IBM Smarter Analytics 2012

Manage Information, Gather Insights, Outperform.

Tim Young, Netezza Marketing Executive, APAC

Netezza
The True Data Warehouse and Analytics Appliance

Topics

What is Netezza?

Netezza Market Disruption

Transforming Decision Making with Embedded Analytics

IBM's Strategy: Smart Warehouse Consolidation

Summary

Netezza

- Purpose-built analytics engine

- Integrated database, server & storage

- Standard interfaces

- Low total cost of ownership

- **Speed**: 10-100x faster than traditional systems

- **Simplicity**: Minimal administration and tuning

- **Scalability**: Peta-scale user data capacity

- **Smart**: High-performance advanced analytics

Appliance Simplicity

- Dedicated device

- Optimized for purpose

- Complete solution

- Fast installation

- Simple operation

- Standard interfaces

- Low cost

Appliance Family

	IBM Netezza 100	IBM Netezza 1000	IBM Netezza High Capacity
	Development & Test	High performance data warehouse & analytics	Analytics on Big Data Queryable Archiving
	1 TB to 10 TB	1 TB to 1.5 PB	500 TB to 10+ PB

Sample Users

Digital Media

Financial Services

Government

Health & Life Sciences

Retail / Consumer Products

Telecom

Other

Implementation: Netezza Simplicity

Oracle DDL to Netezza migrated <1 day / 95%+ of Oracle DDL redundant

Oracle: 1821 lines of SQL DDL
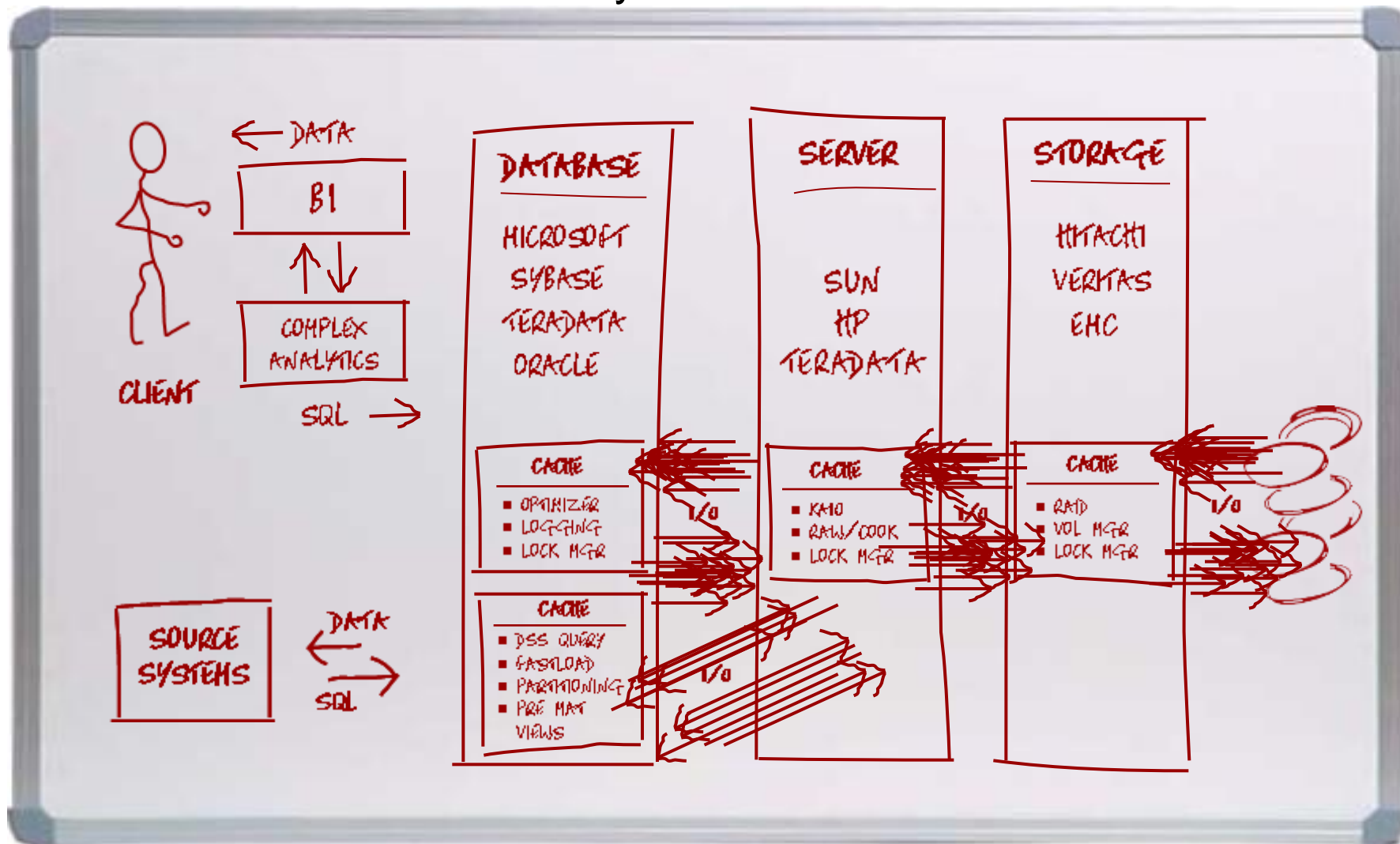
```
CREATE TABLE CMVFACT.FCT_MKV_CUST_BAL
(
    PER_CCYYMM          NUMBER(6)   NOT NULL,
    SK_CIF              NUMBER(15)  NOT NULL,
    SK_PR_L5            NUMBER(8)   NOT NULL,
    BAL_CD              NUMBER(5)   NOT NULL,
    BUS_SEG_L3_ID       NUMBER(4)   NOT NULL,
    SEG2_CD             NUMBER(2)   NOT NULL,
    ISO_CRNCY_CD        CHAR(3)     NOT NULL,
    CO_CST_CTR_ID       CHAR(10)    NOT NULL,
    CAL_MON_DAY_NR      NUMBER(2)   NOT NULL,
    CAL_MON_BUS_DAY_NR NUMBER(2)    NOT NULL,
    BAL_AM              NUMBER(15,2) NOT NULL,
    BAL_ORIG_CRNCY_AM  NUMBER(18,2) NOT NULL,
    SRCE_SYS_CD         NUMBER(4)       NULL
)
TABLESPACE CMVFACT
NOLOGGING
PCTFREE 0
PCTUSED 90
INITRANS 1
MAXTRANS 255
STORAGE(BUFFER_POOL DEFAULT)
NOPARALLEL
NOCACHE
PARTITION BY RANGE(PER_CCYYMM)
(PARTITION P200205 VALUES LESS THAN (200206)
    STORAGE(FREELISTS 1
        FREELIST GROUPS 1),
 PARTITION P200206 VALUES LESS THAN (200207)
    STORAGE(FREELISTS 1
        FREELIST GROUPS 1),
 PARTITION P200207 VALUES LESS THAN (200208)
    STORAGE(FREELISTS 1
        FREELIST GROUPS 1),
```

Netezza: 17 lines of SQL DDL
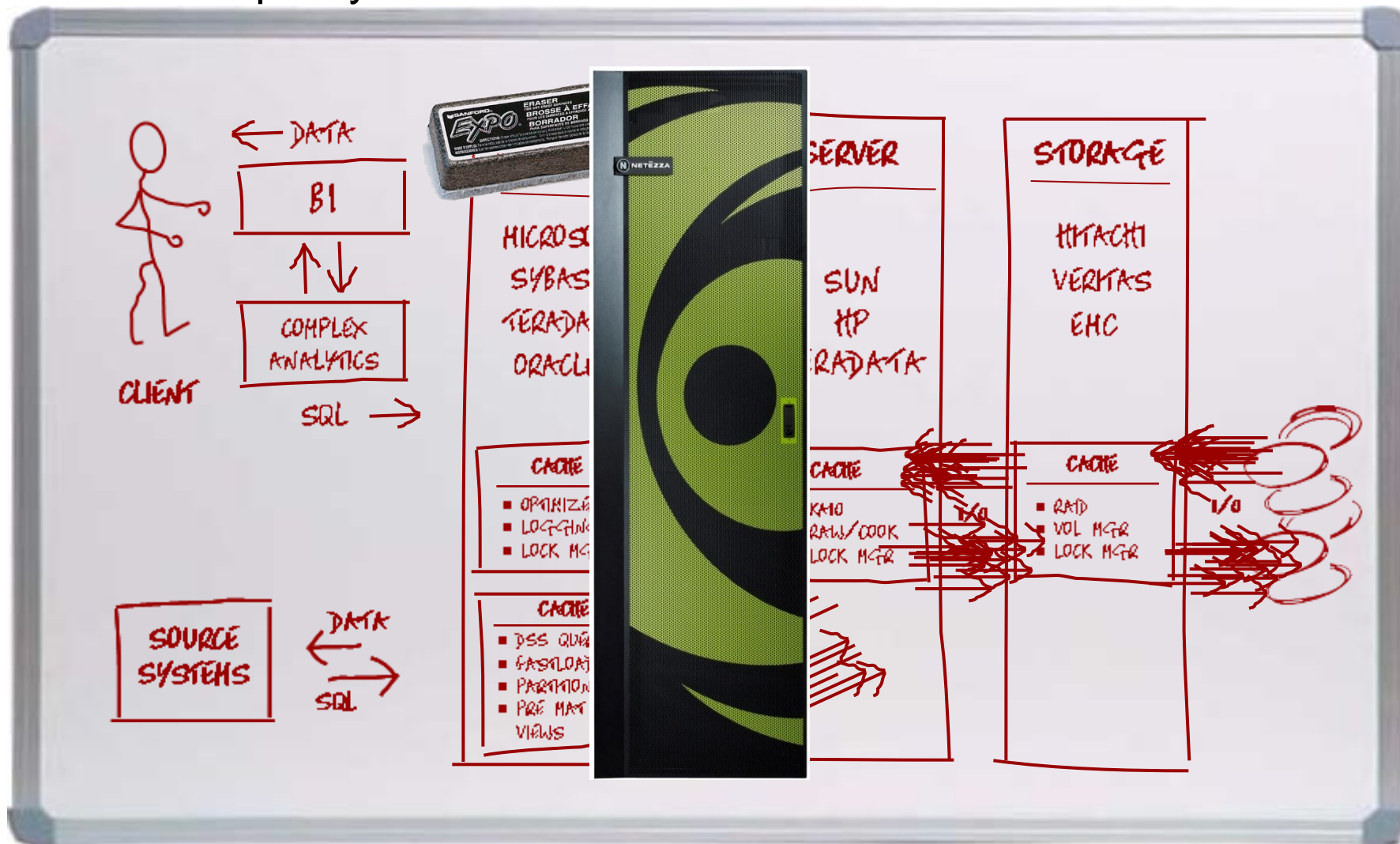
```
CREATE TABLE FCT_MKV_CUST_BAL
(
    PER_CCYYMM          integer  NOT NULL,
    SK_CIF              bigint   NOT NULL,
    SK_PR_L5            integer  NOT NULL,
    BAL_CD              integer  NOT NULL,
    BUS_SEG_L3_ID       integer  NOT NULL,
    SEG2_CD             integer  NOT NULL,
    ISO_CRNCY_CD        CHAR(3)  NOT NULL,
    CO_CST_CTR_ID       CHAR(10)  NOT NULL,
    CAL_MON_DAY_NR      integer  NOT NULL,
    CAL_MON_BUS_DAY_NR integer   NOT NULL,
    BAL_AM              numeric(15,2) NOT NULL,
    BAL_ORIG_CRNCY_AM  numeric(18,2) NOT NULL,
    SRCE_SYS_CD         integer      NULL )
distribute on (sk_cif);
```

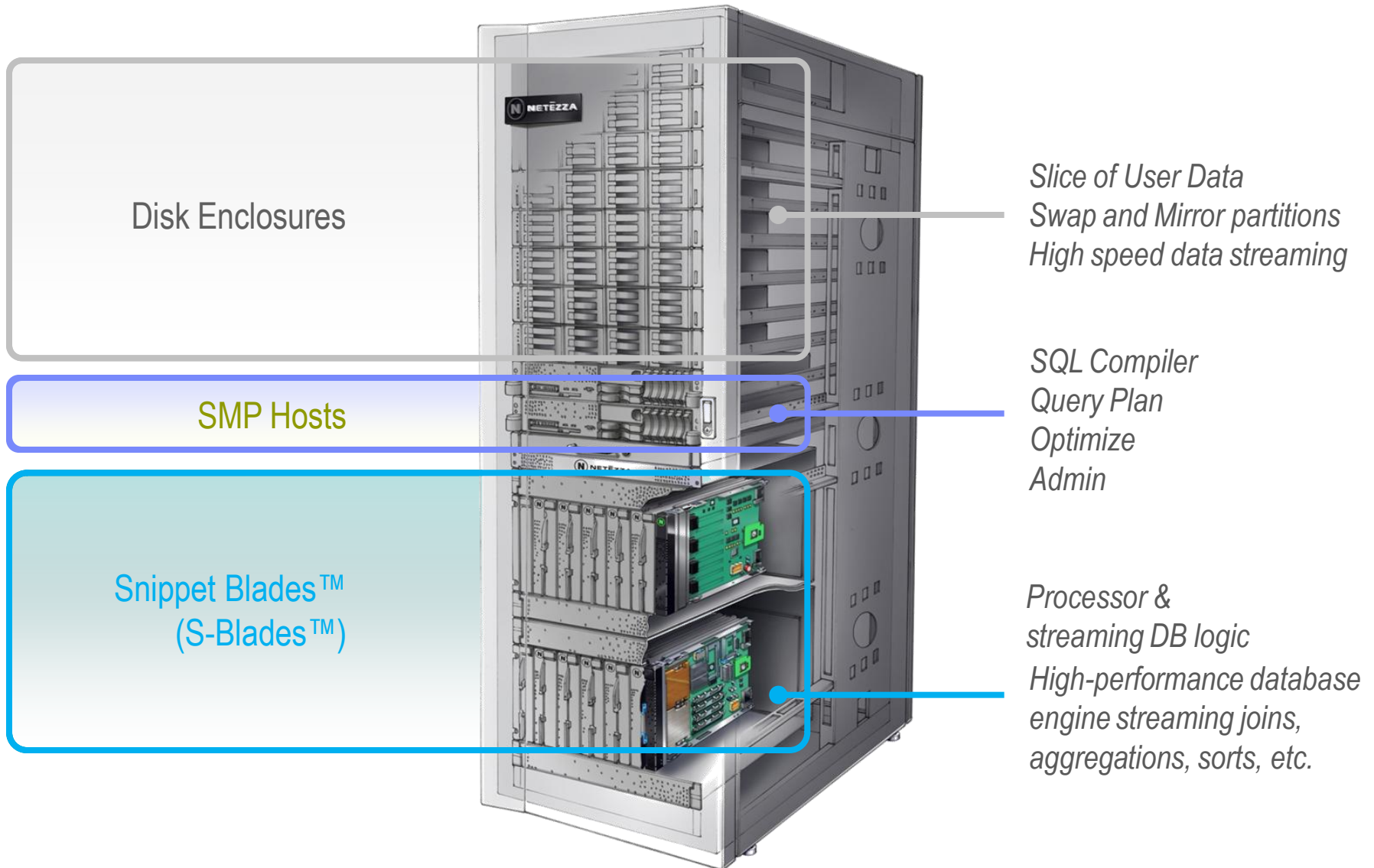# What makes Netezza so fast?

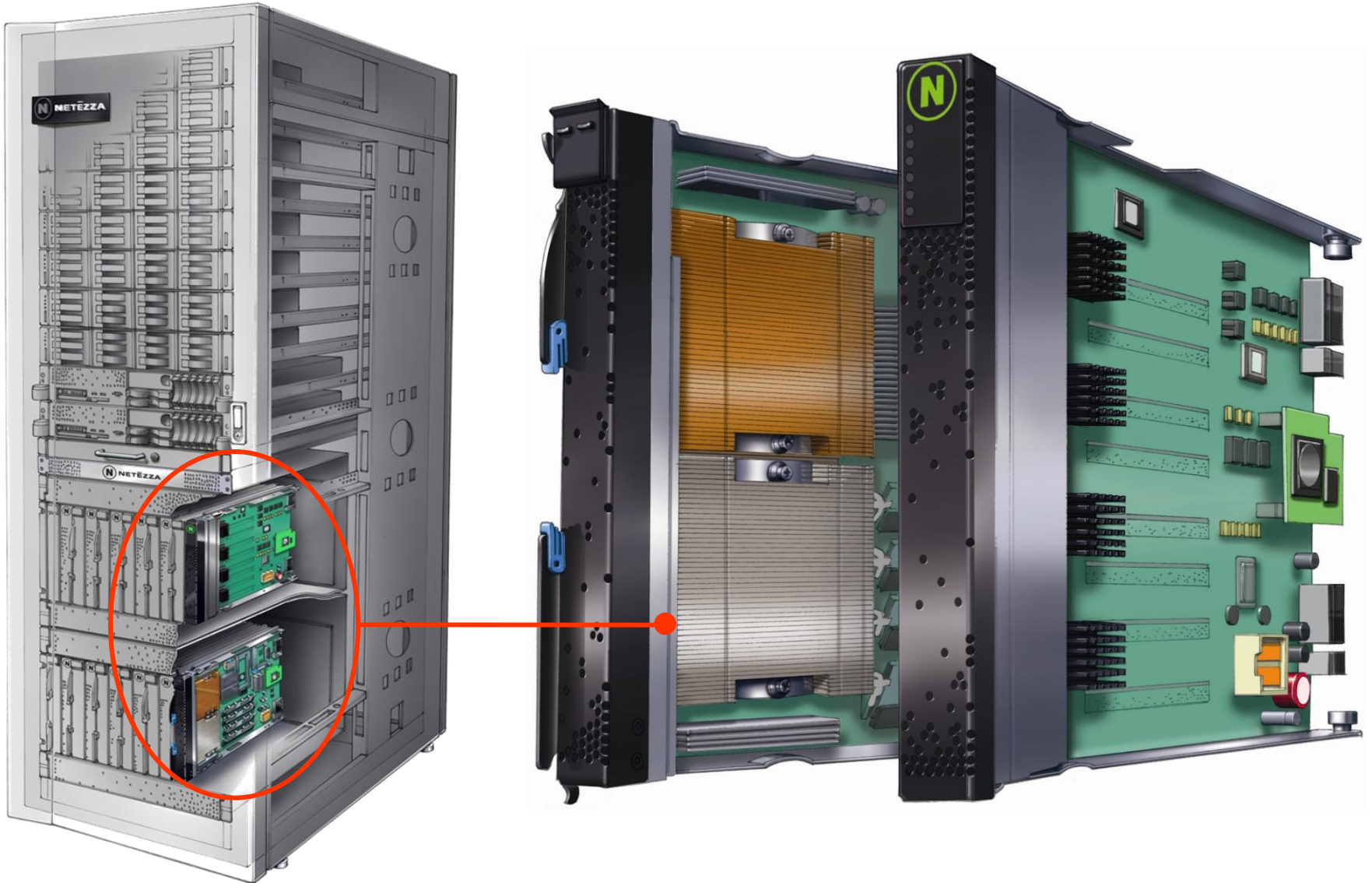# Traditional Data Warehouse Systems

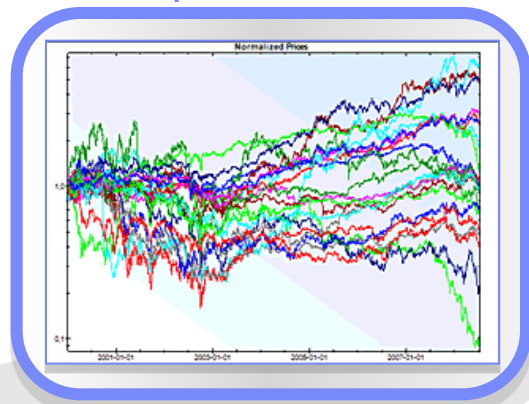# Netezza Simplicity

Netezza Simplicity

The Netezza Appliance

Disk Enclosures

Slice of User Data
Swap and Mirror partitions
High speed data streaming

SMP Hosts

SQL Compiler
Query Plan
Optimize
Admin

Snippet Blades™
(S-Blades™)

Processor &
streaming DB logic
High-performance database
engine streaming joins,
aggregations, sorts, etc.

The Netezza S-Blade

How does Netezza go so deep?

Becoming an Analytic Enterprise

Optimization

Predictive
Analytics

BI Reporting and
Ad-Hoc Analysis

- What is the best choice?
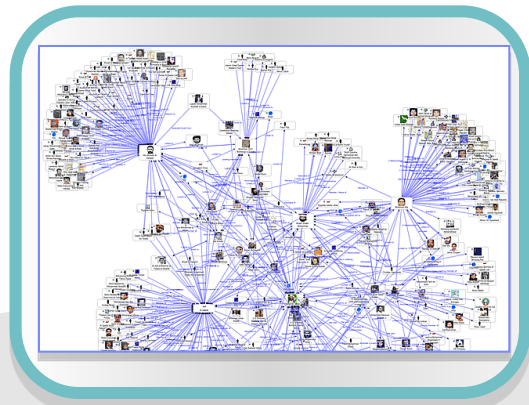
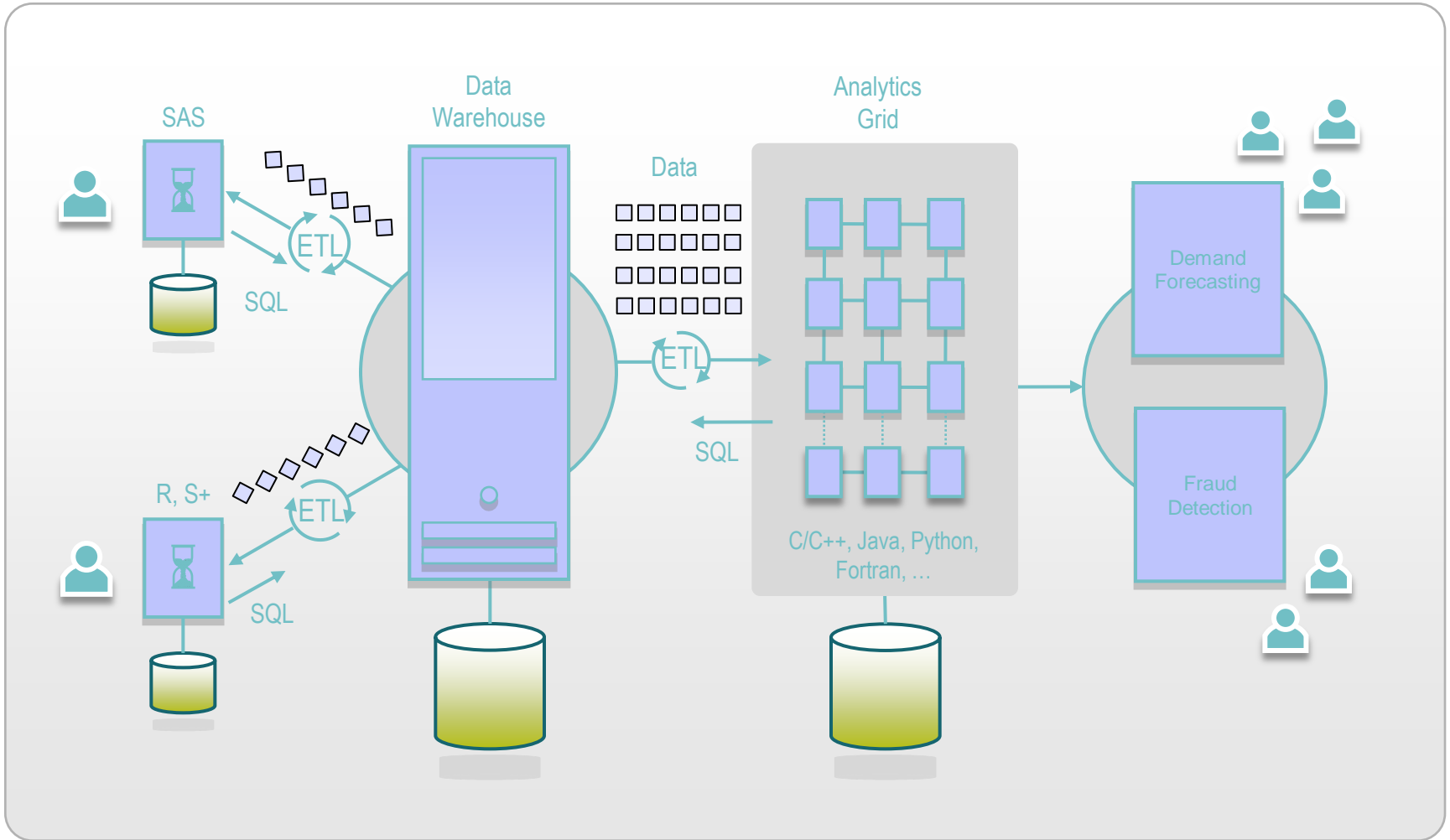- What will happen?
- What will the impact be?

- What happened?
- When and where?
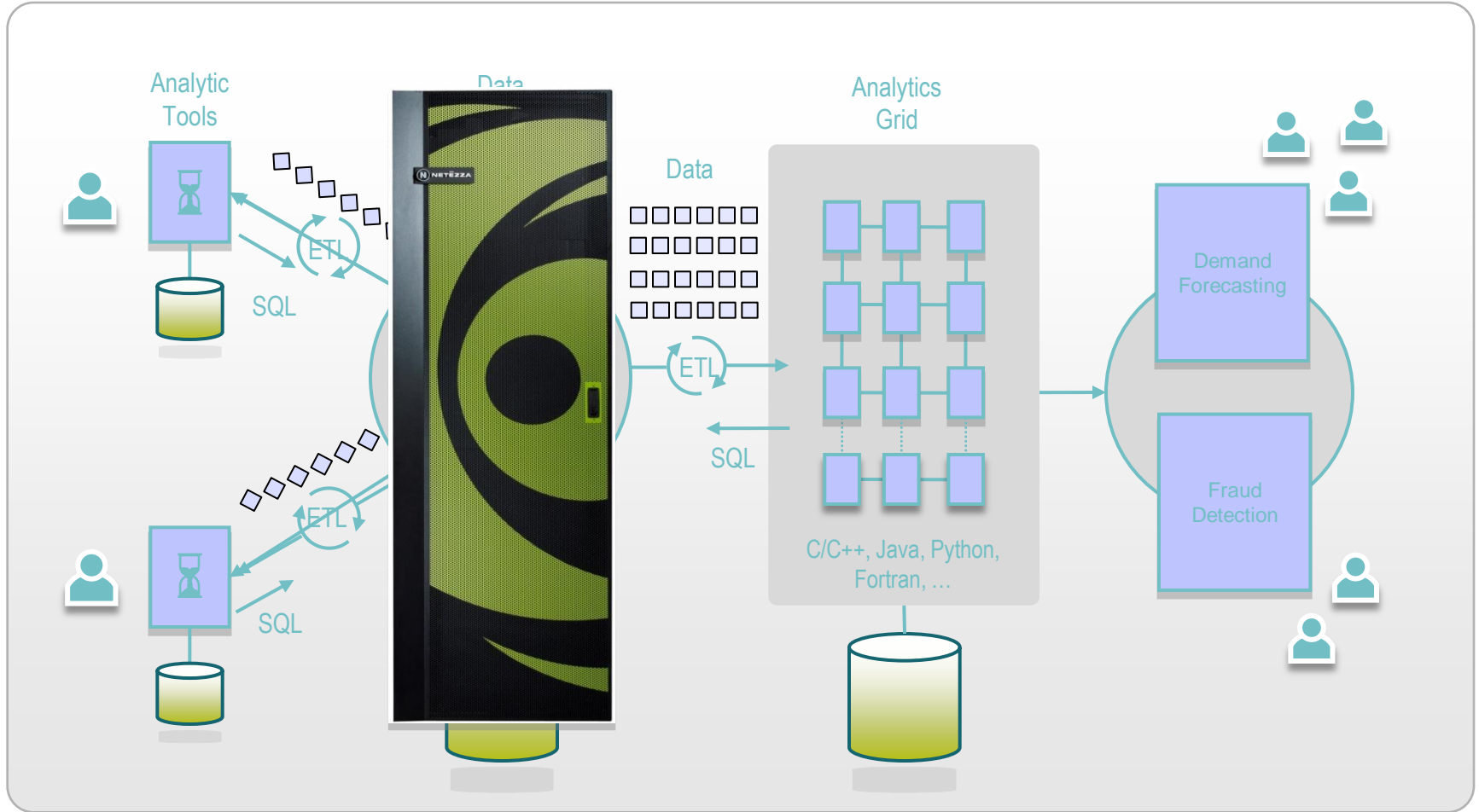- How much?

Netezza Analytics: Big Data Meets Big Math

Analytics Without Constraints

Business Analytics Optimization (BAO) the Traditional Way

BAO with Netezza

Analytic
Tools

Data

Data

Analytics
Grid

ETL

SQL

ETL

ETL

SQL

Demand
Forecasting

Fraud
Detection

SQL

C/C++, Java, Python,
Fortran, …

BAO with Netezza

Analytic Tools

Demand Forecasting

Fraud Detection
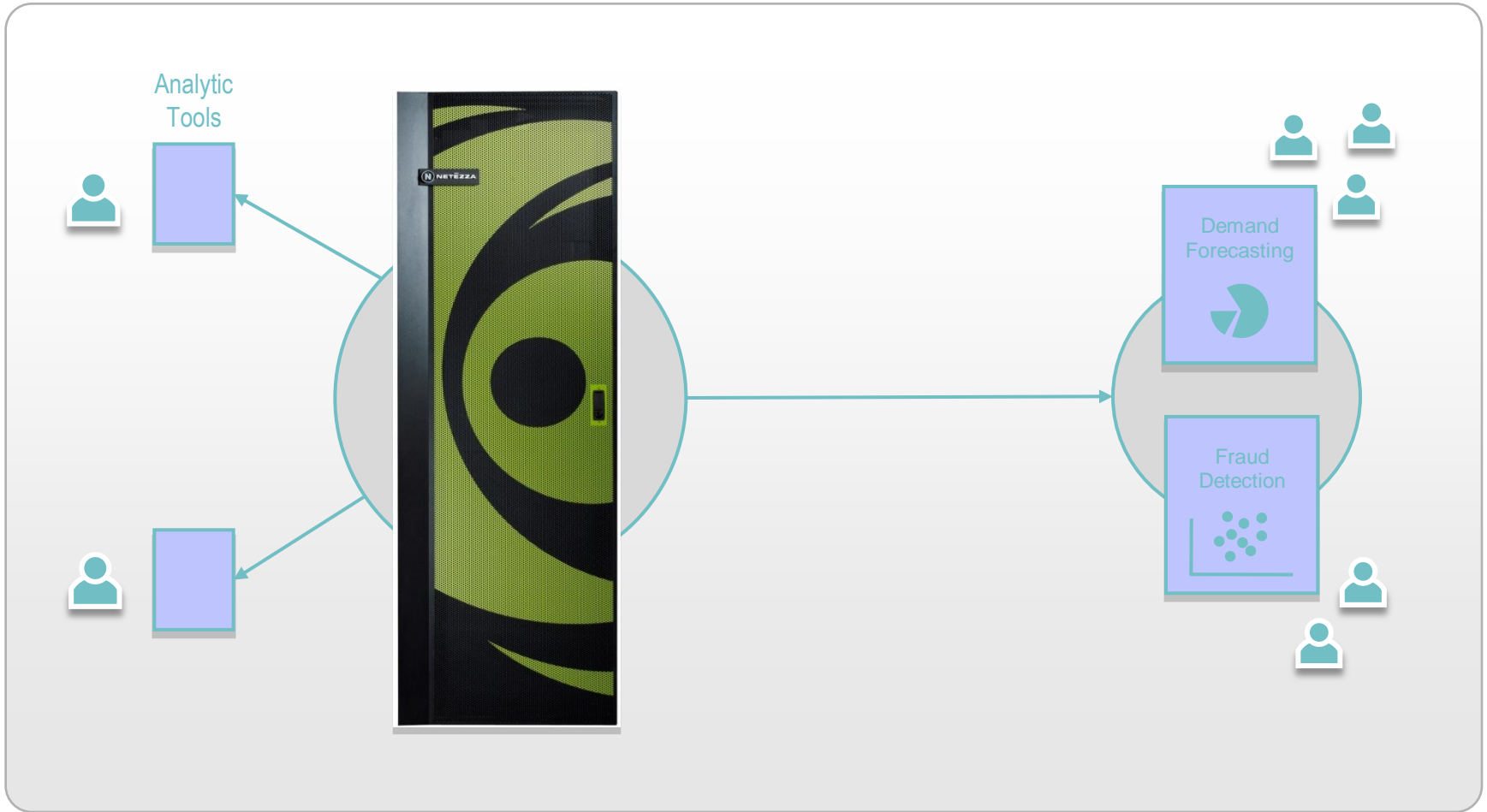
The Big Picture

IBM Netezza is Part of IBM Big Data Platform

InfoSphere BigInsights

Hadoop-based low latency
analytics for variety and volume

Hadoop (NoSQL)

Information
Integration

Stream Computing

**InfoSphere Information
Server**

High volume data integration and
transformation

InfoSphere Streams

Low Latency Analytics for
streaming data

MPP Data Warehouse

**IBM InfoSphere
Warehouse**

Large volume
structured data
analytics

**IBM Netezza High
Capacity Appliance**

Queryable Archive
Structured Data

IBM Netezza 1000

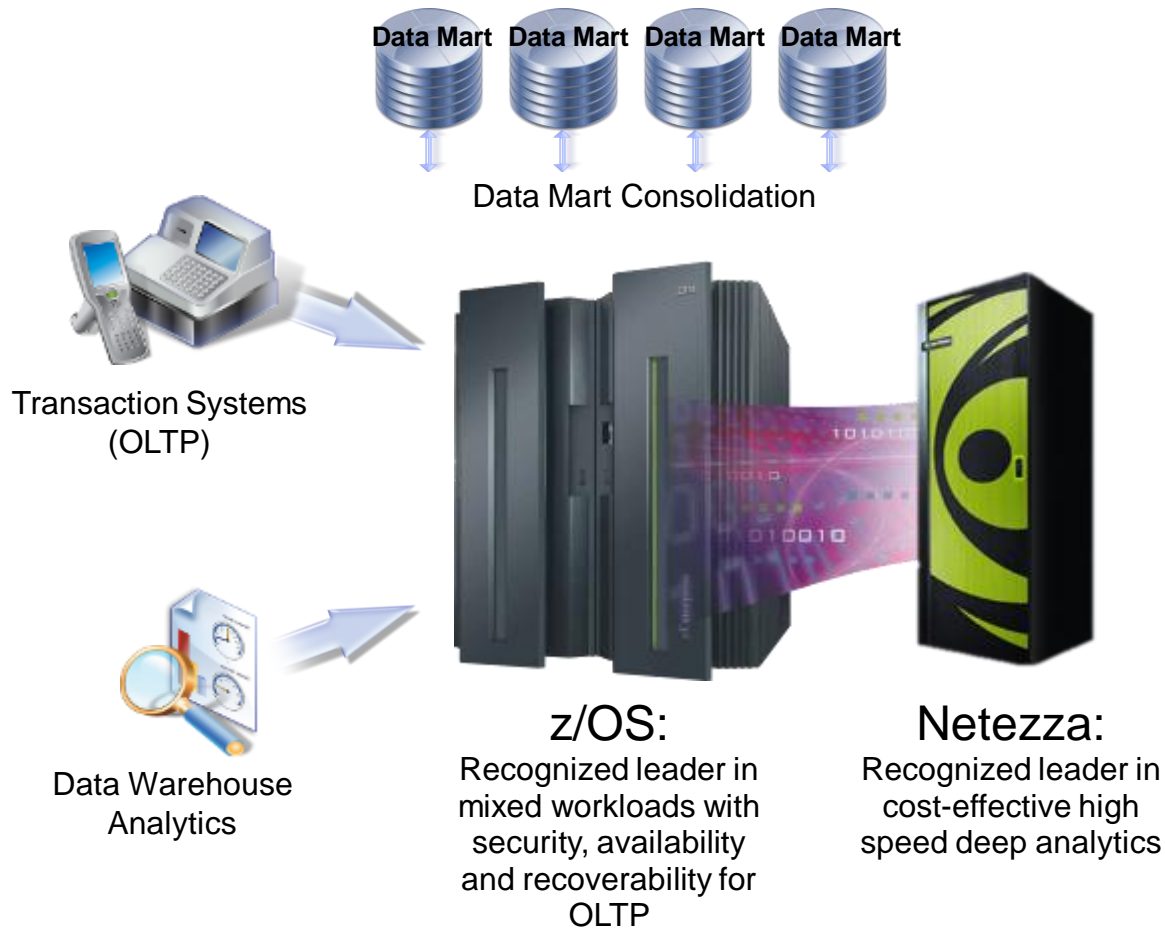BI+Ad Hoc Analytics Structured
Data

**IBM Smart Analytics
System**

Operational Analytics on
Structured Data

DB2 Analytics Accelerator for zOS

Combining the best transaction system with the best analytics system

Data Mart **Data Mart** **Data Mart** **Data Mart**

Data Mart Consolidation

Transaction Systems
(OLTP)

Data Warehouse
Analytics

z/OS:
Recognized leader in
mixed workloads with
security, availability
and recoverability for
OLTP

Netezza:
Recognized leader in
cost-effective high
speed deep analytics

- Manage more data

- Analyse more data, faster

- Go deeper with your analytics

- Reduce costs

- Supported by IBM

- Part of IBM Big Data vision

Pop Quiz

Netezza is a data warehouse appliance that combines which three technologies in an architecture optimized for high performance analytics?