IBM pureScale Application System
Scale seamlessly, effortlessly from 8 cores up to 8,192 cores[1]

Scale Up
Expand each member
up to 64 cores

IBM Power 770

IBM Power 770

IBM Power 770

Scale Out
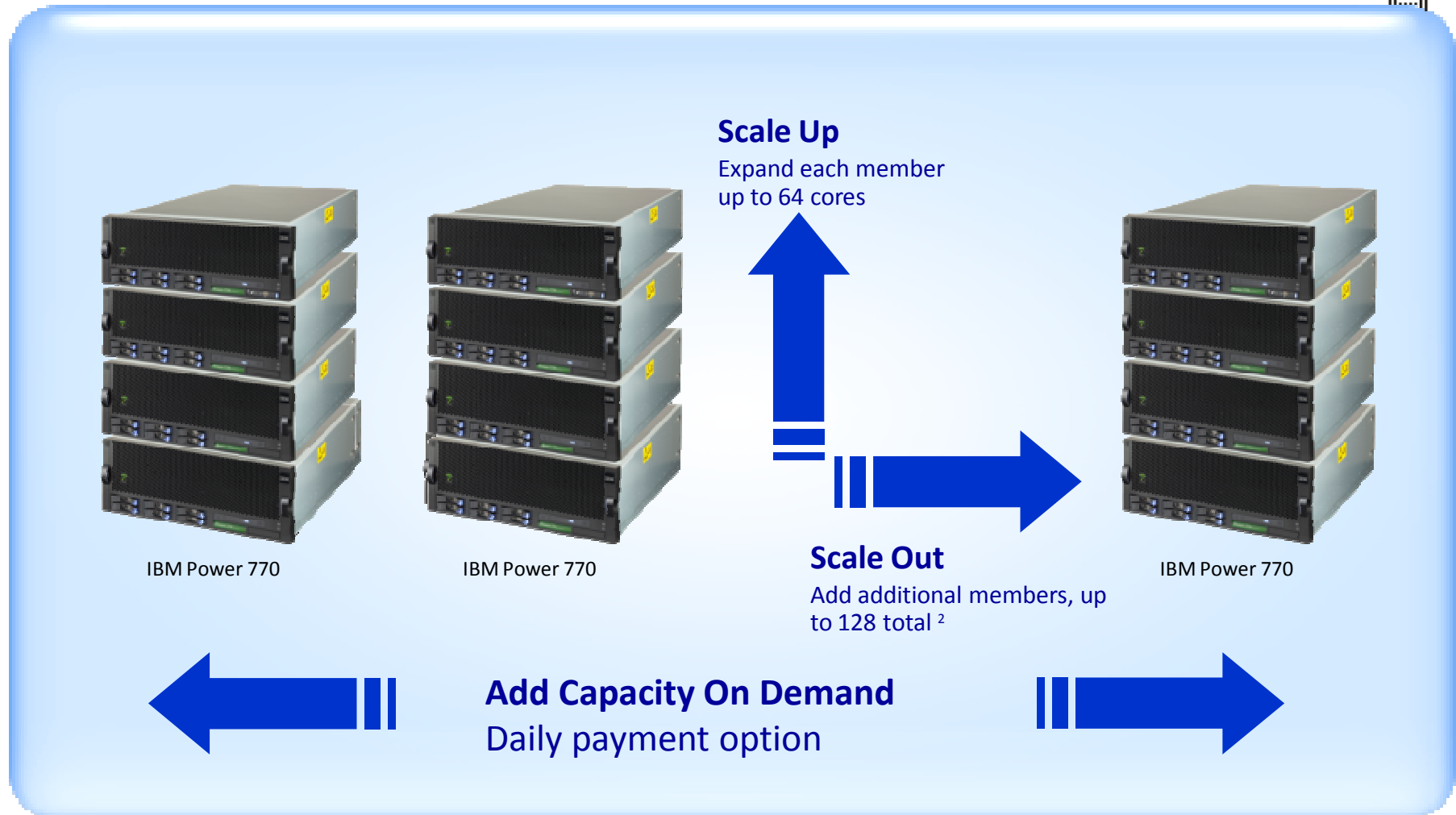Add additional members, up
to 128 total [2]

Add Capacity On Demand
Daily payment option

1 – Assumes 64 cores x 128 members   2 - Architecture proven in lab testing to 128 nodes using pre-release code

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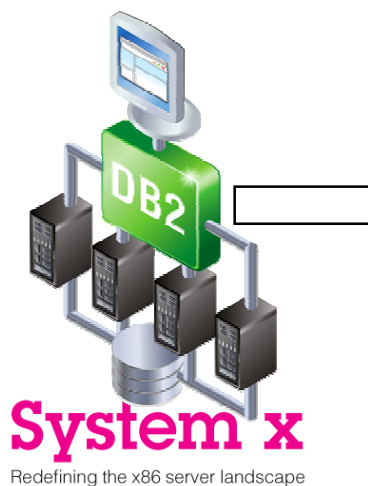Manage. Analyze. Govern.

DB2 pureScale on System x

- **M3 and eX5 servers with Linux**

- **Now Available**

DB2 pureScale provides
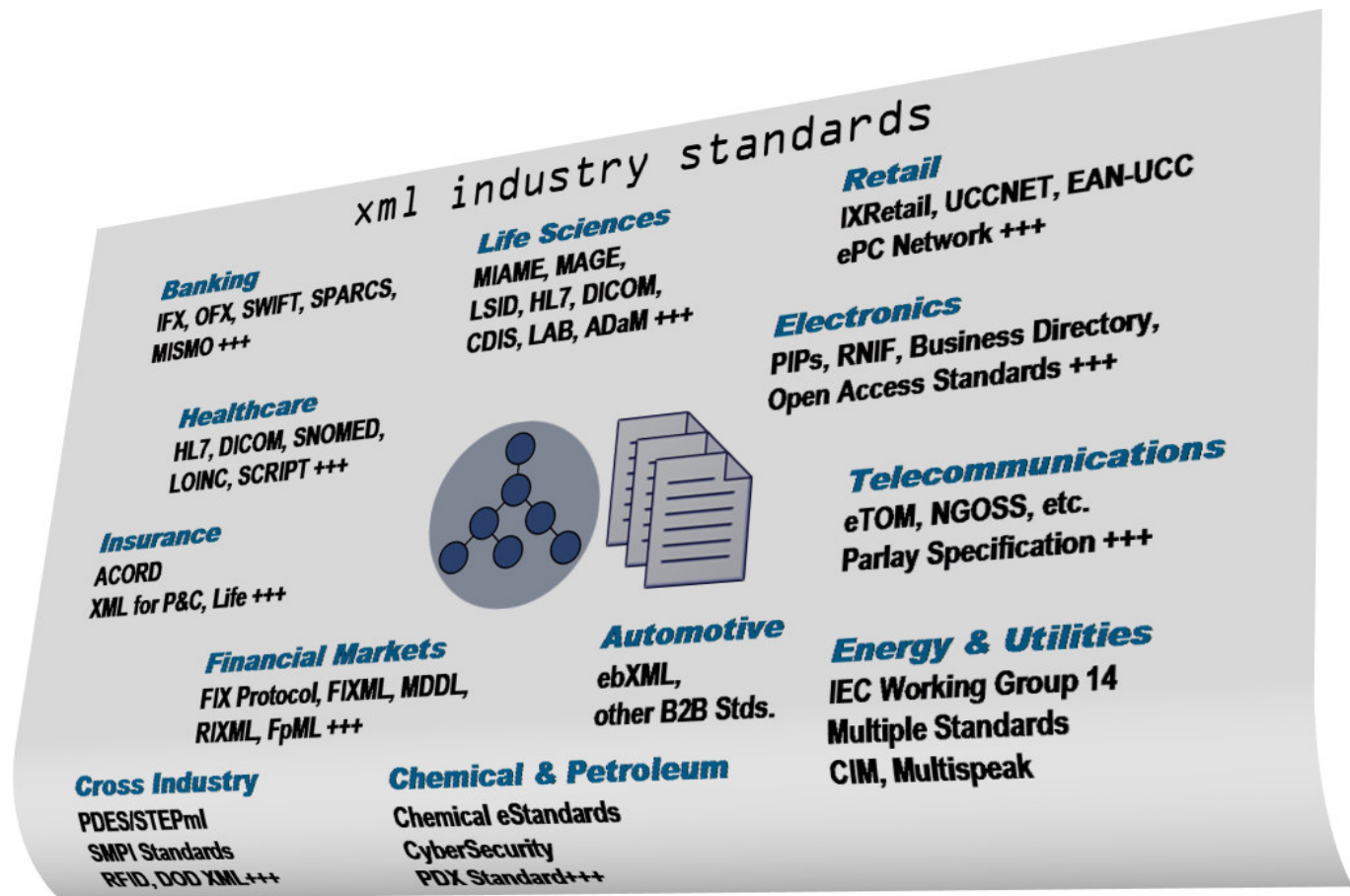
Unlimited Capacity
Buy what you need now, add capacity as your needs grow

Application Transparency
Avoid the risk and cost of application changes

Continuous Availability
Deliver uninterrupted access to your data with consistent performance

System x
Redefining the x86 server landscape

Next Generation
database formats

Storage of XML Data has
doubled in past 3 years

xml industry standards

Banking
IFX, OFX, SWIFT, SPARCS,
MISMO +++

Life Sciences
MIAME, MAGE,
LSID, HL7, DICOM,
CDIS, LAB, ADaM +++

Retail
IXRetail, UCCNET, EAN-UCC
ePC Network +++

Electronics
PIPs, RNIF, Business Directory,
Open Access Standards +++

Healthcare
HL7, DICOM, SNOMED,
LOINC, SCRIPT +++

Telecommunications
eTOM, NGOSS, etc.
Parlay Specification +++

Insurance
ACORD
XML for P&C, Life +++

Financial Markets
FIX Protocol, FIXML, MDDL,
RIXML, FpML +++

Automotive
ebXML,
other B2B Stds.

Energy & Utilities
IEC Working Group 14
Multiple Standards
CIM, Multispeak

Cross Industry
PDES/STEPml
SMPI Standards
RFID, DOD XML+++

Chemical & Petroleum
Chemical eStandards
CyberSecurity
PDX Standard+++

Unlike its competitors,
DB2 added
true native support for XML

"IBM is... taking a more holistic approach than its competitors to combine XML and relational systems." —Forbes.com
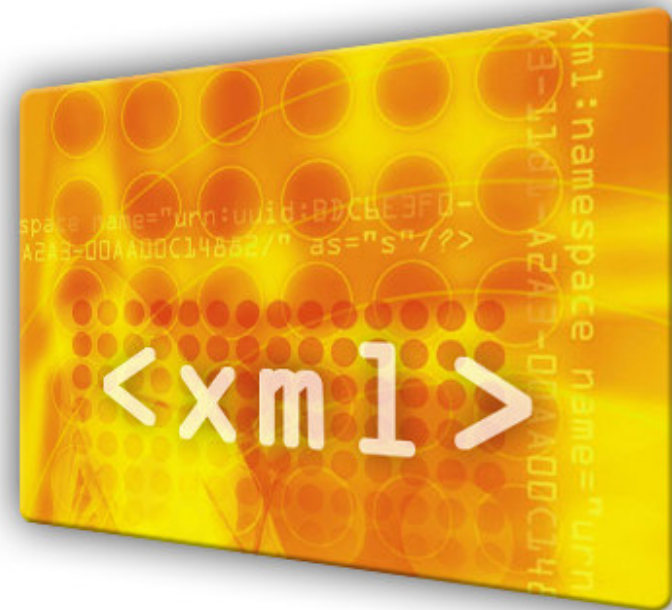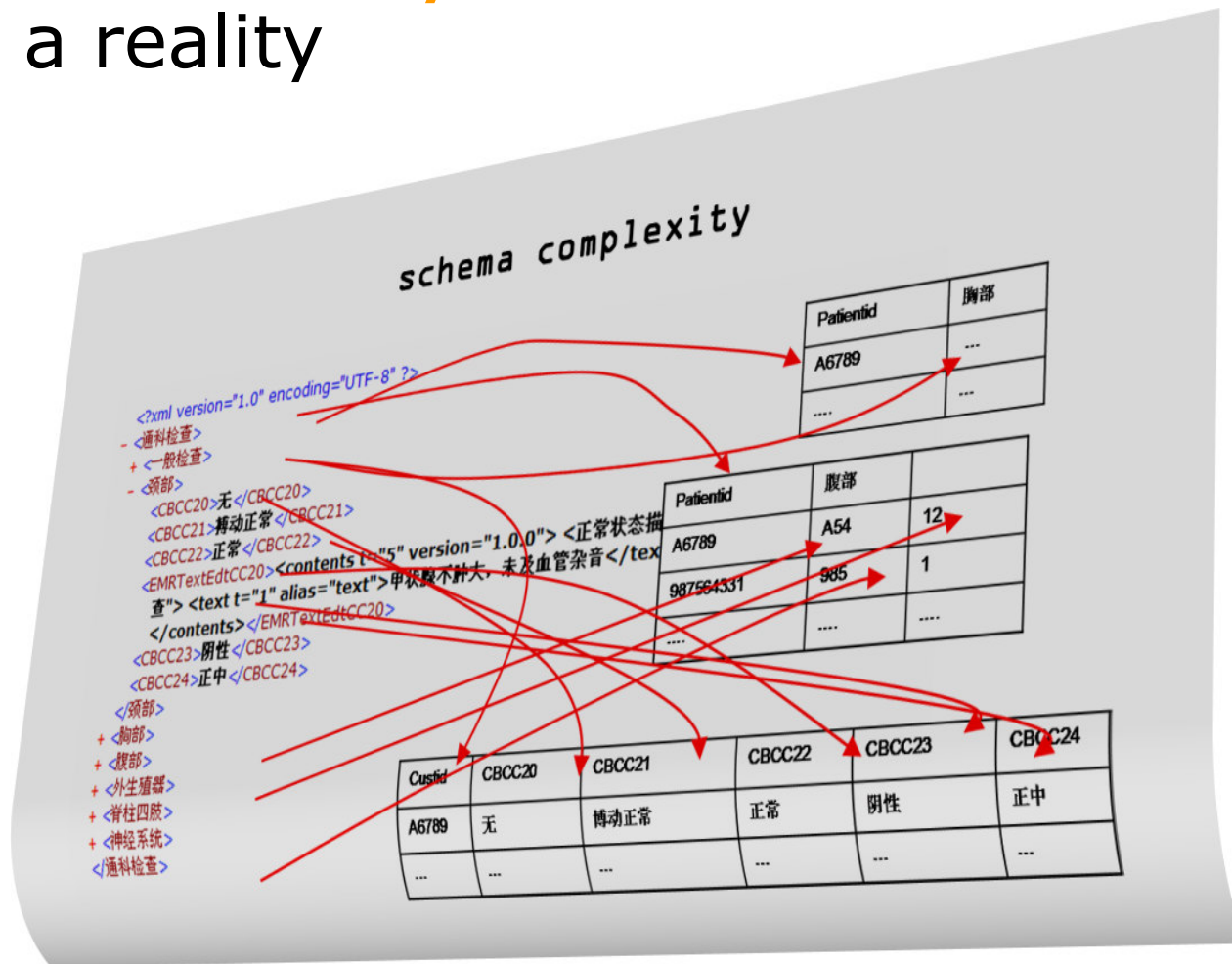
Major North American Bank...

Competitor

IBM

Move to XML-based standard
Use incumbent RDBMS
500,000 XML docs per day
FAILED!

Use DB2 pureXML
500,000 XML docs per hour

XML makes
schema flexibility
a reality

Easily **move** to DB2?

Differences are the exception, not the rule?

Native execution for fast performance?

Use Oracle Database skills with DB2?

"The compatibility level that DB2 9.7 achieved is amazing"
—*Masato Kudo, Works Applications*

"To move our application to DB2 9.5 would have taken an estimated two-year effort... it took only one week to move it to DB2 9.7"
—*Paolo Juvara, Openbravo*

WonderWorks
Generate Productivity^{TM}

Srikanth Rajan
Founder and CEO

DB2 helps you get more from...

Database administrators

Servers

Storage

Now it is even easier to save costs by moving to DB2!

Thank You

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