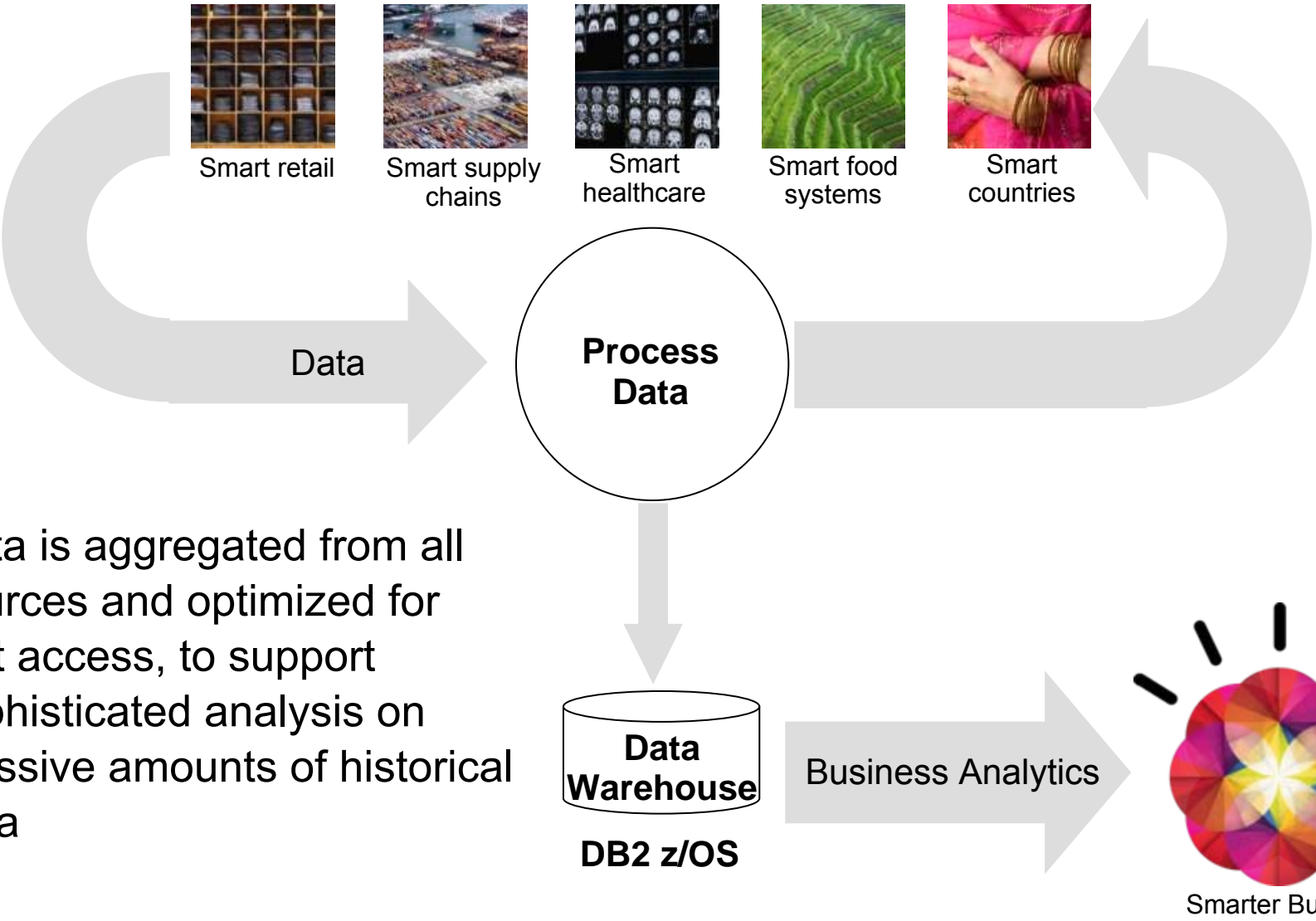




# **zEnterprise – The Ideal Platform For Smarter Computing**

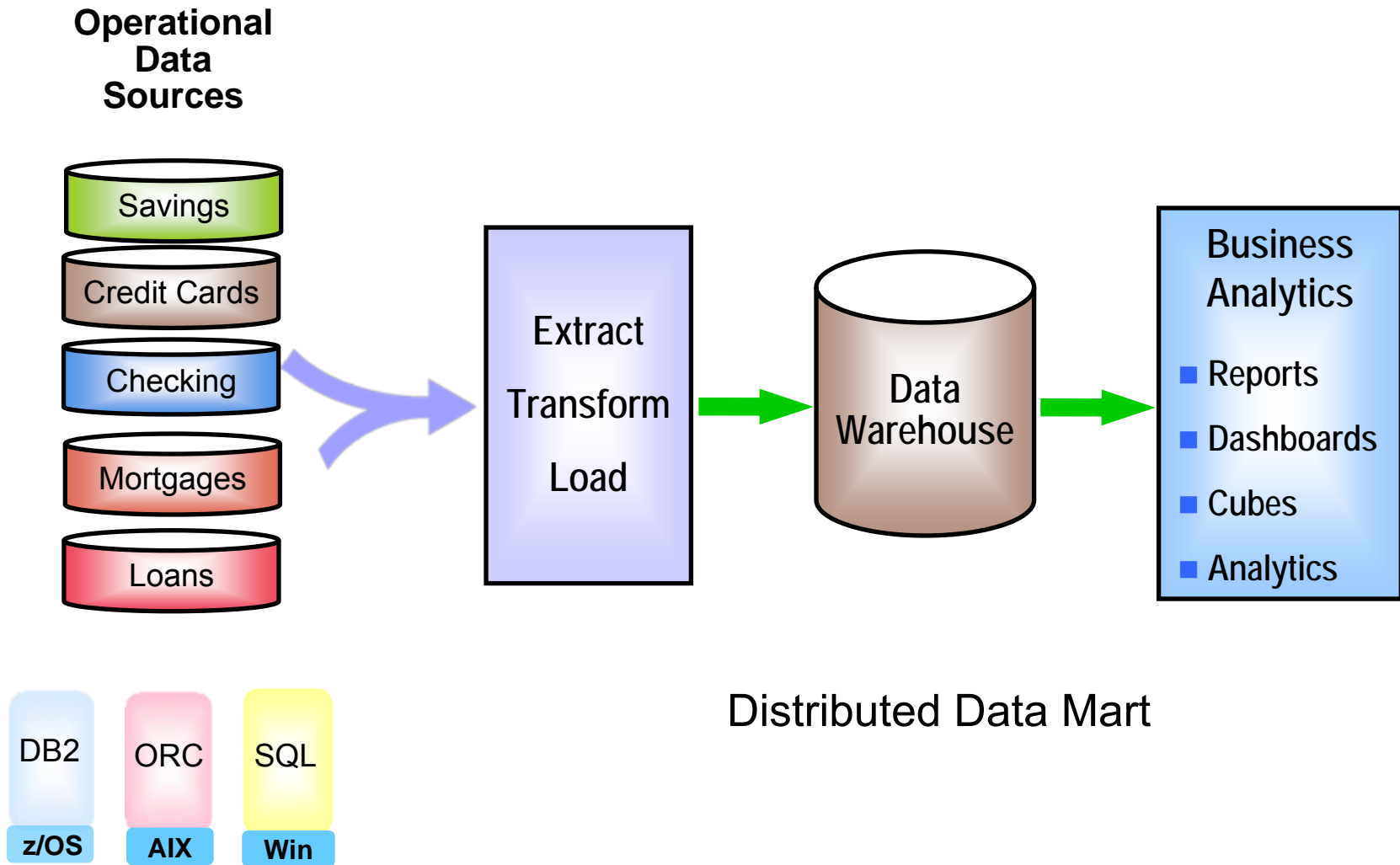
Leveraging Data To  
Optimize Business

# Business Analytics Are A Source Of New Business Intelligence



Data is aggregated from all sources and optimized for fast access, to support sophisticated analysis on massive amounts of historical data

# Typical Business Analytics Data Flow



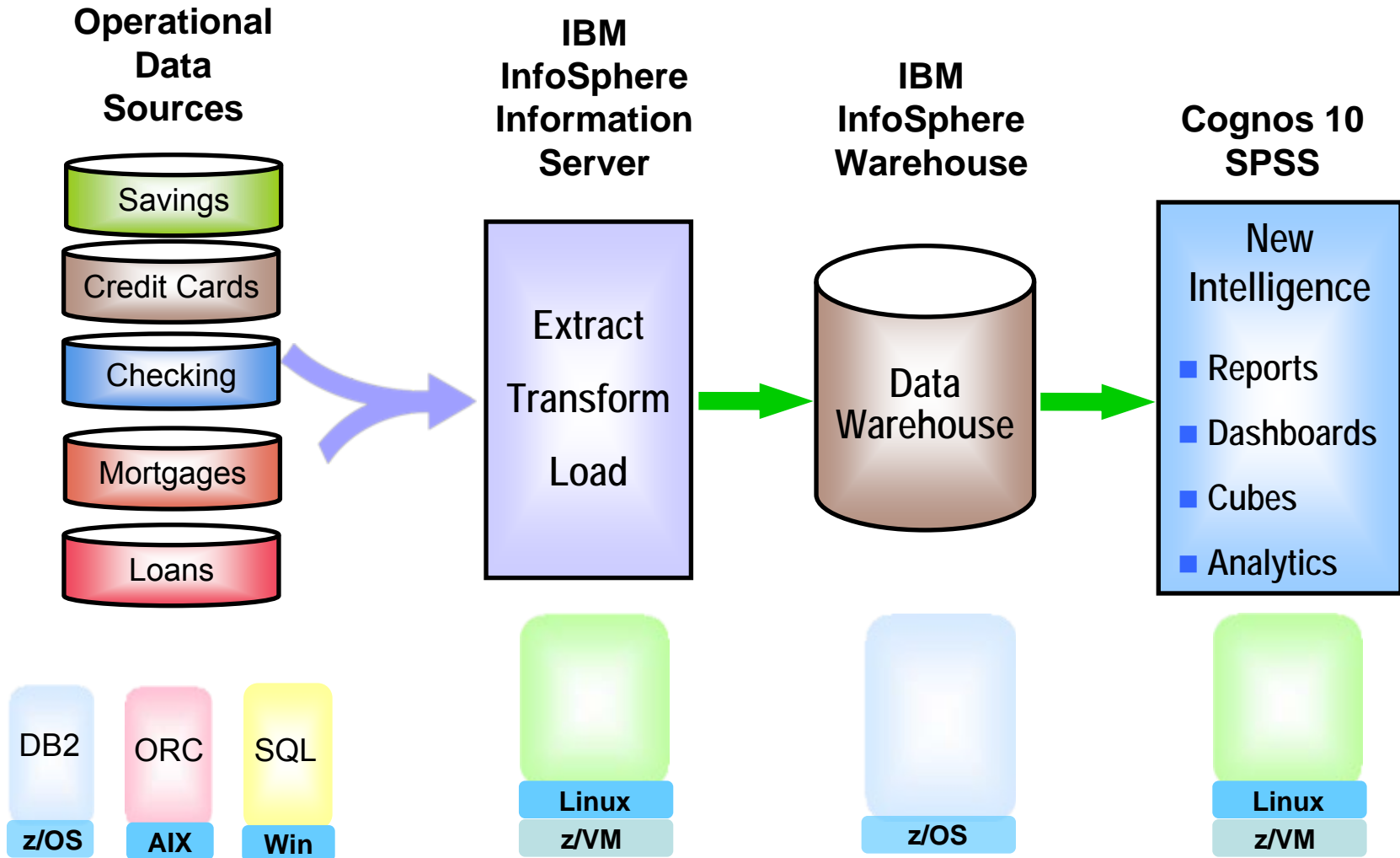
# System z Is The Foundation For Data

- 60-70% of corporate information resides on System z\*
- Copying data from System z to another platform for data warehouses or data marts
  - ▶ Is costly
  - ▶ Can be inefficient
  - ▶ Takes longer to update
  - ▶ May create data disparities
  - ▶ Introduces security concerns
- System z offers a fully integrated, holistic solution from operational data to business analytics



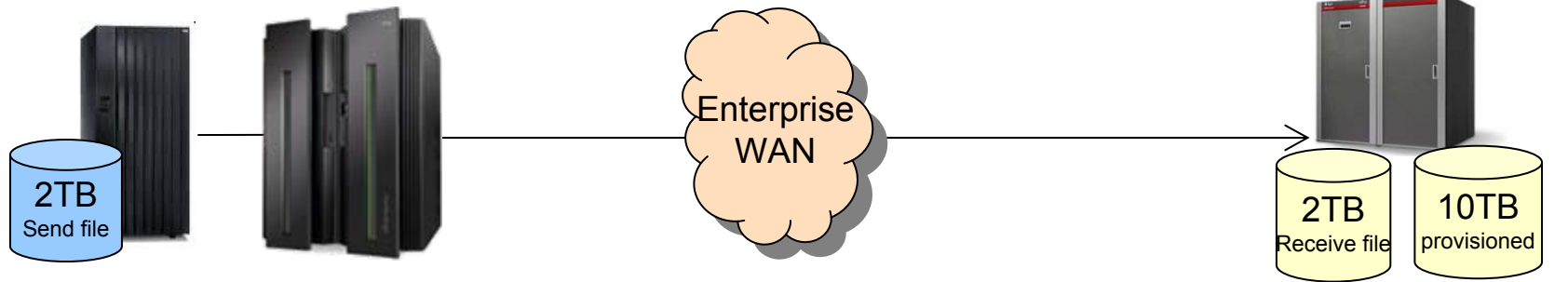
\* Source <http://www.ibmssystemsmag.com/mainframe/trends/whatsnew/The-Mainframe-at-a-Crossroads/>

# zEnterprise Holistic Solution For Business Analytics



# Duplicating Data Off The Mainframe Is Costly

## The Cost Of Duplicating A 2TB Data Mart



Cost of storage - send file \$12.33/GB x 2048 GB	\$25,252
---	----------

Storage acquisition cost  
**\$246,436**

Cost of storage - receive file \$18/GB x 2048 GB	\$36,864
Cost of storage - data mart \$18/GB x 10,240 GB	\$184,320

System z Storage Admin \$5.88/GB/yr x 2048 GB	\$12,042
--	----------

Annual storage admin cost  
**\$122,511**

Distributed Storage Admin \$8.99/GB/yr x 12,288 GB	\$110,469
---	-----------

System z CPU extract \$1.38/GB x 2048 GB	\$2,826
System z CPU cost FTP \$0.58/GB x 2048 GB	\$1,188
System z extract labor \$9.33/job	\$9
System z FTP labor \$5.88/job	\$6

On Premises Network \$0.0024/GB x 2048 GB x 4 hops	\$20
Off Premises Network \$0.29/GB x 2048 GB x 2 hops	\$1,188

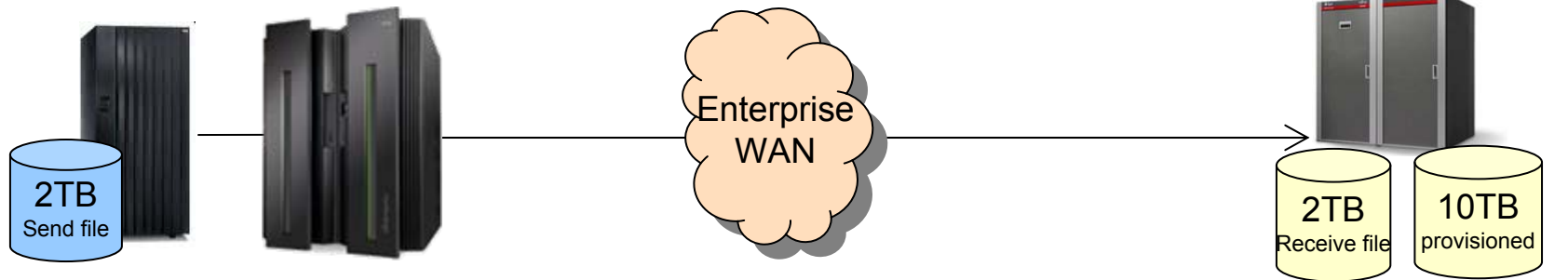
Cost per Transfer  
**\$6,146**

Distributed CPU cost load \$0.39/GB x 2048 GB	\$799
Distributed CPU cost FTP \$0.05/GB x 2048 GB	\$96
Distributed load labor \$14.00/job	\$14

Data Mart analysis costs not included  
Based on IBM internal study

# Transfer Costs Add Up Over One Year

## The Cost Of Duplicating A 2TB Data Mart



Cost of storage - send file \$12.33/GB x 2048 GB	\$25,252
---	----------

Storage acquisition cost  
**\$246,436**

Cost of storage - receive file \$18/GB x 2048 GB	\$36,864
Cost of storage - data mart \$18/GB x 10,240 GB	\$184,320

System z Storage Admin \$5.88/GB/yr x 2048 GB	\$12,042
--	----------

Annual storage admin cost  
**\$122,511**

Distributed Storage Admin \$8.99/GB/yr x 12,288 GB	\$110,469
---	-----------

System z CPU extract \$1.38/GB x 2048 GB x 365	\$1.03M
System z CPU cost FTP \$0.58/GB x 2048 GB x 365	\$434K
System z extract labor \$9.33/job x 365	\$3.3K
System z FTP labor \$5.88/job x 365	\$2.2K

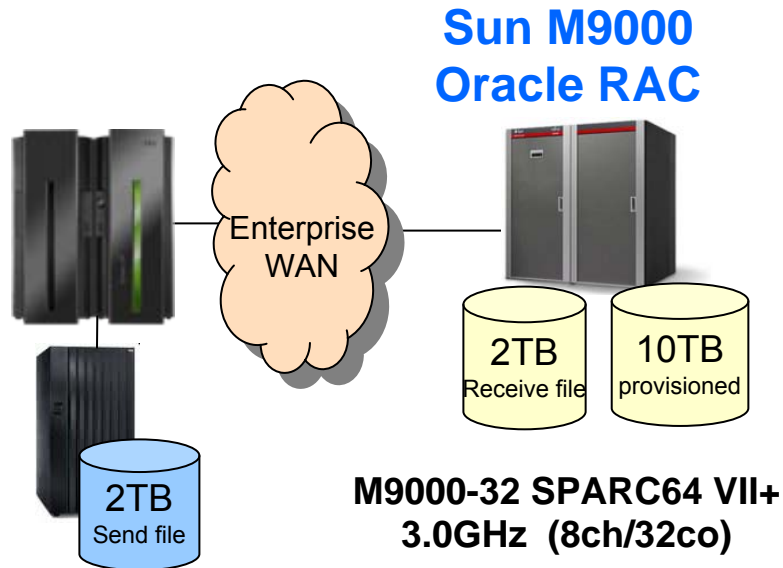
On Premises Network \$0.0024/GB x 2048 GB x 4 hops x 365	\$7.1K
Off Premises Network \$0.29/GB x 2048 GB x 2 hops x 365	\$434K

Annual Transfer Costs  
**\$2,243,290**

Distributed CPU cost load \$0.39/GB x 2048 GB x 365	\$292K
Distributed CPU cost FTP \$0.05/GB x 2048 GB x 365	\$35K
Distributed load labor \$14.00/job x 365	\$5.1K

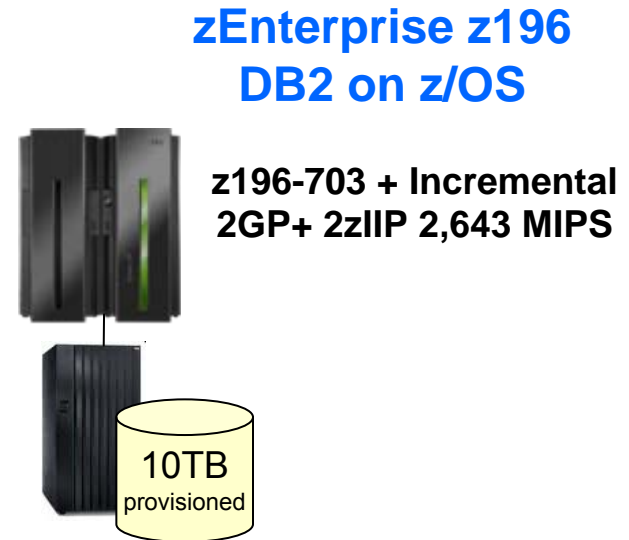
Data Mart analysis costs not included  
Based on IBM internal study

# Co-locating Data Mart On z196 Is A More Cost Effective Solution



**Total** (3yr TCA) **\$11.65M**

Hardware	\$1,784,776
Software	\$2,522,720
Storage	\$184,320
FTP File Storage	\$62,116
Storage Admin	\$367,533
Transfer Cost	\$6,729,870



**Total** (3yr TCA) **\$1.98M**

Hardware	\$352,405
Software	\$1,325,713
Storage	\$117,505
Storage Admin	\$180,630

Equivalent Performance = 59,782 QpH  
Source: IBM Internal Study. Results may vary based on customer workload profiles/characteristics.



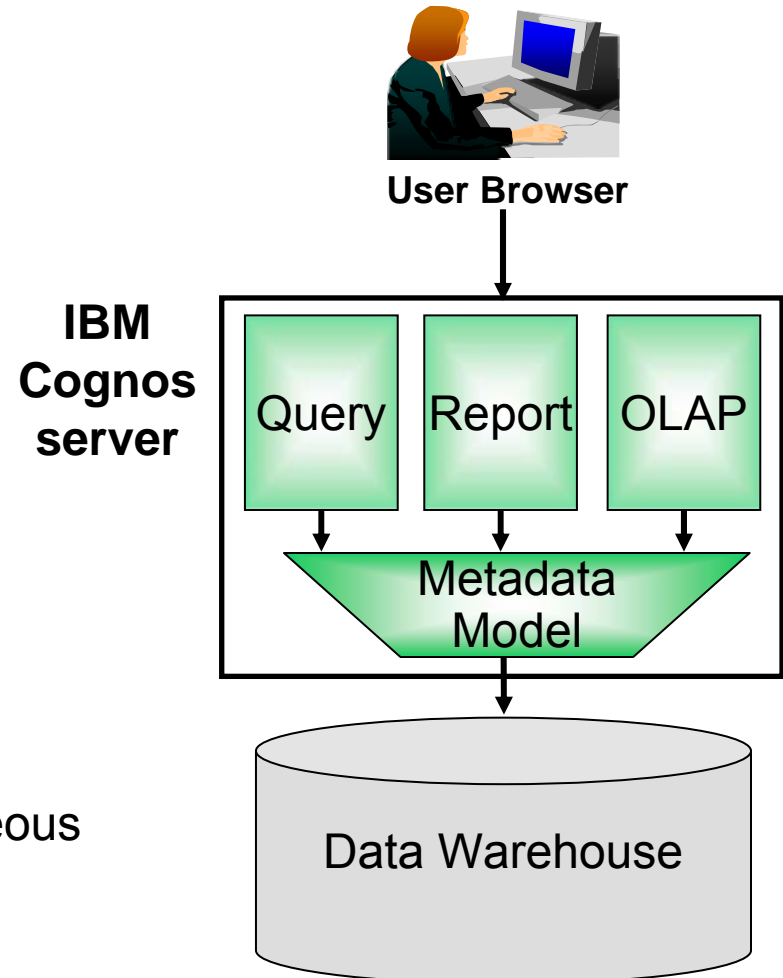
# IBM Cognos Is An Integrated Platform For Smart Analytics

## ■ People-centric

- ▶ Server based business analytics accessed via browser
- ▶ Consistent user interface for different analytic activities
- ▶ Reuse new intelligence assets
- ▶ Built-in collaboration and social networking
- ▶ Threaded discussions, activities, and notifications

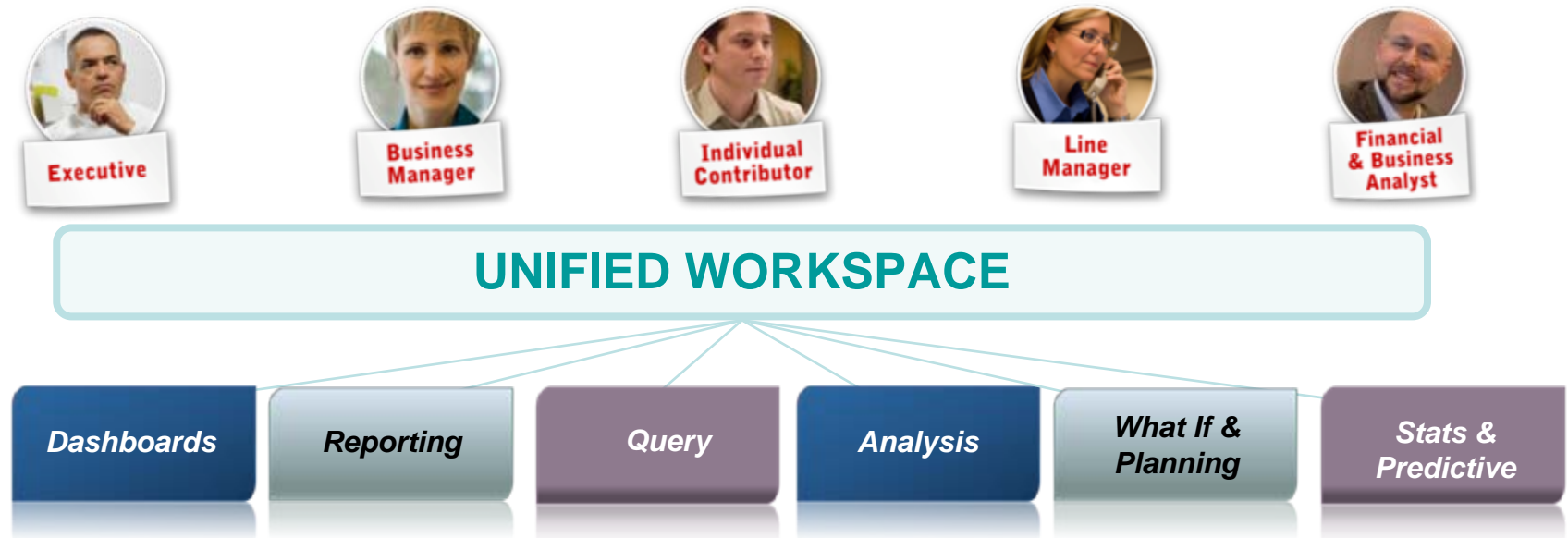
## ■ Easy to deploy and manage

- ▶ Implemented in Java, runs on WebSphere
- ▶ Scales up and out across heterogeneous hardware and operating systems
- ▶ Runs on Linux on System z

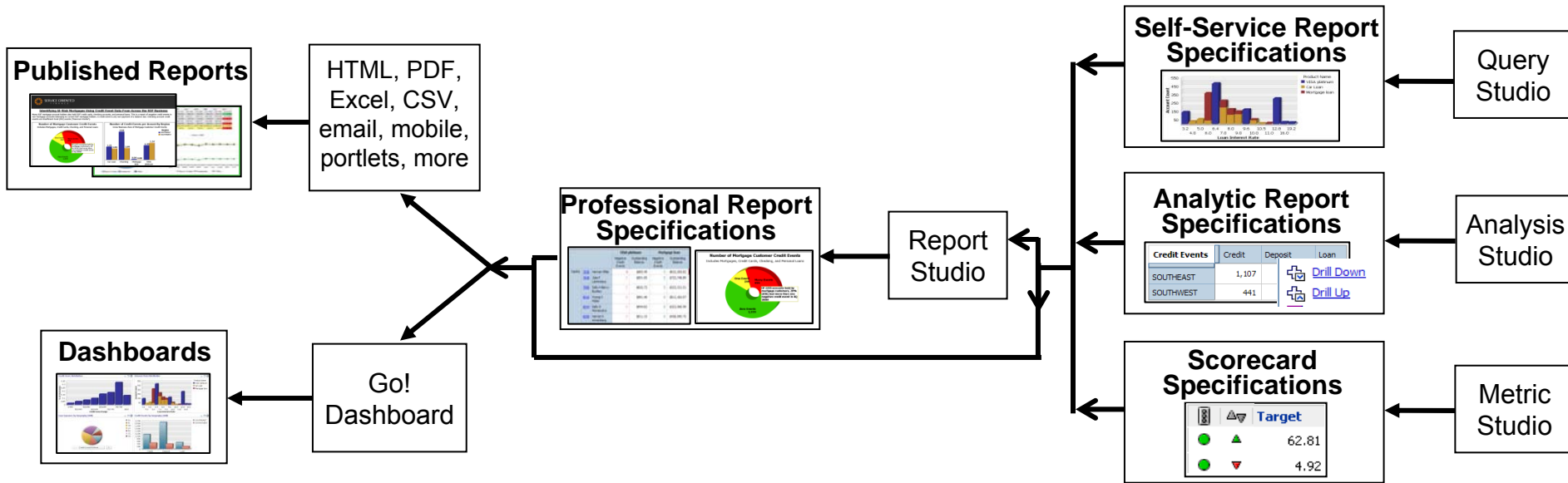


# IBM Cognos Provides A Unified Workspace

- All activities from one place, without jumping to different interfaces
  - ▶ Dashboards for summary overview
  - ▶ Reports for tracking progress
  - ▶ Ad hoc queries and drill down for analysis and what if scenarios
  - ▶ Statistics and predictive analysis
- Progressive interaction – Interact and analyze information based on role
- Form decision networks for collaborative business analytics



# Reuse Prior Assets In New Deliverables



- Author once, consume anywhere
- All analytic assets share a common metadata model and a common multilingual report specification
- Ensures consistent information and enables reuse across platform functions

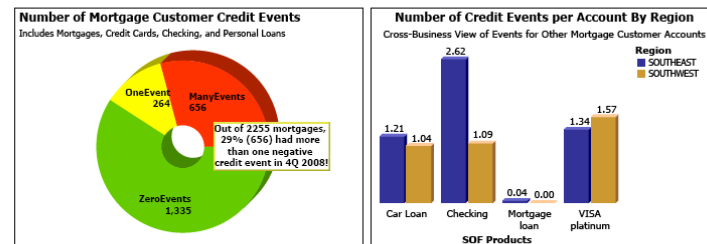
# DEMO: Use Cognos To Identify New Business Insights From The Data Warehouse

1. Show report generated in Cognos Report Studio in PDF format
2. Report identifies high-risk mortgages by looking at negative credit events in other customer accounts (CC, Checking, etc...)
3. Report uses both structured and unstructured data (link to mortgage data stored in FileNet)
4. Use Go! Dashboard to monitor the business operations



## Identifying At-Risk Mortgages Using Credit Event Data from Across the SOF Business

Many SOF mortgage account holders also hold SOF credit cards, checking accounts, and personal loans. This is a report of negative credit events in non-mortgage accounts belonging to current SOF mortgage holders. A credit event is any non-payment of a balance due. Checking account credit events are Insufficient Fund (ISF) events ("bounced checks").



## 4Q 2008 Mortgage Customer Detail by Region and State

Colors: Credit events numbers are color coded. Accounts with greater than 8 events are shown in **block red**.  
Links: Customer ID link opens customer's mortgage document folder using FileNet Workplace XT. Authentication required.

Region: SOUTHEAST

State: FL

		Checking		VISA platinum		Car Loan		Mortgage loan		Summary		
		Negative Credit Events	Current Balance	Negative Credit Events	Current Balance	Negative Credit Events	Current Balance	Negative Credit Events	Current Balance	Negative Credit Events	Current Balance	
TAMPA	<a href="#">7202</a>	Herman Miller	11	\$1,433.86	3	\$865.46	3	\$24,465.55	0	\$232,285.82	17	\$259,050.71
		7928	11	\$1,433.86	3	\$865.46	3	\$24,465.55	0	\$232,285.82	17	\$259,050.71
	<a href="#">7202</a>	Julia P Lamoreaux	4	\$1,251.57	2	\$891.85	2	\$52,120.40	0	\$722,748.89	8	\$777,012.71
		7948	4	\$1,251.57	2	\$891.85	2	\$52,120.40	0	\$722,748.89	8	\$777,012.71
	<a href="#">8044</a>	Kelly O Montecalvo	4	\$1,127.24	2	\$844.82	2	\$74,670.00	0	\$323,366.59	8	\$400,008.65
		8044	4	\$1,127.24	2	\$844.82	2	\$74,670.00	0	\$323,366.59	8	\$400,008.65
	<a href="#">8008</a>	Shad I Davis	4	\$780.11	2	\$830.11	2	\$43,230.00	0	\$919,073.43	8	\$963,913.65

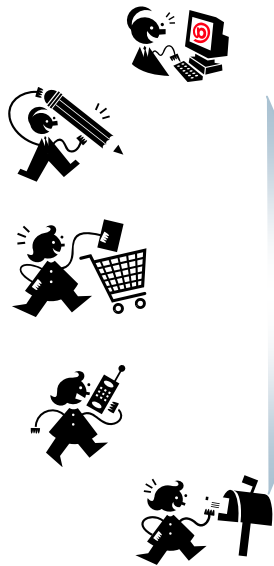
*At risk customers are identified*

# SPSS Enables Customers To Predict Future Events And Drive Better Business Outcomes

## Capture

Data Collection delivers an accurate view of customer attitudes and opinions

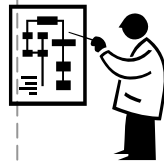
IBM SPSS Data Collection



## Predict

Predictive capabilities bring repeatability to ongoing decision making, and drive confidence in your results and decisions

IBM SPSS Statistics\*/Modeler\*/Text Analytics



Platform

Pre-built Content



## Act

Unique deployment technologies and methodologies maximize the impact of analytics in your operation

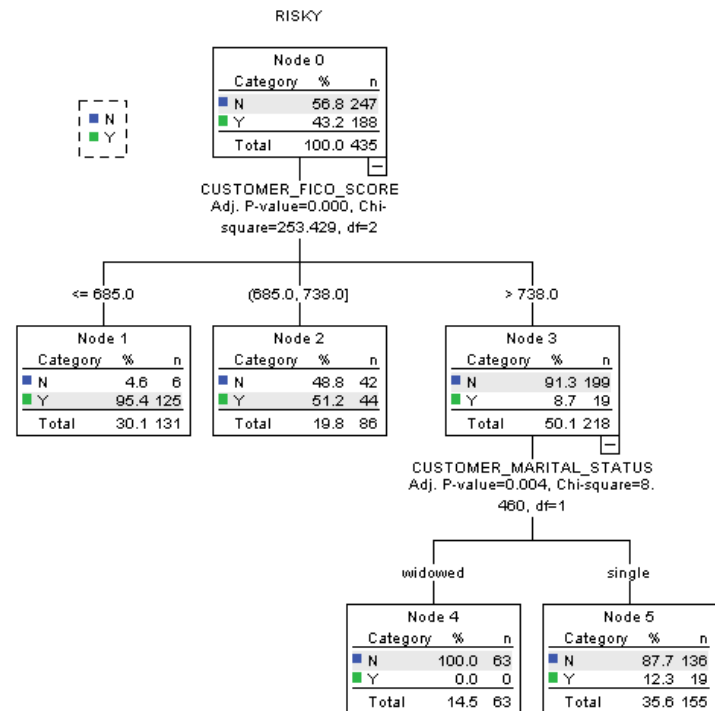
IBM SPSS Decision Management Collaboration & Deployment \*



\* Runs on Linux on System z

# DEMO: Discover Rules For Identifying Risky Customers Using SPSS Statistics

1. Load data from Data Warehouse on DB2 for z/OS into SPSS Statistics
2. Pre-process the data to create new attributes for quantifying negative credit events across different product lines and create a risk flag for mortgage
3. Run Comparison of Means and Decision Tree to discover rules for characterizing risky customers



- Credit Limits identified for characterizing risky customers
- Use these credit limits for automated loan approval process

# IBM Smart Analytics System 9600 – A Complete Package With A Discounted Price

- Extend the qualities of service, inherent in the z/OS environment to ensure the availability and security of data
- **Hardware/OS**
  - ▶ IBM zEnterprise technology
  - ▶ IBM System Storage DS8700 Intelligent Disk controller
    - Large controller cache and 3 Tier disk offering
  - ▶ z/OS 1.12
- **Unique Software**
  - ▶ DB2 for z/OS
  - ▶ Cognos included in base offering (Linux on System z)
  - ▶ InfoSphere Warehouse (Linux on System z)
- **Optional Components**
  - ▶ Solid State drives, integrated within DS8700
    - Easy Tier to identify and migrate “hot data” to SSD
  - ▶ SPSS For Linux on z



# Next Generation Smart Analytics Optimizer To Capitalize On Netezza Technology

## What is a Smart Analytics Optimizer?

*A workload-optimized, blade-based appliance add-on*

*Deeply integrated with DB2 for z/OS and transparent to applications*

*Significantly speeds up the response time for a wide variety of complex queries*

*Drives down the costs of data warehousing and business analytics*

## What's new with V2?

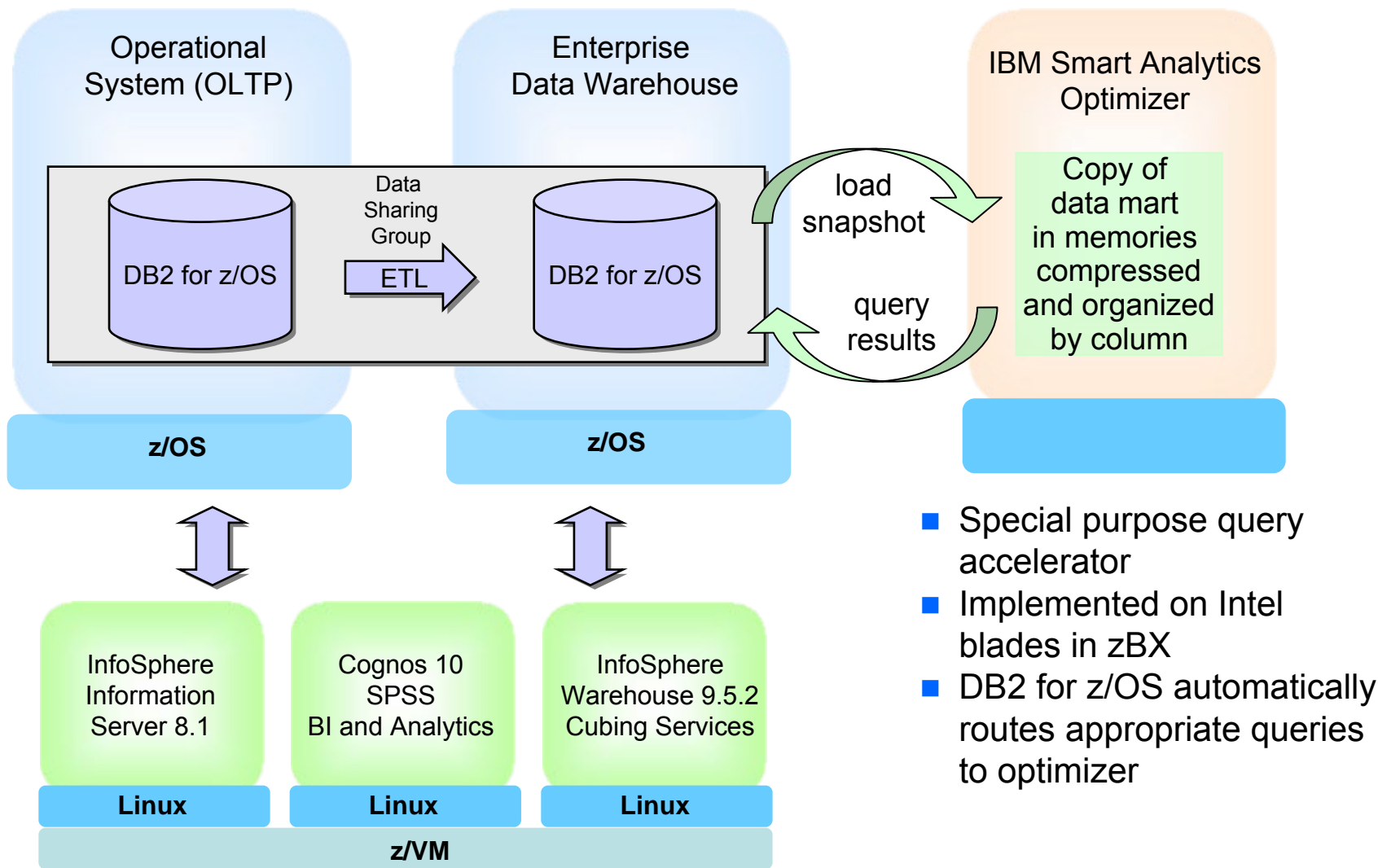
- System x blade customized with Netezza Technology
- Incorporates streaming architecture based on Netezza's patented data filtering using Field Programmable Gate Arrays (FPGAs)
- Tuned for delivering fast query response times for a wide variety of decision workloads
- Uses efficient data filtering by early SQL projections
- Storage integrated into the hardware rack
- Supported on DB2 for z/OS v9 or DB2 for z/OS v10 running on a z/196



**Breakthrough Technology Enabling New Opportunities**



# IBM Smart Analytics Optimizer Accelerates Complex Queries



# A Longer List Of Business Analytic Software Available On z196

## Information Management

- [DB2](#)
- Informix
- FileNet Business Process Manager
- FileNet Content Manager
- FileNet Records Manager
- FileNet Rendition Engine
- InfoSphere – totally 30 products, incl:
  - InfoSphere DataStage
  - InfoSphere Federation Server
  - InfoSphere Information Analyzer
  - InfoSphere Information Server
  - InfoSphere Master Data Mgmt Server
  - InfoSphere Warehouse for DB2 for z/OS
  - InfoSphere FastTrack
- ... many more

## Business Analytics

- [Cognos Business Intelligence](#)
- [SPSS Collaboration and Deployment Services](#)
- SPSS Modeler
- SPSS Statistics

# zEnterprise Is An Excellent Base For Your Data Warehouse And Business Analytics

- Operational and warehouse data co-located on z196 for optimal performance
- Exploits System z Parallel Sysplex for availability and scale
- Cognos supports a common metadata model and report specification, and provides 100% browser-based access
- SPSS predictive analytics provides actionable insights versus hindsight
- Systematic disaster recovery and backup strategies
- Qualities of Service
- Competitive Price