



The Big picture – z Systems, the data server for analytics, mobile and cloud



Agenda

Increasingly, organizational leaders are focused more on capabilities than technology

Analytics



In a recent survey, **85%** of respondents indicated that most of the source data for driving operational analytics in their enterprise **resides on z Systems**

Mobile



Enabling mobile as a new channel and **connecting to back-end data** is among the **top three concerns** of global CIOs

Cloud



Enterprises see **private cloud as the on ramp** to cloud for the next 24 months



All undergirded by robust security

Analytics

Thinking beyond traditional reporting and analytics data sources

Transaction and payment data



- Volume
- Details
- Throughput

Application logs and sensor data



- Velocity
- Semi-structured
- Ingestion

Notes and correspondence



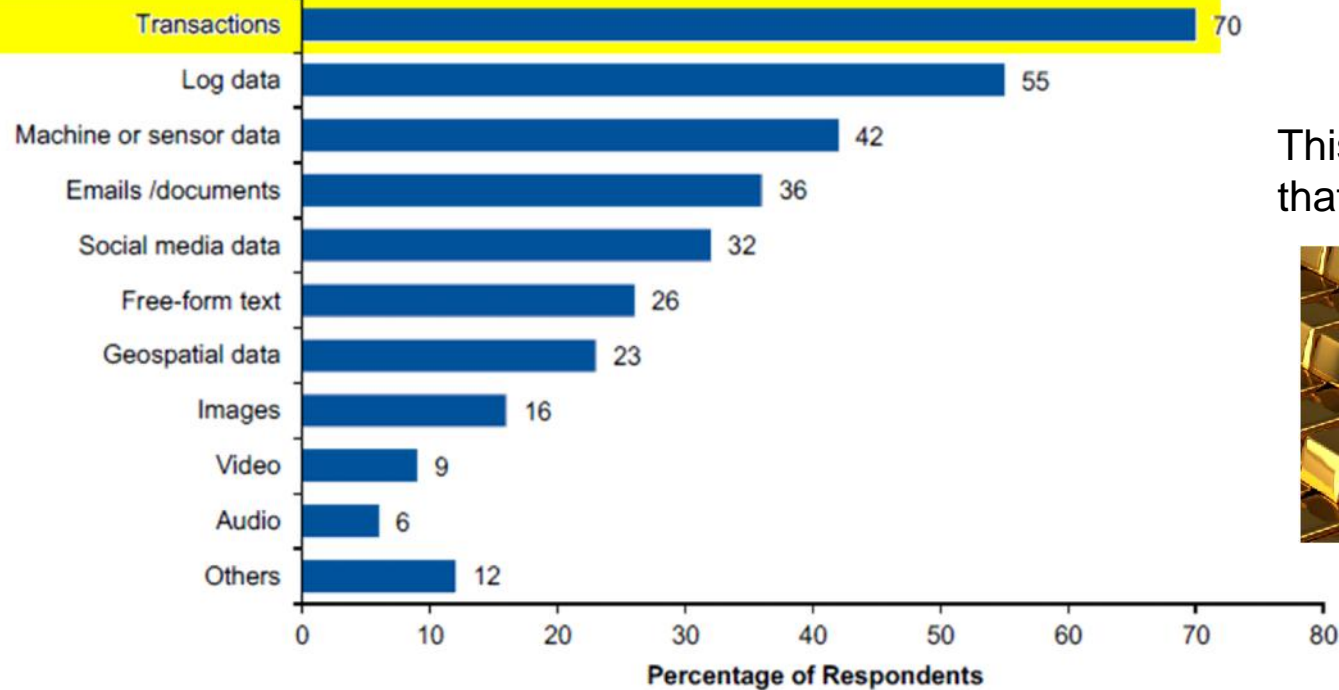
- Variety
- Unstructured
- Volume

Social data



- Variety
- Unstructured
- Veracity

Transactional sources are the dominant data types analyzed



N =465 (multiple responses allowed)

This data is like gold that's already in the vault



Gartner research note "Survey Analysis - Big Data Adoption in 2013 Shows Substance Behind the Hype" Sept 12 2013
 Analyst(s): Lisa Kart, Nick Heudecker, Frank Buytendijk

Here's an idea: if you're currently moving transactional data that originates on z Systems to other platforms for analysis, consider instead bringing the analytics to the data

Hybrid transaction and analytical processing with zEnterprise

Transaction processing

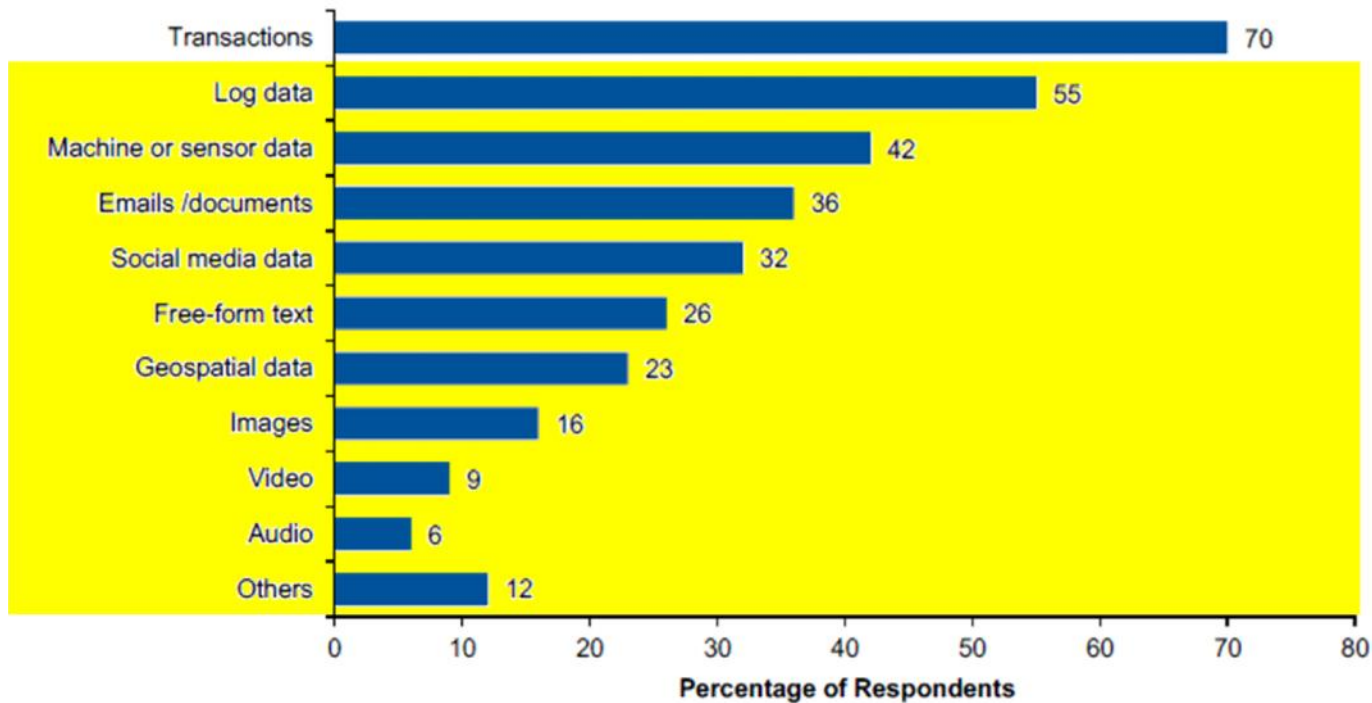


- Supports transaction processing and analytics workloads concurrently, efficiently, and cost-effectively
- Delivers industry-leading performance for mixed workloads
- A unique heterogeneous scale-out platform
- Superior availability, reliability, and security

DB2 for z/OS + DB2 Analytics Accelerator

A self-managing, hybrid workload-optimized data-serving system that runs every query workload in the most efficient way, so that each query is executed in its optimal environment for greatest performance and cost efficiency

What about the non-transactional data?



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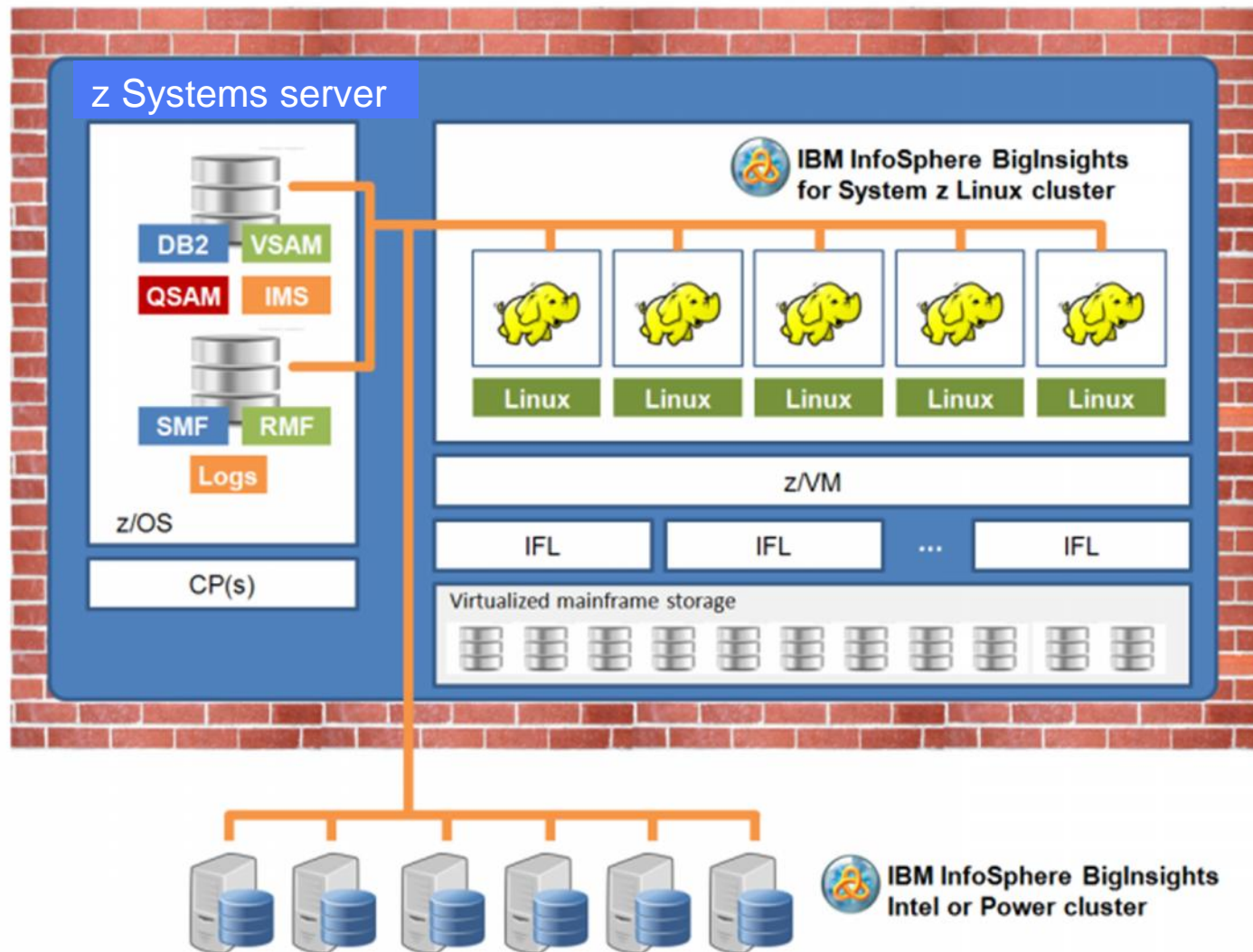
Extracting pertinent information from this data is like mining for gold



New option for managing differently structured data on z Systems

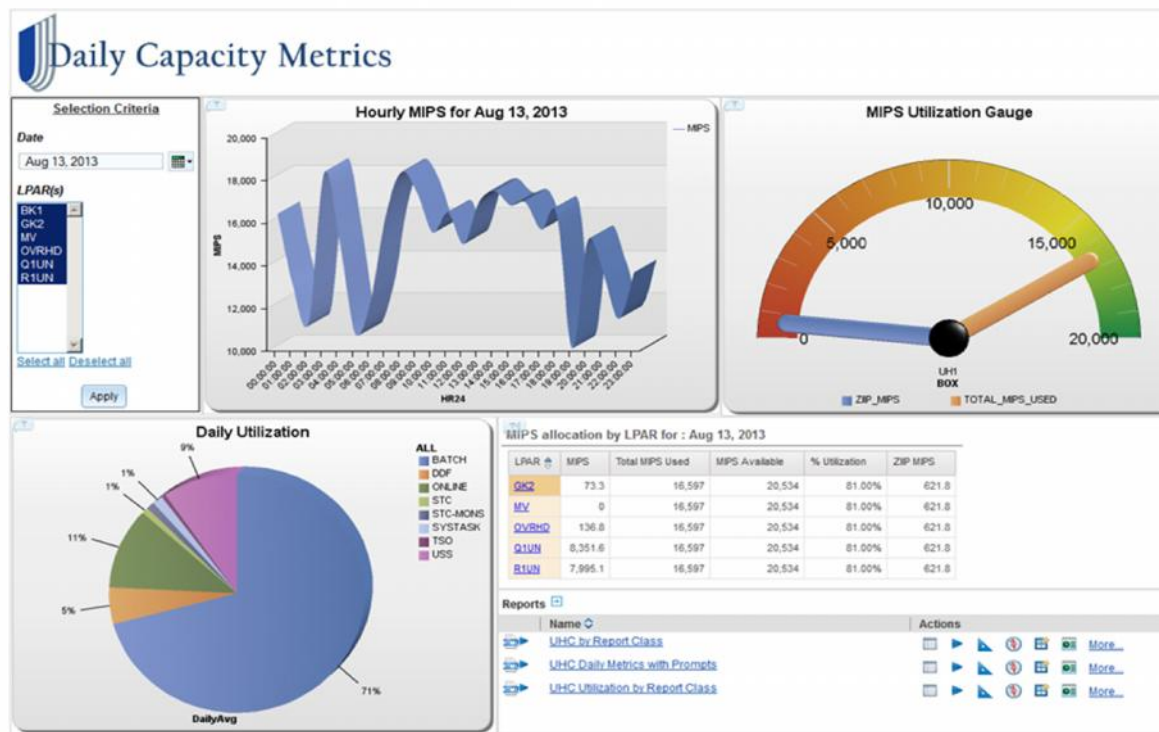
IBM InfoSphere BigInsights for Linux on System z

Secure perimeter



IT doesn't have to just provide analytics capabilities

- IT can use analytics
- Case in point: IBM's Capacity Management Analytics (CMA), a solution for dynamic and predictive zEnterprise capacity management and forecasting
- CMA's foundation: IBM Tivoli Decision Support for z/OS, Cognos BI, SPSS



Sophisticated, customizable dashboarding and reporting of zEnterprise capacity utilization, but that's only part of the story...

CMA: predictive analytics, capacity forecasting, real-time scoring



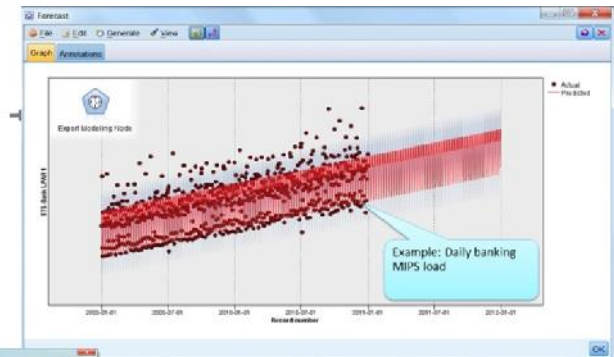
Predictive analytics can help organizations use their data to make better decisions by allowing them to draw reliable, data-driven conclusions about current conditions and future events



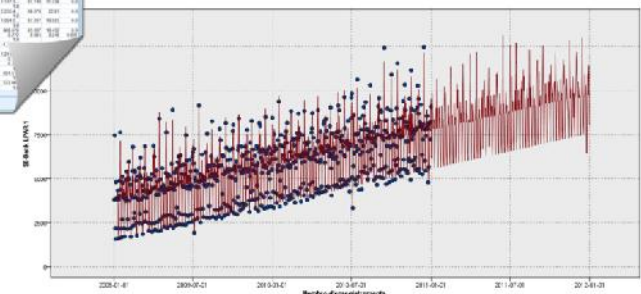
Future capacity requirements can be forecasted to help ensure that sufficient capacity is available when the business needs it



Real-time scoring of transactions can be performed, enabling comparison with forecasts

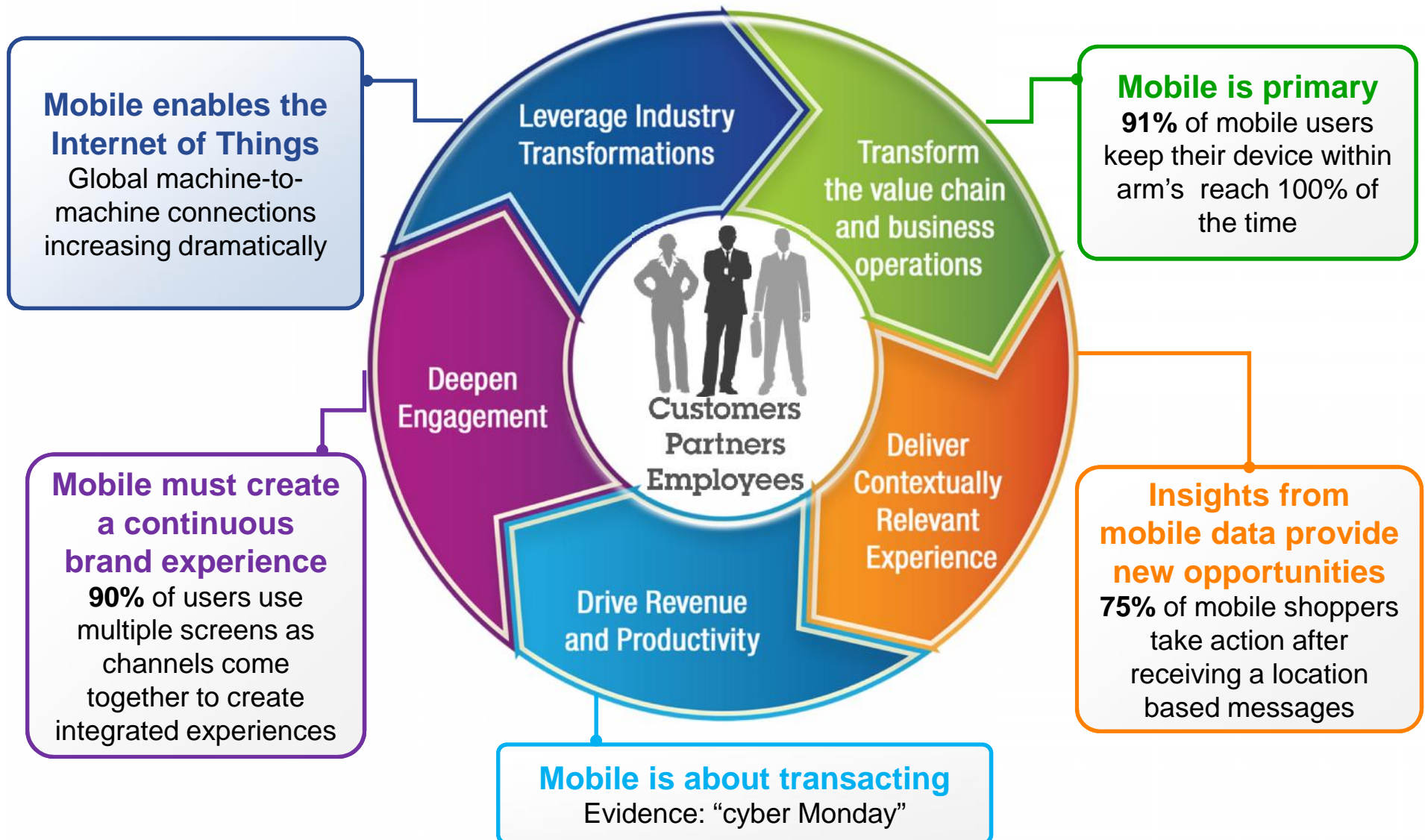


Model	Model Name	Model Type	Model Status	Model Date	Model Version	Model Description	Model Parameters	Model Metrics
1	ETI Bank (MINT)	Time Series	Active	2015-01-01	1.0	ETI Bank (MINT)	ARIMA(1,1,1)	MAPE: 10.5%
2	ETI Bank (MINT)	Time Series	Active	2015-01-01	1.0	ETI Bank (MINT)	ARIMA(1,1,1)	MAPE: 10.5%



Mobile

5 mobile trends with significant implications for the enterprise



Mobile: integration with existing IT assets is a key challenge

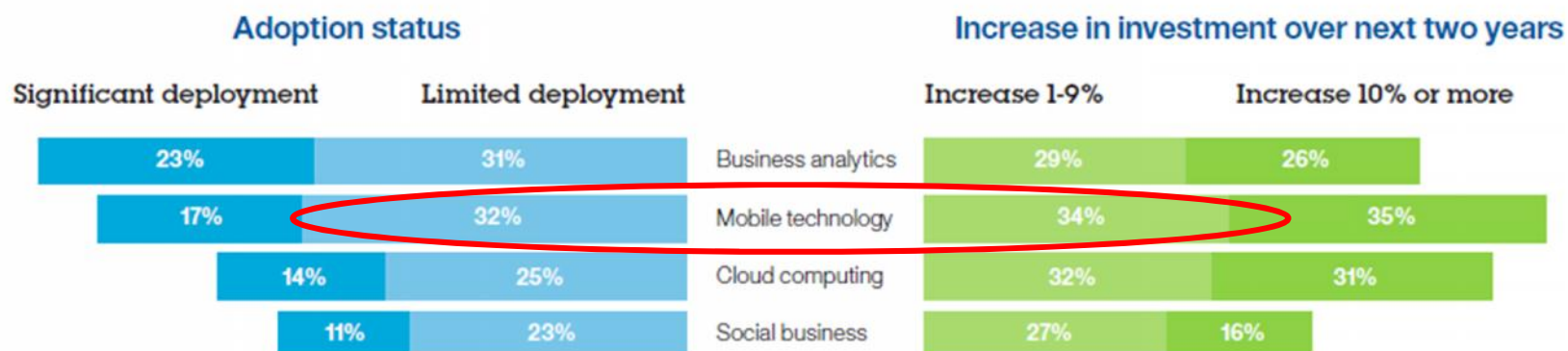
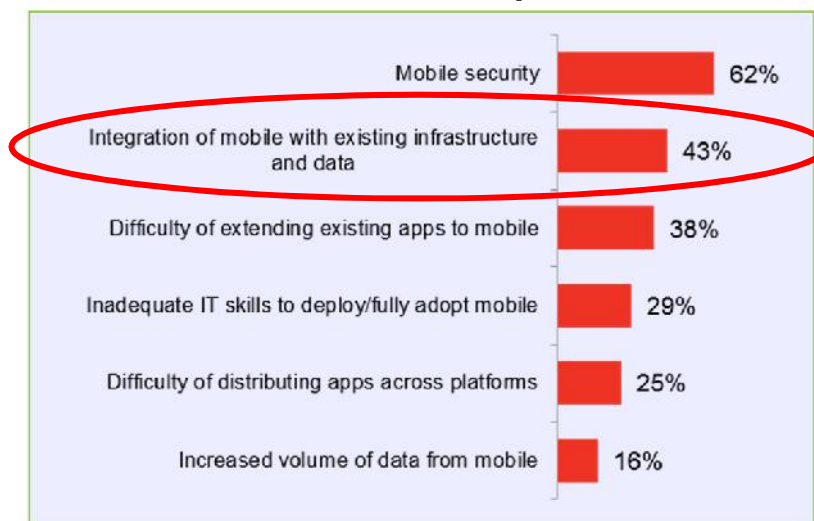


Figure 1: To date, business analytics and mobile are the most extensively deployed. Looking forward, mobile and cloud computing are the top targets for investment increases.

Barriers to adoption



Skill gaps



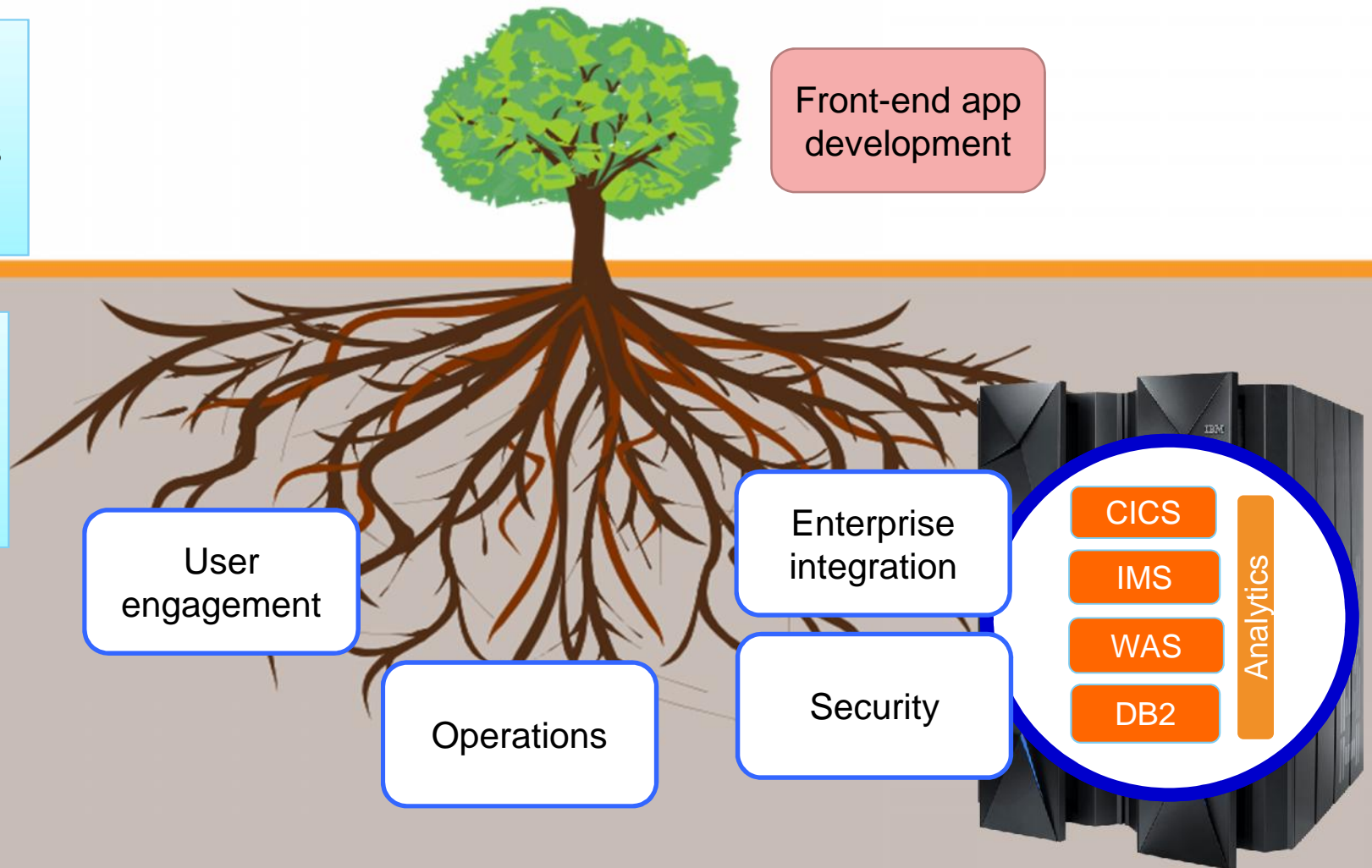
Source: IBM Center for Applied Insights (Bluemine)

Why infrastructure matters for mobile apps

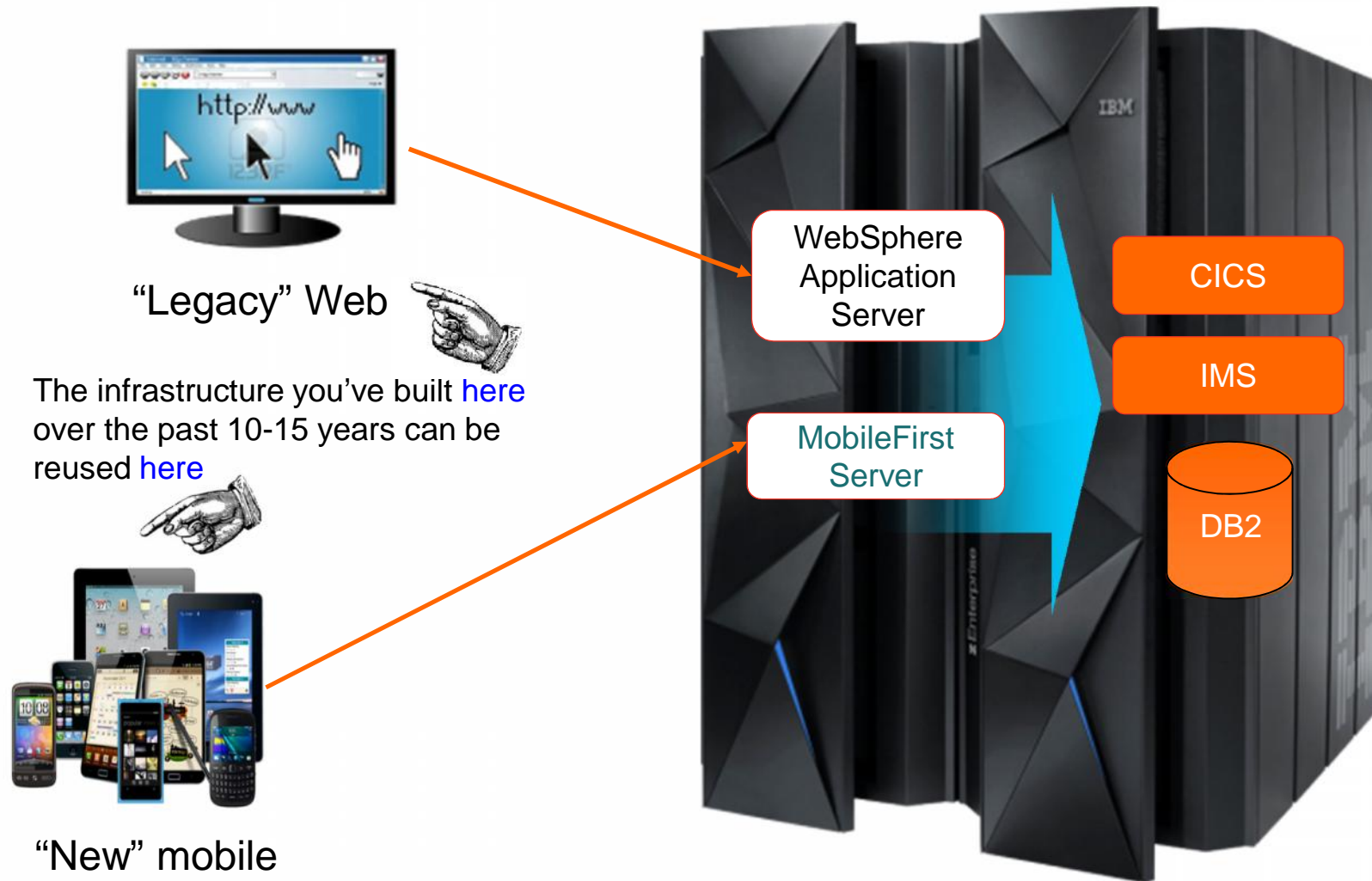
20% of the value and effort is visible (mobile UI)

Front-end app development

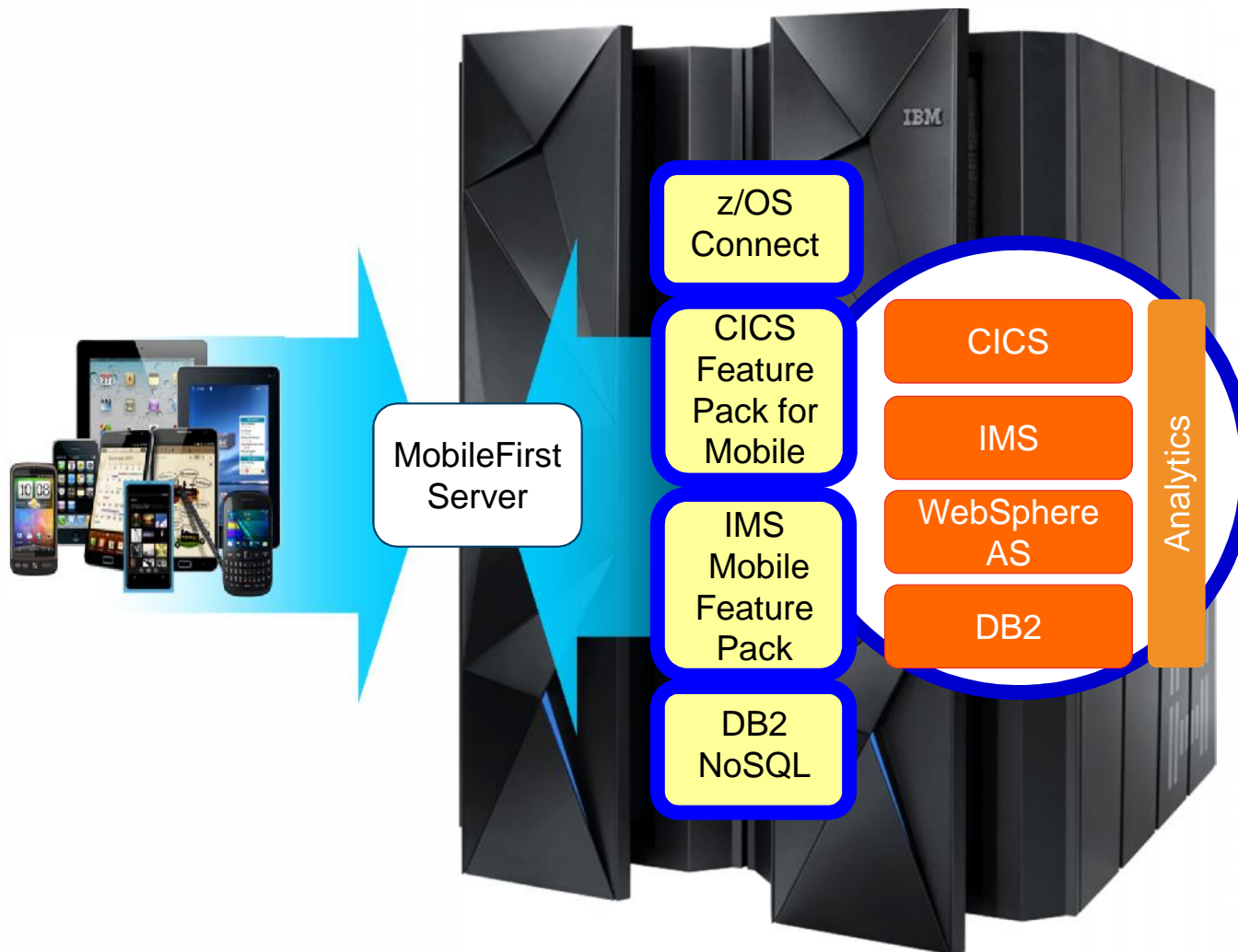
80% of the value and effort lies under the surface



Think of mobile as a new channel into the enterprise



Re-purposing existing data and transactions for mobile apps

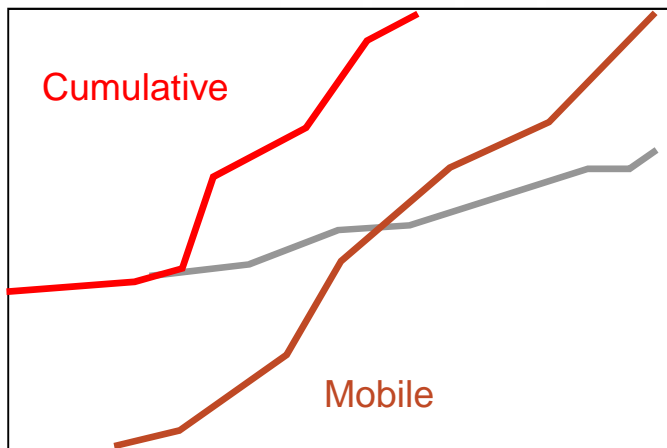


- Subsystems (CICS, IMS, DB2) mobile-friendly with new APIs
- z/OS transactions more mobile-friendly with z/OS Connect
- Seamlessly channel back-end enterprise systems to mobile devices with MobileFirst Server
- Enable end-to-end security from mobile device to mainframe with z/OS, RACF and other IBM software products

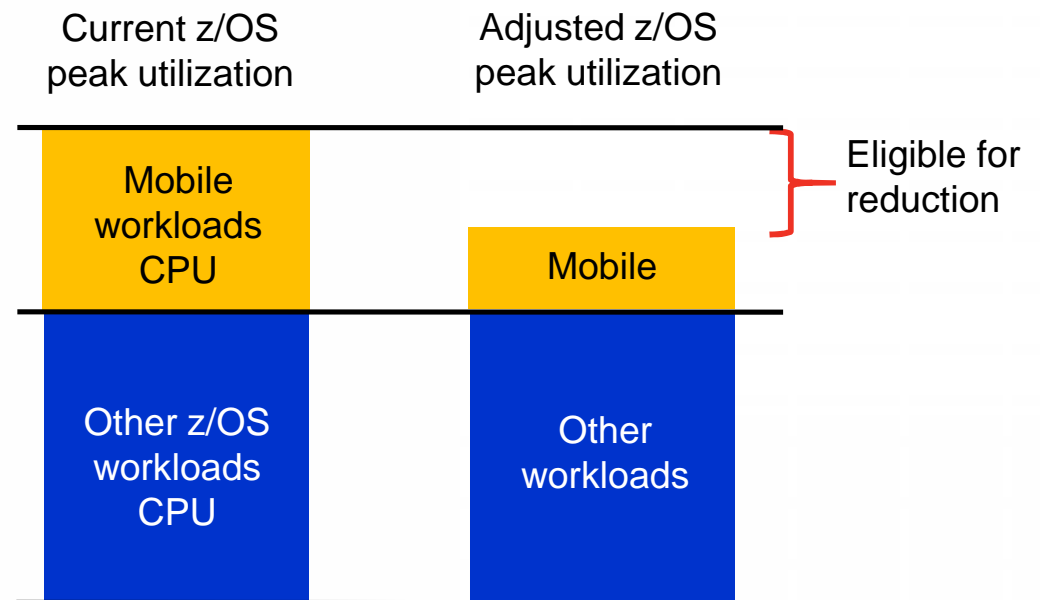
IBM MobileFirst Foundation – extending your business to mobile

- **MobileFirst Server** – mobile-optimized middleware that serves as a gateway between applications, back-end systems and cloud-based services
- **MobileFirst Studio** – one of the leading tools for native and hybrid development that helps optimize code reuse and accelerate development
- **MobileFirst Device Runtime Components** – runtime client APIs designed to enhance security, governance and usability
- **MobileFirst Application Center** – enables setting up an enterprise app store that manages the distribution of production-ready mobile apps
- **MobileFirst Console** – an administrative GUI designed to provide near-real-time operational analytics for the server, adapters, applications and push services to help manage, monitor and instrument mobile apps

Mobile Workload Pricing for z/OS



Large bank increased mobile transaction volumes by 40% in two years



- Reduce z/OS peak MSUs attributable to mobile workloads – up to 60%
- No Infrastructure changes required (such as separate LPARs)
- Requires tagging and tracking z/OS CPU seconds from mobile workloads.

Mobile is growing rapidly on z Systems

1/3 of all IBM MobileFirst business is on z Systems

"Running our mobile banking service on Linux on zEnterprise is another step forward in our continual evolution on the mainframe."

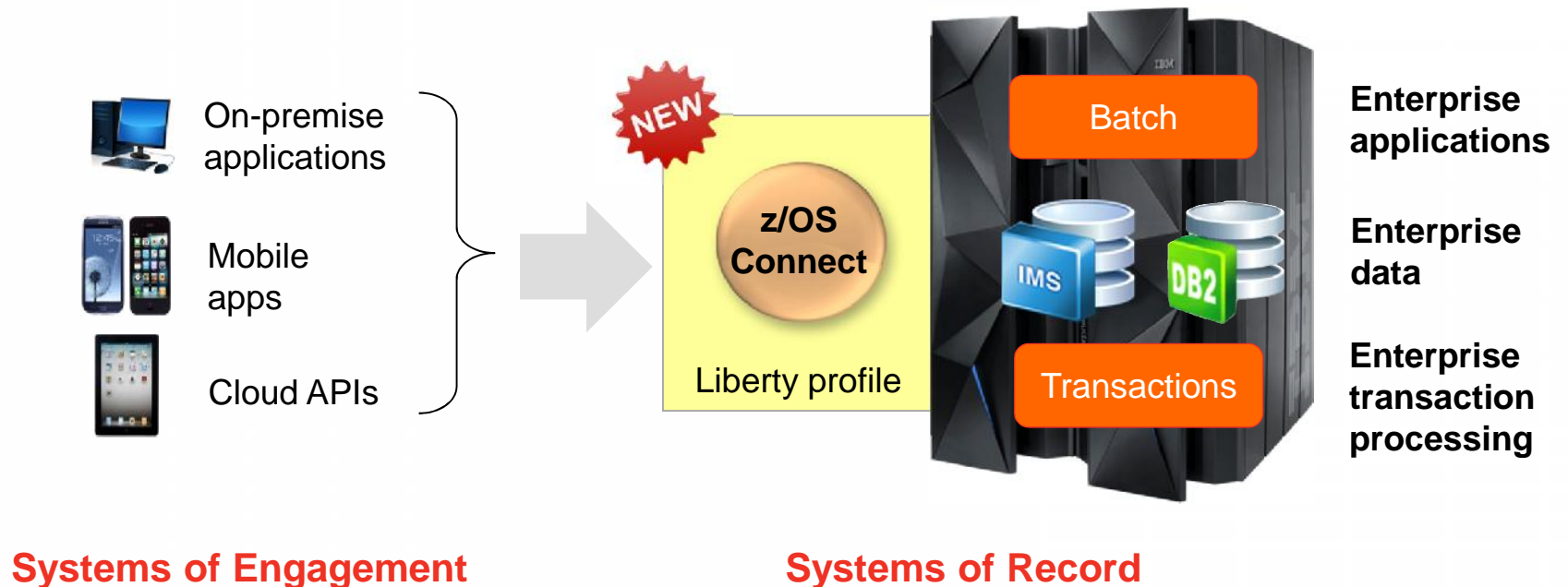
"The maturity and flexibility of IBM zEnterprise makes it the ideal platform for achieving speed to market with mobile applications."

IBM WebSphere Liberty z/OS Connect

Secure and consistent enterprise connectivity for mobile

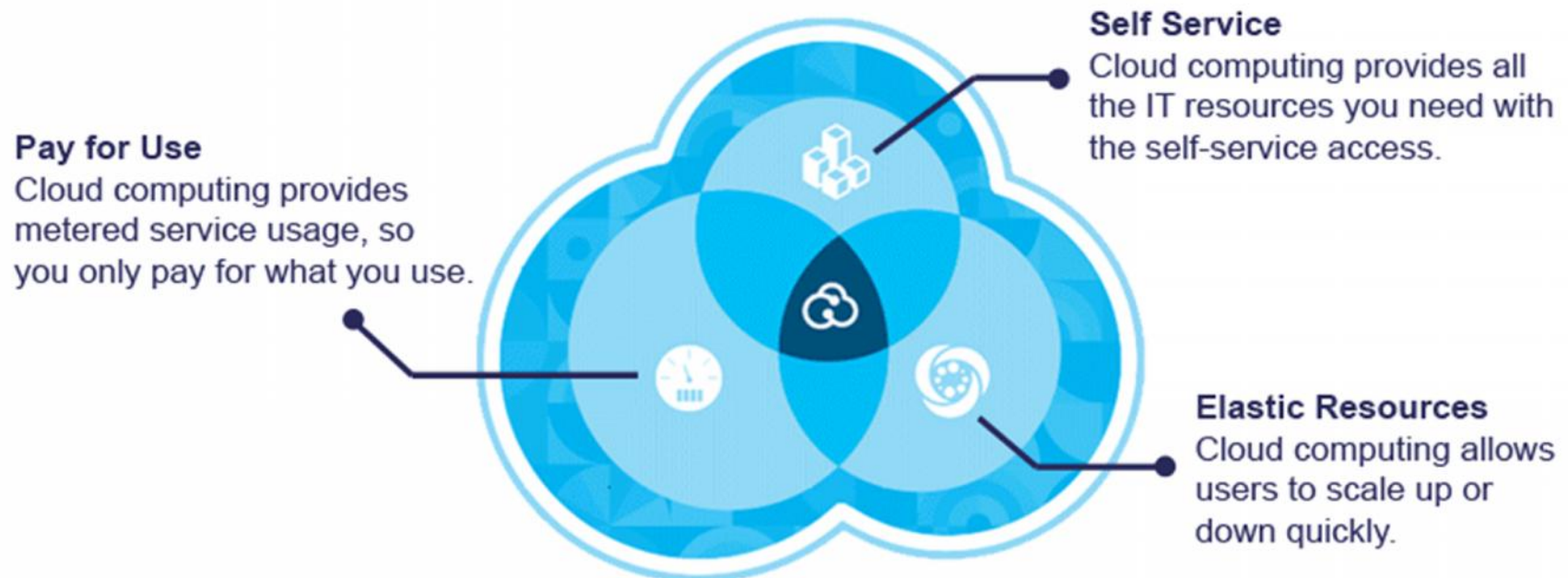
Ships with WebSphere Application Server for z/OS, CICS, and IMS

- **Built for z/OS** – Builds on z/OS qualities of service – security, auditing, chargeback
- **Unifies connectors** – A common solution for mobile, cloud, and Web
- **Simplified integration** – Hide complexity of connecting to z/OS using REST calls
- **API management** – Mobile developers can discover the transactions you choose



Cloud

Cloud, in a nutshell



Three business imperatives fueling cloud adoption

Speed

Organizations must quickly, continuously improve the applications and services they deliver.

Empowerment

People want to serve themselves - they want intuitive access to business apps and application development environments.

Economics

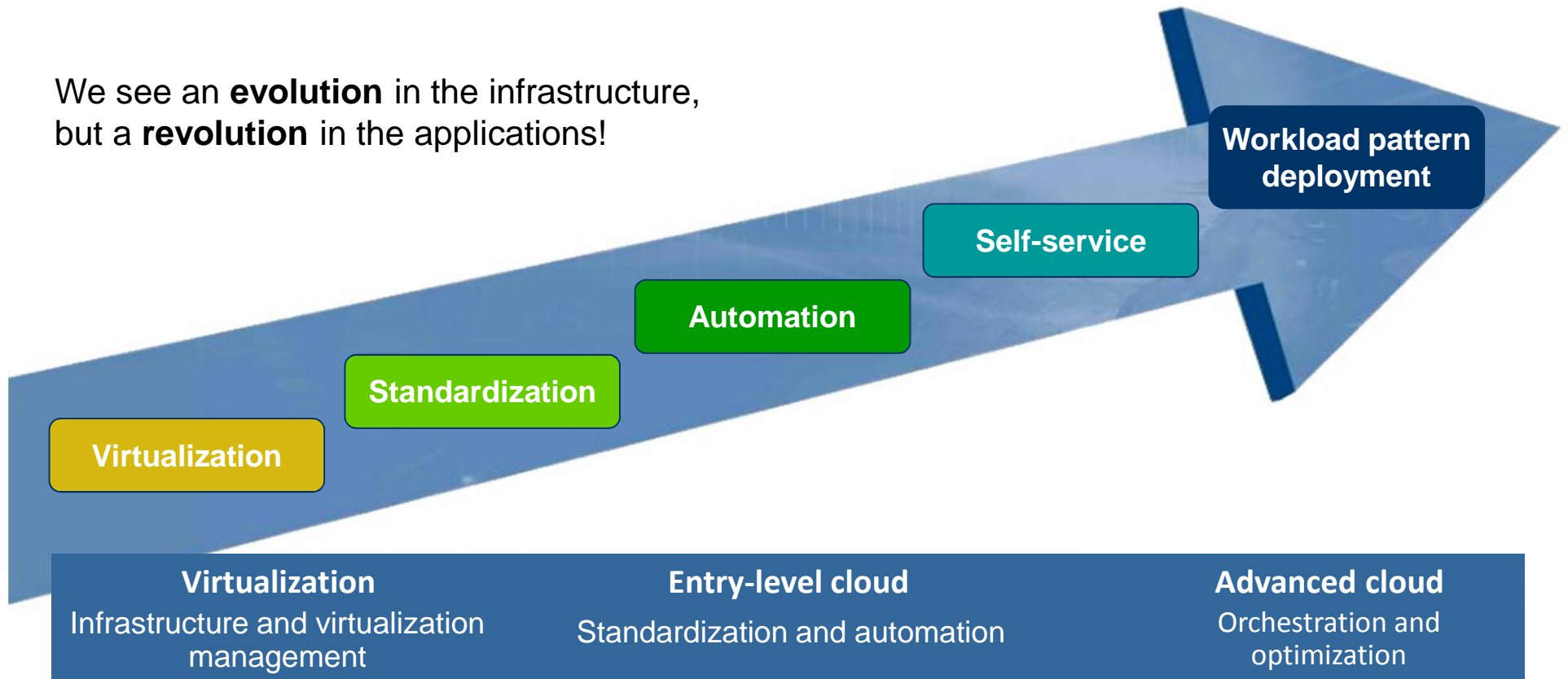
Use-based payment models. Faster development. Adding capacity when it is needed, but not before.

Cloud computing (r)evolution

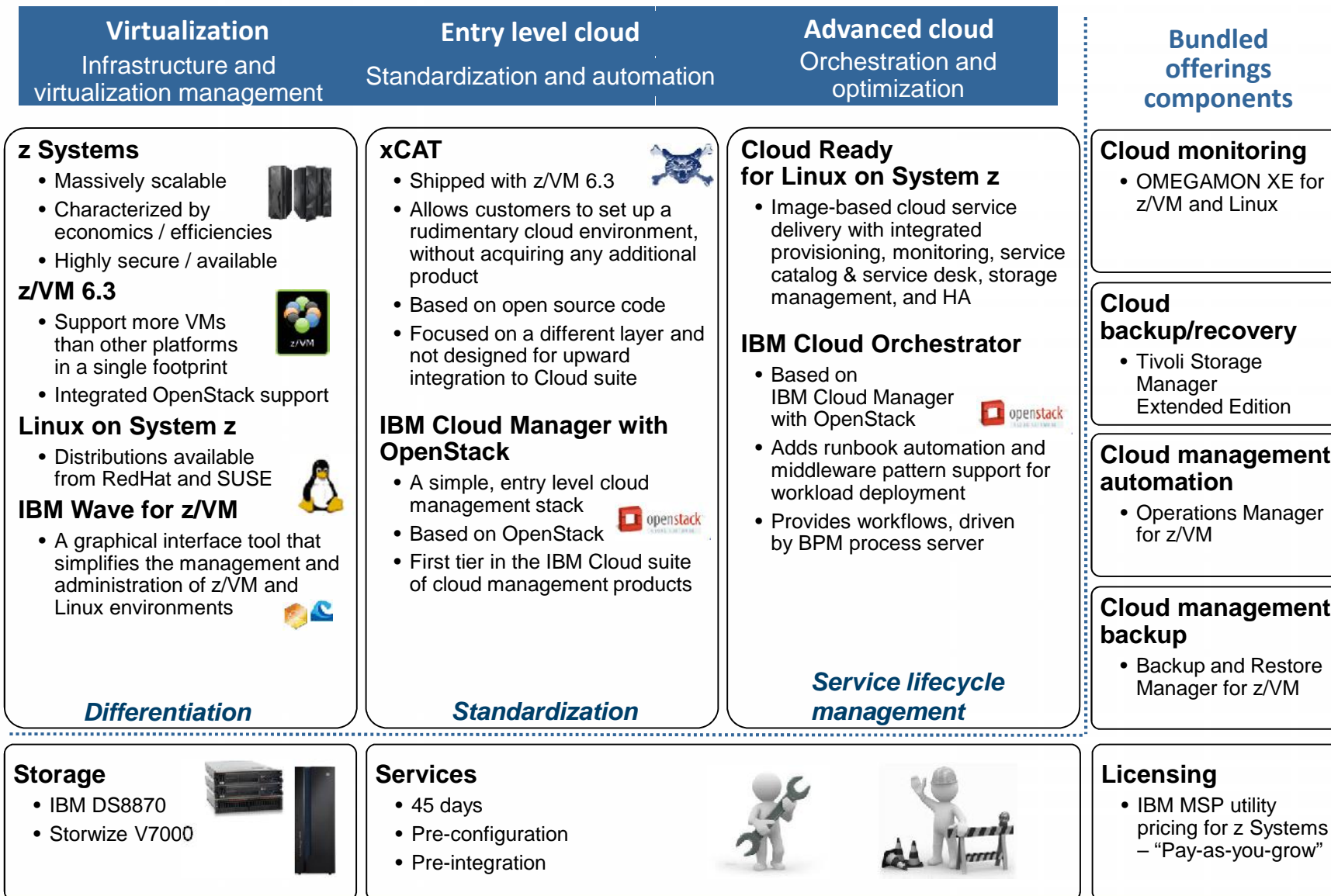
Cloud computing is a journey and continuation of IT consolidation and optimization, beginning with proper infrastructure and virtualization management, ending with pattern-based workload deployment and orchestration of IT services.

Some clients may require advanced cloud capabilities, while others just start with optimizing their virtualization foundation and then gradually move forward.

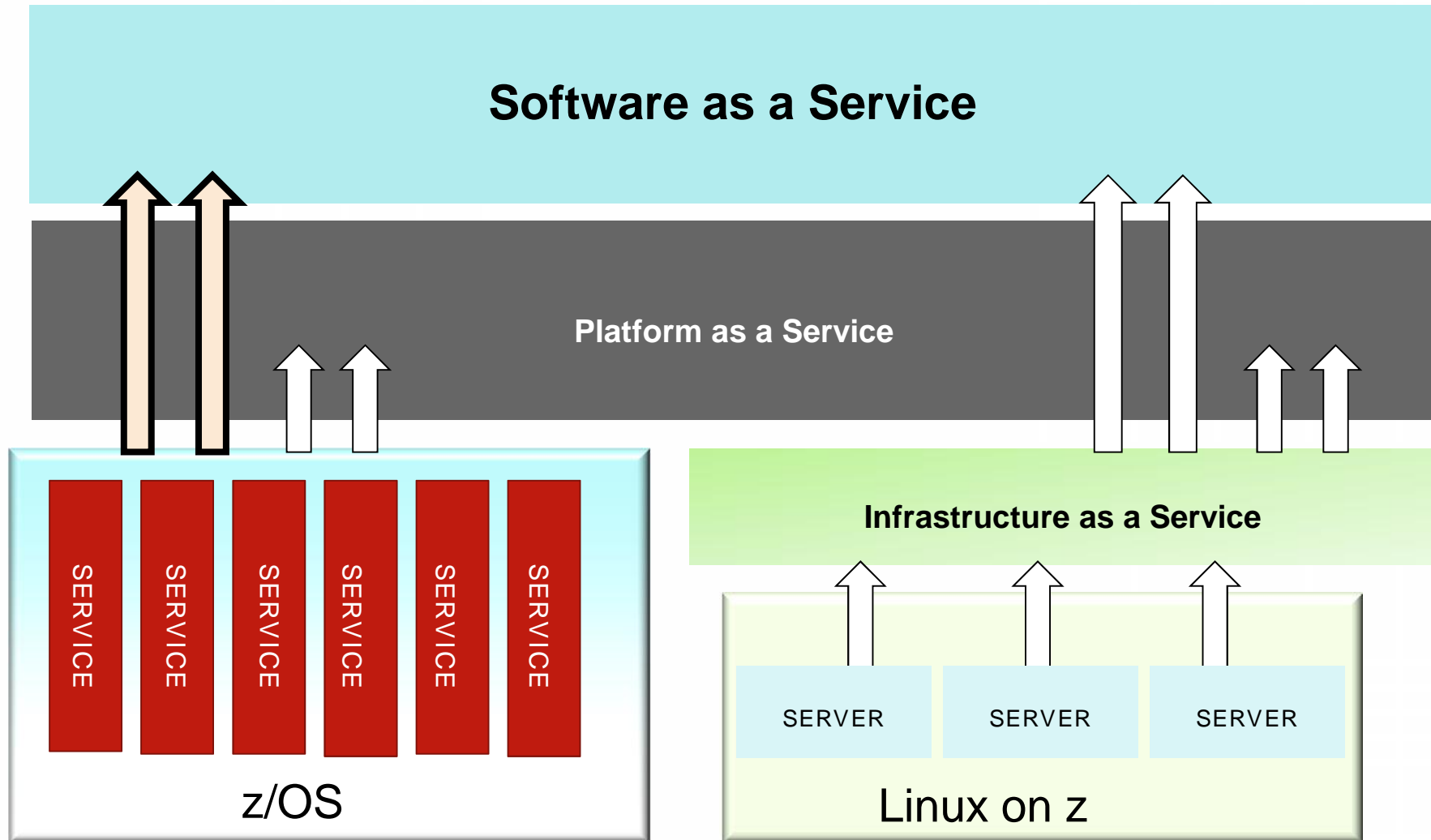
We see an **evolution** in the infrastructure, but a **revolution** in the applications!



Cloud on z Systems – we’ve got this



z/OS is particularly suitable as a foundation for software as a service

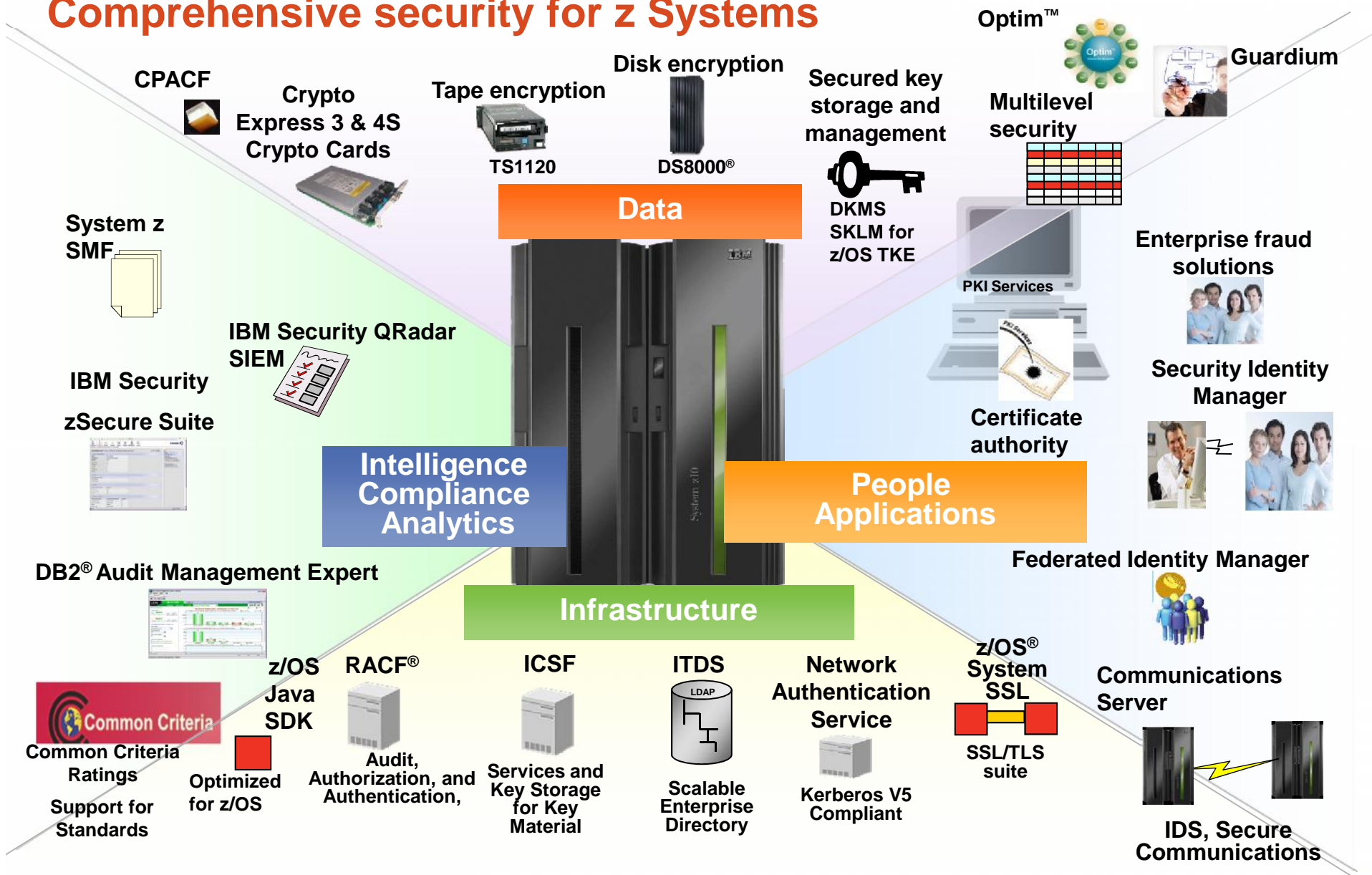


In closing, a few words about security

- The value of a platform's analytics, mobile, and cloud capabilities depends on rock-solid security
- z Systems servers have garnered some of the highest marks for security in the industry
 - That's for Linux as well as for z/OS
- The foundation: a fine-grained, multi-layered security architecture
 - Allows for secure workload isolation, data protection and privacy
- Another plus: extensive security and audit reporting to meet industry standards and regulations

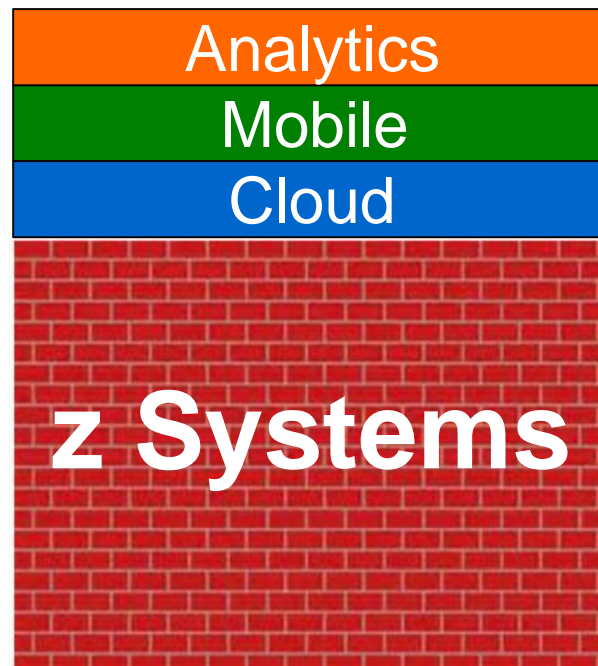


Comprehensive security for z Systems



The bottom line

- High-performance, reliable, secure z/Systems: the data-serving foundation for analytics, mobile, and cloud applications



Thanks for your time!