

## New technologies continue to exploit mainframes

**Phil Murphy**

Vice President, Research Director,  
Forrester Research, Inc.

**Michael Facemire**

Senior Analyst,  
Forrester Research, Inc.

**Dave Andrews**

Director, Cloud and Smarter Infrastructure  
System z Product Management  
IBM Software Group

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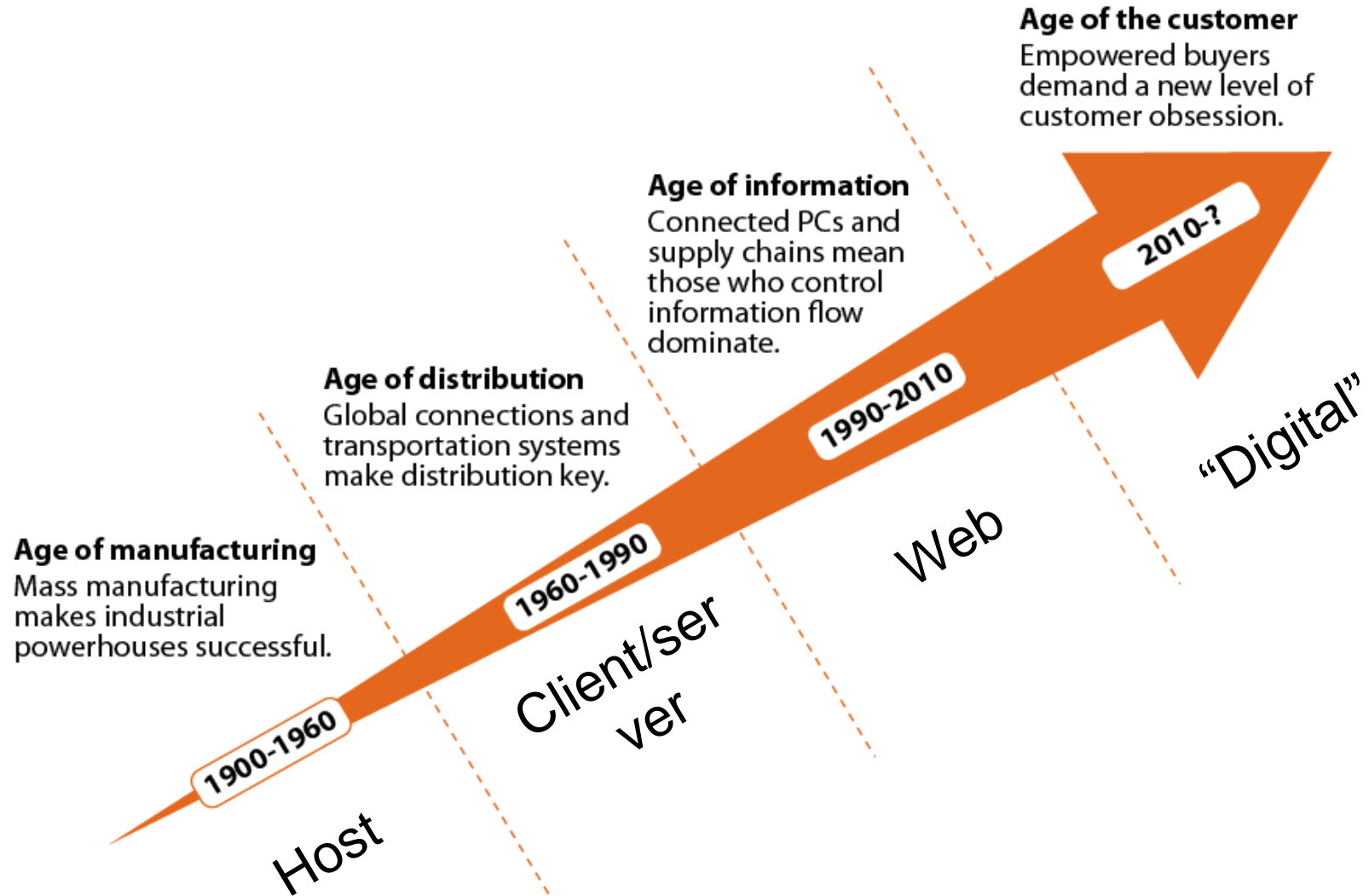
## Agenda

- ▶ *The Age of the Customer (AoC) is driving technology change*
- ▶ *AoC means application and data changes*
- ▶ *Platforms, processes and organizational changes follow*
- ▶ *Darwinism applies: Survival of the most adaptable*

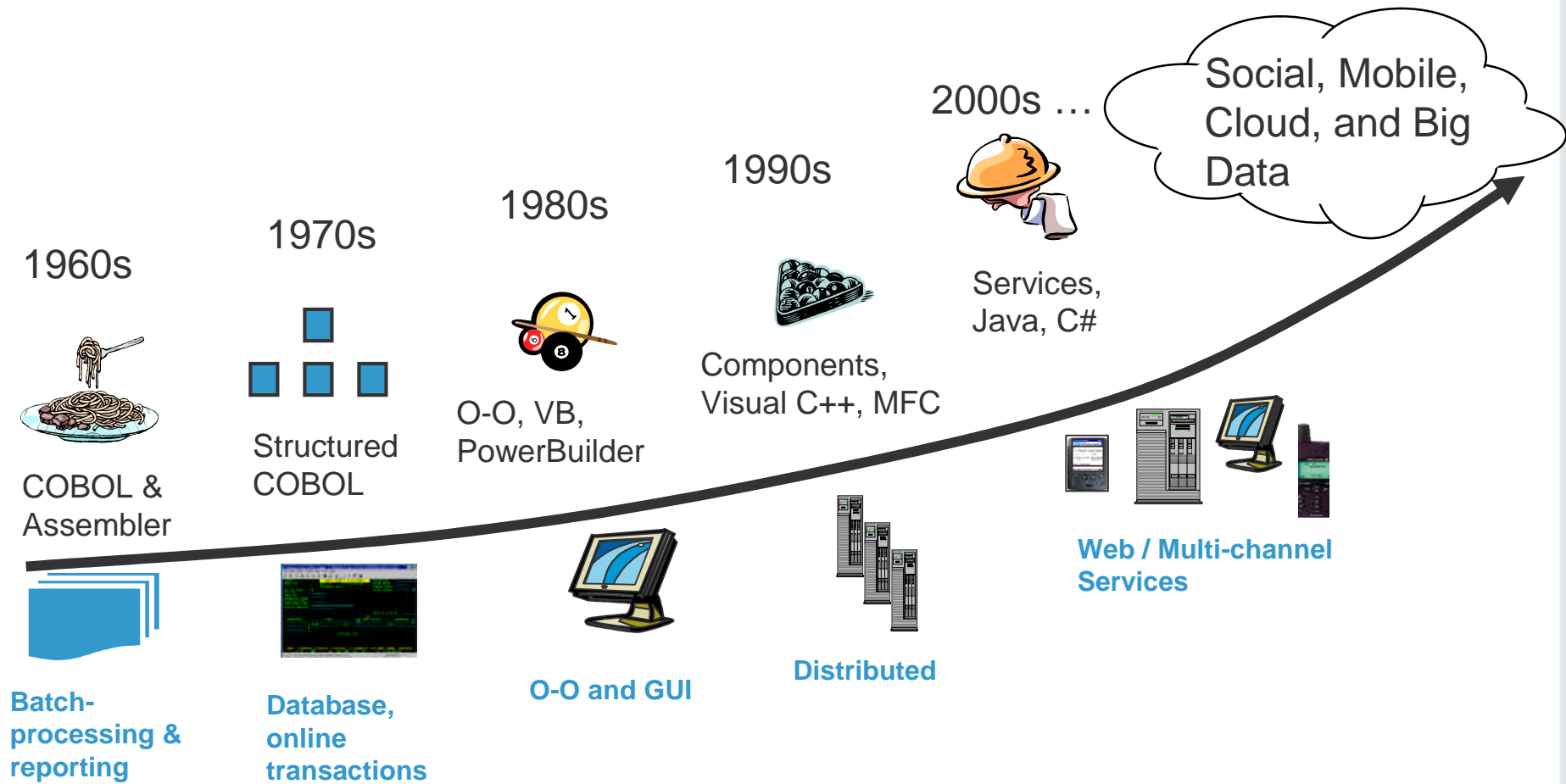
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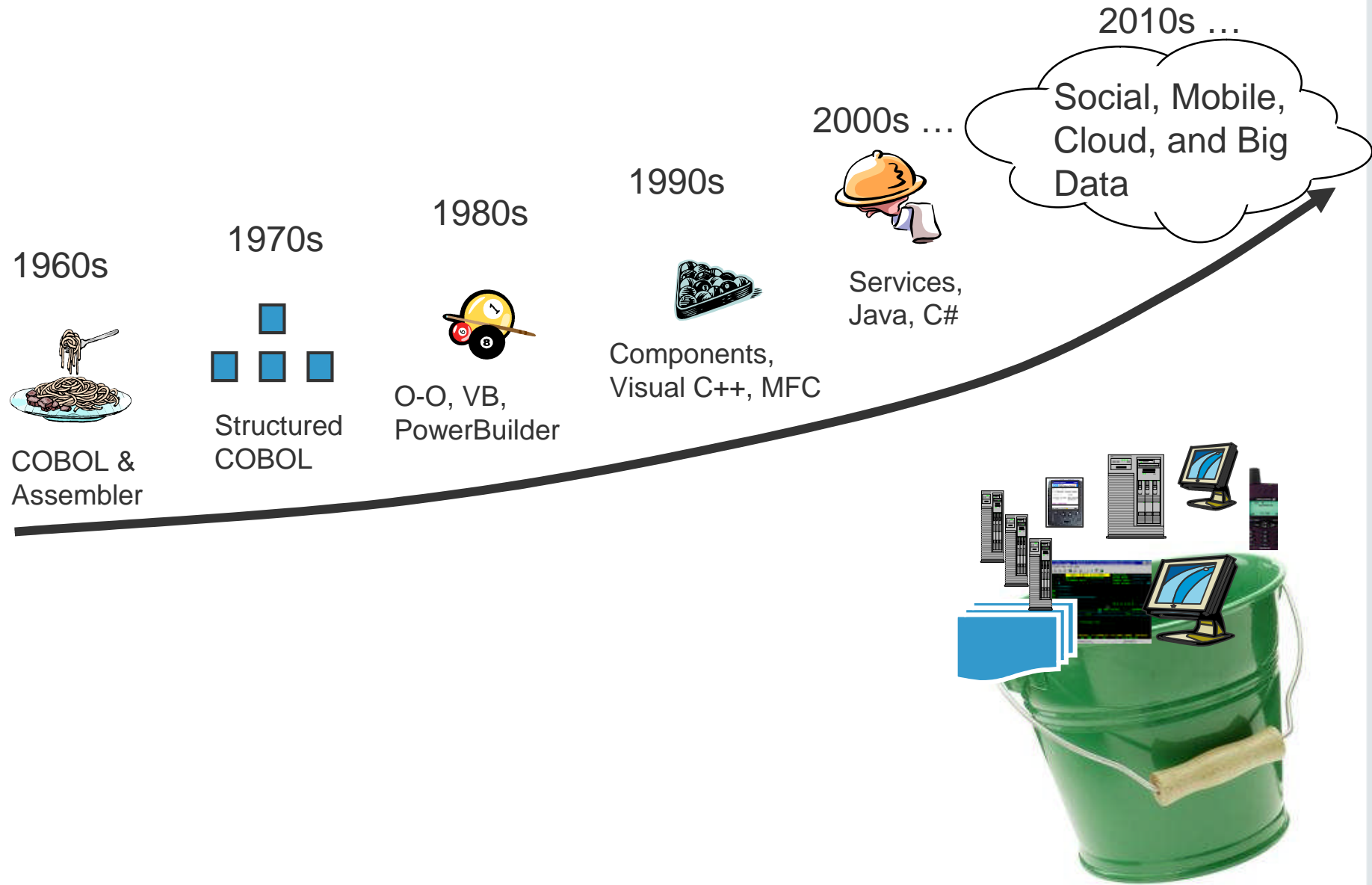
# As we speed headlong into the “Age of the Customer” (AoC)



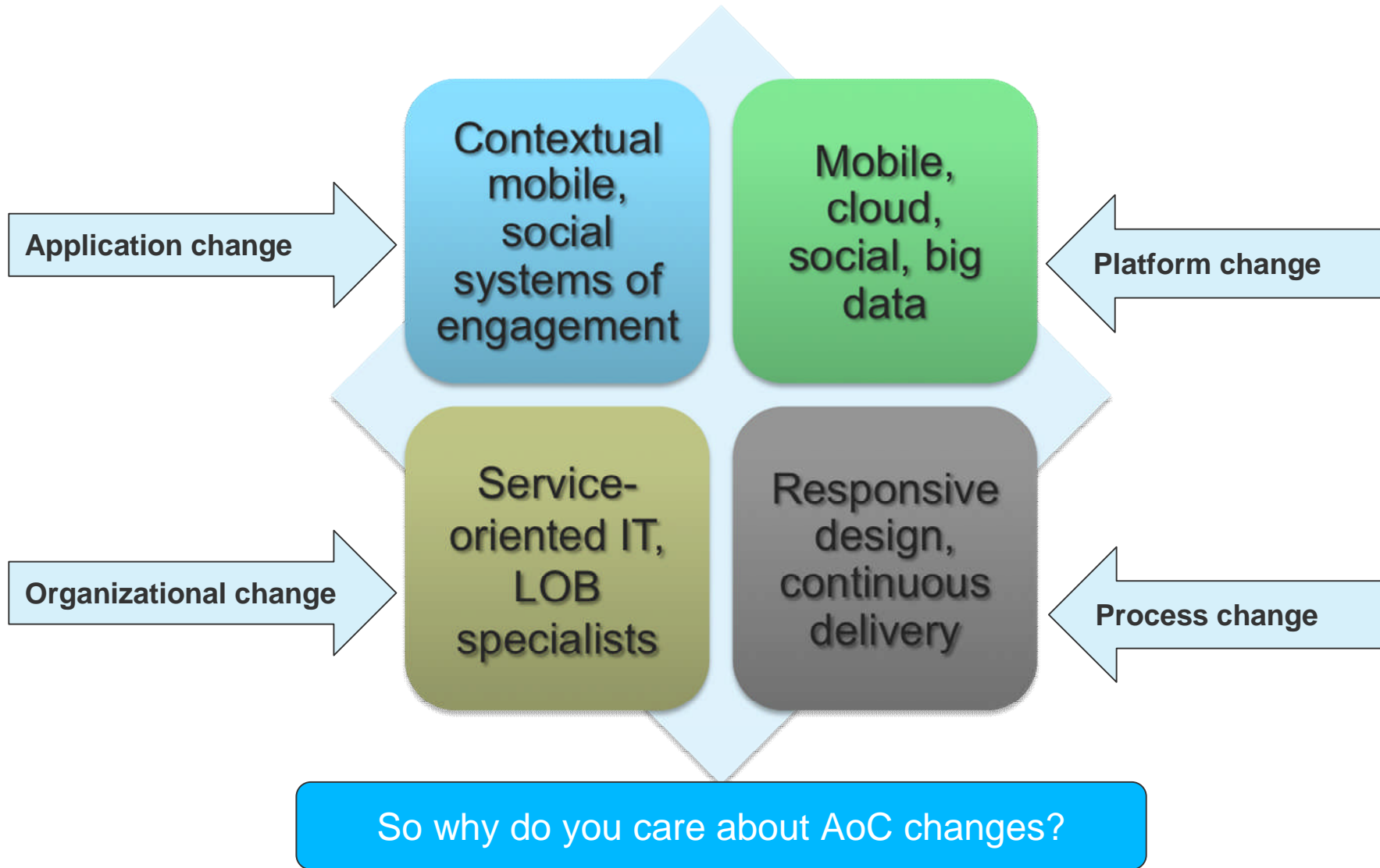
# You've accumulated 5+ decades of technology ... 2010s ...



# ... Your bucket overflows with both gold AND garbage



# AoC brings 4 big changes to every firm ...



## How well you adapt to change determines your success

Firm	\$10K worth of 2003 Shares	2013 value	% Profit	Compared to norm
Walmart	175	\$13,032	+30%	X (norm)



# Adapting to change well means you outperform the market

Firm	\$10K worth of 2003 Shares	2013 value	% Profit	Compared to norm
Walmart	175	\$13,032	+30%	X (norm)
Chevron	276	\$34,600	+246%	8X (norm)
Amazon	206	\$64,900	+549%	18X (norm)
Apple	446	\$218,200	+2,082%	69X (norm)

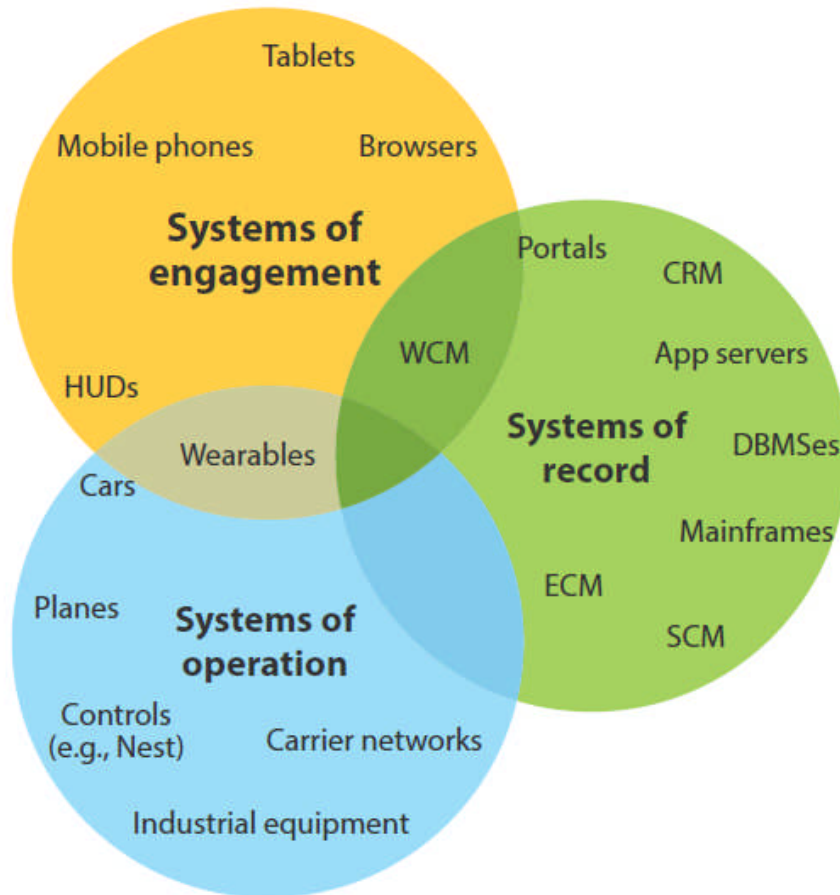
## Failure to adapt = epic failure

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Kodak	360	\$18	-99.8%	Not so well

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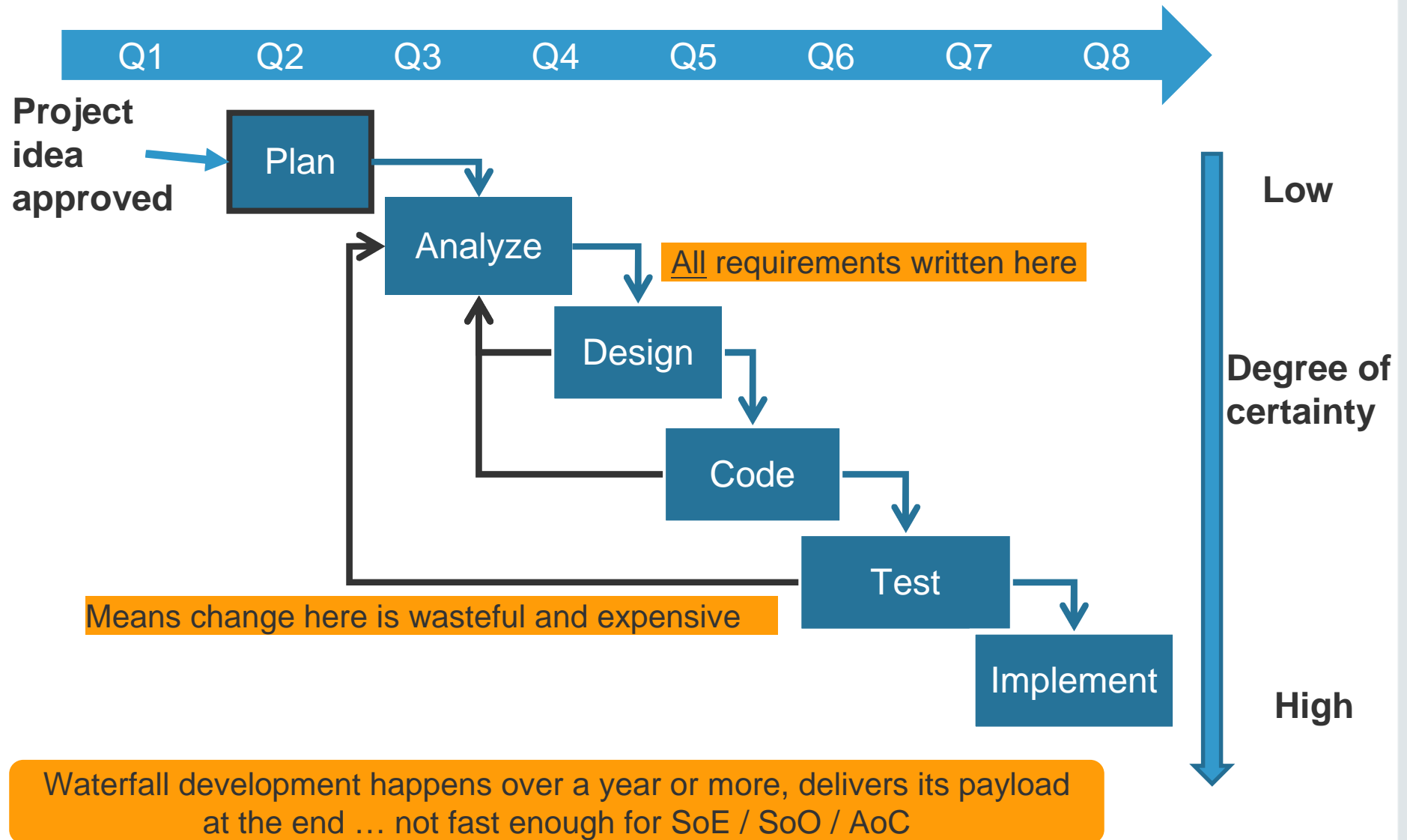
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# AoC employs new system-types ...



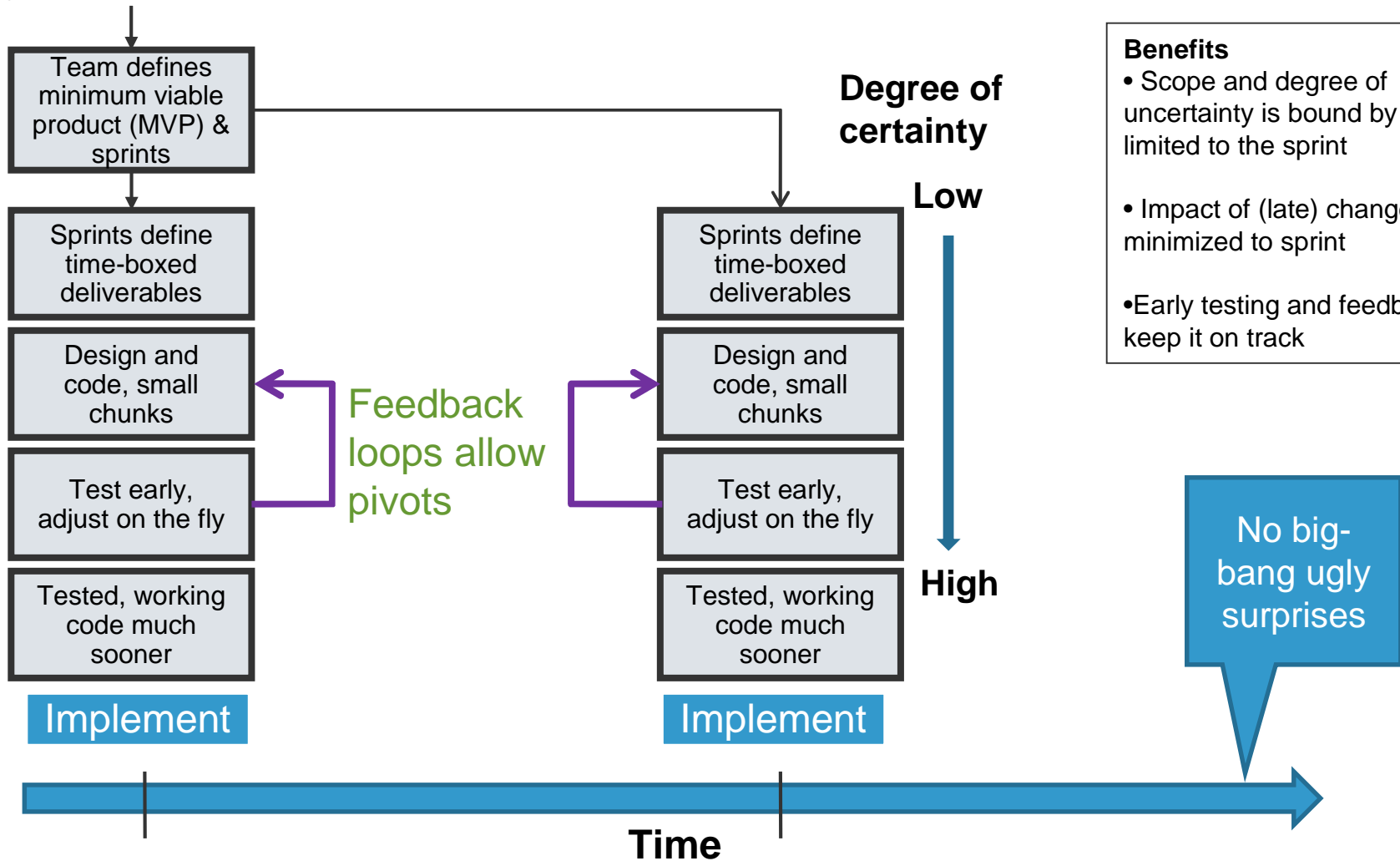
- › Systems-of-record - we've been building for decades
  - Mainframe / Unix / Web
  - Sources-of-truth and record keeping
- › Systems-of-engagement attract and retain customers
  - Mobile / Web apps that literally change customer behavior
- › Systems-of-operation instrument the world around us
  - Sensors, safety, automation

# Earlier decades favored mainframe / waterfall development



# SoE / SoO Development requires a more agile approach ...

## Project Idea Approved



Early, regular flow of working code builds trust

# Mobile SoE: More than just a pretty / social face

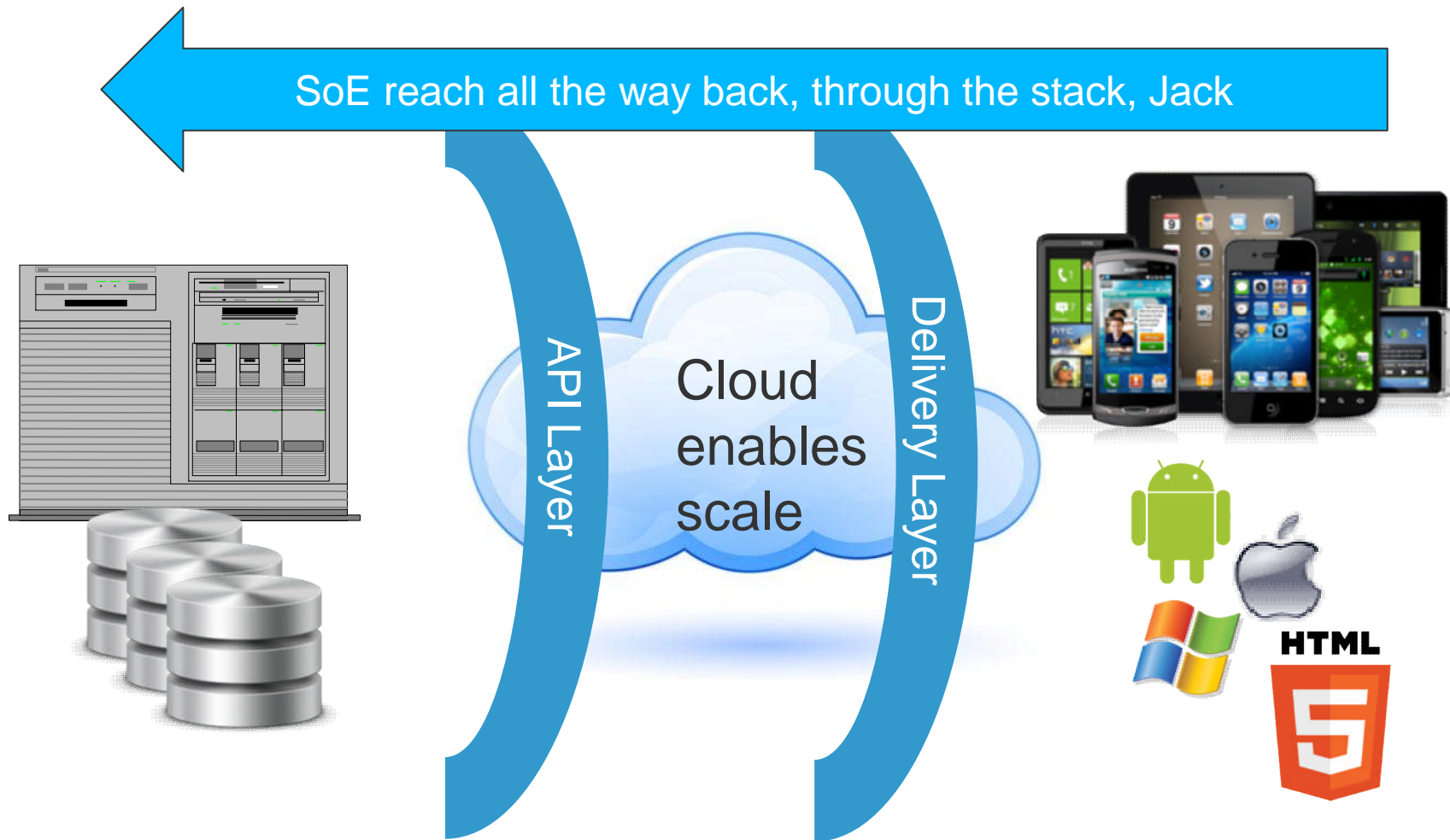


# Mobile SoE: Cloud enables scalable delivery





# Mobile SoE: APIs connect to backend SoR



# SoE = fast! Client Diversity Demands Flexible Architecture

Client-side  
Development



# SoE = fast! Data Must Remain Secure Through The Stack



# SoE = fast! Backend Data Must be Modernized



# SoE = fast! Late to the game means out of the game!

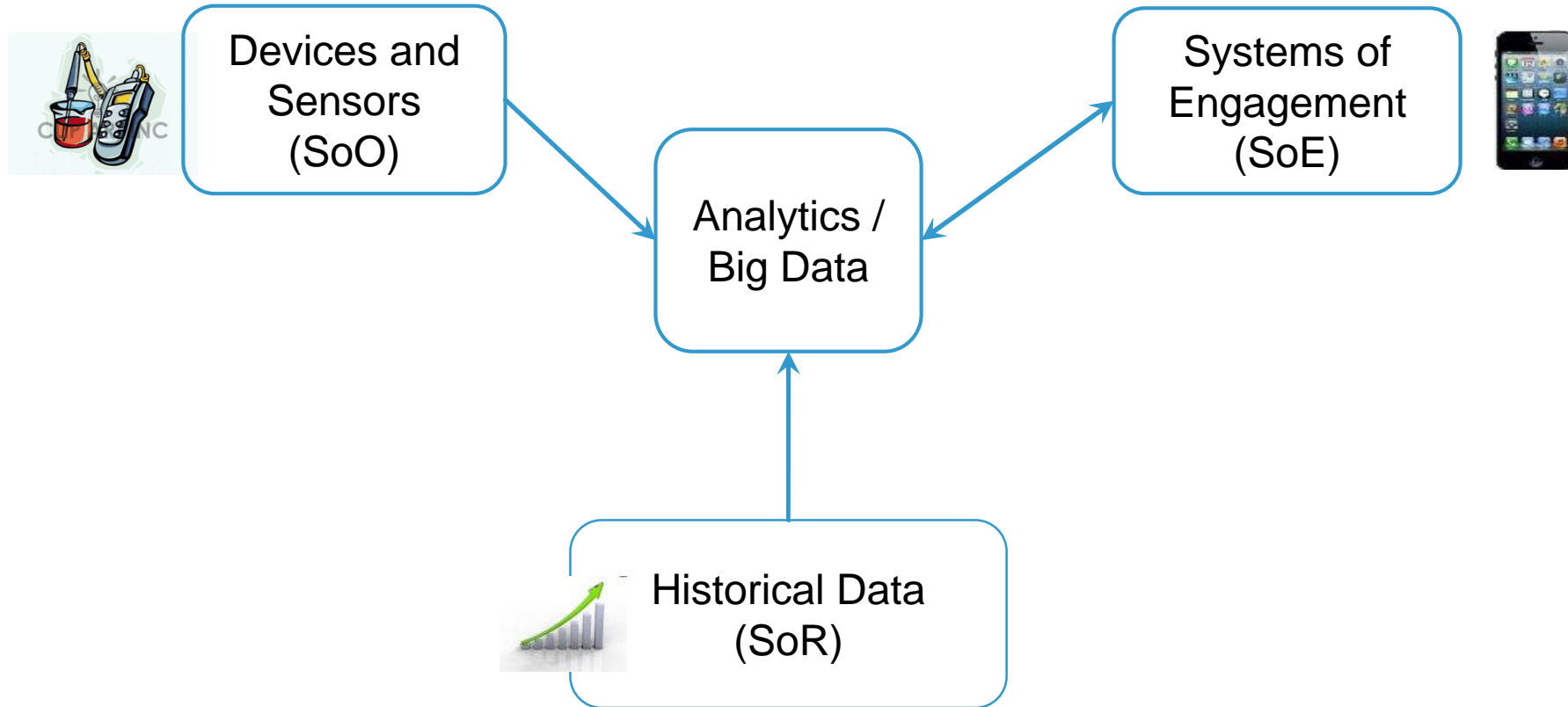


Fast &  
continuous!

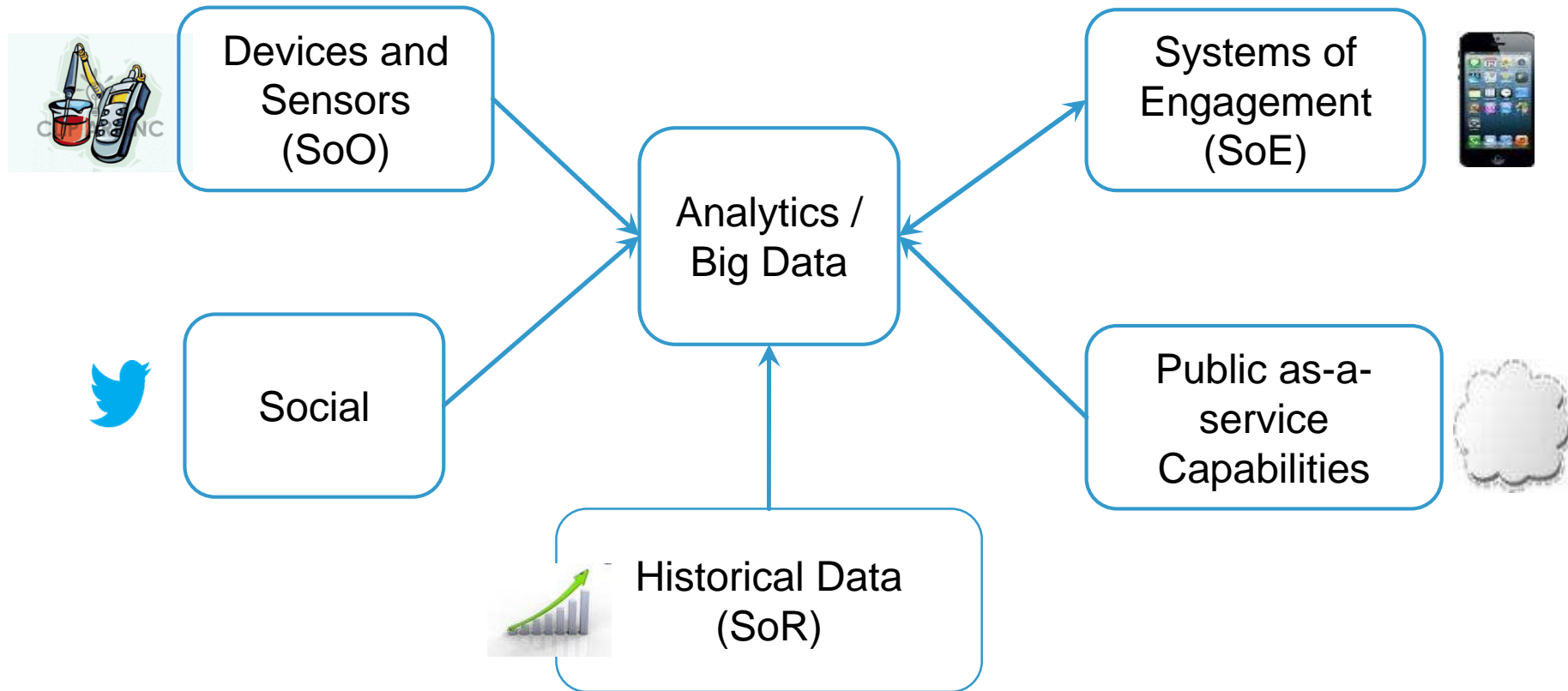
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# AoC = Data from various system-types (SoR, SoE, SoO)

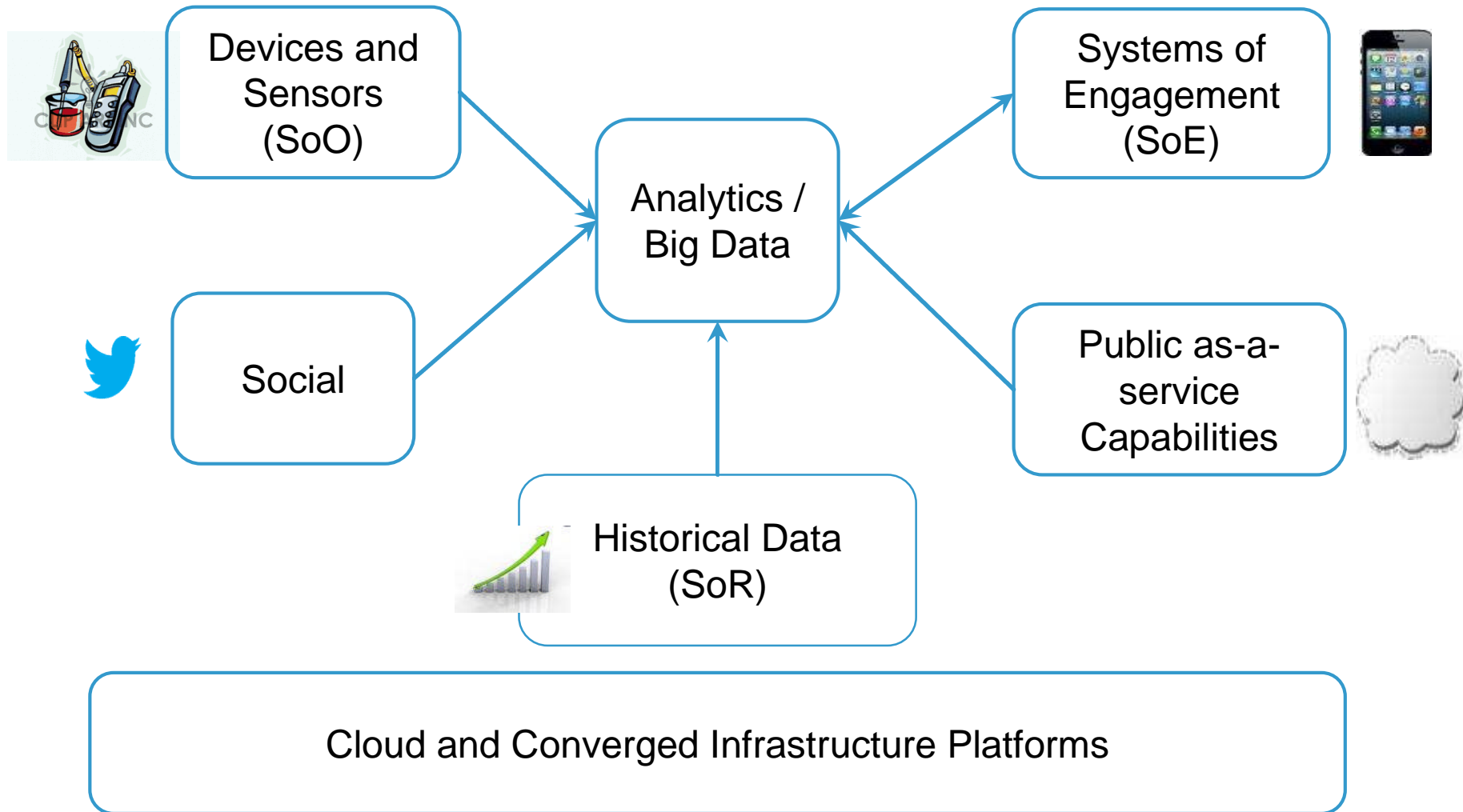


# AoC = Plus Social and as-a-Service sources



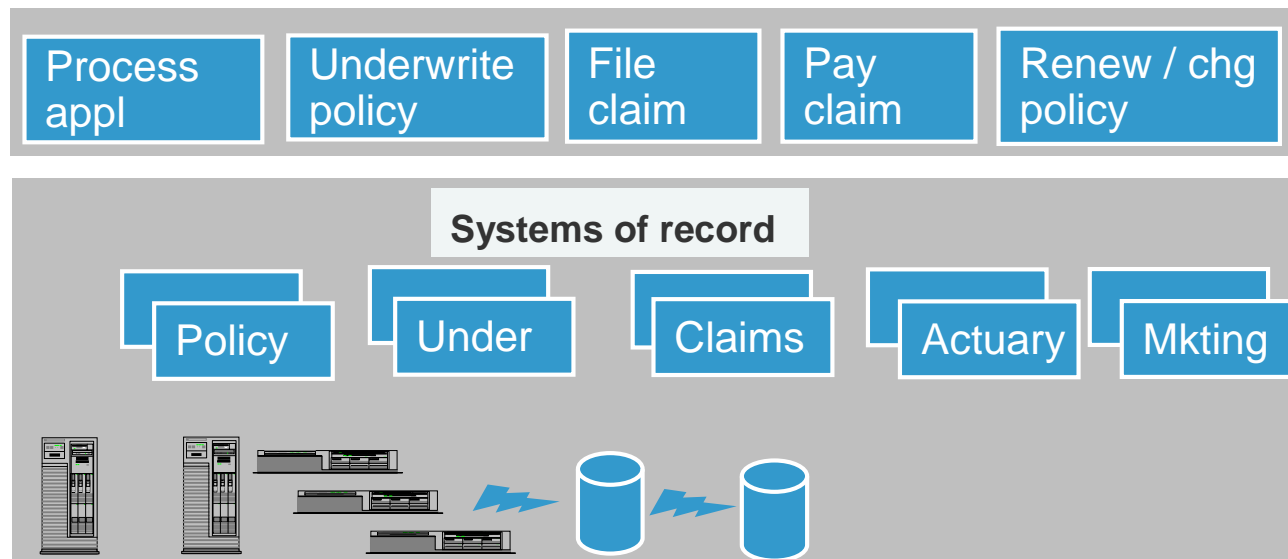


# AoC = Interacting with Cloud & converged platforms



# Our SoR accomplish core business functions

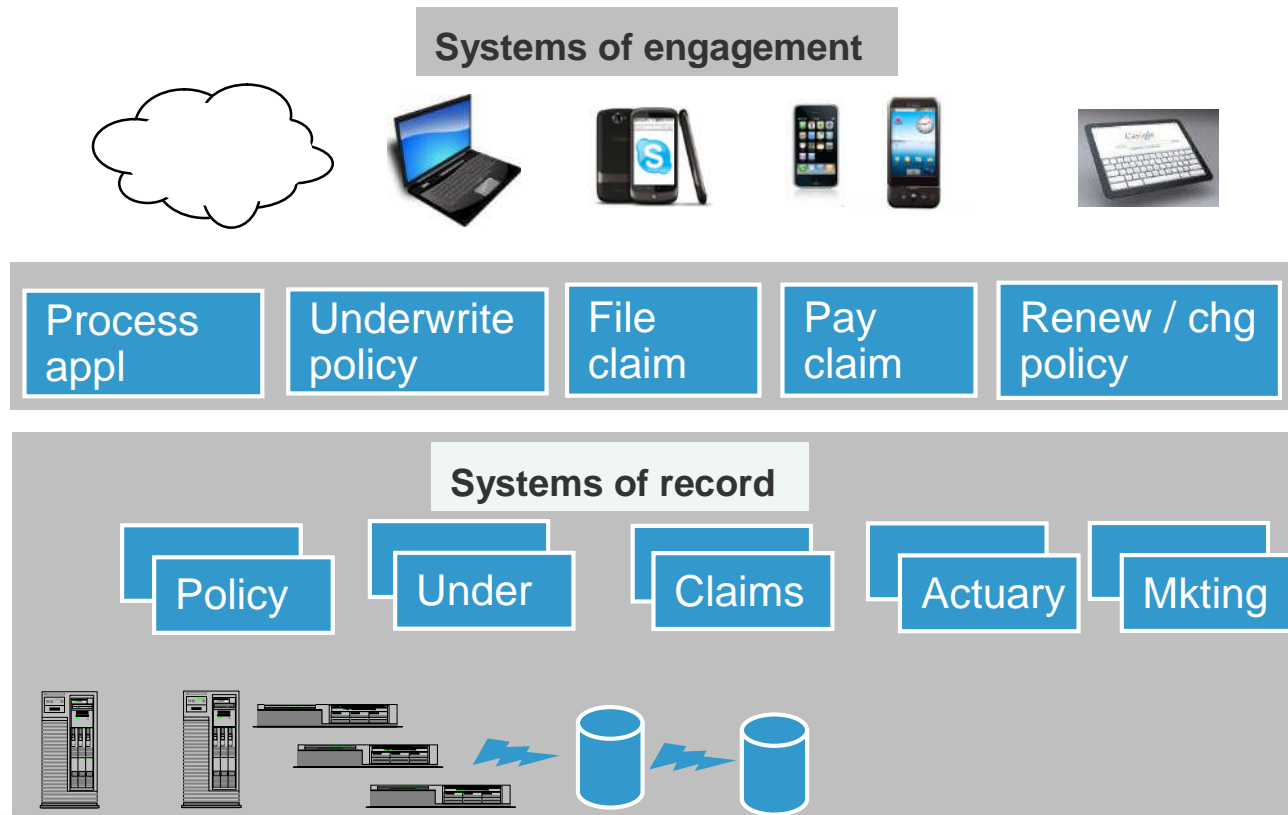
Traditionally – IT built systems-of-record – silos of data and functionality with varying levels of integration and redundancy



# SoE will tap / expose SoR data / txns in new ways

Web and mobile apps engage customers: access in context, immediately, and simply

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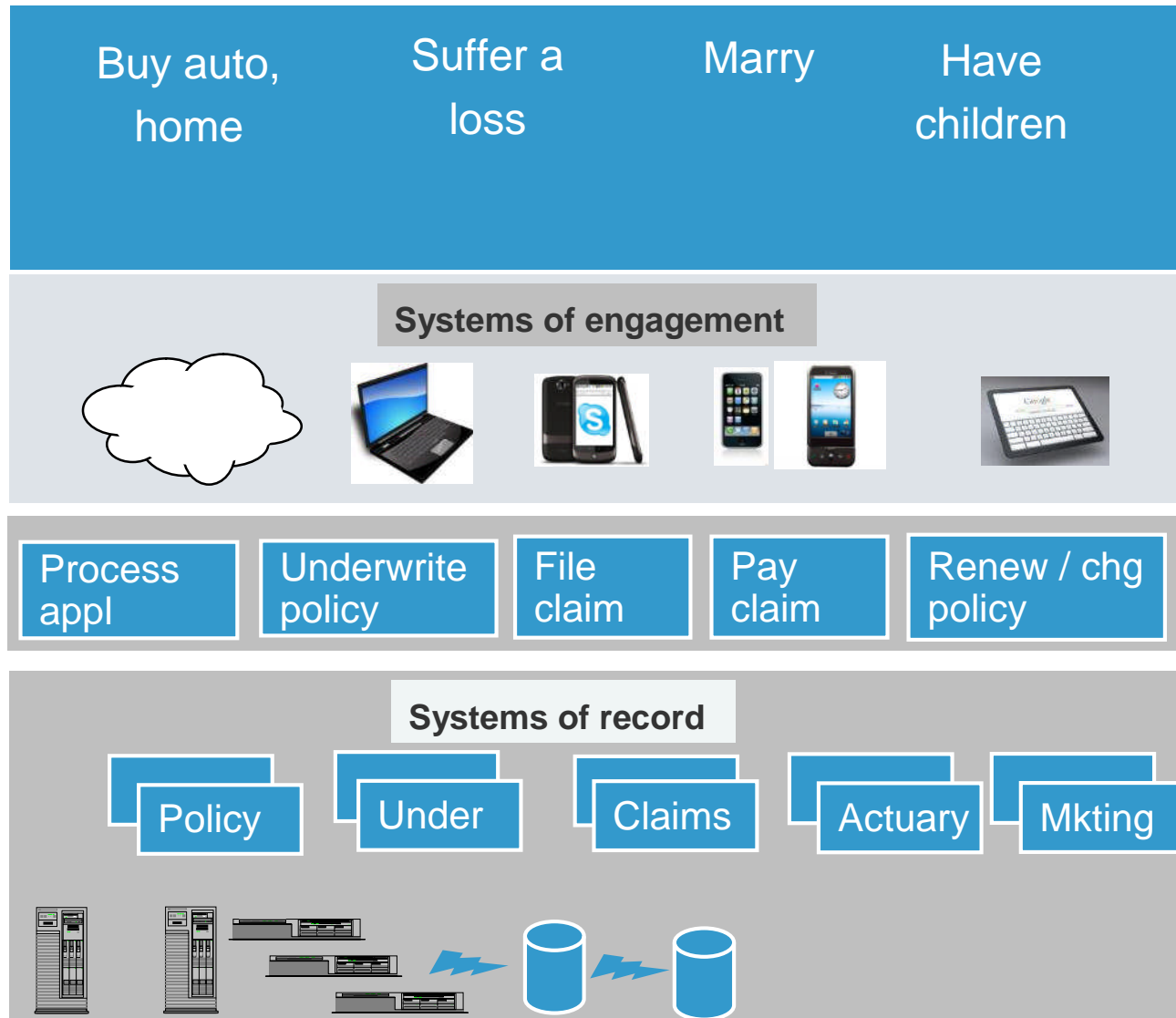


# AoC mindset focuses on the customers' life-events

Life events trigger customers to engage in different ways

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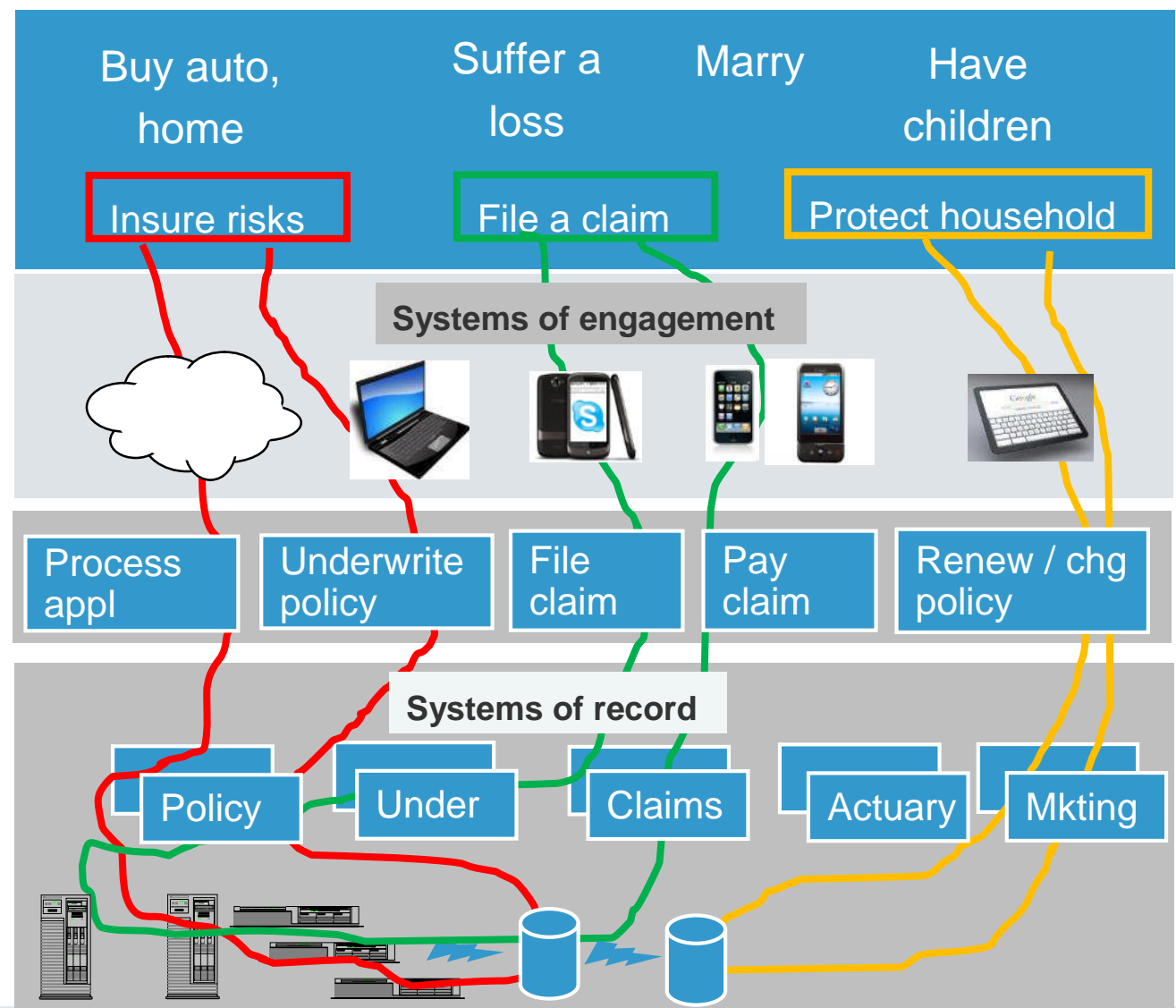


# AoC crosses perceived SoE, SoR, and SoO “boundaries”

Life events trigger customers to engage across traditional silos

Web and mobile apps engage customers: access in context, immediately, and simply

Traditionally – IT built systems-of-record – silos of data and functionality with varying levels of integration and redundancy



# Access to Backend Systems is the Major Challenge



LOB Apps



Directory



CMS



CRM

Systems of Record on mainframe, RISC, midrange, X86 platforms

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Mobile  
Channel

JSON

REST

OAUTH



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# Access to Backend Systems is the Major Challenge



Mobile Channel

JSON

REST

OAUTH

?

?

?

?

?

?

Integration/  
Data Transformation  
Layer

SOAP

XML-RPC

REST

SQL

MQ



LOB Apps



Directory



CMS



CRM

Systems of Record on mainframe, RISC, midrange, X86 platforms



# Today's Three Tier Architecture evolves ...

## Client tier



- Fat pipe with session-fixed IP
- Browser capable of negotiating heavy security protocol
- Synchronous communication is preferred
- Always online

## Application tier



- Web Services with heavy-weight protocols
- Session-based security model
- Built to best serve a single client – browser
- No concern for chatter or extraneous data

## Data tier



- Data structured for a single application
- Often assumed to be in a single (or federated) source

# ... To a four tier Engagement Architecture

## Client tier



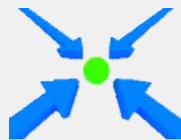
- Smartphones & tablets & API consumers
- Manage software and policy on the device
- Performant over wireless networks
- Outstanding experience online & offline

## Delivery tier



- Asynchronous, event-driven layer
- Scale out to Internet proportions
- Cloud or cloud-connected
- Integration to external cloud services here

## Aggregation tier



- Most integration happens here
- On-premises or cloud-hosted
- Traditional application logic
- Analytics data store & algorithms here

## Services tier



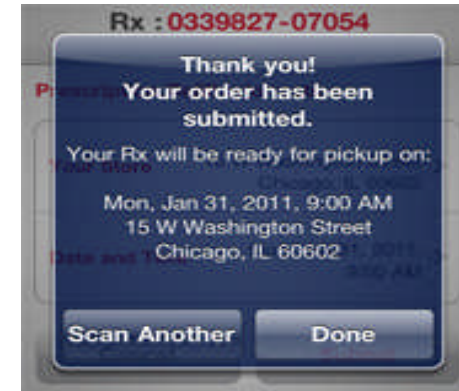
- Transaction and content systems of record
- Security often originates here

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# AoC success means you adapt-to-survive

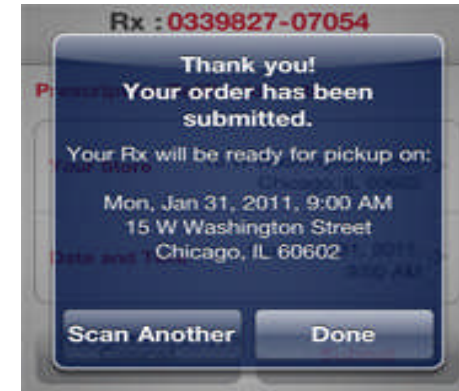
- › SoE apps in retail pharma – Walgreens:
  - Single mobile app, many functions
  - Result: +50% of online prescriptions now filled via mobile
  - Result: Mobile customers spend 4x-6x what store-only customers spend



# AoC adaptation brings new perspectives on “data”

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## › Analytics against real-time data in banking:

- “What we got out of [real time payments] was information on how people were spending other people’s money”
- “The information about the transaction has more value than the transaction itself”

Michael Harte, chief information officer at Commonwealth Bank of Australia



Source: Australian Banking & Finance

## **Darwinism: Survival of the adaptable, not “fittest”**

- ▶ Social trends change the way you interact with customers / clients
  - You can choose to adapt or choose to perish, but you can't avoid the choice

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- ▶ Cloud enables Mobile / Analytics to scale
  - Leverage public, private and hybrid cloud to maximum advantage

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- › Cloud enables Mobile / Analytics to scale
  - Leverage public, private and hybrid cloud to maximum advantage
- › You can't continue to ignore your bucket list
  - M&A, organic growth have created junk in your trunk – clean it out
  - Distinguish core apps from commodity – focus on core
  - Rationalize portfolio to simplify complexity, resolve redundancy



FORRESTER®

# Thank you

**Phil Murphy**

**+1 561.748.4168**

**pmurphy@forrester.com**

**Mike Facemire**

**+1 617.613.6675**

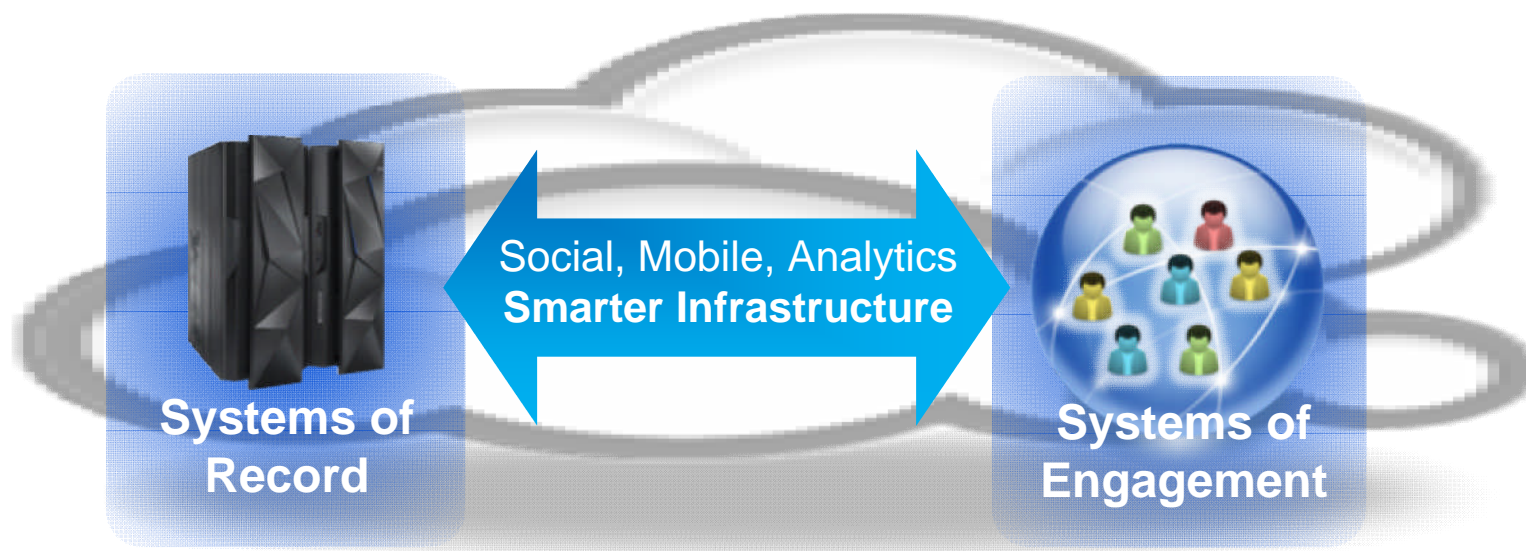
**mfacemire@forrester.com**

*forrester.com*



# Rapid growth of next generation technologies supported seamlessly on zEnterprise

System z scaling model and security to manage and optimize both



- Business Transactions
- Quality of Service
- Command & Control
- Facts and data “source of truth”
- z/OS

- Mobile and Social
- Dynamic
- Interactions and Collaboration
- Insight, trends, analytics
- Linux on System z



## System z proven platform to seamlessly address challenges for Mobile, Cloud and Big Data workloads



### Mobile

- Mobile Business workloads require security and high availability
- Increased mobile business data access and complexity
- Drives Scale-up and Scale-out Enterprise challenges



### Cloud

- Performance, security, high availability and disaster recovery
- Data protection and regulatory compliance
- Ability to quickly and easily provision and orchestrate



### Analytics/Big Data

- Complex, non-traditional data require enterprise-wide data management
- Analytics requires fast, easy heterogeneous data access



## System z Infrastructure Services manage high growth rates of Mobile applications and data requirements

- Dynamic scaling of Mobile workloads drives critical requirement for enhanced automation
  - 24/7 availability requires high degree of mainframe **System and Workload Automation**
- Network visibility and management important to keeping mobile apps available and performing
  - **End-to-end monitoring** with OMEGAMON
- Mobile as an extension of Cloud
  - Requires business critical asset and **end-point management** across distributed & System z



### Top Mobile Adoption Concerns:

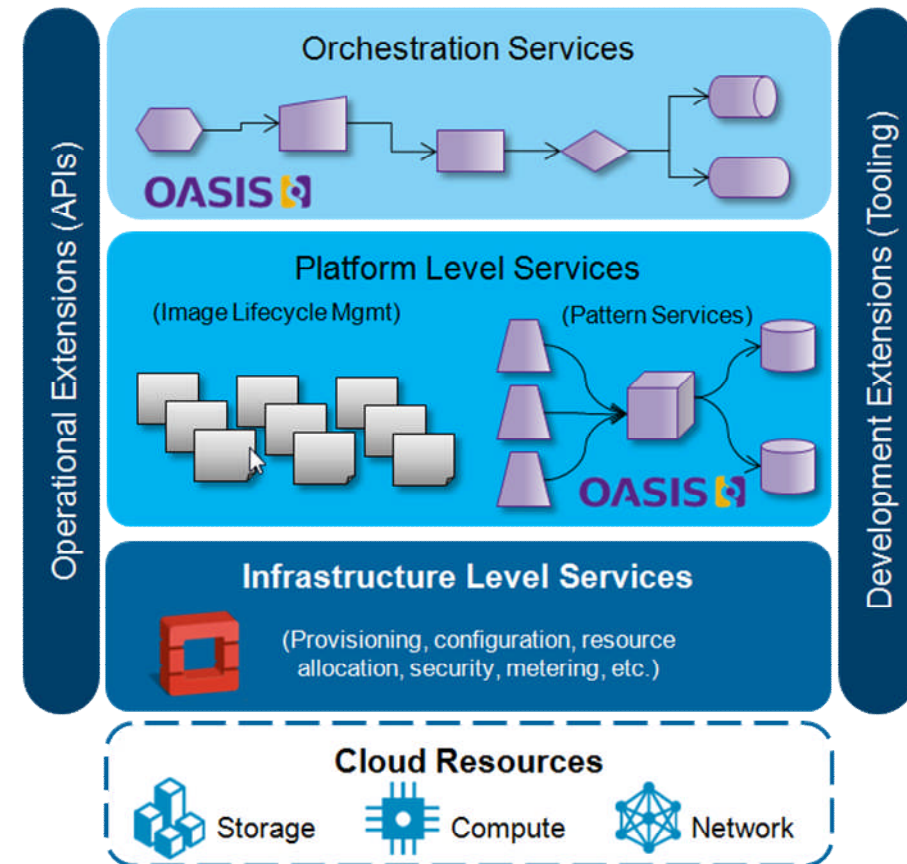
1. Security/privacy (53%)
2. Cost of developing for multiple mobile platforms (52%)
3. Integrating cloud services to mobile devices (51%)





# System z Service Management provides high availability and performance for critical Cloud workloads

- zEnterprise Cloud can host critical workloads only supported on System z
  - Based on **fit-for-purpose approach**
- IBM continues improvements of System z Systems of Record Cloud workloads
  - Enhanced **OMEGAMON** usability
  - Improved **Workload Automation**
- Create zEnterprise Private Cloud today with **IBM Cloud Ready for Linux on System z**
  - Add SmartCloud Orchestration





# Quick and easy implementation of Private Cloud on zEnterprise with provisioning of images and applications

*Cloud Ready for Linux on System z*

**Cloud Monitoring**

**Service Lifecycle Management**

**Cloud Backup/Recovery**

**Automated Provision/De-Provision**

**Cloud Automation**

***Installation/Configuration support***



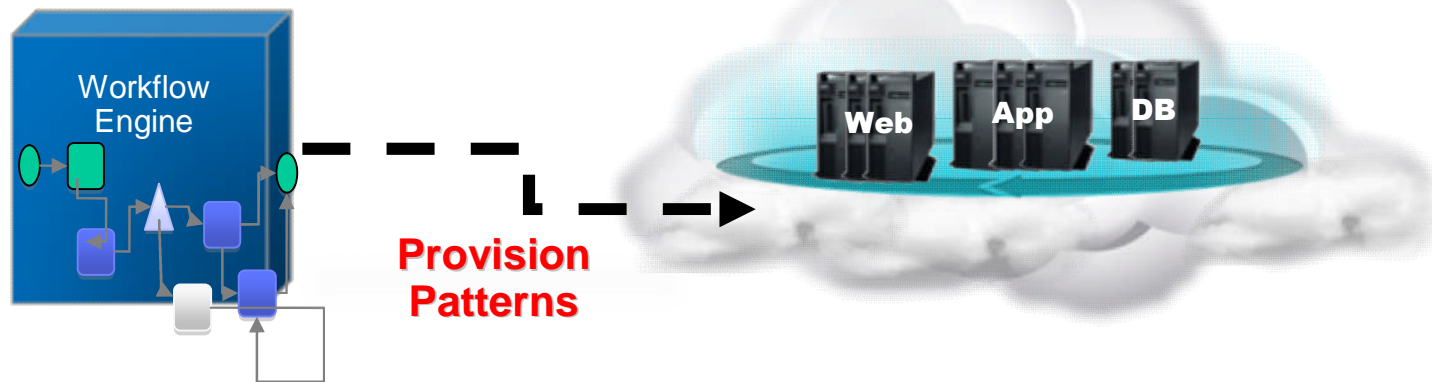
**Benefits:**


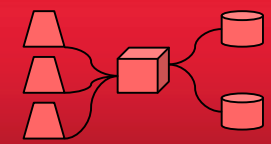

- Bring up Cloud on Linux on System z in less than a week
- Improve productivity with user self-service portal





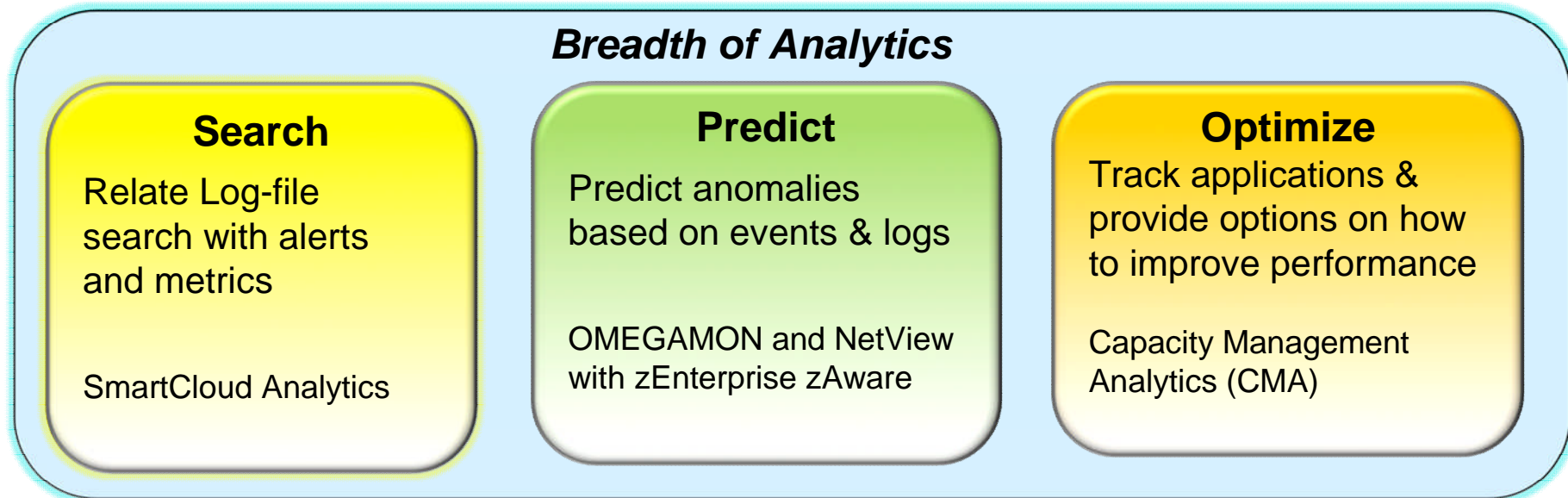
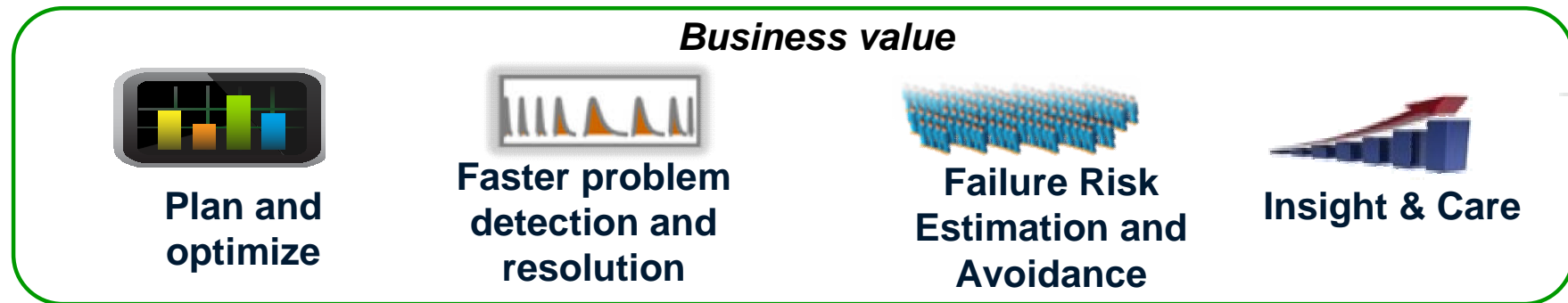
# Manage all components of Data Center Lifecycle with Cloud based on open standards fit for purpose approach **SmartCloud Orchestration**



 <p><b>Resource Management</b> Onboard, provision, manage CPU, Storage and Network</p>	 <p><b>Workload Management</b> Workload aware placement, optimization and operation</p>	 <p><b>Service Management</b> Manage the lifecycle of business applications</p>
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## IBM focused on managing end-to-end analytics for both business and IT across all applications





## Search for and rapidly analyze unstructured data to assist in problem identification, isolation and repair

### SmartCloud Analytics – Log Analysis

- 
- **Faster Problem Identification and Isolation**
    - Search and indexing of logs and data
    - Cross domain analysis
- 
- **Faster Problem Repair**
    - Linking expert knowledge to log error/warning messages
- 
- **Improved Service Availability and Maintainability**
    - Provide users with advanced insights into custom applications

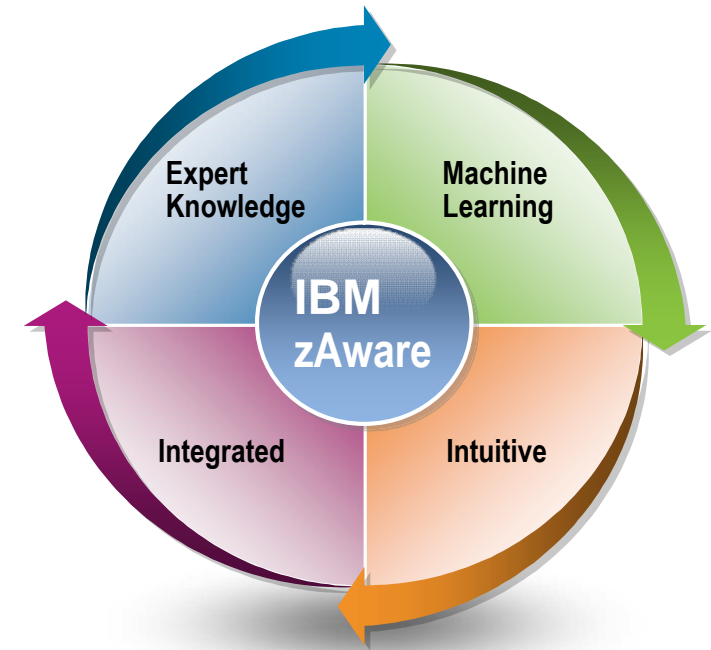




# Predictive analysis for improved availability with enhanced monitoring and management in OMEGAMON

## OMEGAMON V5 family

- Predictive Analytics capability for anomaly detection
  - OMEGAMON for z/OS V5.1.1 support for zAware
  - zEnterprise zAware allows outage predictions
- Improved productivity with enhanced install/config
  - 490 fewer parameters to customize
  - 75% reduction in refresh steps



### **Benefits:**

- Save up to 75% of time needed to find problems
- Up to 73% of CICS SLA processing off-loaded
- Reduce fix times from 90 minutes to 2 minutes



# Optimization of Big Data and applications to create knowledge with Capacity Management Analytics

## Capacity Management Analytics (CMA) solution

- Analytics, monitoring and management across Big Data on System z environment including CICS, DB2, IMS, WAS
  - Insights into operations with TDSz, SPSS and Cognos

Additionally:

- Improved availability of Big Data storage with enhanced System z storage management portfolio
- OMEGAMON XE for Storage V5
- Updated zStorage Management Suite







## zEnterprise continues to provide value in implementing growing Mobile, Big Data and Cloud workloads

### Key Takeaways



1. IBM strategy and tools support reliably running **Mobile, Big Data and Cloud** workloads on System z cost effectively
2. IBM can orchestrate across **Systems of Record and Systems of Engagement** for workload aware performance, analytics and monitoring
3. IBM only vendor who can tie technologies together with **Visibility, Control and Automation** to meet end-to-end SLA



# Service Management Connect

## *Connecting future of service management*

- Transparent development
- Product roadmaps
- Code downloads and demos
- Access to the System z experts
  - Forums
  - Blogs
  - Wikis
- Best practices
- Submit requirements

- › 250+ System z blog entries from the IBM experts
- › 4.5 million hits in 2012
- › 100 featured IBM expert profiles

developerWorks > Technical topics > Service Management Connect >

## System z

Connect. Learn. Try. Share.

Welcome to the **System z** community, where you can connect, learn, and share with the System z experts.

Join the **System z group** and connect with other members who have an interest in System z. You can also collaborate with the experts by accessing blogs, forums, and wikis listed below.

### Collaborate

#### BLOGS

- IBM Tivoli OMEGAMON for z/OS Management Suite V5.1.1 – Information Center available
- IBM Security zSecure 2.1
- Command logging for System Automation for z/OS - a good audit tool
- [View all entries](#)

#### WIKIS

- [Tivoli AF/OPERATOR on z/OS and Tivoli](#)

#### FORUMS

- [Tivoli Asset Discovery for z/OS](#)

#### Featured Blogger

**Bob Graczyk**  
Bob Graczyk is an Information Developer and team lead for OMEGAMON XE for CICS on z/OS, in the Tivoli division of IBM's Software Group. In addition to his blog entries for the System z Management group on the Service Management Connect site, he is a contributor to the common OMEGAMON XE publications. Also, he is a frequent blogger on various IBM community sites with respect to social media. During his 11 year career he has worked on many Tivoli software products including Tivoli Business System Manager, NetView for z/OS and ITCAM for SOA.

#### Communities

- Application Performance Management
- Asset Management
- Business Service Management
- Cloud/Virtualization Management
- Data Center Automation
- Endpoint Management
- Jazz for Service Management
- Network and Service Assurance
- Process Automation
- Real Estate and Facilities Management
- Software Defined Systems
- Storage Management
- System z
- Technical Computing

#### Follow SMC

<http://www.ibm.com/developerworks/servicemanagement/z/index.html>



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