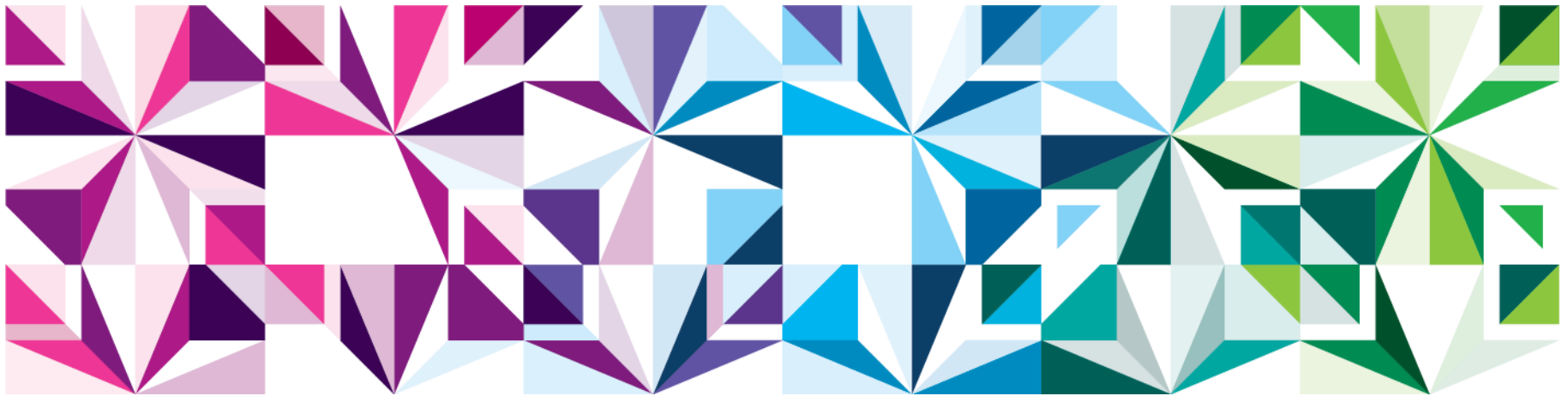
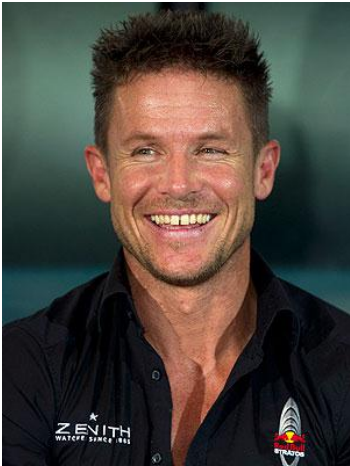


Big Data & IBM PureData Systems



Felix Baumgartner



“I need to see the data.....”

Today's big data challenges for both transactions and analytics are increasing demands on data systems

Mobile

Commerce

Social

Analytics

Big Data

Cloud

Increasing **Volume of data**
requires growing capacity

50x

2010 2020

35 ZB
by 2020

Increasing **Velocity of data**
requires higher performance

Millions of transactions per second

Telco subscriber activity logging

Increasing **Variety of data**
requires new techniques

Billions of devices & sensors

Smart Meters, RFIDs, GPS...

A smarter approach to meeting data challenges is required to:
Reduce complexity ■ **Accelerate time to value** ■ **Improve IT economics**

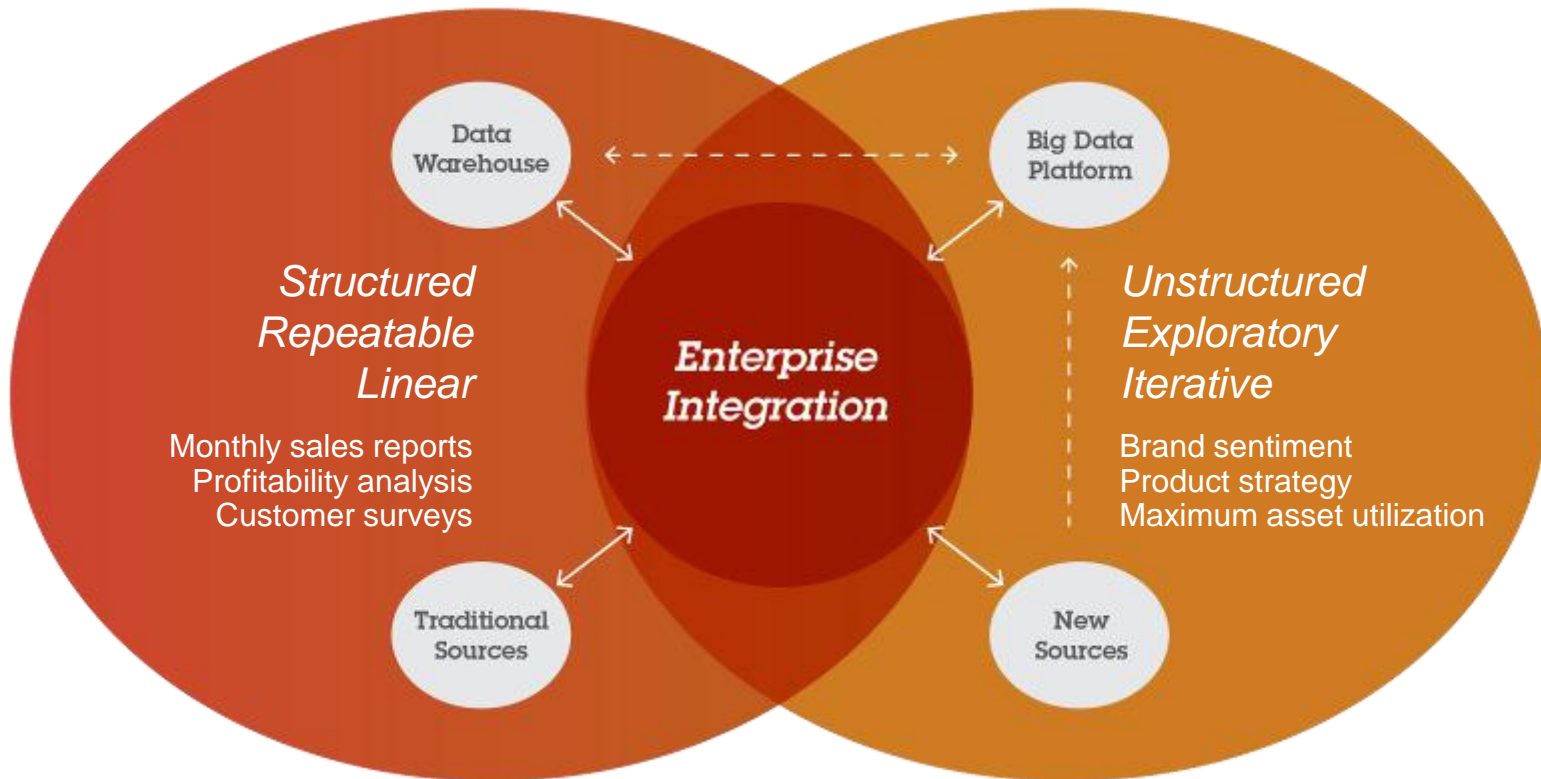
Combined Approaches for Analytics

Traditional Approach

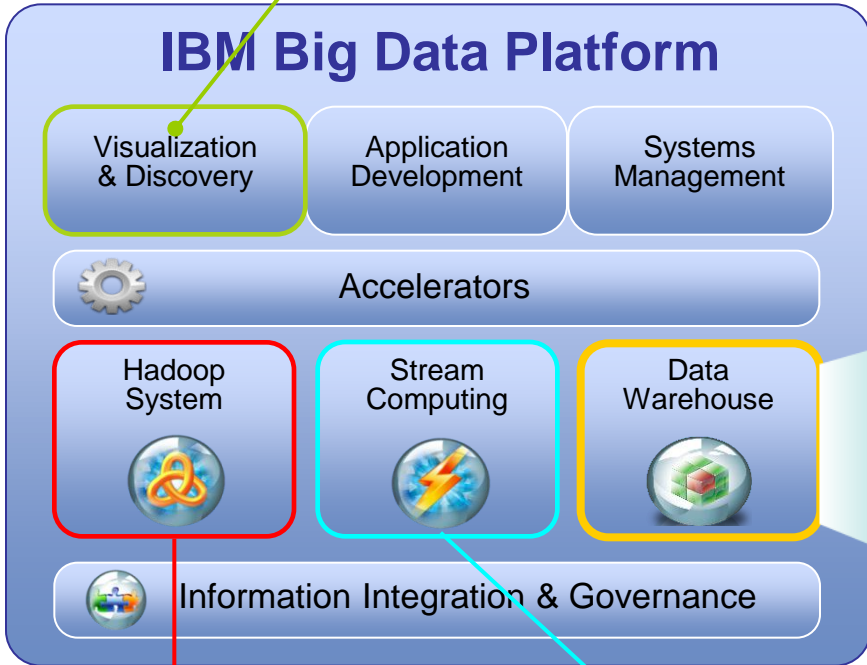
Structured, analytical, logical

New Approach

Creative, holistic thought, intuition



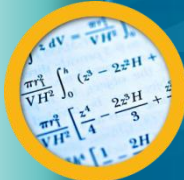
Unlock Big Data
InfoSphere Data Explorer



Analyze Raw Data and reduce costs with Hadoop
InfoSphere BigInsights

Analyze Streaming Data
InfoSphere Streams

PureData



for Analytics

Optimized systems delivering data services for analytics & reporting

Stream Computing – why is it different?



New announcements for the PureSystems family that change the economics of IT and accelerate time to value

Infrastructure



PureFlex

Delivering Infrastructure Services

Application Platform



PureApplication

Delivering Platform Services

Data Platform



PureData

Delivering Data Services

IBM PureData System: Optimized exclusively for data services

Optimized for data services:

- Transactional
- Analytics

Expert integrated:

- Data platform
- Infrastructure
- Unified platform management
- Built-in expertise

Data Platform



PureData

Delivering
Data Services

Data load ready in hours

Data workload optimized

Integrated management

Single point of support

*Automated and
integrated maintenance*

IBM PureData System for Transactions

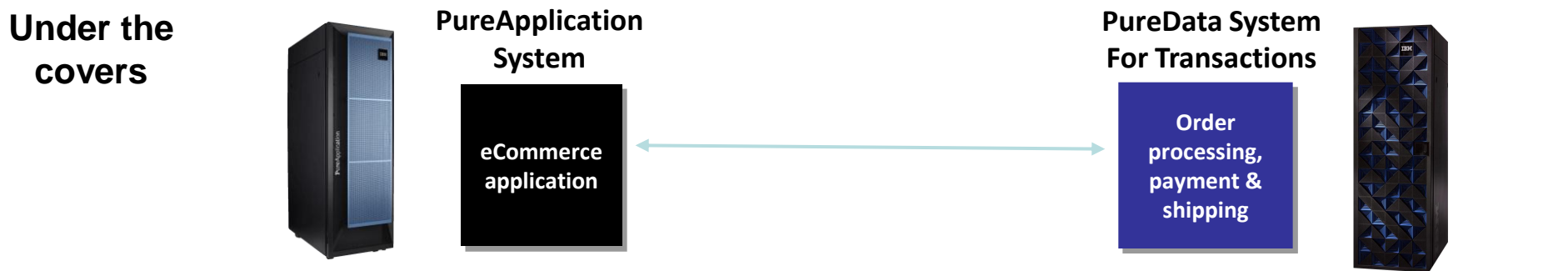
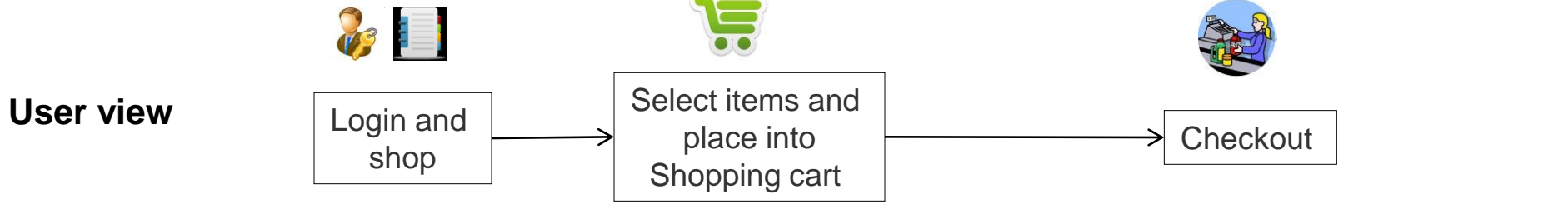
- **Speed**
 - Industry leading DB2 performance
- **Simplicity**
 - Data load ready in hours
 - Simplified system management
- **Scalability**
 - Highly reliable and scalable databases deployed in minutes
- **Smart**
 - Supports existing DB2 applications virtually unchanged
 - Supports existing Oracle Database applications with minimal or no change¹



Delivering highly scalable transactional data services

¹Based on internal DB2 10 tests and reported client experience from 28 Sep 2011 to 07 Mar 2012

Integrated Value of PureSystems Family (Retail Example)



- Application Services:
- Session management
 - Shopping cart management
 - Transaction management

- Database Services:
- Shopping cart content
 - Shopper profile
 - Product catalog

High scalability with high availability for core business databases

- Database Services:
- Master customer database
 - Master inventory database
 - Customer order details and status
 - Payment details and status
 - Shipping details and status

IBM PureData Systems for Analytics

The Simple Appliances for Serious Analytics

Built-in Expertise

- Data model agnostic
- Fully parallel, optimized In Database Analytics

Integration by Design

- Server, Storage, Database in one easy to use package
- Automatic parallelization and resource optimization to scale economically
- Enterprise-class security and platform management

Simplified Experience

- Fast time to value
- Standard interfaces to best of breed Analytics, BI, and data integration tools
- Built-in analytics capabilities allow users to derive insight from data quickly
- Easy connectivity to other Big Data Platform components





Up to 2000X faster than before
Growing by 30% every month

"The system has allowed us to reduce the complexity of regulatory reporting and processing of exchange data from days down to minutes."



Up and running **6 months**
 before having any training
200X faster than Oracle system
 ROI in less than **3 months**

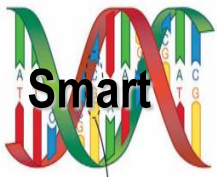
"Allowing the business users access to the box was what sold it."

- Steve Taff, Executive Dir. of IT Services



1 PB of data
7 years of historical data
100-200% annual data growth

"NYSE ... has replaced an Oracle IO relational database with a data warehousing appliance from IBM, allowing it to conduct rapid searches of 650 terabytes of data." - ComputerWeekly.com



SUNY Buffalo researchers reduced the time to perform **quintillions of computations** from **27 hours** to **12 minutes**

"Once we had the data on the appliance we were able to do the same analysis and much more complex analysis in minutes. The research draws on medical records, lab results, MRI scans, and patient surveys." Dr. Murali Ramanathan, SUNY Buffalo



A Leading Global Credit Card Provider

- Operational Data Warehouse -- **80 million** transactions per day
- Supports fraud assessment, customer care & SAS analytics
- **>2500** avg. concurrent users
- **>5 TB** of data loaded per day – including throughout peak hours

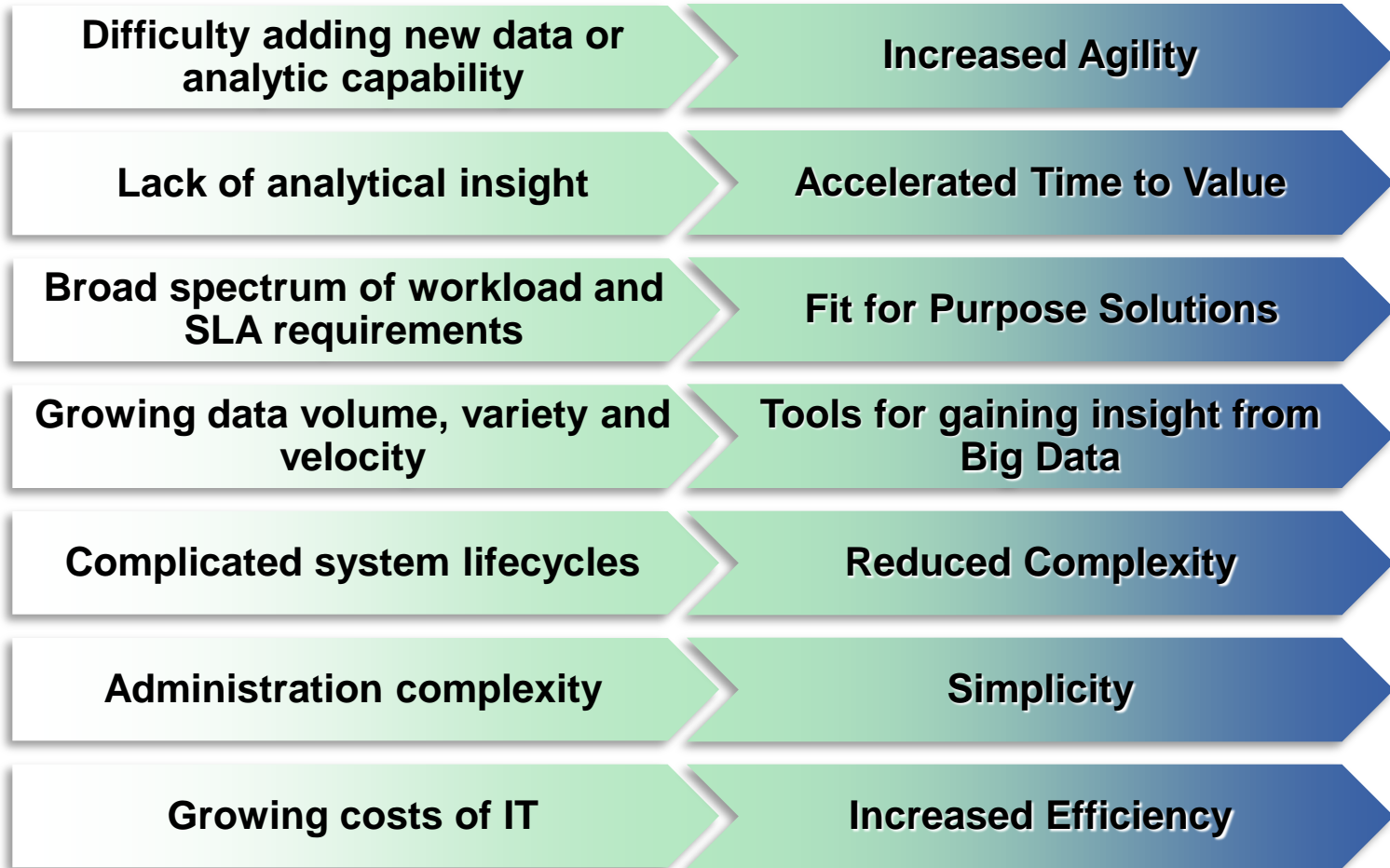


But how do you achieve that?

There are many challenges to overcome

Do you face these challenges:

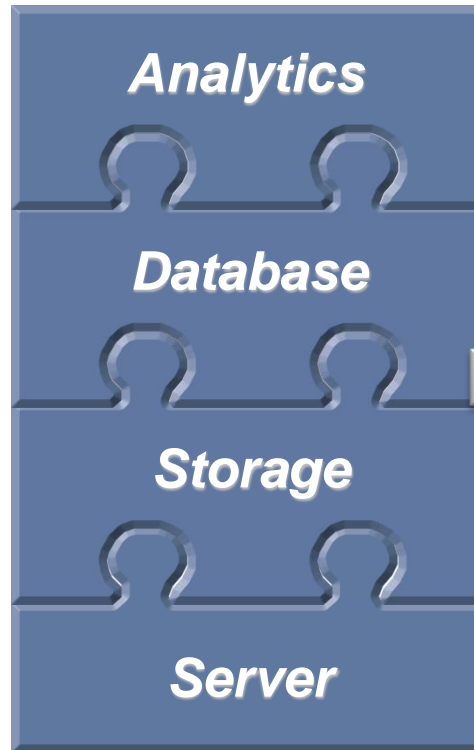
Then you need a platform that provides:



Simplify

Move analytics into the Data Warehouse

- Integrate the server, storage, database and analytics into one optimized package
- Move complex analytics into the database
- Integrated, high performance analytics within the data warehouse



IBM big data • IBM big data • IBM big data

THINK

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