Grid Computing

France UK Collabration Workshop

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DTI

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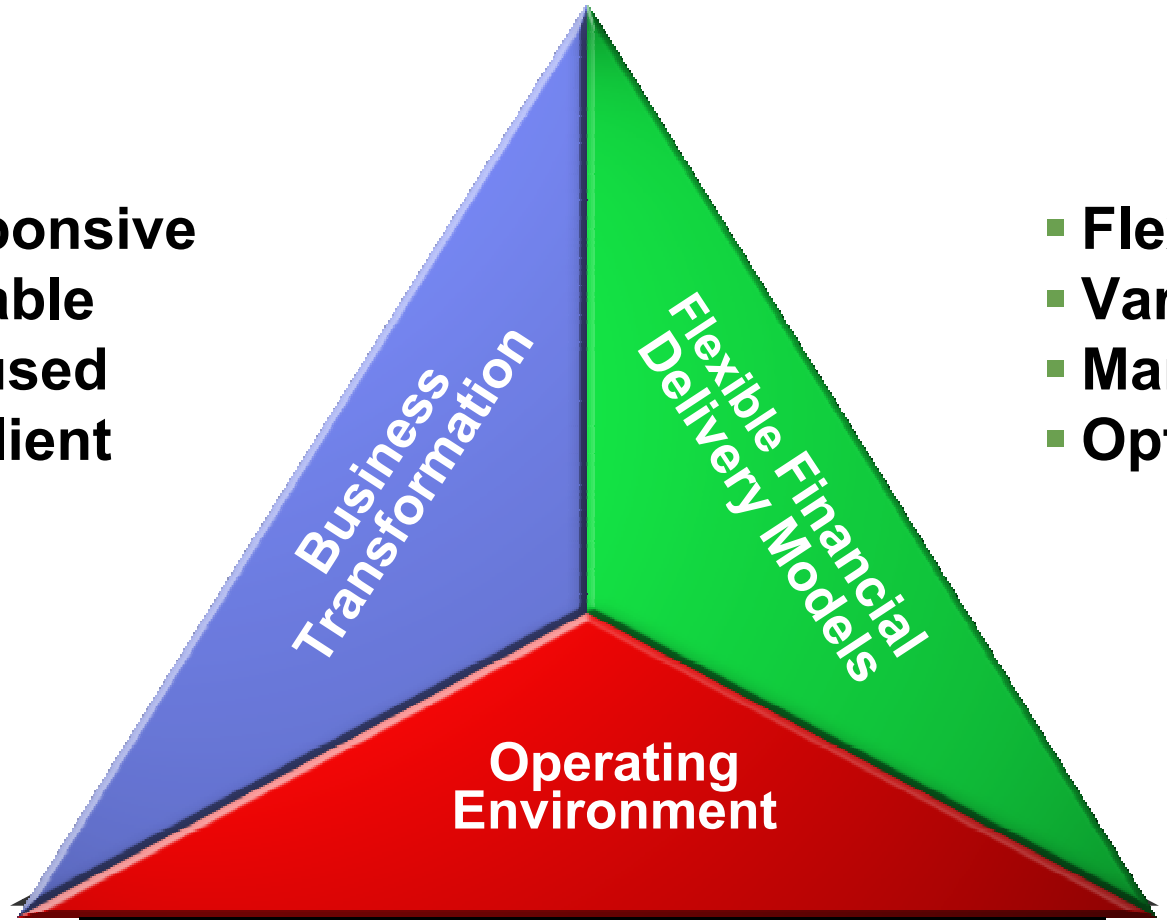
Grid is a first step to on demand

- Responsive
- Variable
- Focused
- Resilient

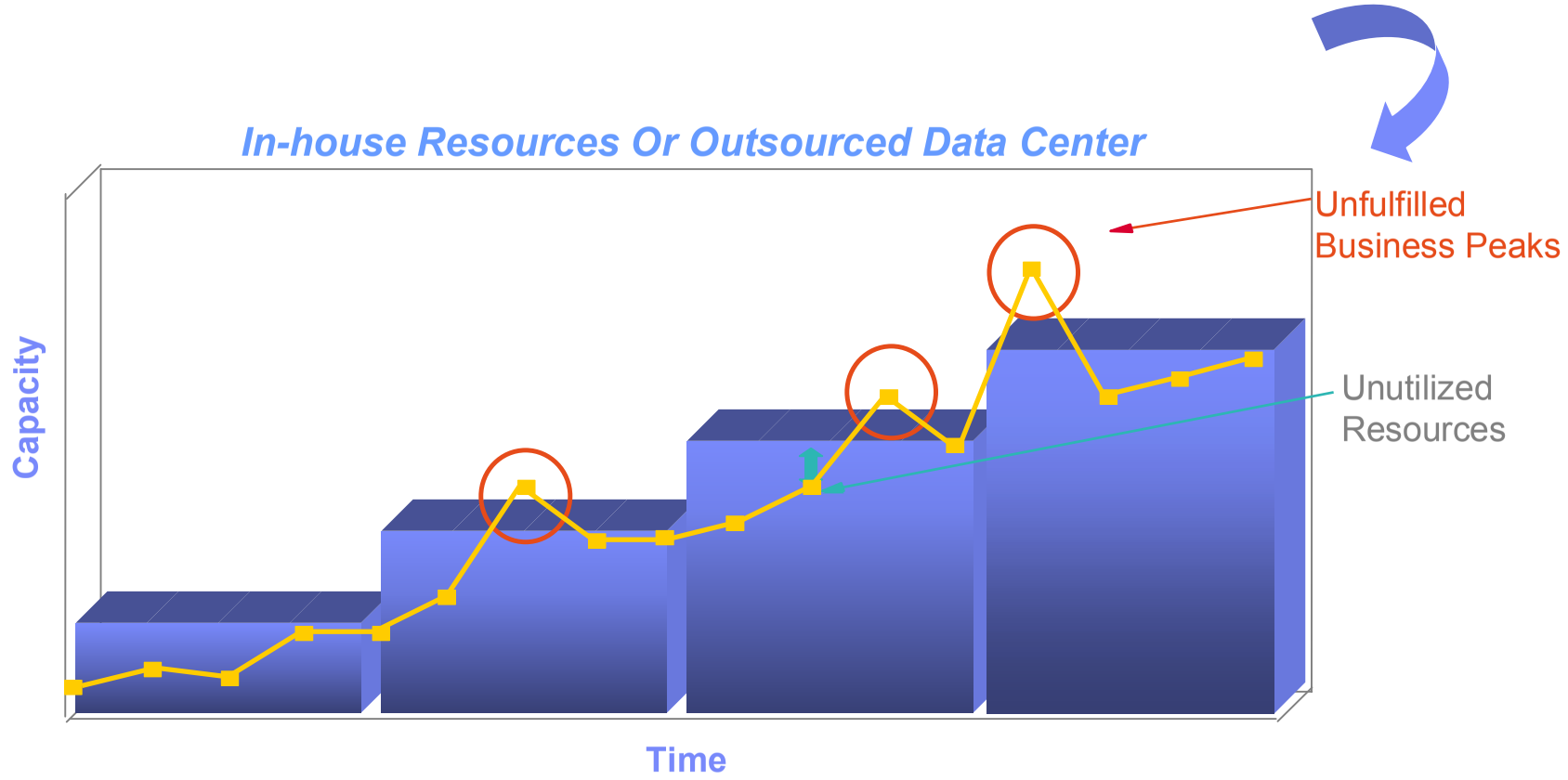


- Flexible
- Variable
- Managed
- Optimized

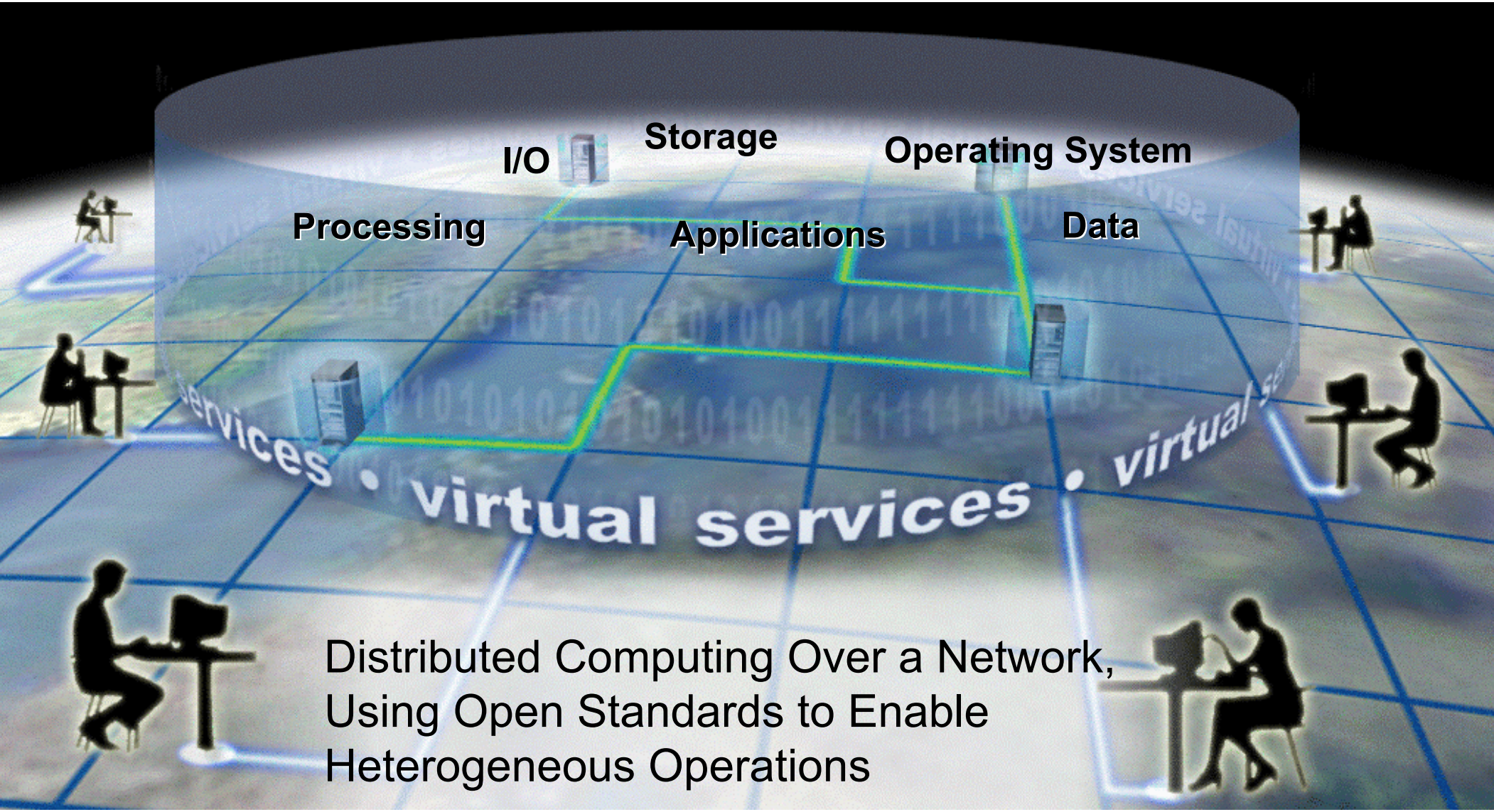
- Open
- Integrated
- Virtualized
- Autonomic

A common challenge: Optimizing Capacity Utilization

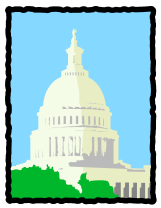
- Traditional infrastructure build-out increases in step-function phases
- Companies over-build for average demand, but are left with over-capacity and under-utilization in business downturn



Grid Computing



Where we are

Business Analytics	Engineering & Design	Research & Development	Government Development	Enterprise Optimization
Enable faster and more comprehensive business planning and analysis through the sharing of data and computing power 	Share data and computing power, for computing intensive engineering and scientific applications, to accelerate product design 	Accelerate and enhance the R&D process by enabling the sharing data and computing power seamlessly for research intensive applications 	Create large-scale IT infrastructures to drive economic development and/or enable new government services 	Optimize computing and data assets to improve utilization, efficiency and business continuity 

China Grid

Research & Development

- Launched by China MOE in August 2003
- Phase I planned to be completed in 2005:
  - Cover 12 universities across China
  - 6 Tflops and over 60TB storage capacity
- Will cover 100 universities in the near future
- Focus on 5 application grids:
  - Life Science
  - e-learning
  - Mass Information Processing (Digital Olympic)
  - Data Grid
  - Fluid Dynamics
- IBM provided solution & tech. support including:
  - eServer pSeries & xSeries
  - Storage system
  - IBM Global Services
  - IBM Research

RBC Insurance

Business Analytics

Challenge:

Dramatically improve compute services to Valuation Actuaries.

Solution

- **IBM @server**
- **IBM Global Services**
- **Platform Computing Inc.**

RBC Insurance
Smart insurance decisions.
bright solutions

Technology Benefits:

- **Reduced application processing time**
- **Increased ability to run multiple valuation scenarios to reduce risk**

Business Benefits:

- **75% reduction of time spent on manual job scheduling**
- **97% reduction in application processing time**

"IBM and Platform Grid enabled our valuation application and supporting infrastructure for immediate results. With the integrated solution, we have been able to reduce a 2.5 hour job to 10 minutes, and an 18 hour job to 32 minutes. We are now looking to move to a production environment. By virtualizing applications and infrastructure, we anticipate being able to deliver higher quality services to our clients faster than ever before, which will significantly impact our competitive edge"
Keith Medley, Head of Insurance Technology, RBC Insurance

Charles Schwab

Internal
Financial Services
US

Grid application saving money, driving new levels of customer service

WHY BECOME ON DEMAND:

Enable employees to provide immediate, real-time help to customers, within an existing IT infrastructure that currently necessitates customer call-backs.

SOLUTION:

Grid-enable existing wealth management application to reduce processing time.

BENEFITS:

- Reduced the processing time from more than four minutes to 15 seconds.
- Increase customer satisfaction by responding to inquiries in real time … while the customer is on the phone.

Hewitt Associates LLC

Business Analytics

Challenge

- **Create Grid Computing environment to:**
- **Contain expenses for CalcEngine valuations**
- **Maintain or improve availability, response time & scalability**
- **Insure personal-data security**
- **Capitalize on existing application code**
- **Cooperate with z/OS Sysplex CICS Calling Environment**
- **Enable smooth and orderly migration to change**

Solution

- **IBM eServer zSeries® server**
- **IBM eServer BladeCenter™ servers**
- **Linux Red Hat v8.0**
- **Business Partner: DataSynapse GridServer**

Hewitt a global HR outsourcing and consulting firm

Benefits:

- Efficiently uses of the combined processing power of their heterogeneous environment
- Experienced an immediate 10% faster response time with the first application deployment
- Open architecture enables Hewitt to easily deploy additional applications
- Increased processing speed reduced cost per transaction
- Reduced operational costs improves competitiveness in their industry segment

Butterfly.net

Powering next-generation gaming

External
SMB
US

WHY BECOME ON DEMAND:

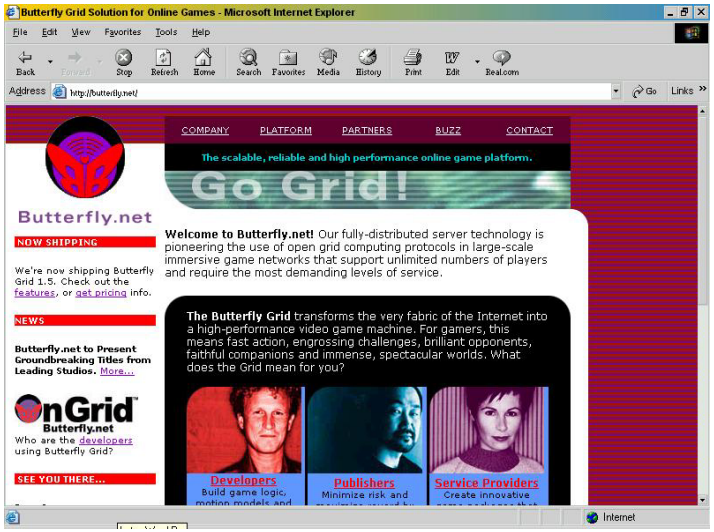
Butterfly.net saw a unique opportunity if they could provide a seamless, “virtual” environment for online game developers, providers and players. But the company knew it needed to establish processes and technology that would allow it to meet its business goals of maintaining a variable pricing model and minimizing upfront costs.

SOLUTION:

The Butterfly Grid, an end-to-end solution designed to support up to one million simultaneous users. It is based on IBM WebSphere Application Server, DB2 and the Globus Toolkit, running on IBM eServer xSeries clusters at an IBM e-business Hosting Center.

BENEFITS:

- Butterfly.net avoided upfront investments and operates with predictable costs
- The variable pricing model lowers breakeven cost for game developers and can lead to an 8-fold increase in profitability
- Because the Butterfly Grid is based on open sources technology and advanced IBM eServer xSeries servers, it can be upgraded as the customer base grows



Kansai Electric Power Co.

Enterprise Optimization

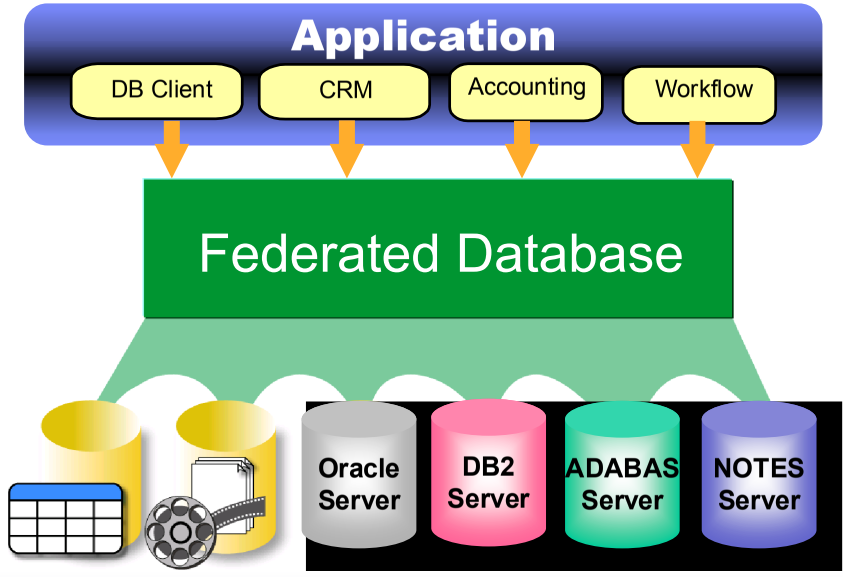
Challenge

Japan's second largest electric utility company has various information on heterogeneous data base environment distributed across multiple departments. KEPCO wanted to integrate information beyond departments and affiliated companies to enable information sharing.

Solution

Create virtual data base federated from heterogeneous data base environment Data Grid technology enables to federate various data source distributed across multiple departments.

- **IBM DB2 Data Federation Technology**
- **Wrapper to access other RDBs including legacy data base**



Benefits:

- **Virtualize various data sources across the enterprise**
- **Enable information sharing using existing systems including legacy data base**
- **Enable to develop new businesses more rapidly at a minimum cost**

IBM

Challenge

- **Microprocessor Design**
- **Benchmarking & Testing**
- **Server Design**

Solution

- IBM @server
- Globus Toolkit
- IBM Global Services

Microprocessor Design Grid

- Chip simulation driving 80% resource utilization
- Lower error rates in microprocessor designs
- Reduced development cycle, improved ROI and design engineer productivity

Benchmarking/Testing Grid

- Allows for larger scaling tests at lower costs by pooling all the servers across multiple sites

zSeries Design Grid

- Production environment is adjusted to average workload, lowering fixed cost
- Increased computing power for HW simulations
- 40% increase in productivity of hardware engineers

http://www.ibm.com/developerworks/grid/

THANK YOU

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