System z – A Smart System For A Smarter Planet
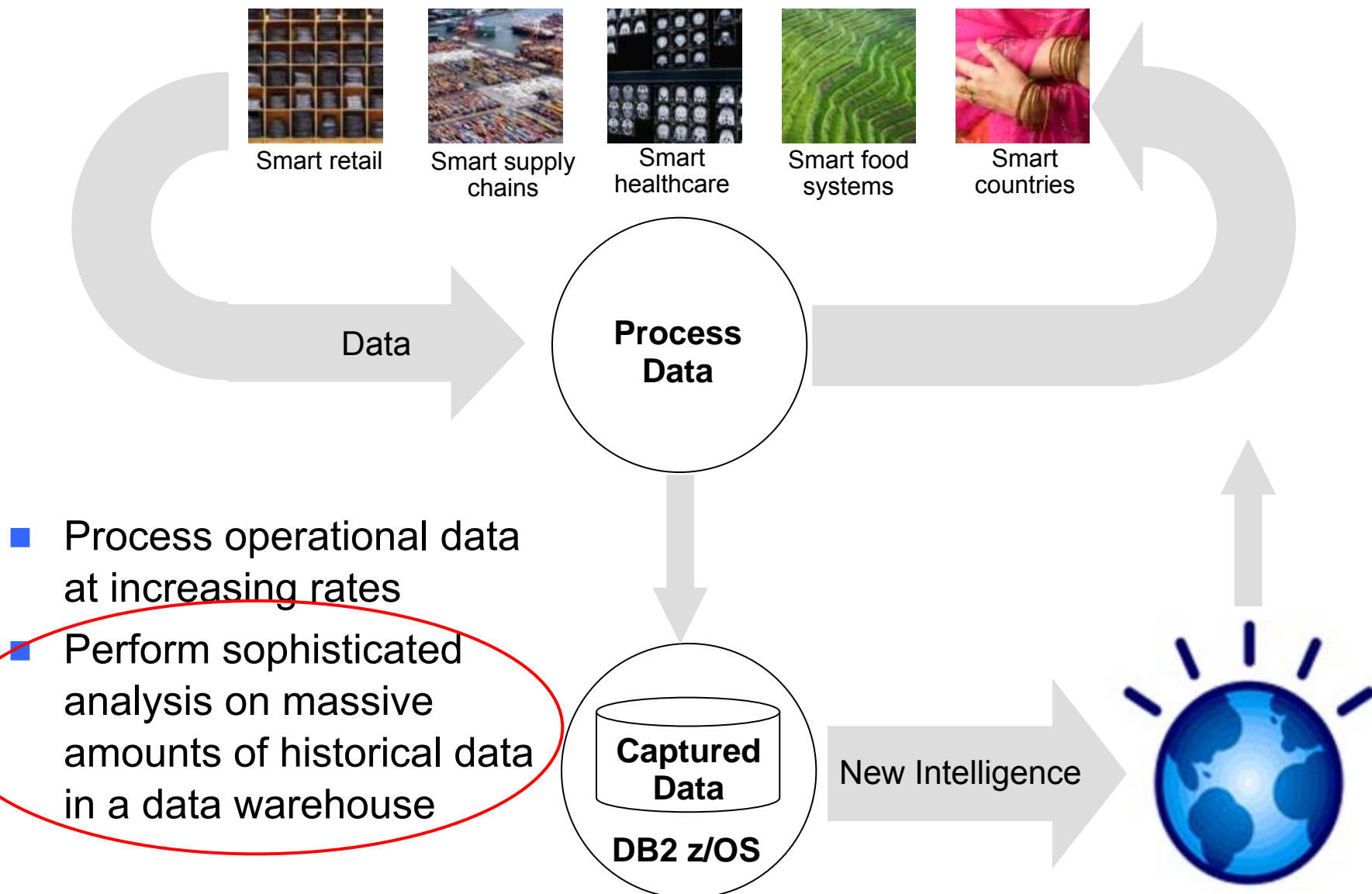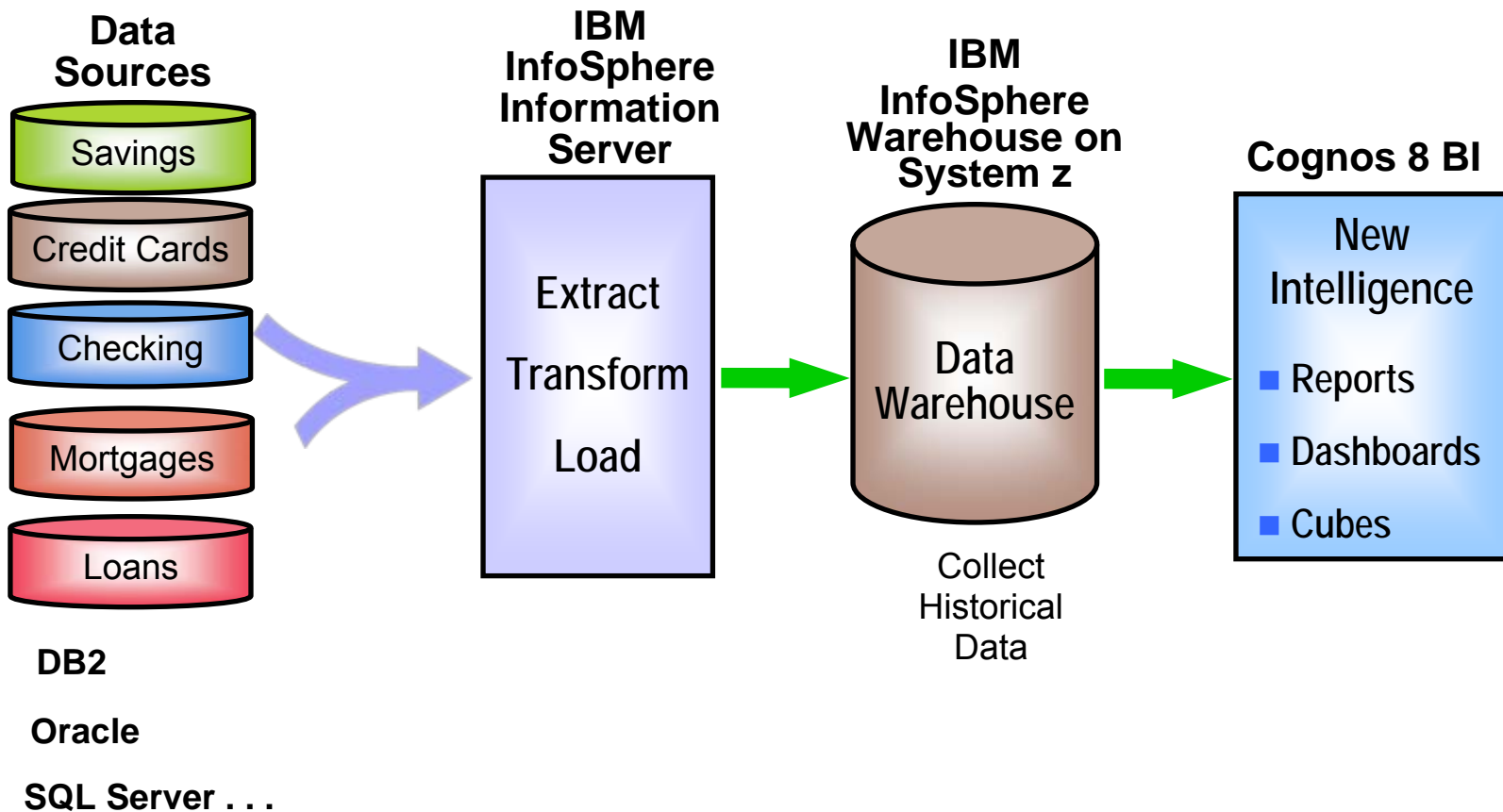
Modern Business Analytics

Data Plays A Key Role In Smarter Planet Solutions

Smart retail Smart supply chains Smart healthcare Smart food systems Smart countries

Data

Process Data

- Process operational data at increasing rates
- Perform sophisticated analysis on massive amounts of historical data in a data warehouse

Captured Data

DB2 z/OS

New Intelligence

InfoSphere Information Server Can Load Your Data Warehouse

Data Sources

- Savings
- Credit Cards
- Checking
- Mortgages
- Loans

DB2

Oracle

SQL Server . . .

IBM InfoSphere Information Server

Extract

Transform

Load

IBM InfoSphere Warehouse on System z

Data Warehouse

Collect Historical Data

Cognos 8 BI

New Intelligence

- Reports
- Dashboards
- Cubes

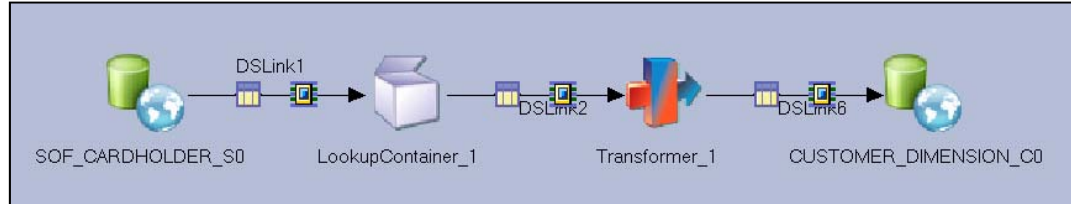# InfoSphere FastTrack Creates Data Maps And Specifications For Your ETL Jobs

- Create simplified data maps and transformations using drag and drop
  - Automatically discover source and target columns
    - Uses database introspection and Web 2.0-style tagging
    - Use business terms to accurately match source to target

- Data analysts and developers share project specifications
  - Collaboration and reuse improve productivity
  - Use metadata common to all Information Server tools
  - Standard formats and centralized management for governance
    - Synchronize work across global teams

- Generate ETL code directly from job specifications
  - Reduces costs and errors in ETL job development

Oracle doesn't offer any of these capabilities

InfoSphere DataStage Implements The ETL Jobs

- Graphical description of ETL jobs using hundreds of pre-built transformation and data quality functions

- Stores and retrieves metadata from Information Server
  - ▶ Allows easy reuse of integration work between projects

- Advanced parallel processing capabilities
  - ▶ Dynamic partitioning and pipelining
  - ▶ Scale jobs across additional hardware without modification

Database Sources
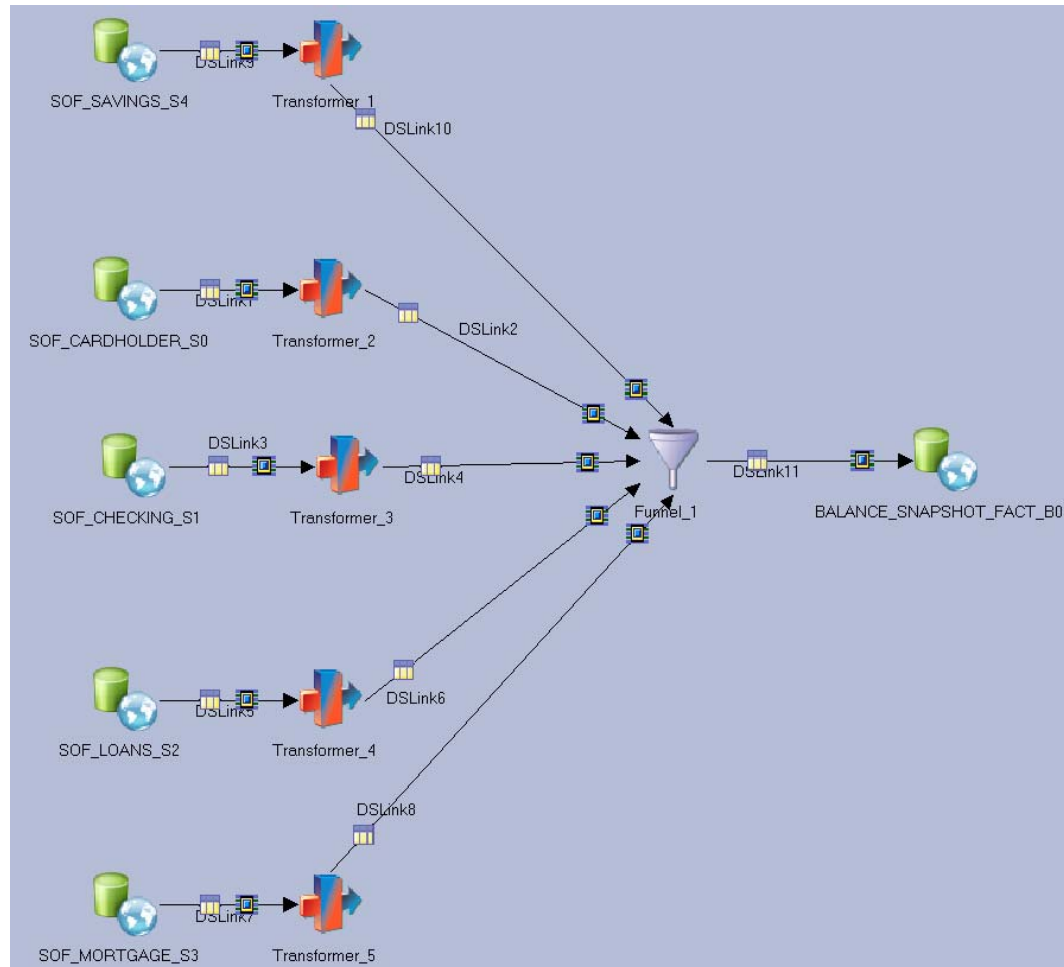
Classic Federation	DB2 UDB API	DB2/UDB Enterprise	DB2Z	Dynamic RDBMS
Informix CLI	iWay Enterprise	ODBC	Oracle Enterprise	Stored Procedure

Prebuilt Processing Functions

Aggregator	Change Apply	Change Capture	Compare
Compress	Copy	Decode	Difference
Encode	Expand	External Filter	Filter
FTP Enterprise	Funnel	Generic	Join
Lookup	Merge	Modify	Pivot
Remove Duplicates	Slowly Changing Dimension	Sort	Surrogate Key Generator
Switch	Transformer		

Real Time Connectors

Java Client	Java Transformer	Web Services Client	Web Services Transformer
WebSphere MQ Connector	WISD Input	WISD Output	XML Input
XML Output	XML Transformer		

DEMO: Use InfoSphere DataStage To Load The Data Warehouse

1. **Execute and show the results of the ETL job that populates the data warehouse fact table**

IBM Leads In Data Integration

- Only InfoSphere Information Server delivers unified metadata across all tools for collaboration and reuse
  - ▶ Oracle Warehouse Builder and Oracle Data Integrator are two separate products that are not yet unified

- Model-driven design with FastTrack and DataStage speeds development
  - ▶ Oracle Warehouse Builder has no tools to help manage source to target mappings

- InfoSphere Information Server works in heterogeneous environments
  - ▶ InfoSphere gathers, processes, and cleanses more data from more sources than Oracle

"FastTrack enables our analysts to capture more complete business requirements. The ability to translate this information directly into DataStage jobs with up to 70 percent of the code completed will significantly shorten our development lifecycle."

- *Roderich Hofmann, project manager, WAVE, IT-Solutions provider of Bank Austria and member of UniCredit Group*

Using New Intelligence Creates New Business Opportunities

If we can identify our risky mortgage assets, we can work to remove them from our books.

We can identify risky mortgage customers by watching their activities in other business areas
- ▶ Bounced checks
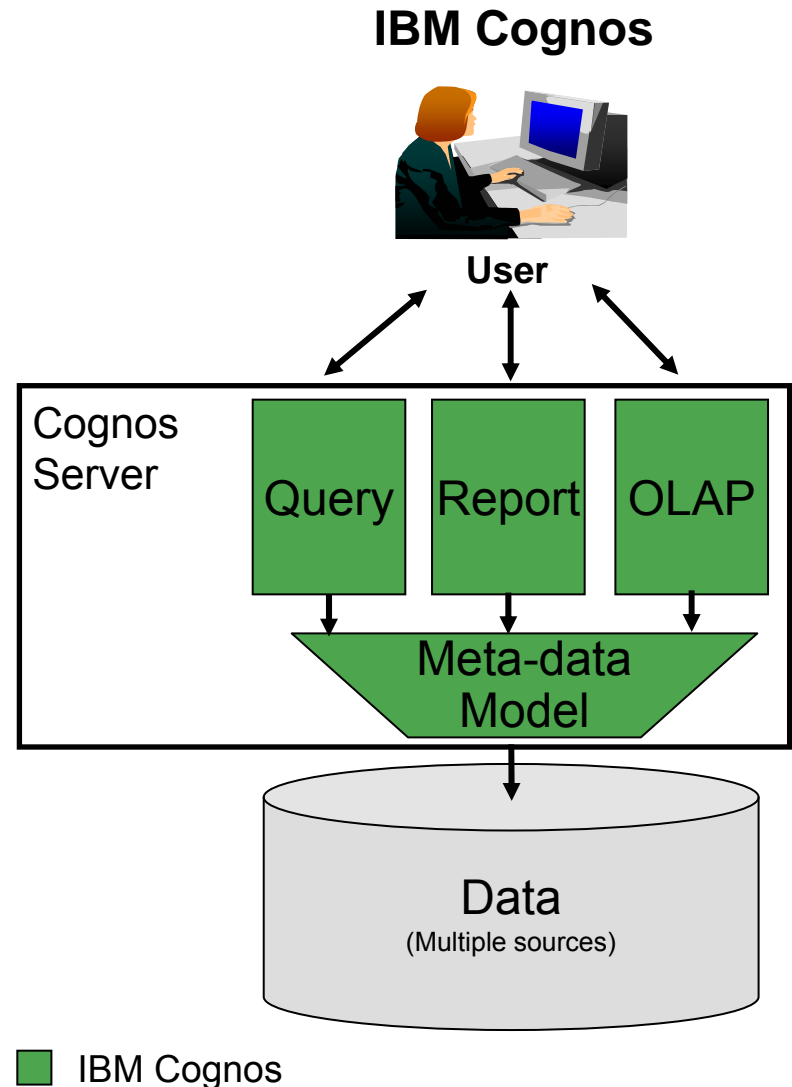- ▶ Missed credit card payments
- ▶ Missed loan payments.

Service Oriented Finance CEO

Mortgage Line of Business VP

DEMO: Identify Risky Mortgage Accounts Using Cognos 8 BI

1. Show report generated in Cognos Report Studio in PDF format
2. Report identifies high-risk mortgages by looking at negative credit events in customers other SOF 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

That report is just what we need!

Mortgage Line of Business VP

- At risk customers are identified
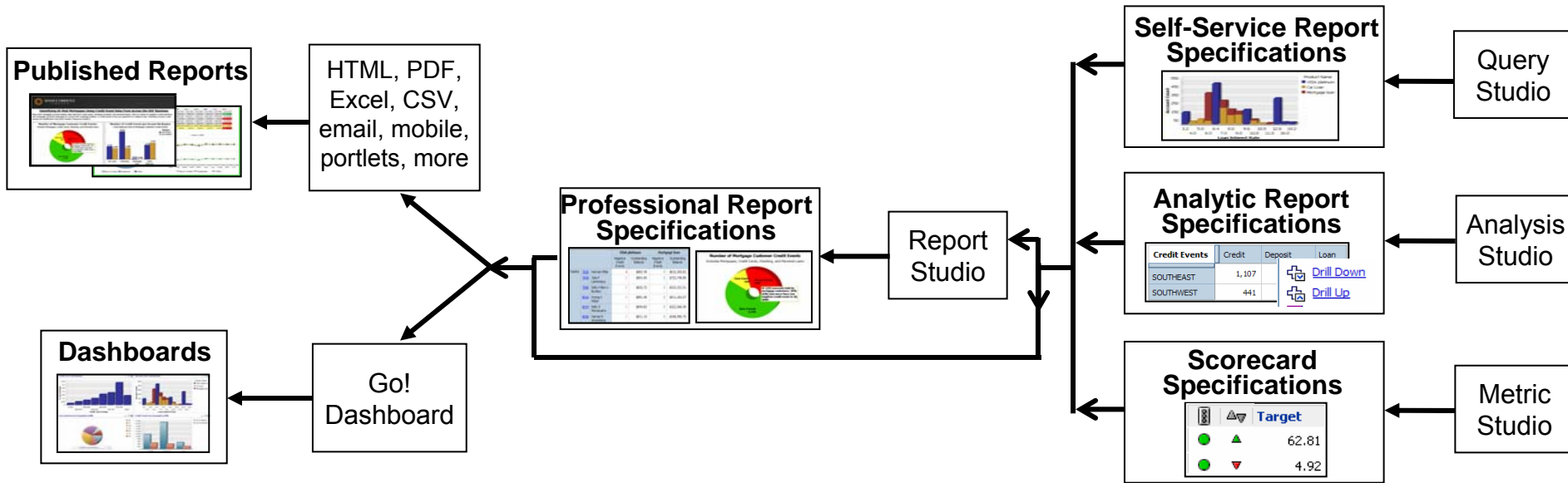
IBM Cognos Is An Integrated Platform For Smart Analytics

- Implemented in Java, runs on WebSphere

- 100% browser based access
  - ▶ Server side business intelligence
  - ▶ Users can access new intelligence from anywhere

- Easiest for IT to deploy and manage
  - ▶ Scales up and out across heterogeneous hardware and operating systems
  - ▶ Unified security
  - ▶ Unified administration

- Consistent user interface across tooling
  - ▶ Greater user satisfaction and increased business agility with lower IT costs

- Common meta data model
  - ▶ Author new intelligence assets once, consume anywhere
  - ▶ Common view enables open data strategy
  - ▶ Supports Unicode and multilingual features without recreating reports

IBM Cognos

User

Cognos Server

| Query | Report | OLAP |

Meta-data Model

Data
(Multiple sources)

■ IBM Cognos

Reuse Trusted New Intelligence Assets Across The Cognos 8 Platform

Published Reports

HTML, PDF, Excel, CSV, email, mobile, portlets, more

Professional Report Specifications

Report Studio

Dashboards

Go! Dashboard

Self-Service Report Specifications

Query Studio

Analytic Report Specifications

Analysis Studio

Scorecard Specifications

Metric Studio

- **All new intelligence assets share a common metadata model and common report specification**

- **Author Once – Consume Anywhere**

- **Ensures consistent information and enables reuse across platform functions**

- **Oracle has multiple metadata models depending on source type**

- **Oracle has multiple different report formats**

- **Oracle cannot reuse assets between tools**

Oracle Business Intelligence Enterprise Edition Is A Complicated Bundle
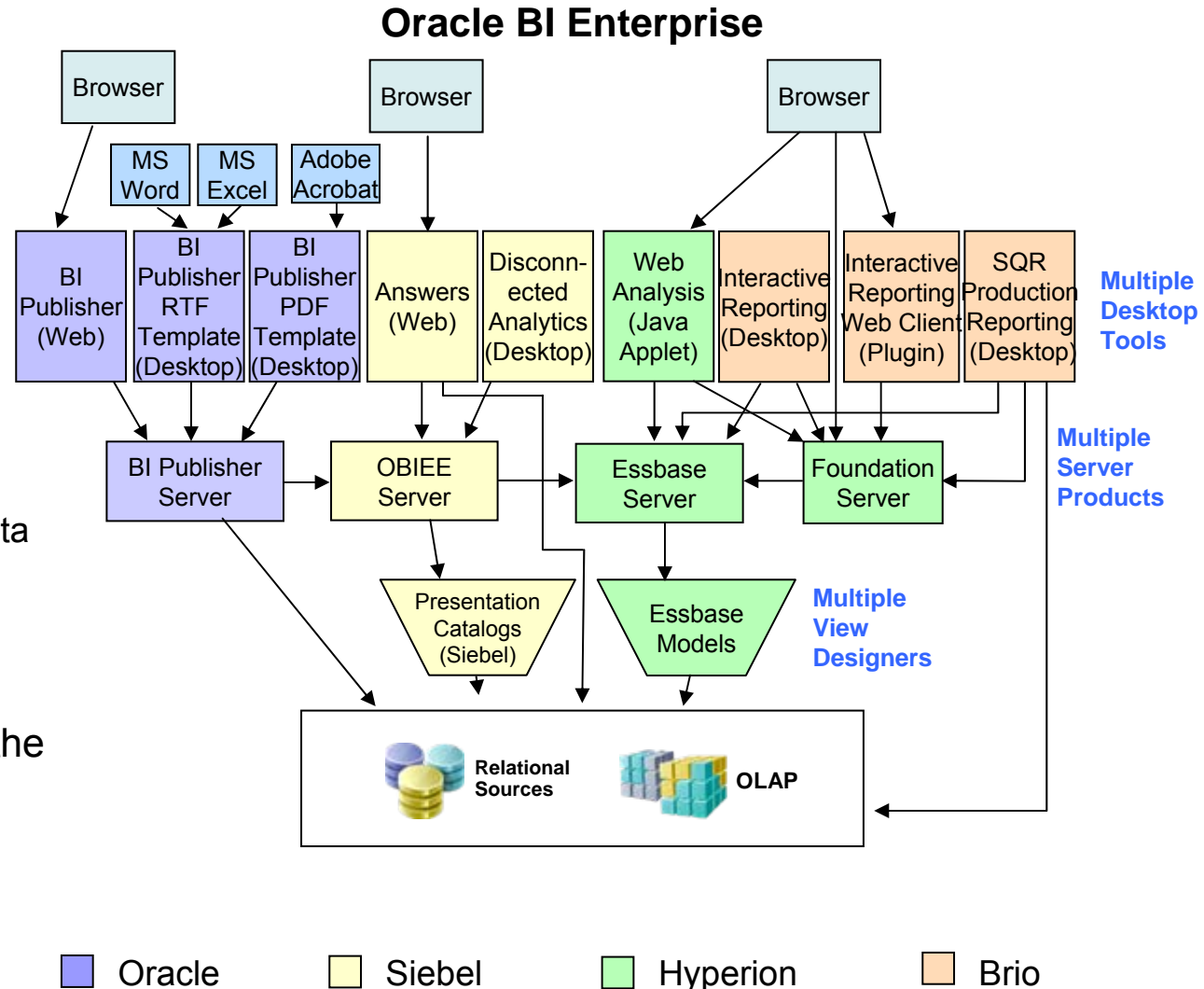
- **Too Many Products!**

- **Multiple Desktop Client Tools**
  - ▶ Multiple report formats
  - ▶ Multiple metadata models
  - ▶ Creates More work
  - ▶ Report specifications cannot be shared or reused easily
    - No common meta data model

- **Creates IT Burden**
  - ▶ Install, Patch, User Support all happen at the desktop

Oracle BI Enterprise

```
[Browser]          [Browser]                          [Browser]

[MS Word][MS Excel][Adobe Acrobat]

[BI Publisher (Web)] [BI Publisher RTF Template (Desktop)] [BI Publisher PDF Template (Desktop)] [Answers (Web)] [Disconn-ected Analytics (Desktop)]   [Web Analysis (Java Applet)] [Interactive Reporting (Desktop)]  [Interactive Reporting Web Client (Plugin)] [SQR Production Reporting (Desktop)]
```

Multiple Desktop Tools

```
[BI Publisher Server] → [OBIEE Server] → [Essbase Server]     [Foundation Server]
```

Multiple Server Products

```
        [Presentation Catalogs (Siebel)]   [Essbase Models]
```

Multiple View Designers

```
        [ Relational Sources      OLAP ]
```

■ Oracle	■ Siebel	■ Hyperion	■ Brio

System z Solution Edition For Data Warehousing Provides A Promotional Price!

- Solution Edition for Data Warehousing – provides a foundation database environment on System z
  - System z hardware (processors, memory, I/O) with maintenance included
  - DB2 for z/OS database and utilities with subscription and support included
  - IBM Storage

- Does not include (can be added to the stack with similar price benefits)
  - InfoSphere Warehouse
  - Cognos
  - InfoSphere Information Server

- Choice of deployment for same price
  - New footprint stand-alone System z
  - Incremental addition to an existing system

Result: Extend "Small" Solution Edition For Data Warehousing With Cognos

Existing Mainframe

Add 1 LPAR for Data Warehousing and 2 IFLs for Cognos

Prod

DB2 Workload	Cognos Workload
1,565 MIPS z/OS	2 IFLs zLinux

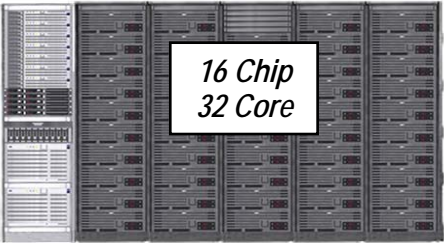**Average workload:**
5,500 Qph

Peak:
33,000 Qph

3 year TCA $2.15M

Incremental:
1,565 MIPS DB2 (1 GP + 1 zIIP)
2 IFLs   Cognos

Or Add Integrity Superdome 64W SX2K Itanium2 9150N 1.6GHz Server

Cognos on HP Integrity BL860c

Prod

16 Chip 32 Core

2 Chip 4 Core

3 year TCA $2.68M

100,249 Performance Units

IBM Smart Analytics System 9600:
Delivers Enterprise-wide Analytics On System z

- **Extend the qualities of service, inherent in the z/OS environment to ensure the availability and security of data.**

- **Hardware/OS**
  - ▶ z/OS r 12
  - ▶ IBM System z10 technology
  - ▶ IBM System Storage DS8700 Intelligent Disk controller
    - – Large controller cache and 3 Tier disk offering

- **Unique Software**
  - ▶ DB2 for z/OS
  - ▶ Cognos 8 BI 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

System z Is An Excellent Base For Your Data Warehouse And Business Analytics

- Operational and warehouse data co-located on System z

- Exploits System z Parallel Sysplex for availability and scale

- Cognos supports a common metadata model and report specification and provides 100% browser based access

- Systematic disaster recovery and backup strategies

- Qualities of Service

- Competitive Price