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Consolidating Data and Applications on Linux for System z

"The Mainframe Is Dead…. Again"

Introduced 40 years ago, IBM's System/360 greatly impacted business and government data processing.

Or maybe not……..

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INSIGHT

Oracle and IBM Agree to Co-Market Oracle's Linux Solutions on IBM System z Mainframes

Jean S. Bozman, Stephen L. Josselyn, Albert Pang

IDC OPINION

Oracle and IBM have both competed and cooperated in the IT marketplace, giving rise to a long period of "coopetition." Customer choices have increasingly caused both firms to provide software stacks that support deployment of enterprise applications across a variety of IBM server platforms.

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INSIGHT continued:

The October 24 announcement of Oracle-IBM cooperation on the IBM System z mainframe server's Integrated Facility for Linux (IFL) affirms the trend, as follows:

- It is a pragmatic decision that brings the Oracle E-Business Suite Database-Tier product to System z's Integrated Facility for Linux in support of Oracle's line of enterprise business applications, such as PeopleSoft and Siebel.
- The move to support Oracle workloads on Linux increases Oracle's presence on System z and the mainframe architecture, where Oracle has run on IBM's MVS and OS/390 operating systems on mainframes for many years - and where Oracle 9i has run on Linux on the mainframe since 2002 - but where Oracle's enterprise applications did not play a large role.
- This support for Linux-enabled Oracle workloads on the IFL strengthens the focus and commitment of both IBM and Oracle on enterprise Linux/IBM System z deployments.

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“Companies can potentially save 20% or more through consolidation.”

– Giga Information Group, Inc.

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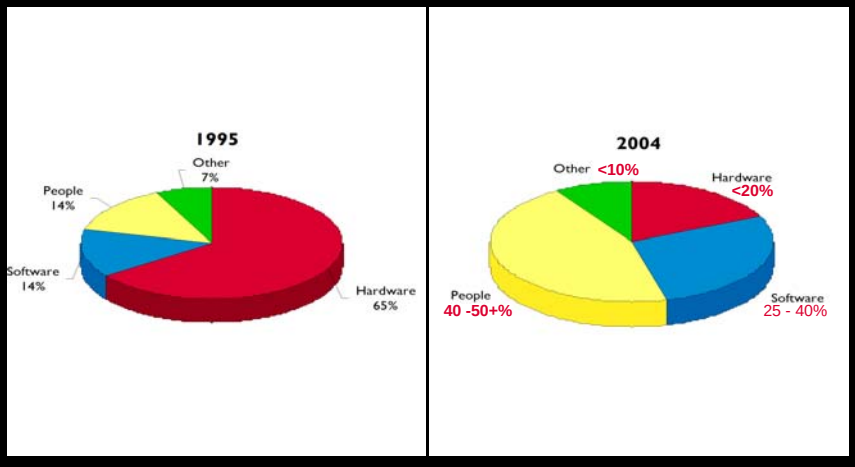
Source: Noel Yuhanna, Database Consolidation Defined: Two Approaches to Saving Money

The changing expense profile



People expense has tripled as a %
Software expense has doubled as a %
Hardware is less than 1/3 of its original %

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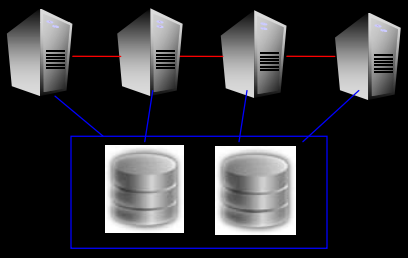
The Industry View

2003-2007 Time frame

Distributed computing (scale out) will not replace monolithic (scale up) computing or vice versa.

Gartner projects no pronounced shift in the balance of scale-out vs. scale-up architectures.

GARTNER GROUP July 2003



The 'right answer' for the majority of customers is probably a combination of scale up and scale out…
even within the same application deployment.

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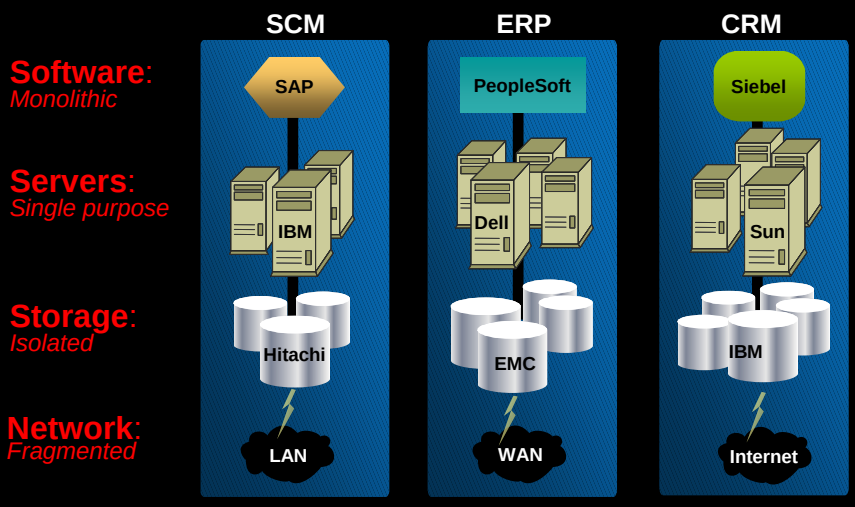
One Problem: IT in Vertical Fragments



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Distributed Environment: Business Challenges

- Rising IT costs
- Slow and incomplete decision making capability
- Fragmented data / redundant data / dirty data
- Non-standardized business processes
- Difficulty in planning and implement new/better business processes.
- Difficulty finding and accessing data
- Wasted employee productivity
- Difficulty in planning and forecasting costs

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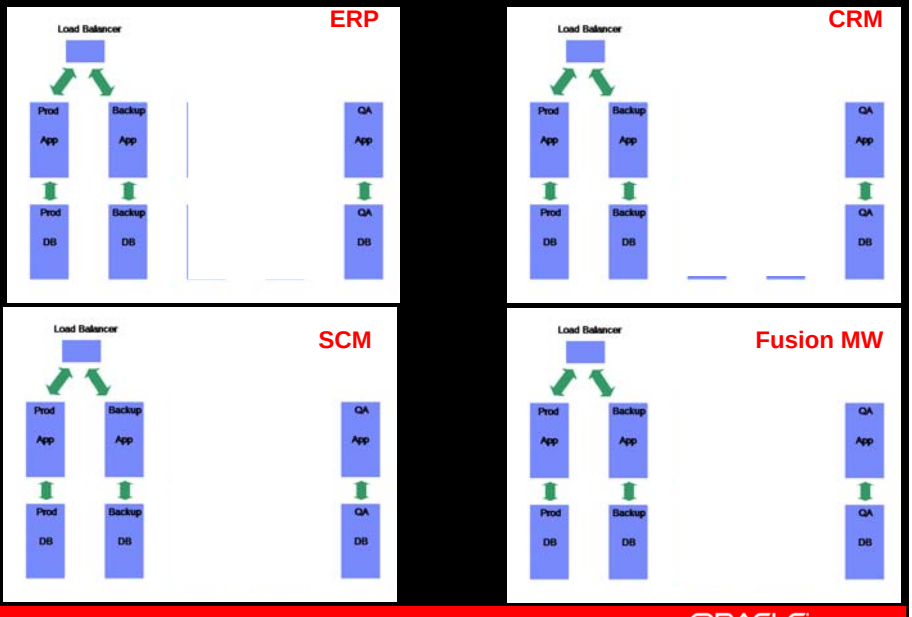
The Business as Usual Implementation Strategy



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Distributed Environment: IT Challenges

- Limited ability to do planning (costs/capacity/maintenance/patches/upgrades)
- Leveraging excess system capacity
- Downtime (scheduled or unscheduled)
- Access and data security
- Increasing support, maintenance and administration costs
- Difficulty in supporting Corporate or LOB mandates

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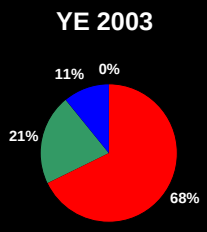
Customer Patterns

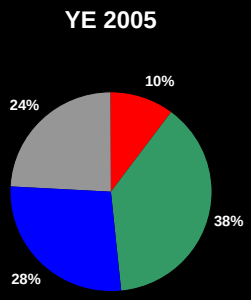
Consolidation of simple web-, application-, file-, print-serving

Migration of distributed infrastructure for z/OS backend processing and data serving

Infrastructure Simplification

Migration of mission-critical end-to-end applications





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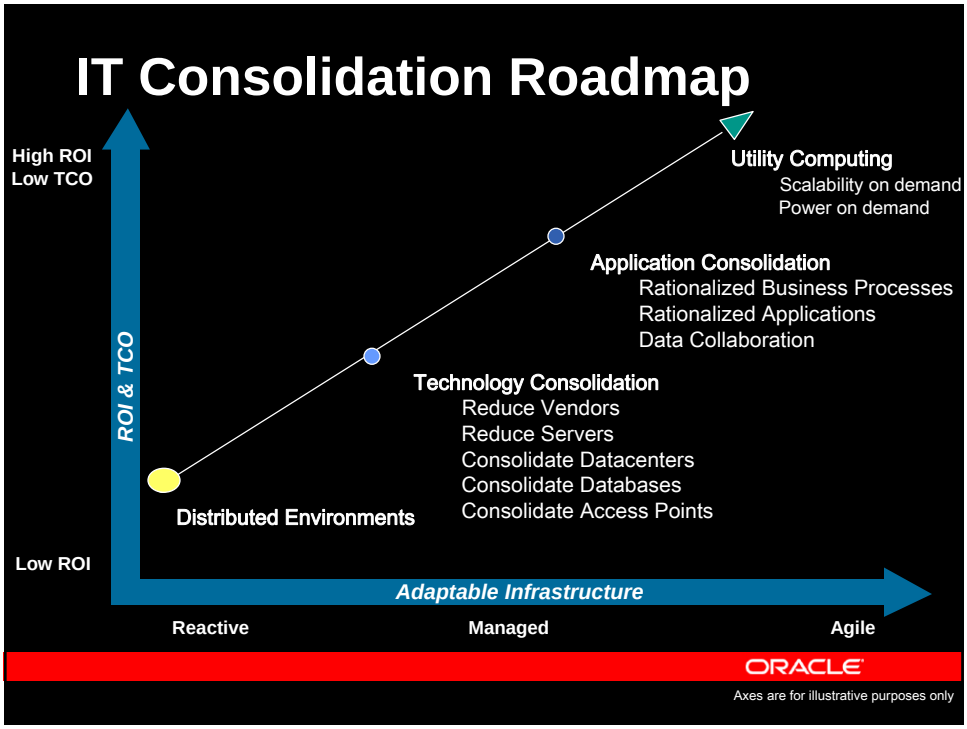
IT Consolidation Roadmap
High ROI
Low TCO
ROI & TCO
Utility Computing
Scalability on demand
Power on demand
Application Consolidation
Rationalized Business Processes
Rationalized Applications
Data Collaboration
Technology Consolidation
Reduce Vendors
Reduce Servers
Consolidate Datacenters
Consolidate Databases
Consolidate Access Points
Distributed Environments
Low ROI
Adaptable Infrastructure
Reactive
Managed
Agile
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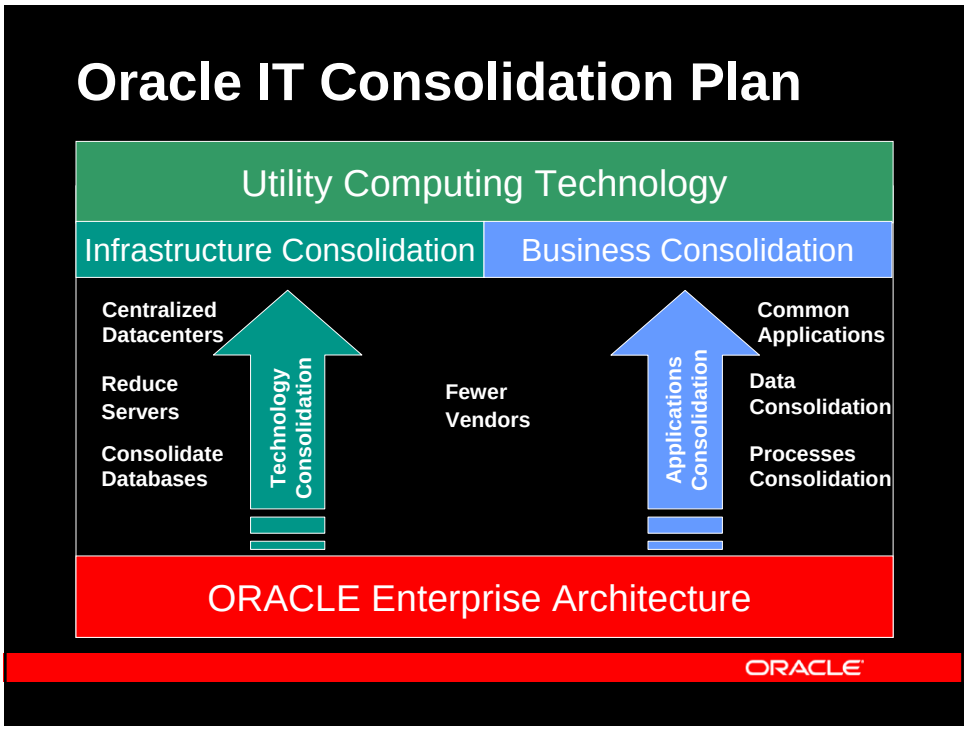
Axes are for illustrative purposes only


Oracle IT Consolidation Plan
Utility Computing Technology
Infrastructure Consolidation
Business Consolidation
Centralized Datacenters
Reduce Servers
Consolidate Databases
Technology Consolidation
Fewer Vendors
Applications Consolidation
Common Applications
Data Consolidation
Processes Consolidation
ORACLE Enterprise Architecture
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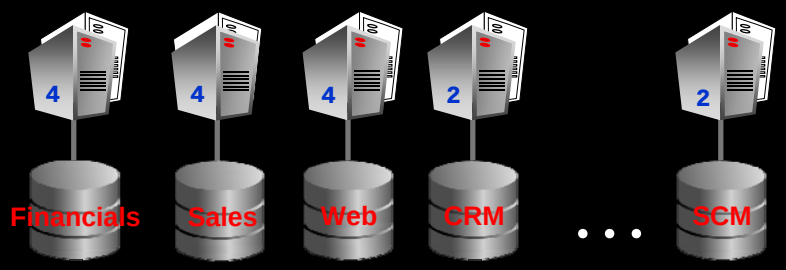
Server Consolidation: RAC

Dedicated Servers, Idle CPUs, No Scalability



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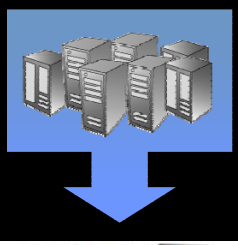
The advantages of System z virtualization

Replace physical servers with virtual ones

- Resources are shared for better utilization
- Server resources are allocated dynamically, based on demand
- Additional capacity is available to handle unpredictable fluctuations as well as planned increases



zVM “Scale out” and “Scale up” support

- **Improved utilization of large real memory configurations**
- **Improved bandwidth for QDIO operations in a CPU-constrained environment (support for z9 EC, z9 BC, z9-109, z990, z890 servers only)**
- **Improved throughput and response time**

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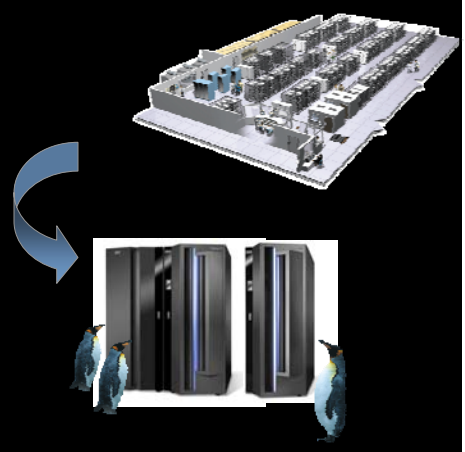
IBM

Infrastructure Simplification Starts with a Data Center in a Box

- Central point of management
- Increased resource utilization
- Potentially lower cost of operations
  - **Less servers**
  - **Fewer resources to manage**
  - **Less energy, cooling and space**
- Fewer intrusion Points
  - **Tighter security**
- Fewer points of Failure
  - **Greater availability**



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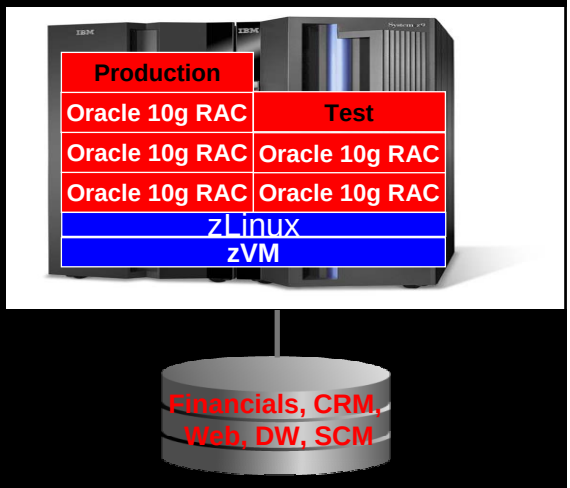
Server Consolidation: RAC

Increase Hardware Utilization, Decrease Management Costs, Reduce Downtime

- Share Server HW between Applications
- Servers sized for Aggregate peak
- Unlimited Scaling .. Total Availability



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Simplify Your Infrastructure

- ✓ Fewer, more strategic vendors
- ✓ Lower training and support costs
- ✓ Fewer integration points
- ✓ Fewer components to manage and certify

Multi-vendor technology architectures are expensive to buy and expensive to manage

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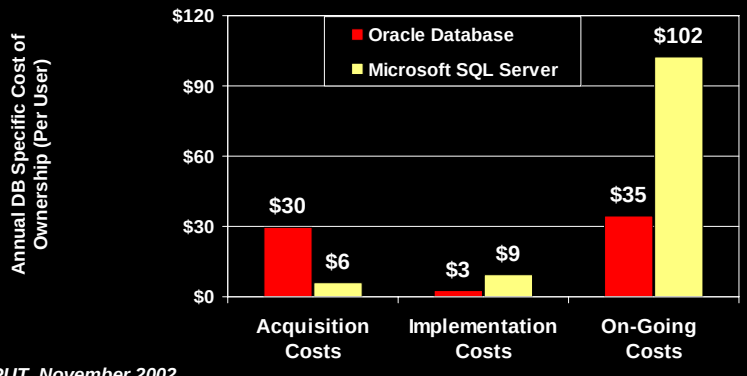
Microsoft Focus
Simplicity = Economic Efficiency

Even though the Competition has a lower cost of entry, higher operations costs make them more expensive



Source: INPUT, November 2002

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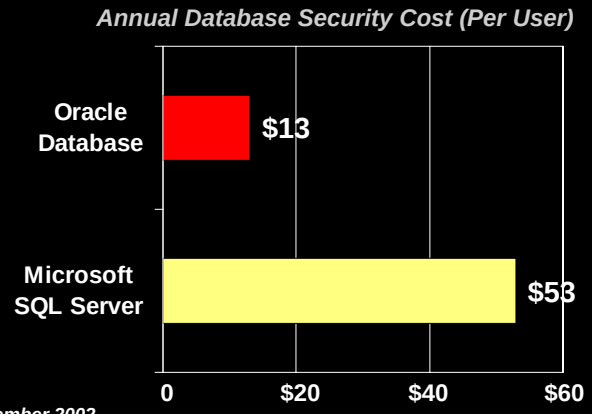
Microsoft Focus
Security = Economic Efficiency

Microsoft SQL Server Customers Spend 4x More to Secure their Packaged Apps Environment



Source: INPUT, November 2002

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Oracle Consulting
IT Consolidation

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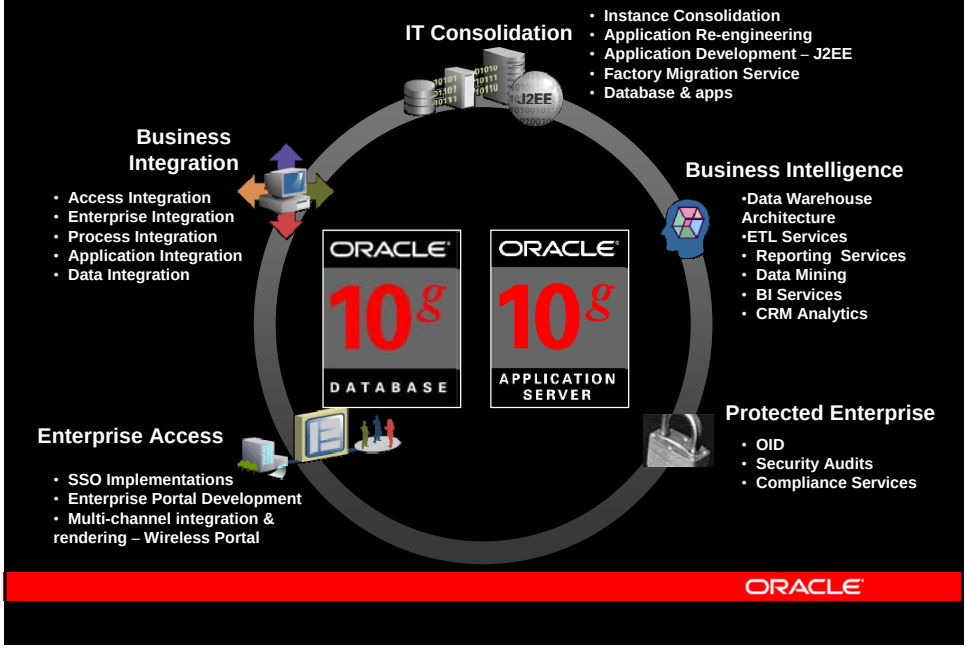
Core-Tech Services



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IT Consolidation Services

Migration Services

- Database Migration
- Application Migration
- Platform Migration

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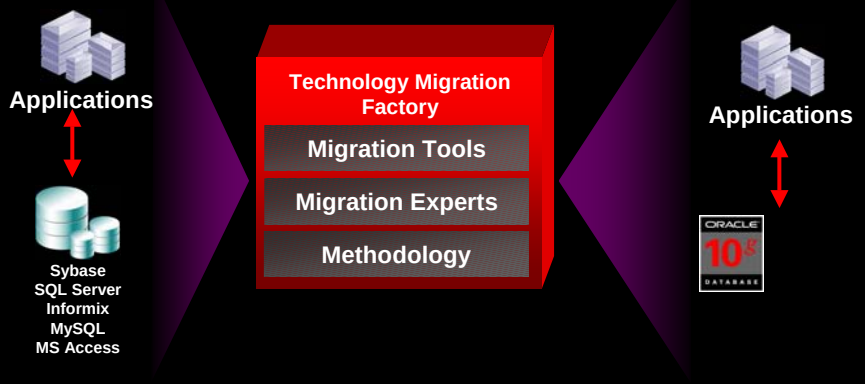
Migration Services

- The Technology Migration Factory migrates the database and associated applications.



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Migration Services

- Database Migration – DB service efficiently migrates databases like Microsoft SQL Server, Sybase Adaptive Server, Informix to Oracle.
  - Using Oracle resources, processes, infrastructure & custom-developed utility
  - Resulting in:
    - A single 9i instance, efficient scalability, 'unbreakable' Security
    - Reduced complexity for systems management & failover
    - 65% of database objects converted automatically.

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Migration Services

- Application Migration - Oracle's Application Migration service migrates applications written in a number of languages including Java, C++, Visual Basic, Power Builder, Perl, Microsoft Access, and other common languages, using non Oracle databases to work with Oracle database.
- Platform Migration – Migrating from one Operating System to another (e.g., Solaris to Linux / Solaris to Unix). Install Oracle on target platform
  - Perform upgrade of Technology Stack on the target platform, if required.
  - Migrate data

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DB Migration: Onshore vs. Offshore

Activity	Onsite	Offshore
Bid & Estimation Phase	Leads	Participates
Client questionnaires / Initial Assessment Tool	Leads	
Schema migration		Leads
Stored procedures migration		Leads
Compilation / Initial Testing		Leads
Application Migration		Leads
System / Acceptance Testing	Done together	

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Rich Partner Ecosystem

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Do one brave thing today...
Oracle on z Linux!