IBM Informix 11.7
The Beginning of the Next Decade

Michael Pintus Development, IBM

Information On Demand **2010**
The Premier Forum for Information & Analytics

Gain Insight. Optimize Results.

Disclaimer

Information On Demand 2010

The world is changing and becoming more…
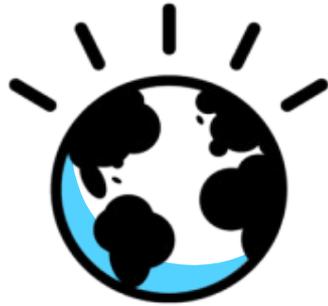
Instrumented

Interconnected

Intelligent

The resulting explosive growth of information creates a need for a new kind of intelligence

… to help build a Smarter Planet

We are Producing an Explosive Growth of Information

Volume
988 exabytes: The amount of digital information that will exist in 2010, equal to a stack of books from the sun to Pluto and back…
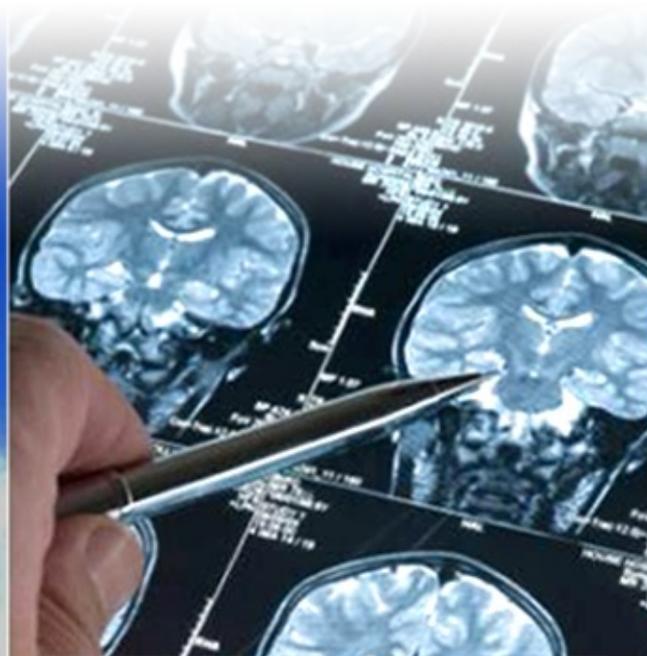
Variety
80% of new data growth is generated largely by email, with increasing contribution by documents, images, and video and

Velocity
77% of executives say they do not have real-time information to make key business decisions.

Information On Demand 2010

A smarter planet is changing the way we live

We consume only *what we need, when we need it.*

Hildebrand delivers Smart Meter systems

We know the best way from A to B

Traffic Master delivers Smart Traffic system

We deliver better heath care at lower cost
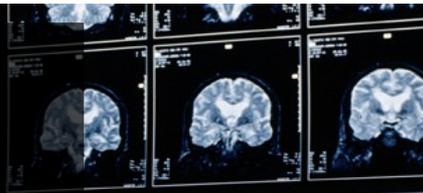
Woman's Health USA provides physicians "back room" business support

We help students focus on learning
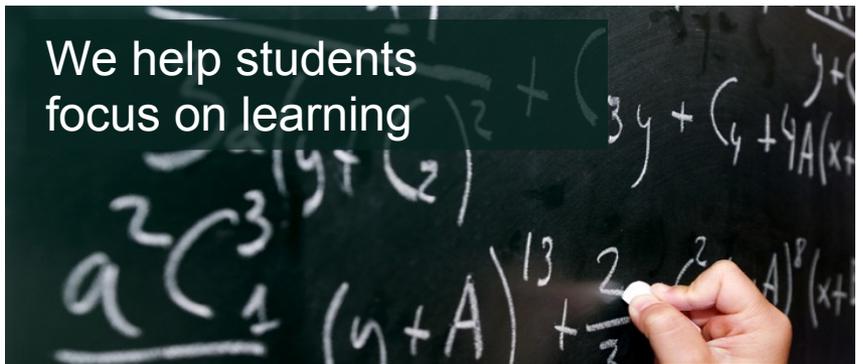
Berlin University provides 30,000 students and staff with information

Informix 11.7 – The beginning of the next Decade

- *Reliable:*   It just works

- *Fast:*   Faster than blazing fast

- *Flexible:*   Options, not hassles

- *Efficient:* Do more, spend less

- *Easy:*   Set it and forget it

Informix 11.7 – The beginning of the next Decade

- *Informix Flexible Grid* simplifies grid management with zero downtime

- *Warehouse enhancements* speed analytical queries and lower costs

- *Autonomics enhancements* sense and respond to changes; "embeddability"

- *Performance enhancements* mean fewer servers – and less power & space

- *Application development enhancements* increased productivity & more choices

- *New Editions* integrate leading capabilities such a Informix TimeSeries

" *With the introduction of the Informix 11.7 release and its Flexible Grid capabilities,* **IBM is providing the most versatile database technology on the market.** "

~ Michael "Mick" Bisignani, Senior VP/CTO, Gemini Systems LLC, an IBM Premier Partner

GEMINI SYSTEMS
Technology designed by you.

Informix Flexible Grid
"A real innovation"

**An easy to manage Grid of Informix Servers
for High-Availability, Scalability & Workload Balance**

Informix *Flexible Grid*

Six 9's of availability – zero downtime for planned maintenance

Redistribute work locally, regionally, globally

Administer the grid as if it were a single server

Mix hardware and versions of OS and Informix

*"As a provider of CRM solutions to medium-sized businesses for over 20 years and as an IBM OEM-Distributor specialized in Informix, Cursor recognizes the importance of offering a complete, world class solution that meets the customers' needs at a competitive price point. IBM Informix is the ideal data management platform for us because it runs on all major operating systems, is highly customizable with a small footprint, silent install, and self-managing capabilities. The flexibility in designing a database cluster with no additional costs for a wide range of business-scenarios (HA, Reporting, Load-Balancing etc.) is highly competitive and let us accelerate our time to market."- **Stahlhut Erik, Head of IBM Distribution, CURSOR Software AG**

CURSOR®
Software AG

Informix Flexible Grid
Measurable cost savings

"Informix flexible grid technology promises
measurable IT cost savings for any size business."

Romana Opletalova, General Manager, d-Prog Ltd.

d-PROG

- Scale globally
- Manage easily
- Balance workloads
- Save DBA time
- Re-use current hardware
- Avoid platform lock-in
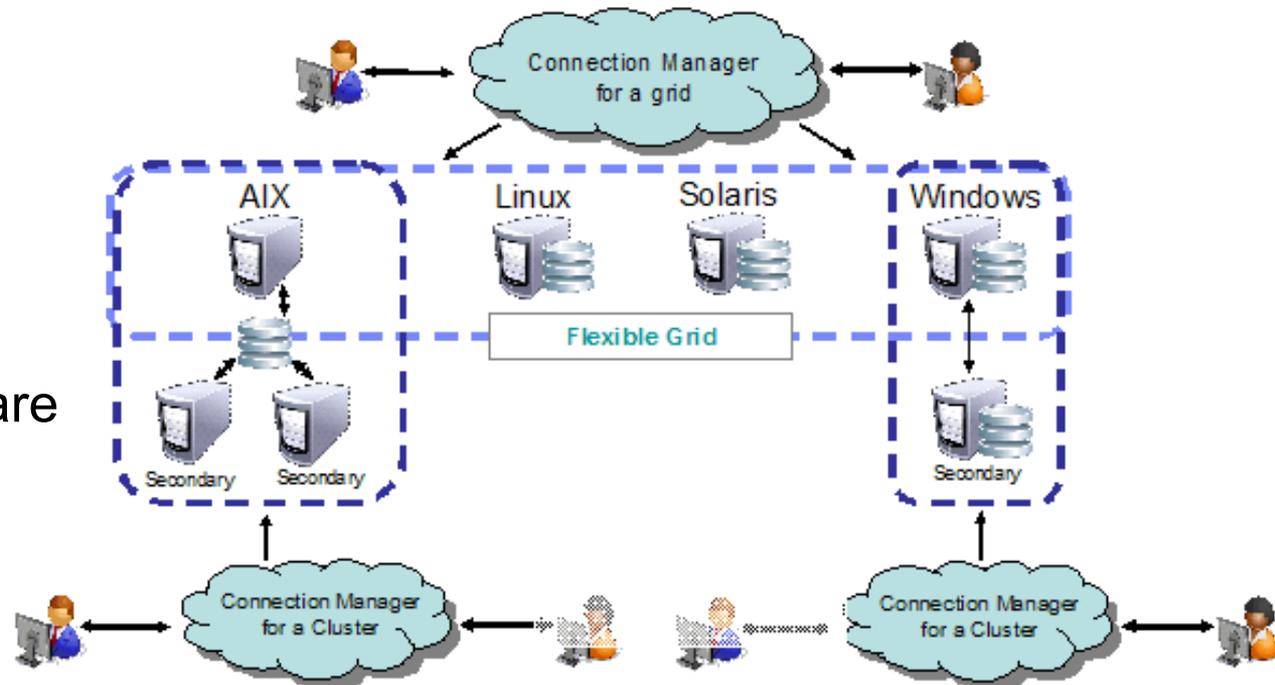
Informix Flexible Grid
Easy to manage

Easy to Manage

– Manage ANYTHING from ANYWHERE with a single 'click'

– Set-up takes minutes not days or weeks

– Propagate changes to all servers on the Grid

Reliable

– Continuous availability

– Automated failover

– Automatic storage provisioning on the grid

Informix 11.7
Business Intelligence

Informix for Data Warehousing and Business Intelligence

Integrates XPS warehouse capabilities for up to **10x faster** analytic queries

Graphic ETL designer included in Growth and Ultimate Editions

Integrates with IBM Cognos BI, Mashup Center, Data Quant, and SPSS

On demand scale out for Analytic & OLTP workloads

*"Informix 11.7 delivers an **unbeatable value proposition** for mid-market customers."*

Gary Quirke, Principal & CEO, QueBIT Consulting LLC

QueBIT®

DHL Express, Germany
Optimizing processes with Informix, InfoSphere & Cognos software

Business need
- Coordinate internal processes
- Boost efficiency
- Maintain DHL Express Market Leadership
- Expand and standardize DHL's existing BI

Solution
- IBM® Cognos® 8 BI
- IBM Cognos Go! Mobile
- IBM InfoSphere® Data Stage
- IBM Informix® Warehouse

Benefits
- Decision support to optimize the business
- Increased user convenience
- Elimination of manual processes
- Cost savings

"Thanks to IBM Cognos 8 BI and IBM InfoSphere DataStage, our processes now run completely automatically. We can create **extremely complex reports covering 30 million data records in just a few seconds**.*"*

Peter Barysch,
Head of Data Management
DHL Express Germany

Informix 11.7
Low Cost Administration

> ### *Informix is Very Easy to Deploy, Use, Administer and Maintain – Set it and forget it!*

Infomix enables DBAs to manage 100's of instances

Embedded in **400K** instances across 25+ Cisco solutions with **NO DBAs**

New capabilities allow DBAs to harness the power of Informix 11.7

Full installation is less than 300MB, and can be **as small as 100MB**

*"Informix 11.7 will **save up to 80% of DBA's time** thanks to automated storage and memory management, automated task scheduler, and automated installation.*
*The new Flexible Grid lets us use **one command from a single location** to create new nodes and propagate the DDL ..."*

Victor Vatyutov, Lead DBA, State Traffic Safety Inspection, Russian Interior Ministry

Cisco Unified Communications Solutions
Run on Informix

- Informix selected due to ease of embedding, scalability, and performance

- Winner of 2009 IBM Data Management Worldwide Partner of the Year

- Informix is currently included in 25 products at Cisco

- Cisco's solutions relies on Informix Enterprise Replication

- Over 80,000 customers run Informix – without Administration requirements

*"Cisco is taking advantage of the fact that Informix is easily embeddable, and also, the redundant capabilities that Informix has to allow us to use our **distributed architecture to scale for our customers**."*

Phil Harris, Senior Director of Engineering, Cisco

Informix 11.7
Open Admin Tool

- Administer multiple remote servers via the Web

- Wizards for deployment and for creating tasks and alerts

- Easy setup, configuration & administration of complex server components

- Extensible via plug-in manager

- Support latest 11.7 features
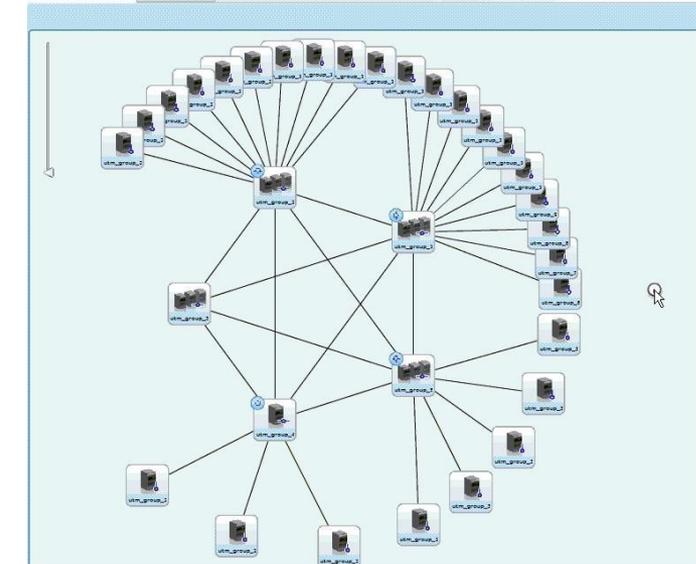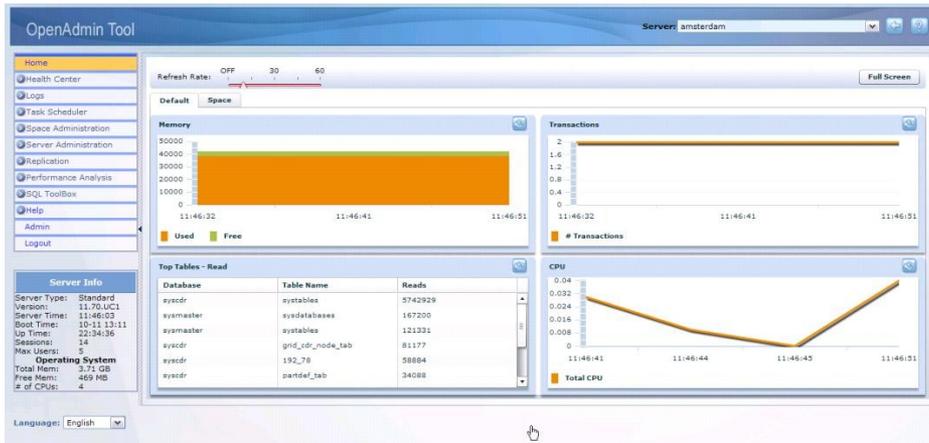
AGS Server Studio™ & Sentinel™
Command & Control Center for IBM Informix®

**Server Studio™** provides a comprehensive collection of modern, proven, easy-to-use tools to help DBAs & developers perform efficiently common database tasks such as:

- Database SQL Application Development and Debugging
- Schema Management
- Configuration Auditing and Change Management
- Performance Tuning
- Data Storage Management and Reorganization
- Database Security Administration
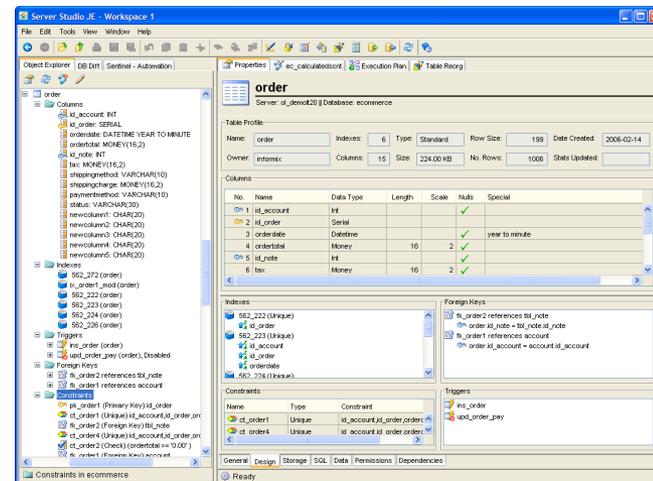
Sentinel™ automates comprehensive proactive management of IBM Informix® environments by providing:

- 24 × 7 operational monitoring of IBM Informix® DBMS servers
- 24 × 7 operational monitoring of the IDS' host platform
- Continuous time-series measurement data of servers' performance
- Execution of regularly scheduled maintenance tasks
- Highly flexible multi-level performance degradation alerts
- Autonomic response management to server events in real time
- Automated tracking of databases' configurations changes
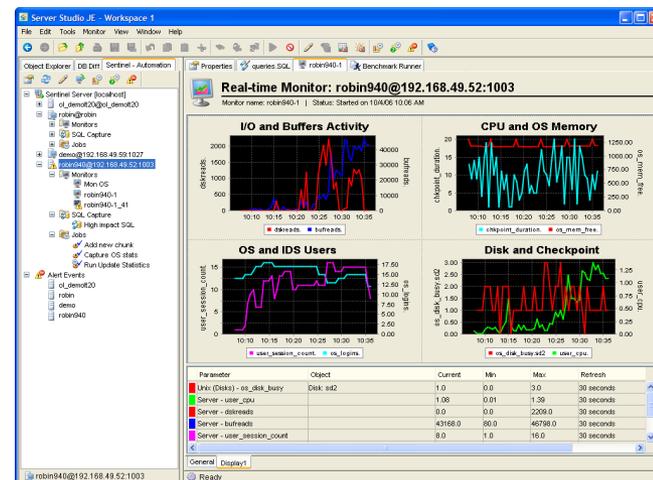
Informix 11.7
Performance & Reliability

Informix is Extremely Fast and Reliable

Six 9's of availability, rolling upgrades for zero planned downtime

24x7 mission critical systems e.g., US 911 system, Visa Credit Card US transactions

Handles Real-Time sports event statistics for live broadcast

Financial brokerage firm handles 100,000 fully committed transactions per second

Supports 142,000 users on a 12 CPU system

"The performance of Informix 11.7 is outstanding. Queries are running **5 times faster compared to the other database software** *we were using."*

Hal Maner, CTO, M Systems International Inc., USA

Informix 11.7
Faster than Ever

- Forest of Trees Index contribute to 10% OLTP workload performance improvement

- Warehouse queries up to 10 times faster!

- 60% Performance improvement on IBM Power 7 versus Power 6 hardware without application change!

IBM Informix
Powering online ticketing

Ticketcorner, founded in 1987, is one of the leading ticketing organizations and ticketing software providers in Europe. It offers tickets and solutions for theatre, opera, musicals, rock, pop, festivals, tours or sports with a ticket volume of more than 15 million per year.

Informix provides the scalability to handle all ticketing requests, even in high peak situations like the 80,000 requests within a few minutes for an AC/DC concert in 2008 in Switzerland!

IBM Informix
Performance and Reliability to Meet Online Gaming Growth

Player Statistics

- >300,000 tournaments per day
- >750,000 games per day
- >10,000 unique players

Database Statistics

- > 650,000 20 SELECTs per minute
- >22,000 DML operations per minute
- >10,000 commits per minute
- 30 GB logical logs per day

"Informix has helped make us the predominant site on the Internet for skill-based game tournaments."

Joe Bai, Chief Information Officer, GSN WorldWinner

Informix 11.7
Security

Enterprise-Class Security and Compliance

Informix is high-level Common Criteria Certified

Encryption at column, network, password, and all solution levels

Audit Facility, Authentication, Authorization, Connection & Directory Security

Discretionary Access Control & Label-Based Access Control

" *This will make it* **much easier for us to manage our levels of security** *for all of our offerings, including those based in the cloud.*"

John Fahey, President , Mitchell & McCormick

Informix 11.7
Trusted Context

User 1	User 2	User 3

Application Server
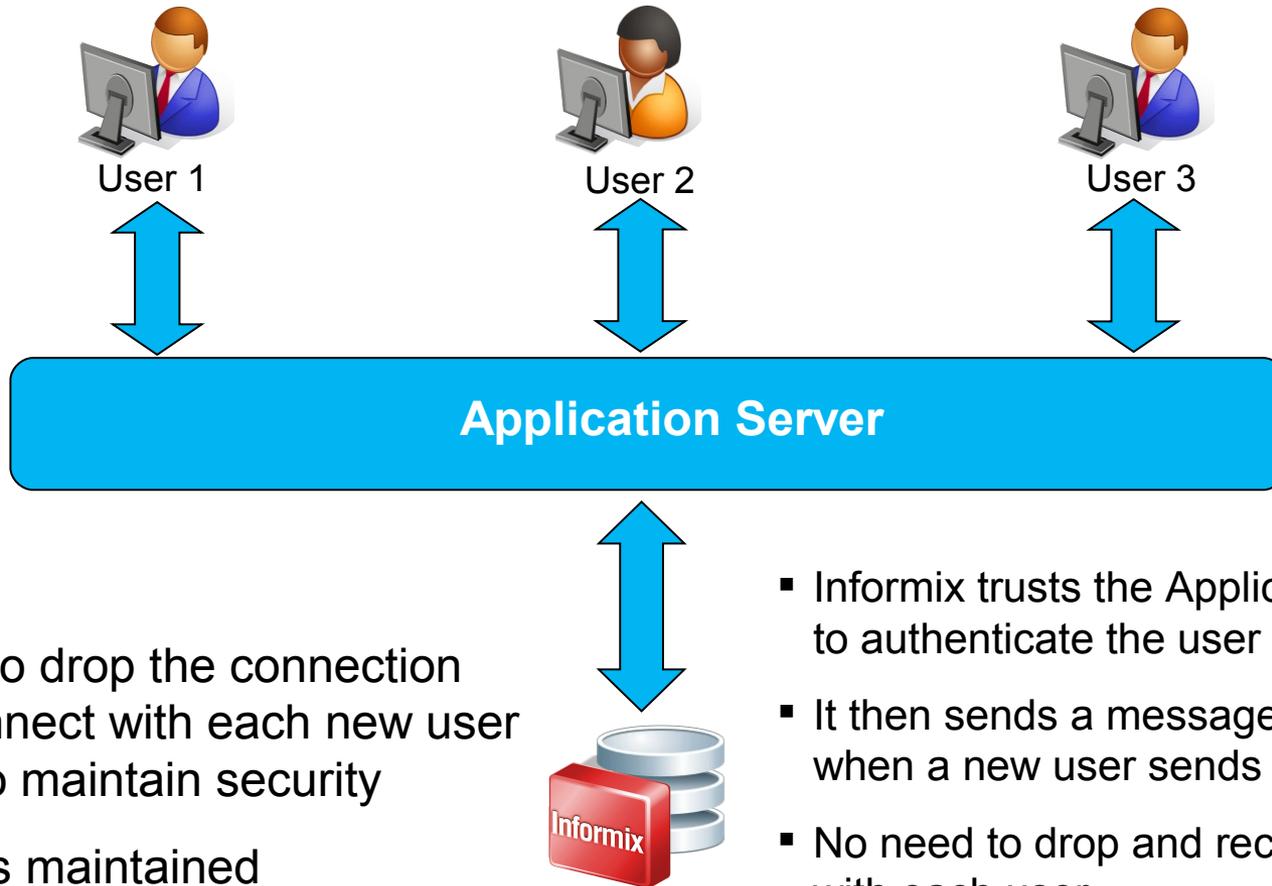
Benefits

- No need to drop the connection and reconnect with each new user in order to maintain security

- Security is maintained without a hit in performance

- Informix trusts the Application Server to authenticate the user

- It then sends a message to Informix when a new user sends a query

- No need to drop and reconnect with each user

- Each user maintains their own identity

Informix TimeSeries
Performance and Efficiency for Smart Meters & Sensors

Easily Collect, Use and Analyze time series data

Integrated time series capability ensures high performance

Provides 24/7 traffic info to 100K vehicles on 3.5 million road segments.

Stores 100s of thousands of data points per second.

Smart Meters: 50-70 times faster and 60% less storage than the competition

"Our initial testing has shown that with an Informix based solution we are able to **reduce the storage requirements by two thirds** *and* **speed the query performance up to 60 times** *compared to the existing solution,"*

Donny Helm, Director Technology, Strategy, & Architecture at Oncor

ONCOR
Electric Delivery

Informix TimeSeries
Knocks Out The Competion
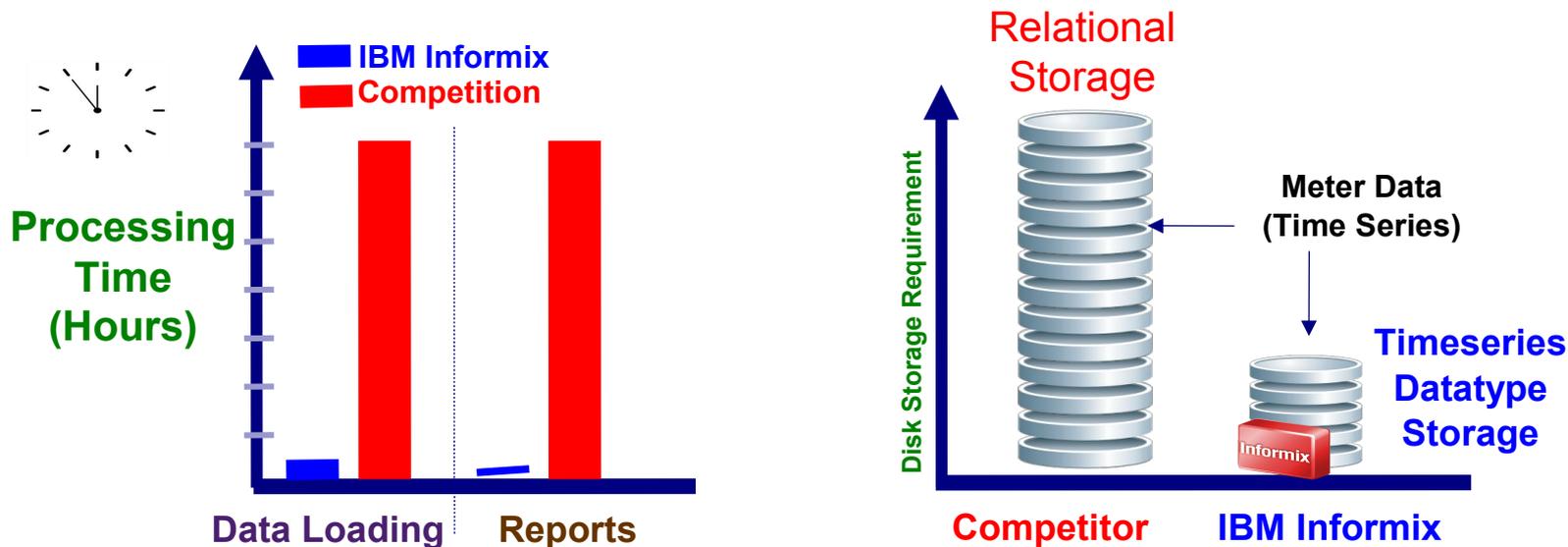
Based on actual benchmark test run for a
large US electrical utility company with one million meters

Compared to existing solution with competitive database software

- ~18 minutes vs ~7hrs for data read

- ~6 minutes vs ~7 hrs for report generation

- ~ 350GB vs~ 1.3TB data storage space

- Informix performance and storage comparison is linear with more meter data

- Informix gives even better results if you increase CPU's and storage

TrafficMaster delivers solutions for intelligent navigation with Informix TimeSeries & real-time sensors

Real-time vehicle tracking
- Real-time traffic prediction
- Efficient resource management
- 30% reduction in fuel consumption
- Reduced overtime by 15%
- Less noise pollution and lower carbon emissions

Informix 11.7
Application Development

Rich Application Development APIs and Tools

Open Source APIs: Perl, PHP/Zend FW Ruby on Rails Python/Django

Informix 4GL, C, C++, Java (JDBC, SQLJ), .NET (C#, VB)

Open Source Tools: Hibernate, Drupal, xWiki, MediaWiki

IBM Optim Dev't Studio, Mashup Center

Visual Studio .NET

Informix 11.7
Enhanced Application Development

- Expanded support for Open Source applications

- Enhance DDL and DML to simplify adding Informix support for solutions

- Expand support for key IBM tools, applications and technology

- Expand diagnostic and debugging tools for developers

- Enhancements to 4GL and Open Admin Tool

- Mashup Center bundled with Informix 11.7

"Informix 11.7 is good news for Stored Procedure Language (SPL) programmers since the **time to debug and program an SPL application is reduced by 50%.**"

State Road Traffic Safety Inspection, Russia

IBM Mashup Center – Build Custom Web Applications

Mashup Builder
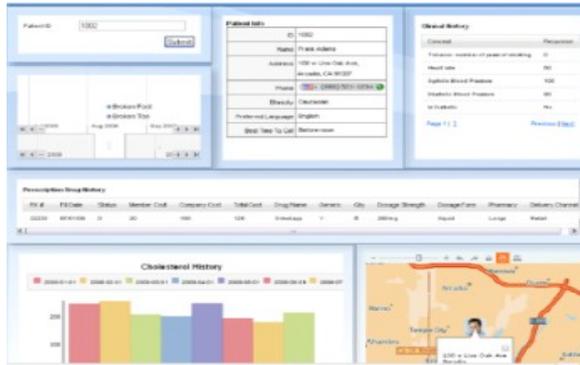
Rapidly **assemble & share mashups** – without coding

Catalog

Reuse & share mashup building blocks via the **catalog**

Feed Generator

Quickly & securely **generate feeds** from a wide variety of information sources

Data Mashup Builder
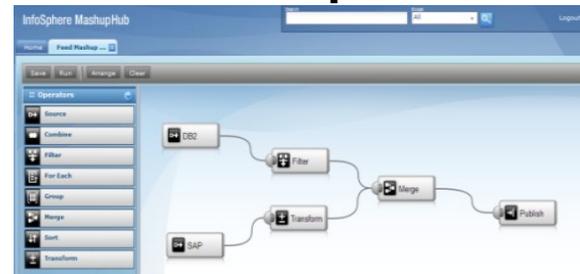
Remix & transform information into new feeds

Informix and IBM Mashup Center
## *UI modernization*

Enhancing Existing and New Reports

- Reports no longer solely tethered
- Integrating with other reports
- Expanding on 24x80 pixel screen
- Different Visualization: Map, Chart, Timeline
- Modern look-up techniques (AutoComplete)
  - Accommodate Digital Generation

Use your SQL

Mobile

Portals

External 3rd Party Sites

*"With the mashup capability… we will be able to increase customer satisfaction in line with relevant product messages akin to "AdSense" techniques while reducing support costs – **all at a fraction of the cost of traditional development..***

John Baker, Director, Oninit Consulting Ltd

IBM Optim Development Studio
New Runtime Debugger Support for Informix

Contains:
- Debug server library
- Session Manager
- Debug client IDE

Debugging for:
- Java procedures
- SQL routines
- PL/SQL packages and routines
- SPL routines

Can be invoked from:
- Data Project Explorer
- Data Source Explorer
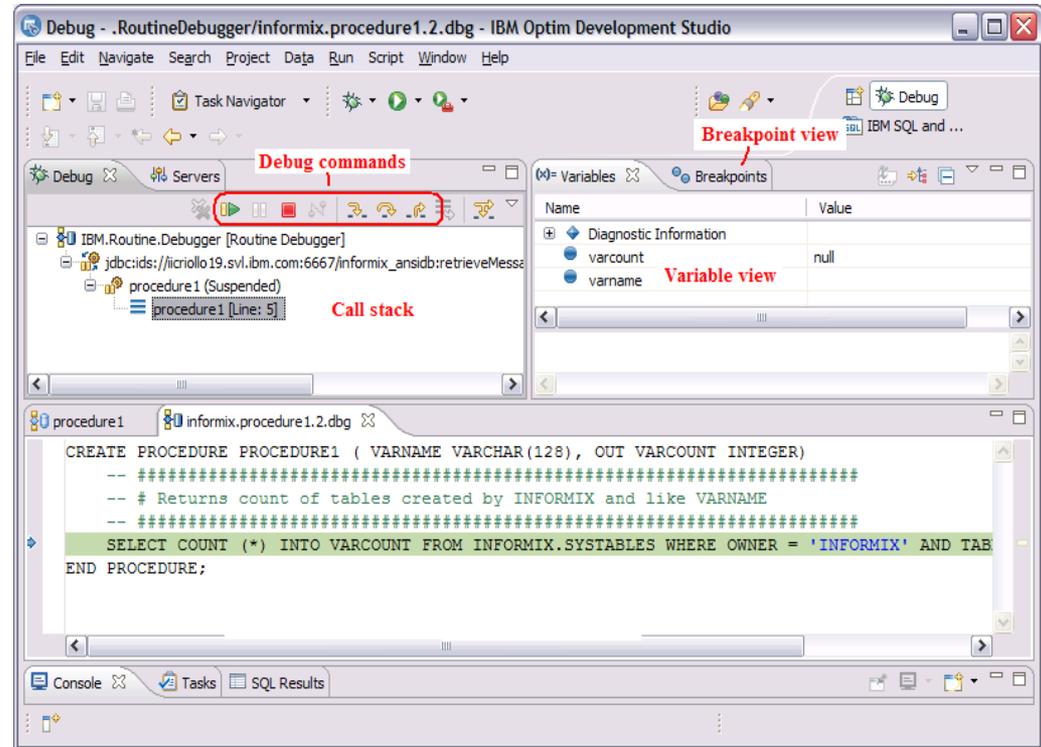
Supports most common debug commands and features:
- Set breakpoints at line and variable level
- Step into, step over, step return, resume and terminate
- Parameter and variable view/update
- Call stack for stepping into nested routines

IIUG Open Source for Informix Project
http://www.iiug.org/opensource

Goals
- Enable Key Open source applications and tools for Informix
- Feed the changes back to the proper organizations
- Stimulate participation to accelerate the effort

Beta products already available!
- Hibernate 3.2.6, 3.3.2, 3.5.1
- Xwiki 2.2.5: Java-based 2nd generation wiki
- Mediawiki 1.15.x: Wiki engine of wikipedia
- Drupal 6.16

Efforts in progress: Joomla!, Pentaho, DDLUtils

Others in pipeline: Bugzilla, WordPress, SugarCRM, Alfresco

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The Open-Source for Informix Project

Welcome to the open-source for Informix project! The goal of this project is to make popular open-source applications and tools available to the Informix community. As a first step, the required modifications will be available here while we are working with the appropriate open-source communities to get them integrated with their product.

What follows is a list of active or completed projects, followed by a list of open-source products we'd like to see run on Informix. If you know of products that already support Informix, want to add to our wish list, volunteer to work on a product, or simply send us your comments, feel free to contact the project coordinator at opensource@iiug.org.

The patches available on this site are posted in good faith. You take responsibility for any problems that these patches may cause.

The Open-Source for Informix Project

Informix software **mation** On Demand **2010**

Informix 11.7
New Editions for Greater Client Value

Ultimate Edition
- Full features with optional deep compression
- Unlimited scalability
- All Platforms

Growth Edition
- Rich High Availability and Shared Disk Clustering
- 4 sockets, 16 cores, 16GB memory
- All Platforms

Choice Edition
- Enterprise Replication & High Availability clusters
- 2 sockets, 8 cores, 8GB memory
- Macintosh and Windows Only

Innovator-C Edition
- Free to download, develop and deploy
- Optional support & optional redistribution license
- All Platforms – 1 socket, 4 cores, 2GB memory

Developer Edition
- Free to download, develop and test
- 1 core, 1GB memory, 8GB Dbspace, 20 connections
- All Platforms

Informix Technical Roadmap

Informix vNext*

- Warehouse/BI improvements
- Benchmarks
- SolidDB integration enhancements
- Informix for Hadoop/Cloud
- Informix for Handhelds
- Multi-temperature data
- Enhance Deep Embed
- Industry specific enhancements
- 4GL – SOA enhancements
- 4GL – as stored procedures

Development

Flexible Grid

Performance

Applications

Resilient
Agile
Invisible

Availability

Security

Informix vNext+*

- Distributed query processing
- Materialized Query Tables
- Extend Grid to non-database sources
- 4GL additional platforms
- 4GL enhanced reporting
- 4GL syntax enhancements

Informix vNext++*

Continue to invest in Informix to increase its strengths and to open new markets

* Features Subject to change

IBM Data Management Magazine

Don't miss the Q1 issue featuring detailed coverage of IBM Informix 11.7

- **Get your complimentary copy of Data Management Magazine**
  - Ped # 803-05 in the Expo area
  - Subscribe at **ibm.com/dmmagazine**

- **Quarterly publication in print and online**
  - **75,000** technical, business, and c-level readers
  - Provides the latest data management news, marketplace trends, and in-depth technical insight
  - Partners are welcome to advertise to reach Information Management decision-makers
    - Contact Nicole Sommerfeld @ **advertise@tdagroup.com**

- **Contact Cameron Crotty to be featured in upcoming issues**
  - **Cameron@tdagroup.com**

Informix 11.7 – Call to Action

- **Test drive Informix 11.7**

    – Download the Developer Edition

    – Download the Innovator-C Edition

- **See what industry analysts are saying about the value of Informix**

    – ITG report: Cost/Benefit Case for IBM Informix, compared to Microsoft S

    – Forrester Consulting report: Informix Total Economic Impact

- **Find these and more by visiting** www.ibm.com/informix

- **Contact your IBM representative for additional information**

Thank you!

Q&A

Verizon **saves millions with Informix**

- Estimated 20,000 CPUs

- Between 200 and 300 systems

- **426,000 concurrent sessions**

- 142,000 individual users on a single 12 CPU system

"We saved millions of dollars by migrating the database for our national provider directory from Sybase to Informix."

Geoff Poole, Lead Informix Database Administrator, Verizon

IBM Financial Markets Framework

Financial Markets Solutions

Buy Side and Sell Side
- Market Data Solution (FO)
- Algorithmic Trading Platform (FO)
- Securities Processing (M/BO)

Exchanges
- Next-Generation Trading Infrastructure
- Market Surveillance and Trade Monitoring
- Settlement Risk Management

✓ **Market Data Solution**
- High performance market data solution with an attractive cost structure

✓ **Algorithmic Trading Platform**
- Scalable solution for automated trading

✓ **Securities Processing**
- Settlement and Clearing solution with support for Swift and ISO 20022

✓ **Next Generation Trading Infrastructure**
- Ultra High Performance transaction infrastructure with superior reliability

✓ **Market Surveillance and Trade Monitoring**
- High performance surveillance and monitoring system to meet changing risk management and compliance needs

✓ **Settlement Risk Management**
- Measure and monitor risk associated with unsettled trades

IBM Financial Markets Framework

Exchanges
(NYSE, NASDAQ, etc.)

Stock Exchange Reference Architecture (SXRA)

Trader Desktop

Lotus Expeditor | WebSphere

Market Data Distribution

WebSphere
Front Office v3.0

Feed Handlers
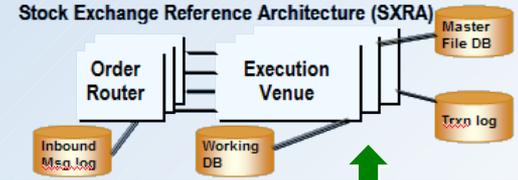
Market Data Distribution

Monitor Desktop

COGNOS
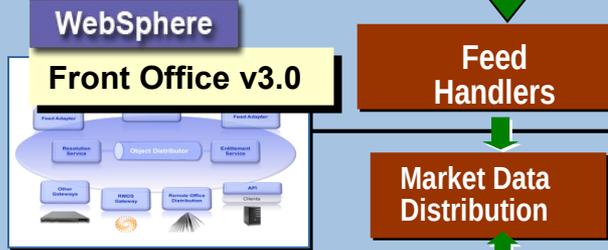
Gateway

Gateway

WebSphere MQ Low Latency Messaging

Market Data Analytics

IDS Market Book and Market History
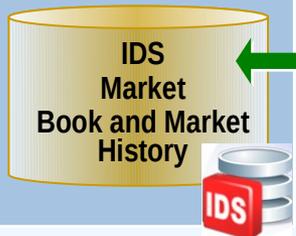
InfoSphere Streams

Analytics

Orders

Reference data
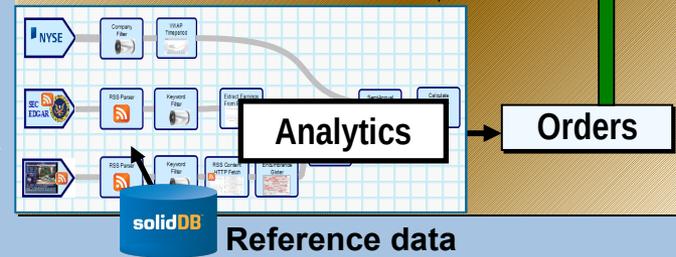
Analysis, Pricing and Order Generation

ILOG Processing Rules

Routing Engine

FIX Engine

WebSphere eXtreme Scale
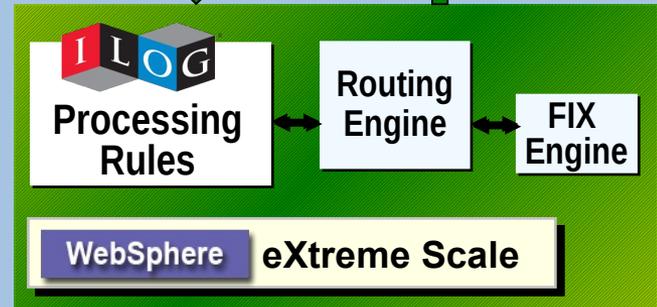
Execution Strategy and Order Routing