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Break Free with TFG

DB2

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Agenda:

- DB2 vs. Oracle – the history
- Three critical qualifiers
- Migration process and cost estimation
- DB2 features, versions and appliances overview
- Next steps

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3 Takeaways:

1. An understanding of the 3 factors needed to seriously consider DB2

2. Basic understanding of the migration process

3. Your organization's next step to break free!

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DB2 vs. Oracle - the history

IBM vs. Oracle, Mobility, Cloud: What IT Pros Need to Know for 2011

Big Blue vs. Big Red

That would be IBM versus Oracle. The successful strategy of IBM built on services versus Oracle's strategy of buying up the enterprise software universe is a major act for business-to-business in 2011. CIOs know the value of buying a fully integrated software offering in terms of compatibility but are wary of getting tied to one vendor. The rest of the B2B tech vendor community has to find a way to outmaneuver IBM and Oracle. This will be fun to watch on the outside, less fun on the inside if you make the wrong choice.

IBM

vs

ORACLE

DB2 is the highest value database in the market.

1. **DB2 has one of the lowest people cost requirements.**
   - ✓ *DB2 requires 43% less DBA time vs. Oracle, Solitaire Interglobal analysis; average cost per DBA saved: $100 /hr x 40 hrs/week x 52 weeks/yr = $208,000/yr burdened. If you save 5 DBA's, That's $1M / yr*
2. **DB2 is the smartest database in the market.**
   - ✓ *DB2 Autonomics; self-optimizing, self-healing, self-configuring and self-protecting, DB2 has the ability to monitor its own health status - independent of the database administrator (DBA).*
3. **DB2 reduces storage costs better than any other vendor.**
   - ✓ *"With DB2 9, we're seeing compression rates up to 83 percent on the data warehouse tables. The projected cost savings are more than US$2 million initially with ongoing savings of US$500,000 a year." - Michael Henson, DB2 Unix Team Lead, Data-base Delivery Services, SunTrust Bank, Inc.*
4. **DB2 is the fastest database.**
   - ✓ *DB2 at largest SAP/Oracle customer in Germany*
     - *DB2 up to 9 times faster*
     - *DB2 on average over 40% faster*
5. **DB2 has the highest availability.**
   - ✓ *"DB2 was heavily favored in this regard... with fewer and shorter outages for normal operational activities, the overall availability and reliability of the DBMS shows some clear differentiation." — Solitaire Interglobal*
6. **DB2 is the most scalable database.**
   - ✓ *DB2 pureScale reduces the risk and cost of business growth by providing unlimited capacity, continuous availability, and application transparency. Scaling your system is simply a matter of connecting a new node and issuing two simple commands. Oracle RAC scalability tails off dramatically after 4 nodes, DB2 purescale performance stays at 95% scalability at 32 nodes, dropping only slightly as you add more nodes (81% at 112 nodes)*

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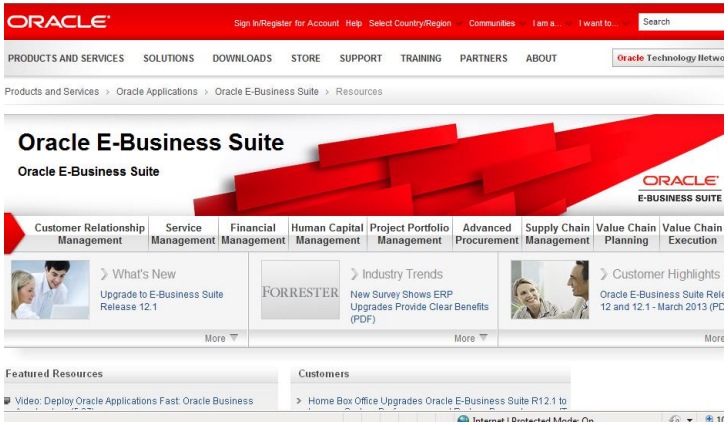
Three Critical Qualifiers

1. **Does your organization run Oracle applications? For example, any products in the E-Business Suite?**



Three Critical Qualifiers

2. **Is your organization willing to share your Oracle license costs with an IBM Business Partner for comparison purposes?**

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Three Critical Qualifiers

3. Is your organization ready to Break Free?

Poll Question #1

IBM Information Management

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DB2 Transition Process

- Application code assessment – MEET Tool
- License cost comparison spreadsheet or Business Value Assessment
- Migration plan
- Training, mentoring, skills enablement
- Ongoing DB2 support

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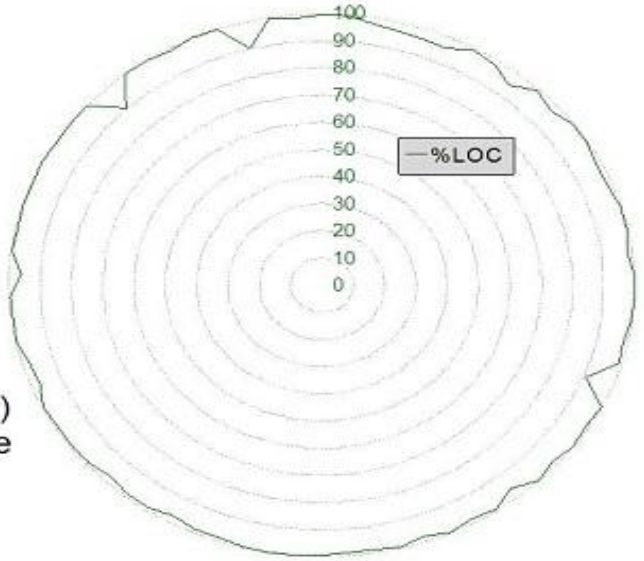
IBM Application Capability MEET DB2 Tool

>98% Compatible with Oracle SQL and PL/SQL

MEET DB2 9.7 FP5 statistics

IBM

- The 74 biggest (>1KLOC) of 171 MEET DB2 9.7 FP5 Reports
- Range of industries, solutions, countries
- Various sizes
  1015 to 240,706 LOC
- Significant sample size:
  2,513,236 LOC total
- 90.1% - 99.9% (Average 98.6%) of LOC immediately transferable to DB2



IBM Application Capability MEET DB2 Tool

Sample Output:

Feature:	Total Time (mins)	Num Stmts	Amt Time per Stmts (mins)	Exceptions Details
Constraint with ENABLE or DISABLE	30	3000		Constraint states are not supported but the code can be fixed by IDMT/DCW Tool automatically.
TABLE PARTIITION BY LIST	180	3	60	
ORDER BY	120	8	15	
BITMAP INDEX	15	1	15	
FUNCTION BASED INDEX	90	3	30	
Data Type Conversion	120	309		Column specifications need verification for business logic (Number precision issues)
LAST	60	12		
GROUP_ID	0			
LIMIT CLAUSE	90	1	90	LIMIT clause is not supported. Investigation is required.
STRING TYPE	0			
Materialized Views	420	7		
PRAGMA_AUTONOMOUS_TRANSAC	90	3	30	
TIMESTAMP DATA TYPE	120	28		
NLS_CHARSET_NAME	60	1		
SYSTIMESTAMP	120	377		
EXECUTE IMMEDIATE STATEMENT	480	204		
REGEXP_REPLACE	180	9		
DBMS_APPLICATION_INFO	240	622		
DBMS_SQL changes	1200	40	30	
AUTHID CURRENT_USER	180	1		
PARALLEL_ENABLE_CLAUSE	30	1		
ROW LENGTH LIMIT EXCEEDED	1200	2	600	Revisit your requirement
DBMS_SPACE_ADMIN	120	16		Time allocation based on analysis – whether or not this functionality is in scope.
SYS SCHEMA/DATA DICTIONARY	3690	82	45	Need to understand part of business logic or adminstration
BUILT-IN PACKAGES	60	1	60	
DBMS_STATS	60	3		Time allocation based on analysis – whether or not this functionality is in scope.
PLSQL SYSTEM CATALOG VIEWS	480	4		If code needs to be ported otherwise may be dropped from scope
Total Minutes	9435			
Total Hours	157.25			

IBM Application Capability MEET DB2 Tool

- For details on DB2 compatibility in DB2 V10.x see IBM developerWorks article by Serge Rielau
- Download the MEET DB2 tool and test it! HERE

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DB2 Transition Process

- License cost comparison spreadsheet or Business Value Assessment
- Cost factors analyzed and compared include:
  - License cost
  - Storage and annual maintenance
  - Administrative support
  - Migration cost

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DB2 Transition Process

- License cost comparison spreadsheet or Business Value Assessment

Projected TCO Comparison

Customer Name: **Sample**

TCO With Oracle	Year 1	Year 2	Year 3	Year 4	Year 5	3 Year Total	5 Year Total
Oracle Licenses	$0	$0	$0	$0	$0	$0	$0
Oracle Maintenance	237,204	249,064	261,517	274,593	288,323	$747,786	$1,310,702
Oracle Storage & Backup	18,049	19,853	21,839	24,023	26,425	$59,741	$110,189
Oracle Administration	200,000	206,000	212,180	218,545	225,102	$618,180	$1,061,827
Total Cost Of Oracle	**$455,253**	**$474,918**	**$495,536**	**$517,161**	**$539,850**	**$1,425,707**	**$2,482,718**

TCO With DB2	Year 1	Year 2	Year 3	Year 4	Year 5	3 Year Total	5 Year Total
DB2 License	$ 280,572	$0	$0	$0	$0	$280,572	$280,572
DB2 Maintenance	-	56,114	58,920	61,866	64,960	$115,035	$241,860
DB2 Storage & Backup	7,520	8,272	9,100	10,009	11,010	$24,892	$45,912
DB2 Administration	150,000	154,500	159,135	163,909	168,826	$463,635	$796,370
DB2 Migration	200,000	-	-	-	-	$200,000	$200,000
Total Cost of DB2	**$638,093**	**$218,887**	**$227,155**	**$235,785**	**$244,796**	**$1,084,134**	**$1,564,715**
DB2 Savings	**($182,840)**	**$256,031**	**$268,382**	**$281,377**	**$295,053**	**$341,573**	**$918,003**
					Savings %:	**24%**	**37%**

RESULTS | Benefits Summary | Charts | License & Maintenance | Administration | SI

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DB2 Transition Process

- License cost comparison

Just announced!

IBM Unlimited License Agreement (IULA)

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The New IBM IULA

Cost Predicability

- S&S fixed at beginning of contract
- License Term of 1-5 years
- Agreed S&S held flat during term
  - Limit annual S&S increases to NTE 5% after IULA term ends

Freedom of Deployment

- Entitlement based on certified deployment at end of term
  - No true-up / No additional license cost

Additional Flexibility

- Allow shorter IULA terms (1yr) vs. Oracle's 3 years minimum
- Lower entry TCV (1 yr = $500K, 2 yrs+ = $1M) vs. Oracle's standard $3M minimum

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DB2 Transition Process

- **Migration strategy and planning**
  - Consider support renewal dates
  - Database availability requirements? Need a zero downtime migration? It CAN be done!
  - Formal project plan and cost model
  - IBM Data Migration Toolkit (IDMT) proven process
  - Migration costs are factored into overall savings

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IBM Information Management

DB2 Transition Process - Education

- IBM classroom education options
- Informal mentoring during migration
- Ongoing education –
  - Regional Users Groups
  - Conferences
  - Ongoing classes

Poll Question #2

IBM Information Management

DB2 Features

- What's the buzz about BLU?
- DB2 technical features
- Integration with PureSystems

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DB2 Features

Disclaimer:

Not all features are available in all versions!

BLU Acceleration

Announced in April, 2013

Announcement video:
http://www.youtube.com/watch?v=SH1twB1TChg

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DB2 10.5 Advanced Editions Offer a Broad Solution Platform

- DB2 Advanced Enterprise Server Edition includes:
  - BLU Acceleration
  - Storage Optimization Feature, including Adaptive Compression
  - Continuous Data Ingest
  - DB2 Workload Management, for monitoring and controlling workloads
  - Homogeneous Replication Feature for DB2/Q Rep (restricted use)
  - InfoSphere Federation Server (restricted between Oracle and DB2 LUW)
  - Tooling
    - IBM Data Studio
    - InfoSphere Data Architect (10 authorized users)
    - InfoSphere Optim Configuration Manager
    - InfoSphere Optim Performance Manager Extended Edition + Extende
    - InfoSphere Optim Query Workload Tuner
    - InfoSphere Optim pureQuery Runtime

Storage Optimization Feature (SOF)

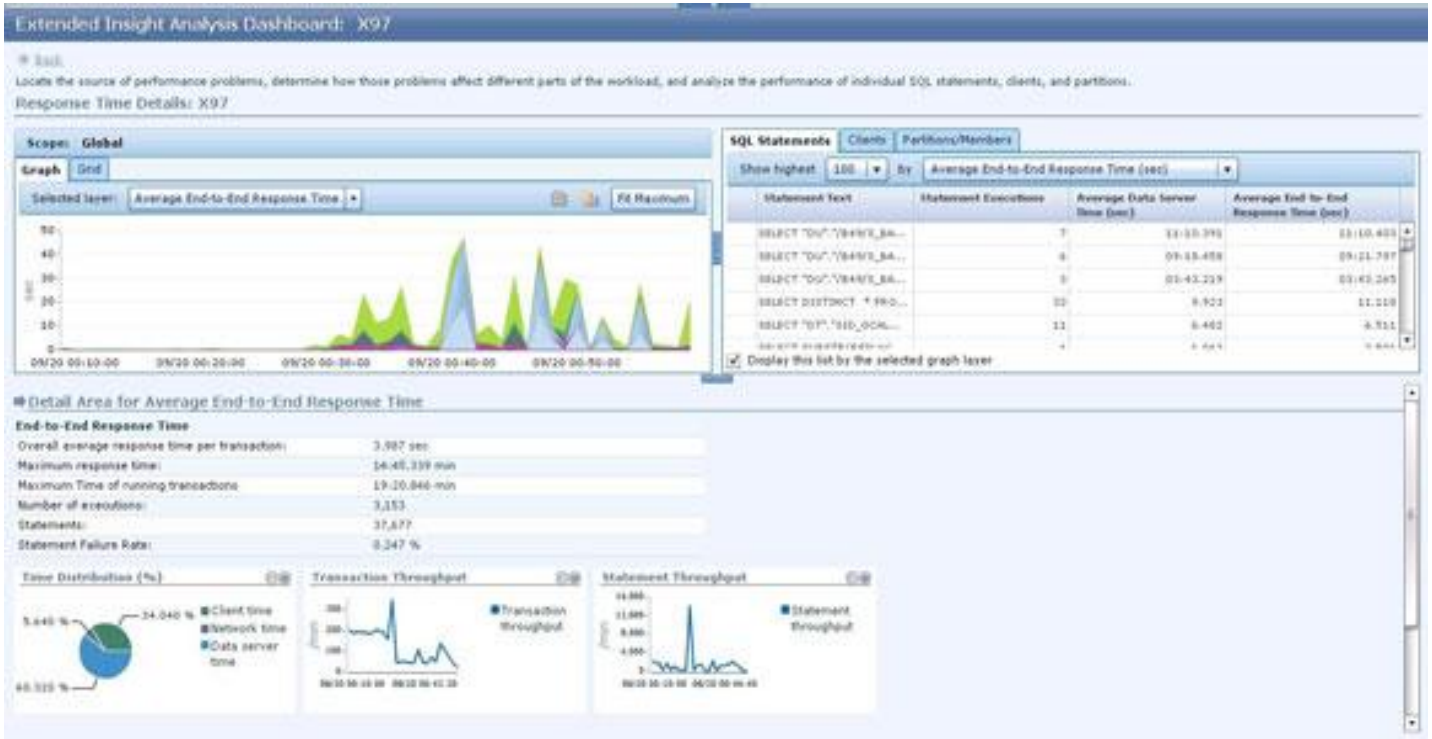
Compression

- Row Compression
- Adaptive Row Compression
- Value Compression
- XML Compression
- Index Compression
- Backup Compression
- Temporary Table Compression

30% to 70% storage reduction and more with BLU!

Performance Optimization Feature (POF)

Extended Insight extends monitoring beyond just the database server to understand the components of application response time across multi-tiered application stacks.



Federation and Replication

InfoSphere Federation Server (IFS) creates a consolidated view of your data to support key business processes and decisions. With Federation you can access and integrate diverse data and content sources as if they were a single resource - regardless of where the information resides.

The Federation capability being included with AESE is limited to combining data from Oracle with DB2 for LUW.

If you are already using IFS to combine other disparate sources such as SQL Server, Sybase and DB2 into a single virtual view, or need this capability, you must purchase the IFS software separately.

DB2 Versions

- DB2 Express-C
- DB2 Express
- DB2 Workgroup Edition
- DB2 Enterprise Edition
- DB2 Advanced Enterprise Edition

http://www.ibm.com/developerworks/data/library/techarticle/dm-1205db2compare/sidefile.html

IBM PureSystems

How much flexibility, integration and workload optimization do you require out of the box?

PureFlex

When you want pre-integrated and optimized infrastructure with flexibility

Run your choice of applications and middleware which you have to install

Infrastructure

PureApplication

When you want pre-integrated and optimized application platform

Built on IBM middleware to accelerate deployment of your choice of applications

Application Platform

PureData

When you want pre-integrated and optimized data platform

Delivers high performance data services to transactional and analytics applications

Data Platform

IBM PureData System for Transactions

Optimized exclusively for transactional data workloads

PureData System for Transactions

Delivering data services for transactions

Speed

- Industry leading DB2 performance
- Database node recovery in seconds[1]

Simplicity

- Database deployment in minutes, not hours[1]
- Runs multiple database software versions
- Handles more than 100 databases on 1 system[2]
- No planned downtime for firmware / OS upgrades[1]

Scalability

- Scaling up to 30x[3]
- Designed to expand from small to medium to large configurations with no planned system downtime

Smart

- Supports Oracle Database apps with minimal change; supports DB2 applications unchanged
- Clients have experienced cases of 10x storage space savings via Adaptive Compression[4]

Footnotes:
1. Based on IBM internal tests and system design for normal operation under expected typical workload. Individual results may vary.
2. Based on one large configuration.
3. Based on the designed minimum and maximum processor and memory resources required for a single database.
4. Based on client testing in the DB2 10 Early Access Program.

PureData simplifies the entire system lifecycle … Oracle RAC does not

PureData for Transactions

- Single part number
- Data load ready in hours
- Simplified deployment of:
  - HA database clusters
  - Multi-tenant databases
  - Workloads across systems
- Simplified operation:
  - System management
  - Firmware and OS updates
  - Live capacity upgrades

Oracle Real Application Cluster (RAC)

No appliance-like simplicity

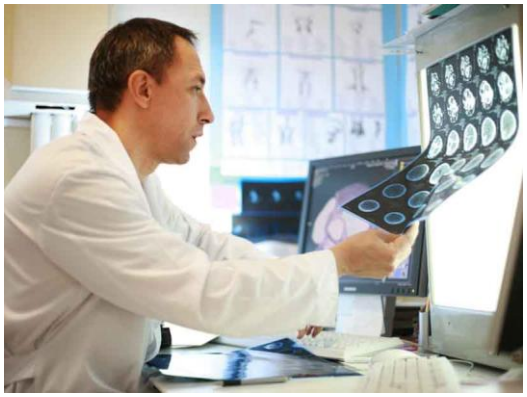
Poll Question #3

IBM Information Management

Customers Have Reaped the Rewards of Migration

Borçelik cut software licensing and maintenance costs by 25% and storage requirements by 40%, by moving their SAP applications to IBM

Afrisam saved 35% on storage by consolidating their Oracle database on HP to IBM hardware and software



BJC HealthCare and Pep Boys moved from Sybase ASE to IBM DB2 with virtually no changes to their applications

2,700

Customers switched to IBM in the last 4 years

2,100

Successful migration factory consolidations and migrations

Customers Agree on DB2 Ease of Use

"DB2 offers massively improved functionalities when compared to Oracle, and ***helps to reduce database administrative workload by around 30%."***
- Iwan Nussbaumer, Head of ICT at Industrielle Werke Basel

"Before we made a final decision we benchmarked some of the key database management systems. That includes Oracle, SQL Server and DB2. ***We ended up choosing DB2 for several reasons. One was reliability, second was performance and perhaps the most important factor was ease of use****"*
– Bashir Khan, Director of Data Management and Business Intelligence

After enabling STMM, … ***Reports that took 2-3 minutes to extract are now being extracted in less than 10 seconds.*** I have just received a call from my client asking me what kind of ***magic*** have we done. The system has almost ***near real-time responses with simpler queries, and 5 to 10 times faster on more complex reports*** (depending on the case)."- Michael Henson, DB Delivery Services

Multinational Banking Corporation with worldwide revenue > $100 Billion dollars

- This customer shared their migration story at the IBM Information On Demand Conference in Las Vegas on October 24th, 2011.
- DB2 now powers their primary customer website with over 50 Million registered users and up to 1 Million simultaneous connected users per hour.
- Almost 50% of the company's transactional volume flows through this site.
- First databases were migrated and in production in 6 months
  - The largest databases went into production 3 months later.
  - Final remaining databases moved into production in October 2011

Key results of Multinational Banking Corporation's DB2 Architecture

DB2 HADR and Q Replication provide continuous availability and disaster recovery across 3 sites separated by *hundreds of miles*

370 Sun Servers consolidated to
12 POWER 770 servers

2X Faster login performance

5X Faster profile access

Oracle Compatibility Feature of DB2 made this migration feasible for Banking Corporation

- Detailed business case showed more than **$10M in savings over 4 years.**
  - DB2 SW and HW **investment payback in 24 months.**
  - Business case considered depreciation costs and tax impacts to all investment alternatives.

- **8 databases supporting the full suite of applications** for the customer website were all migrated to DB2 using the Oracle Compatibility Feature.
  - Profiles -- Account balances
  - Credit cards -- Investments
  - Bill payment

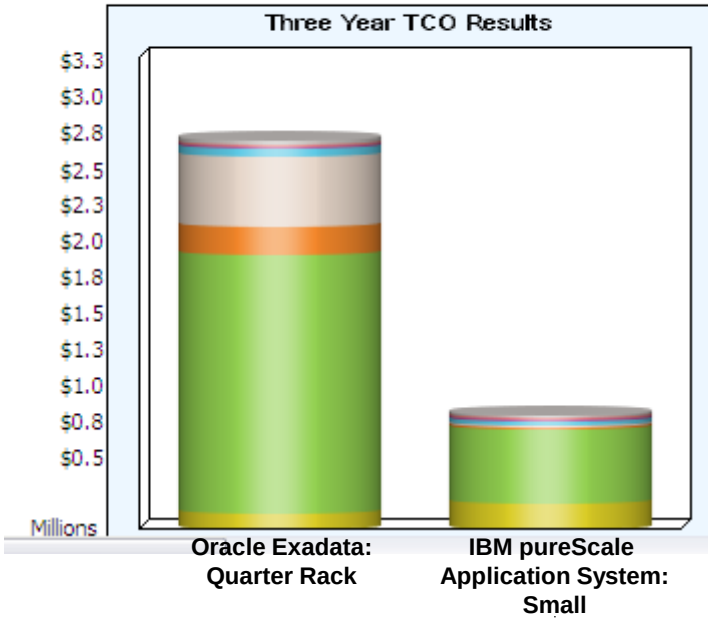
- **Over 90,000 lines of Oracle PL/SQL Stored Procedure code is now running on DB2.**

3-Year TCO and initial investment comparison

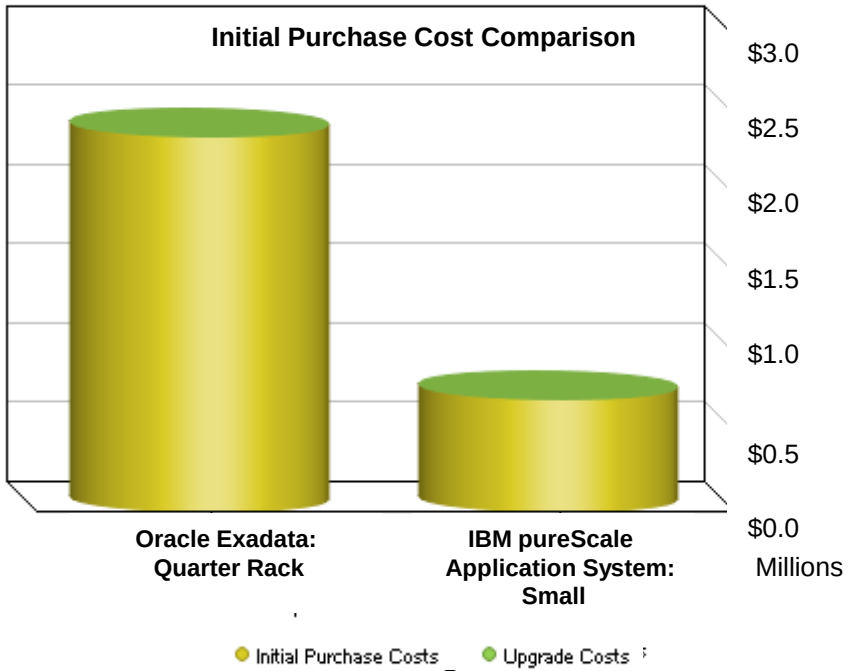
Oracle Quarter Rack Exadata vs. Small pureScale Application System

3 Yr TCO Savings with IBM over Oracle = 71%
Investment Cost Savings with IBM over Oracle = 70%

Savings with IBM pureScale $2,330,378 or 70.7%



Savings with IBM pureScale $1,666,447 or 70%



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Next steps:

- Review the information you will receive from TFG with your team
- Schedule a call to discuss getting a Business Value Assessment or cost comparison underway
- Collaborate on the migration plan
- BREAK FREE!

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Poll Question #4

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Thank you

Frank Fillmore, President

Kim May, Vice President Business Development

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