

Agenda

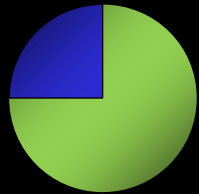
- **Part 1: DB2 for z/OS Tools Portfolio Overview**
 - ▶ **Business Challenges**
 - ▶ **Solution Overview**

- **Part 2: Integrated Data Management (presented by Hong Tie)**

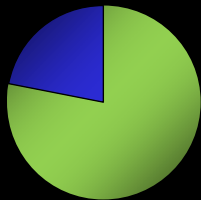


Data Management Must Drive Competitive Advantage

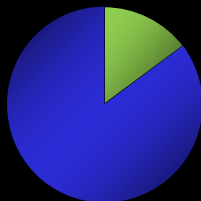
Survey: CIO's want to strengthen competitive advantage by better managing enterprise data



75% of CIO's believe they can strengthen their competitive advantage by better using and managing enterprise data.



78% of CIO's want to improve the way they use and manage their data.



...but **only 15%** believe that their data is currently comprehensively well managed.

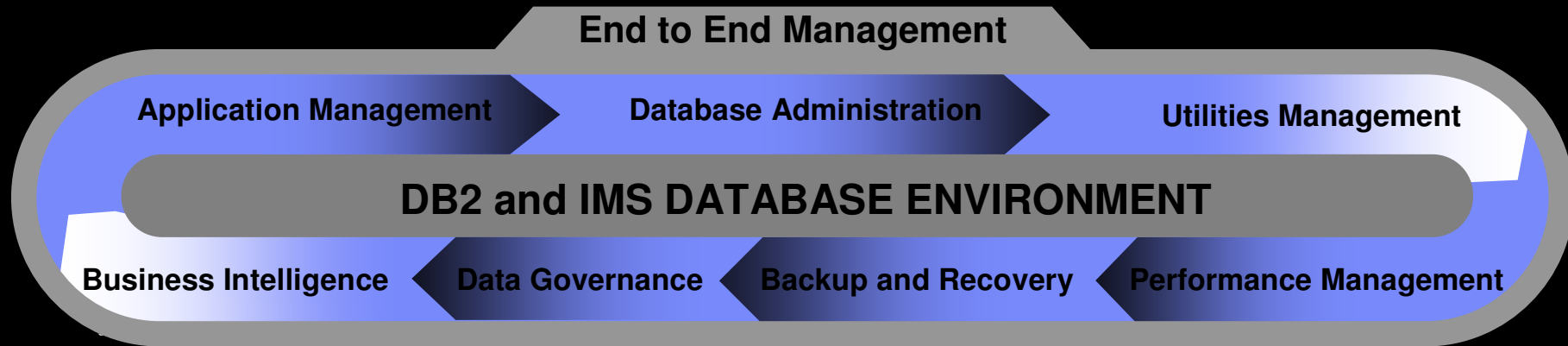
- Lowering costs associated with IT management
 - ▶ Resources
 - ▶ Availability
 - ▶ Productivity

- Proactive problem management

- Free up staff to drive business growth and optimization



Managing your business environment



Business Challenges

- Optimizing costs associated with maintaining existing applications
- Quickly responding to new business requirements and opportunities
- Ensuring that business and regulatory needs can be properly met
- Maximizing IT staff productivity to streamline business operations

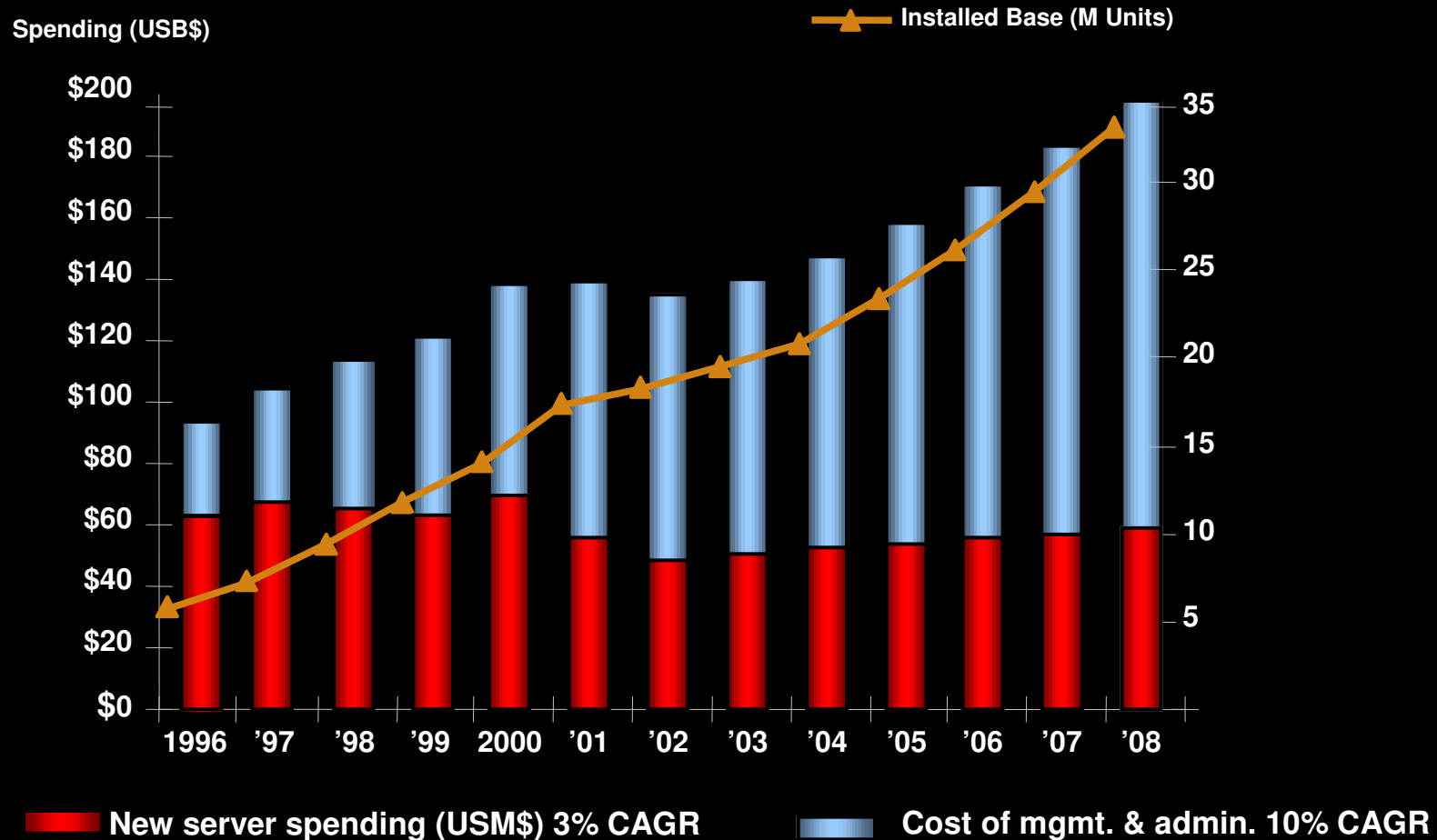
IBM's tools value proposition

- TCO reduction
- Day-1 support

Reduce TCO

- ▶ **Cost is hardware + software + people**
- ▶ **Hardware costs continue to decline**
- ▶ **Competition has driven SW costs down**
- ▶ **However, people costs have risen**
 - **Skills**

IDC: Since 2000, Labor Costs Have Exceeded the Cost of All Servers ... and are *Still* Growing



Source: International Data Corporation (IDC)

DB2 and IMS Tools

Reducing TCO is our first focus

- ✓ Provide autonomic features to add capability and simplify operations
- ✓ Avoid tedious tasks and reduce errors
- ✓ Preserve your investment in z/OS applications and databases
- ✓ Save you time and money in running DB2 and IMS

2009: Reduce your TCO
Increased Value on z

2000: Reduce your TCO

2001-2004
Initial portfolio

2004
DB2 V8 support

2006-2008
Portfolio expansion

2007
DB2 9 support

2010
DB2 X support

2009
Portfolio expansion

2008
Portfolio expansion
ROI Focus


Investment

DB2 for z/OS Tools Portfolio

Application Management

- DB2 Path Checker
- DB2 Bind Manager
- DB2 SQL Performance Analyzer
- DB2 Table Editor

Utilities Management

- DB2 Utilities Suite
- DB2 Automation Tool
- DB2 Automation Toolkit SAP Edition
- DB2 Utilities Enhancement Tool
- DB2 High Performance Unload

Business Intelligence

- IBM DataQuant
- IBM QMF
- DB2 Web Query Tool

Database Administration

- DB2 Administration Tool
- DB2 Object Comparison Tool
- DB2 Administration Toolkit SAP Edition
- DB2 Storage Management Utility
- DB2 Cloning Tool

Performance Management

- OMEGAMON XE DB2 Performance Expert
- OMEGAMON XE DB2 Performance Monitor
- DB2 Buffer Pool Analyzer
- Optim Query Tuner / Query Workload Tuner
- DB2 Query Monitor
- DB2 Performance Toolkit SAP Edition

Information Integration

- WebSphere Classic Data Event Publisher
- WebSphere Classic Federation Server
- WebSphere Classic Replication Server
- WebSphere DataStage
- WebSphere Replication Server
- DataMirror

Backup and Recovery

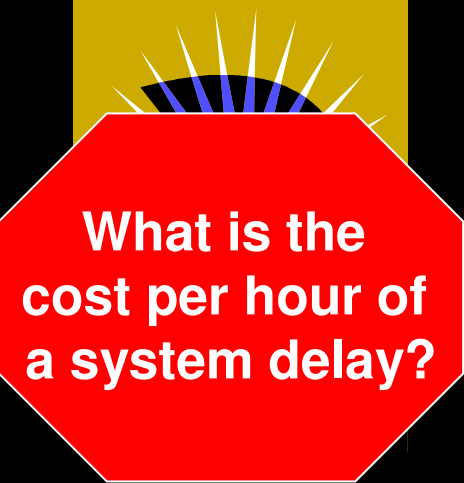
- Application Recovery Tool for IMS and DB2 Databases
- DB2 Archive Log Accelerator
- DB2 Change Accumulation Tool
- DB2 Log Analysis Tool
- DB2 Object Restore Tool
- DB2 Recovery Expert

Data Governance

- IBM Optim Data Growth
- IBM Optim Data Privacy
- IBM Optim Test Data Management
- DB2 Audit Management Expert
- IBM Database Encryption Expert
- Data Encryption for DB2 and IMS

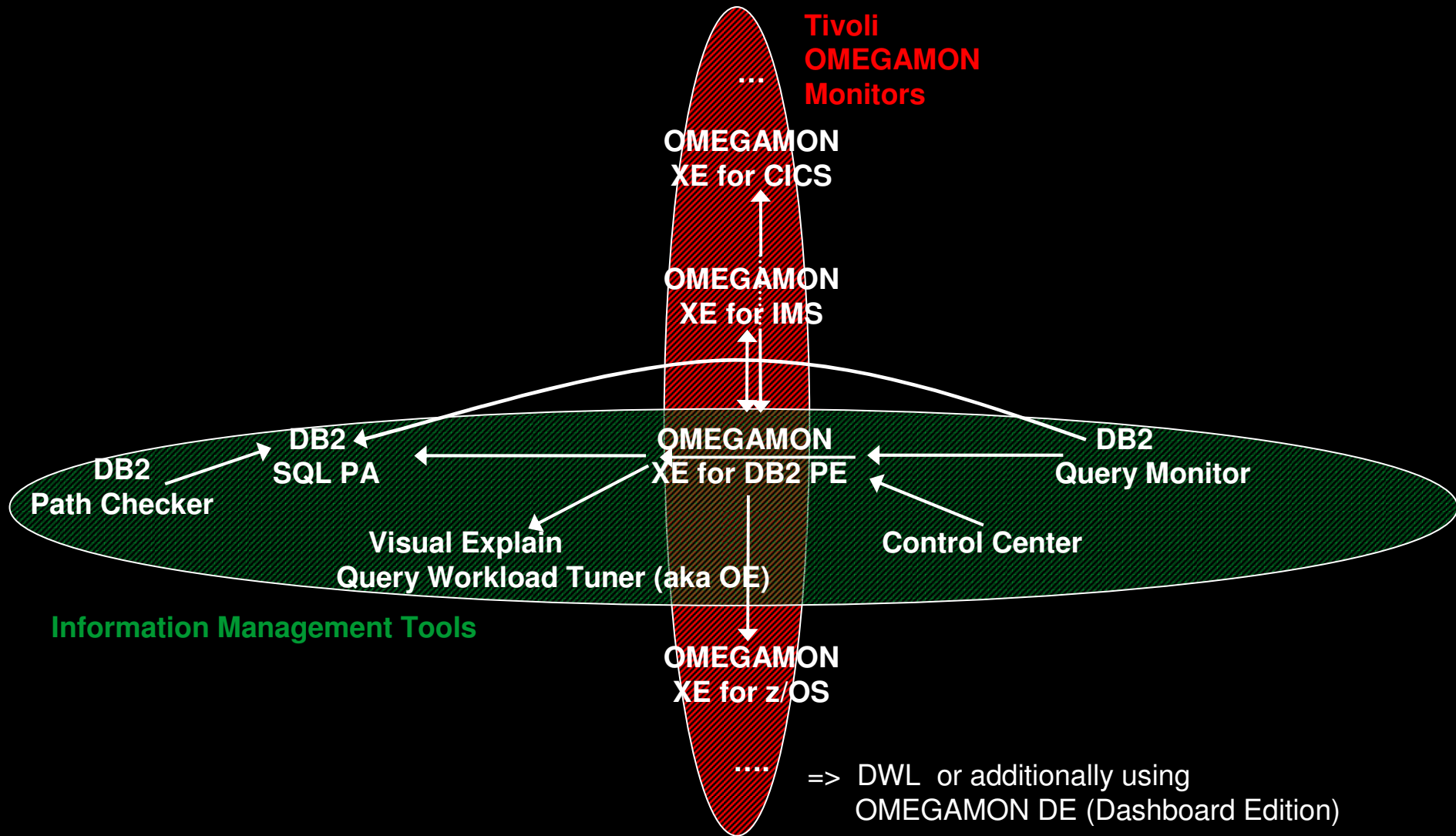
For DB2 ... Someone has just reported a performance problem. Where do you start?

- **Could the problem be in DB2 itself?**
 - ▶ **Did you run out of system resources?**
- **Is the problem related to poorly coded SQL?**
 - ▶ **Is the SQL static or dynamic?**
 - ▶ **What is the access path?**
- **How about the network?**
- **When did this occur?**
- **Is this a one time occurrence, or has it happened before?**
- **Is the information stored in a history file somewhere?**
- **Do you have the knowledge, time, and expertise to do the analysis and determine the problem?**



**What is the
cost per hour of
a system delay?**

Positioning: Horizontal and Vertical Integration

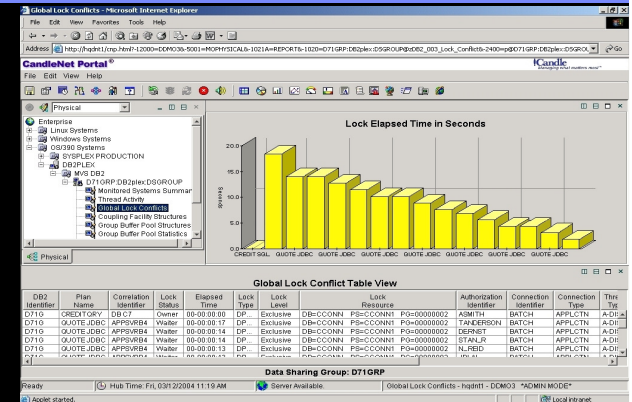


OMEGAMON XE for DB2 PE/PM

Key function

An integrated application and system monitor for DB2 on z/OS

- ▶ Detailed application and system problem determination
 - Via real-time and historical monitors (TEP, Classic Interface, PE Client)
- ▶ End-to-end monitoring
 - Via Tivoli Enterprise Portal and for DB2 Connect gateways
- ▶ System tuning
 - Via Rule-of-thumbs and Buffer Pool Analyzer tool
- ▶ Application roll-out and health checks
 - Via detailed reporting (such as SQL Activity report, locking report, etc.)
- ▶ Trend and Capacity Planning
 - Via a long-term performance repository (PWH/PDB)
- ▶ Accounting and Charge-back
 - Via accounting reports and performance repository



OMPE v4.20 is here! ESP quotes:

"I plan to install OMPE v4.20 immedate after becoming GA and receiving the tapes."



"Installation Process is much better with introduction of DB2 profiles"



"ICAT is certainly better in this release"



What does DB2 SQL Performance Analyzer (PA) Do ?



Forecasts SQL performance:

- ▶ Response Times, CPU Times, I/O Counts
plus the **COST** of the query, in terms of:
 - ▶ Charge Back (monetary), QUNITS (query service units)

Transforms Optimizer access paths into real world costs

Provides an **Enhanced EXPLAIN** report:

- ▶ Catalog Statistics, Access Path Information, RI Relationships

Plus key **ADVICE** on each SQL statement:

- ▶ Warnings and Alerts, Guidelines and Recommendations, Performance Notes and Good News

SQL PA teaches users how to write better SQL



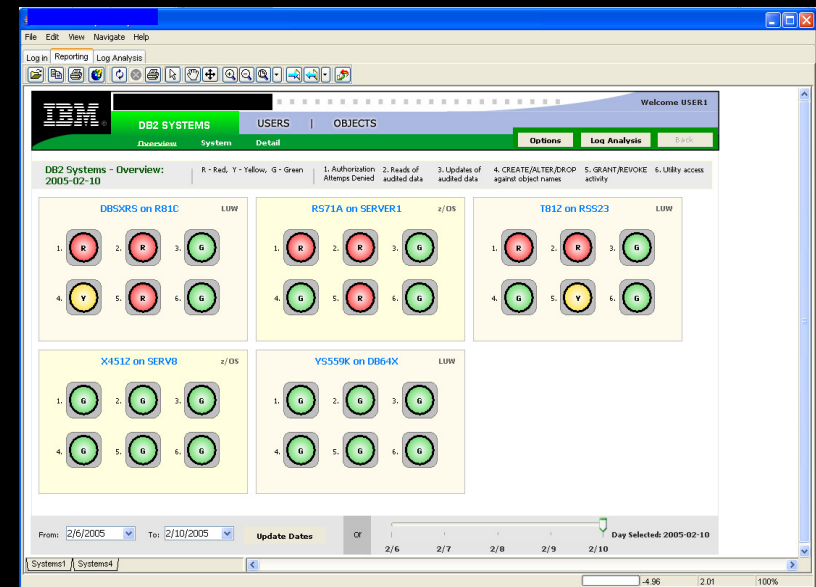


IBM Data Encryption for IMS and DB2 Databases for z/OS

- Row level encryption
- Supports all levels of DB2 - no application changes needed
- Exploits System z and S/390 **Crypto Hardware features**, which results in low overhead encryption/decryption
 - ▶ **Uses the ANSI Data Encryption Algorithm (DEA), also known as the U.S. National Institute of Science and Technology (NIST) Data Encryption Standard (DES) algorithm**
- Supports both secure key and clear key encryption
- Compatible with DB2 Load/Unload utilities and DB2 Tools
- Performance is similar to row level data compression

DB2 Audit Management Expert

- Provides centralized auditing of DB2 and IMS bringing together information from many different sources into a correlated, coherent view
- Enables auditors to collect, view, analyze and report on data and save it into an audit repository
- Allows auditors to automatically generate their own reports and export the data into other applications such as Excel spreadsheets



Makes life for auditors and DBAs much easier !!



DB2 SYSTEMS
OBJECTS
DB2 AUDIT MANAGEMENT EXPERT
Welcome adhadmin

Overview
> Subsystem
Detail
Choose from:
Help < Back

Report Options:

Date Range:

From: Calendar > Hour:

To: Calendar > Hour:

[> Available Dates: 2006-6-1 to 2006-6-9](#)

Last Summary Table Update: 06-10-2006 17:40

Subsystem: RS23:DB1A

Users:

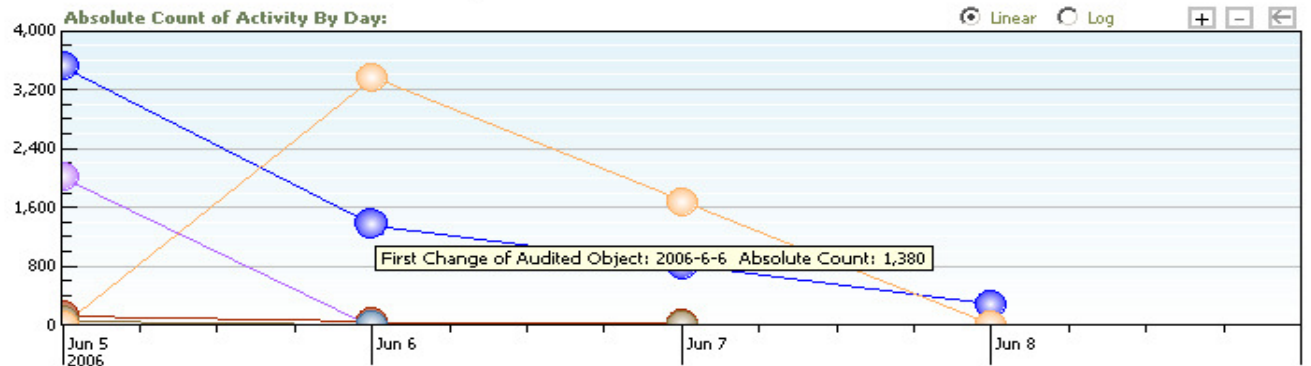
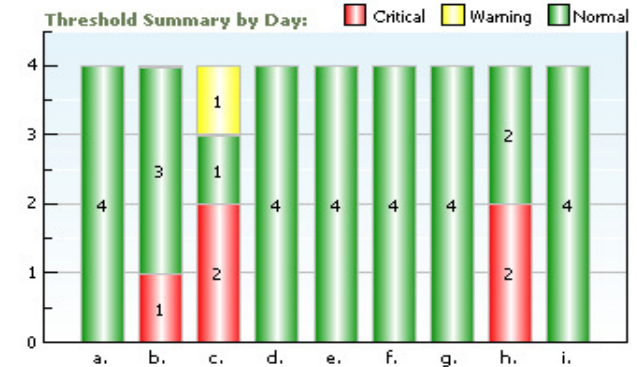
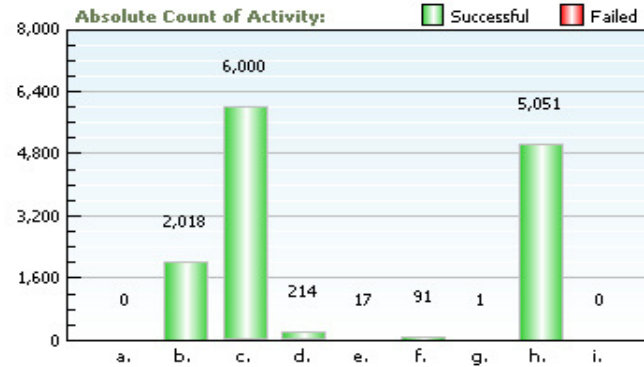
- > All Users
- CSBAHA
- CSLIVI
- CSLIVIA
- CSR006

Activity Result: All

Set time period to check for Threshold:

Every Hour
 Every Day
 Every Week
 Every Month

Summary Report for Subsystem: RS23:DB1A and user: > All Users

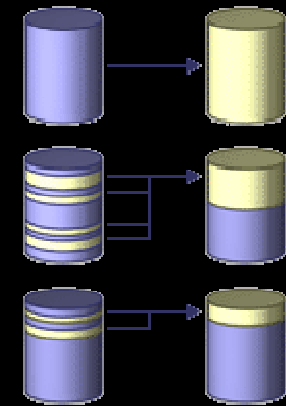


- a. Access Attempts
- b. First Reads of Audited Object
- c. First Change of Audited Object
- d. CREATE,ALTER and DROP
- e. GRANT and REVOKE
- f. Assignment or change of auth. ID
- g. IBM Utility Access
- h. DB2 Commands
- i. Other Authorization Failures



DB2 Cloning Tool

- Clones a DB2 subsystem **AND** at an object (Dataset level)
 - Renames and catalogs the data sets, fixes the volume internals, optionally updates all DB2 internal control information
 - No requirement for a clone in a separate LPAR
 - Supports DB2, PeopleSoft, and SAP
- Is extremely fast and cheap!
 - Disk vendor independent
 - Uses any snap, mirror or PIT copy, only volumes are eligible for cloning
 - Reduces production online downtime when cloning – takes just minutes
 - Dramatically reduces costs of traditional methods
 - Uses less personnel time
 - DB2 no longer needs to be shut down or conditioned the long traditional way
 - Provides virtually 24x7 access to the customer's data

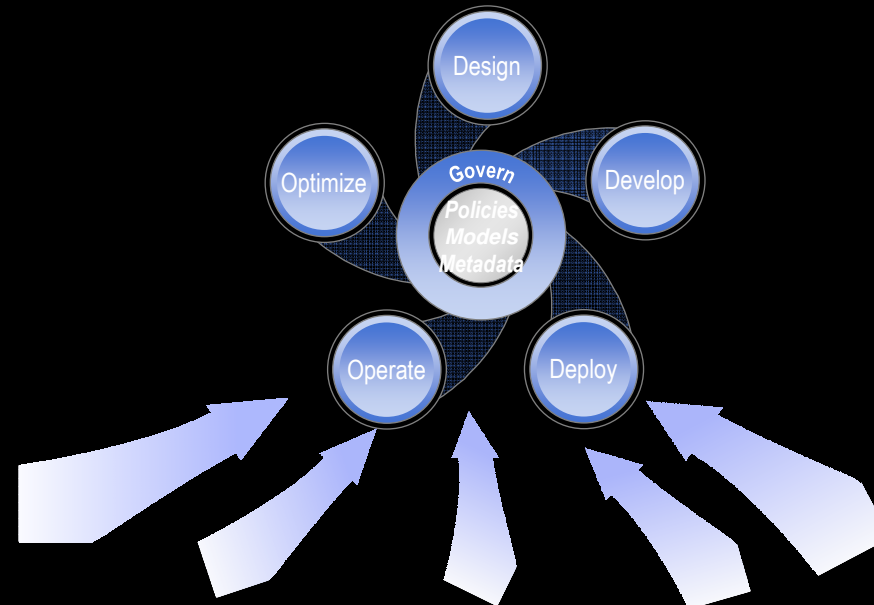


DB2 Cloning Tool ROI Example

- Replace labor-intensive home-grown tasks and techniques with cloning automation
 - ▶ **Reduces DBA and Storage Admin time it takes to clone DB2 subsystem or datasets**
- Productivity – what used to take days now takes just minutes
 - ▶ **The elapsed time, I/O, and CPU of cloning process is dramatically less than load/unload utility execution**
- Allows customers to manage larger environments without staff changes
- Keep DB2 online while cloning a subsystem or make data unavailable for only short period of time when cloning individual objects
- Creating clones or test systems from packaged apps can be particularly taxing, DB2 Cloning Tool can add significant value for
 - ▶ **SAP**
 - ▶ **Peoplesoft**
- What customers are saying:
 - **“It used to take 48 hours to clone a DB2 subsystem, now it takes 30 minutes”**
 - **“It took 2 days, using 2 people to clone 6 DB2 systems for a total of 96 days per year. Now it takes 1 person 30 minutes for a savings of 84 person days per year”**



Solutions for Integrated Data Management



DB2 and IMS Tools

- DB2/IMS Database Administration Solution
- DB2/IMS Backup & Recovery Solution
- DB2/IMS Utilities Management Solution
- IMS Transaction Management Solution
- DB2/IMS Data Governance Solution
- DB2/IMS Application Management Solution
- DB2/IMS Performance Management Solution

Optim Solutions

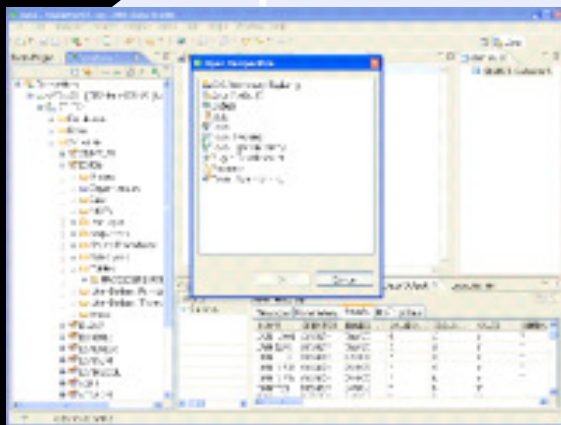
- Optim Test Data Management
- Optim Data Privacy
- Optim Data Growth
- InfoSphere Data Architect
- Optim Development Studio
- Optim pureQuery Runtime
- Optim Query Tuner
- Optim Query Workload Tuner

Integrated Data Management Portfolio Strategy

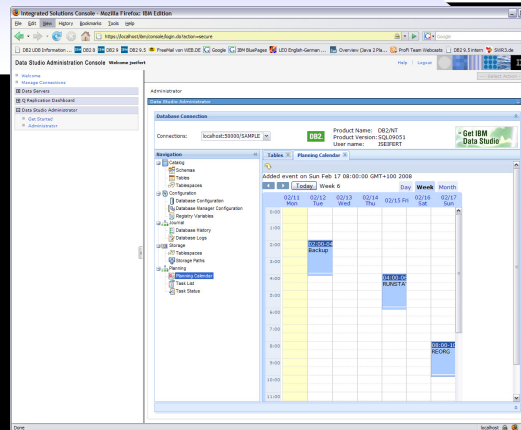
- **Support for parallel development / administration models**
 - ▶ **z/OS-specific**
 - 3270-based user interfaces
 - Generation of JCL for job submission
 - Emphasis on rich z/OS function
 - ▶ **Cross-platform**
 - Web-based and Eclipse-based user interfaces
 - Stored Procedures
 - Emphasis on heterogeneous database support
- **Clients may have a need to support both of these models**
- **Provide cross-platform support and tool integration to simplify development and administration**
 - ▶ **Develop for LUW and z/OS with InfoSphere Data Architect and Optim Development Studio**
 - ▶ **Common z/OS and LUW UI for Optim Test Data Management, Data Privacy, and Data Growth Solutions**
 - ▶ **Common Extended Insight end-to-end database monitoring leveraging OM/PE**
 - ▶ **OM/PE and Query Monitor integration with Optim Query Tuner**
 - ▶ **Continued investigation into integration opportunities**

Integrated Data Management User Interface Directions

Eclipse UI

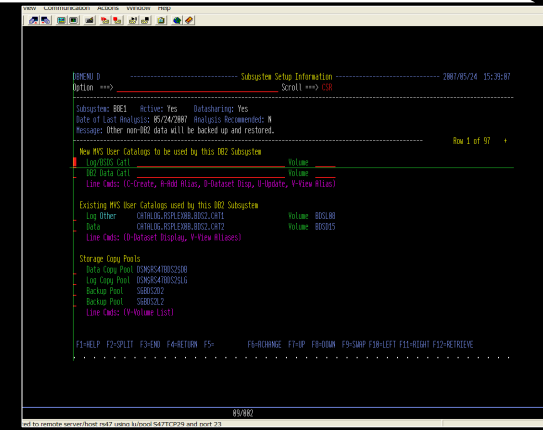


Web UI



z/OS Tools

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Develop and Deploy

- Design and Development
- Configuration
- Object Management
- Change Management
- Automation Planning
- Data Governance

Operate

- Monitoring
- Automation Management
- Reporting

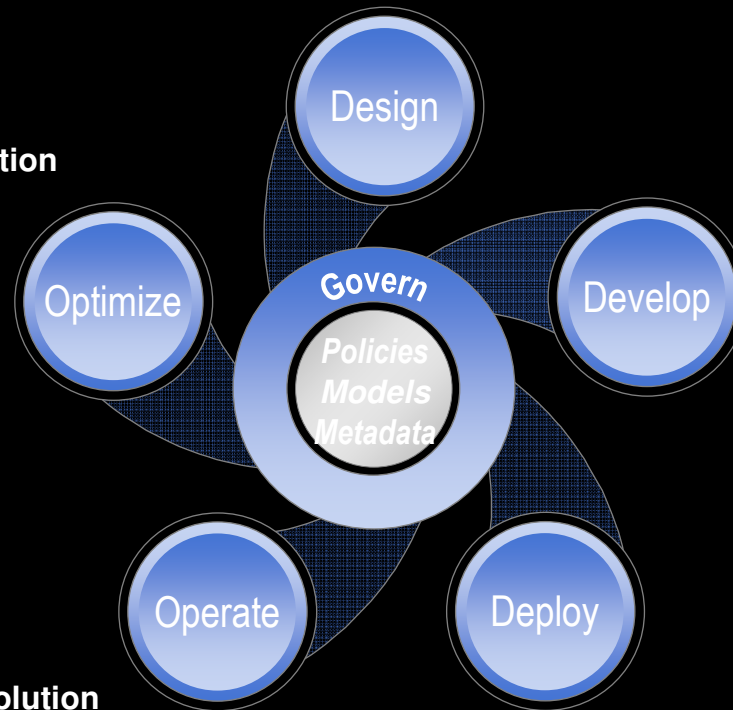
z/OS Database Administration

- Rich z/OS function
- Application Management
- Database Administration
- Performance Management
- Data Governance

DB2 and IMS Solutions that manage the value of your data throughout its lifetime

InfoSphere Data Architect

DB2/IMS Performance Mgt Solution
Optim Data Growth
Optim Query Workload Tuner



Data Studio
Optim Development Studio
Optim Query Tuner
Optim Test Data Management
Optim Data Privacy

DB2/IMS Backup & Recovery Solution
DB2/IMS Database Administration Solution
DB2/IMS Utilities Management Solution
IMS Transaction Management Solution

Optim Development Studio
Optim pureQuery Runtime
DB2/IMS Application Mgt Solution

DB2/IMS Data Governance Solution

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- **Part 1: DB2 for z/OS Tools Portfolio Overview**
 - ▶ **Business Challenges**
 - ▶ **Solution Overview**

- **Part 2: Integrated Data Management (presented by Hong Tie)**



THANK
YOU

