

New technologies continue to exploit mainframes

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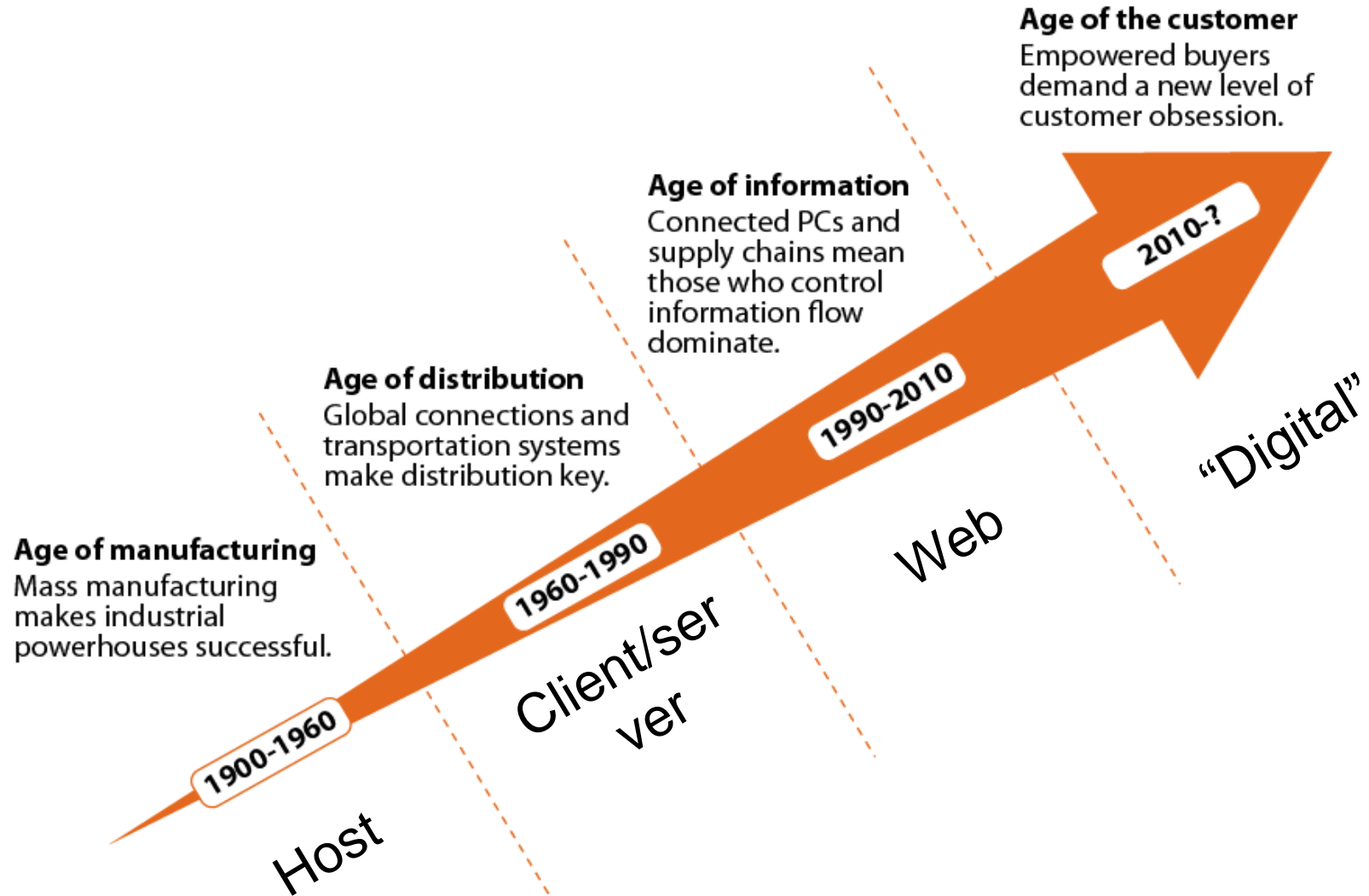
Agenda

- ▶ *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*

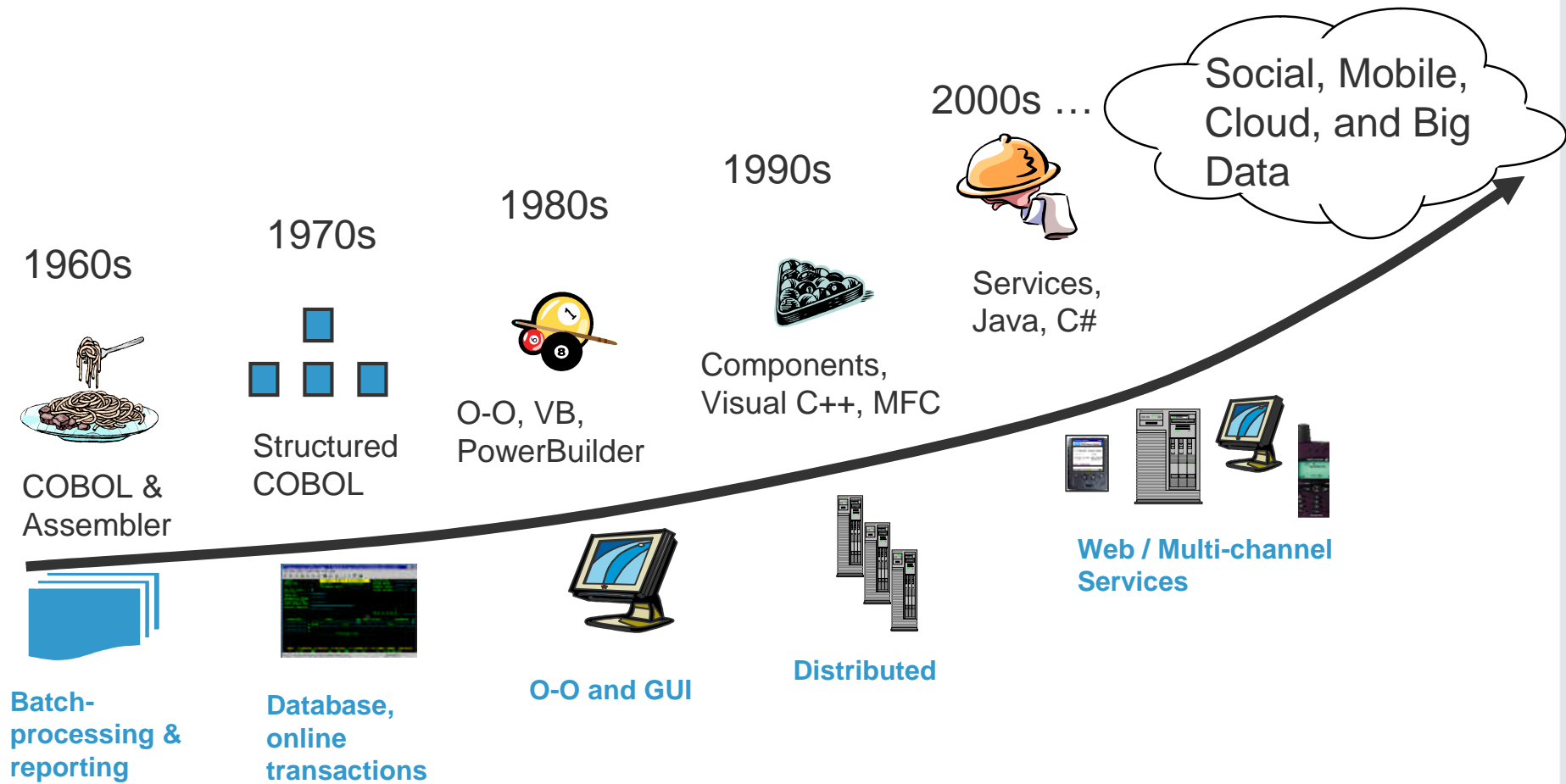
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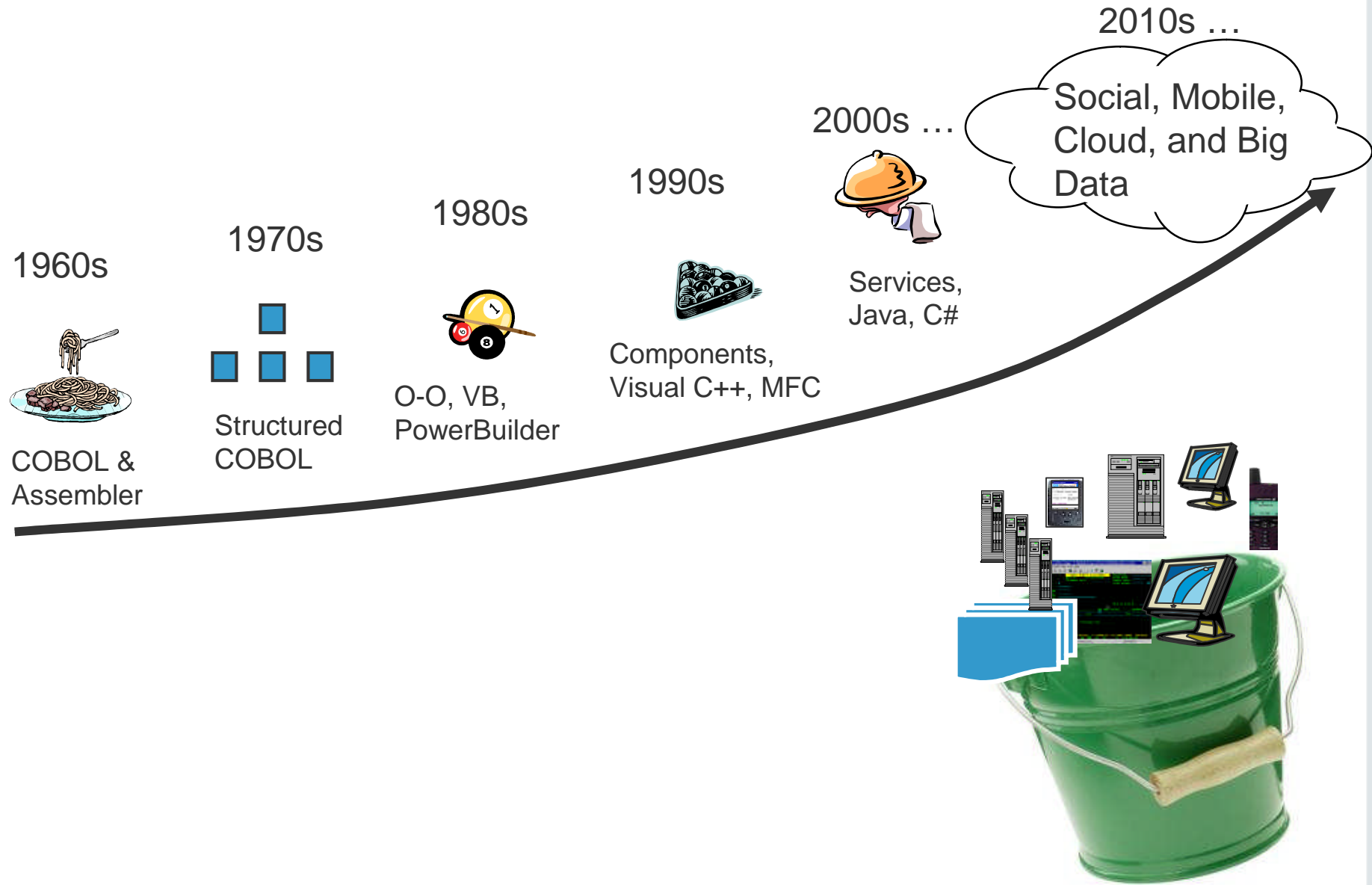
As we speed headlong into the “Age of the Customer” (AoC)



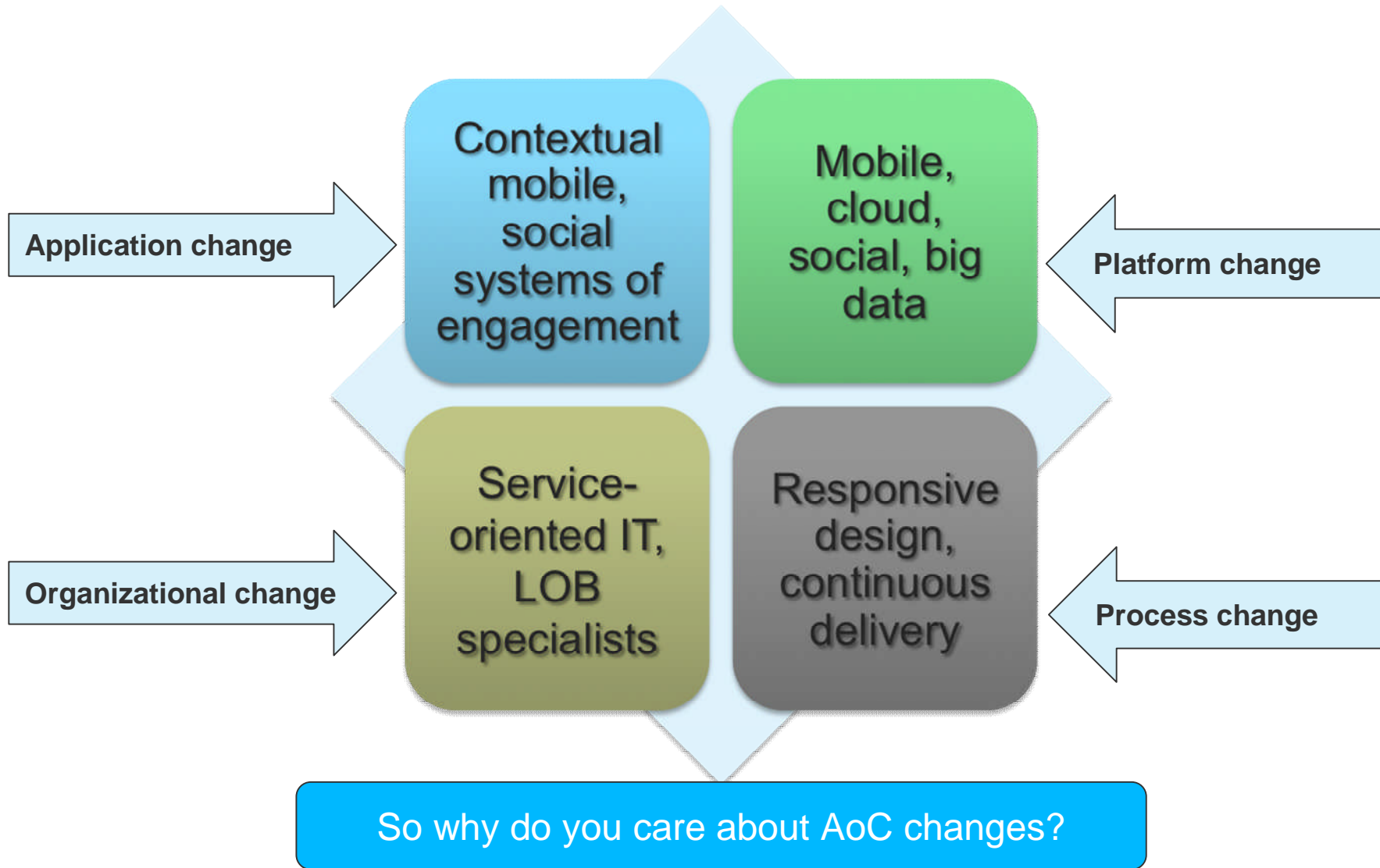
You've accumulated 5+ decades of technology ... 2010s ...



... 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)

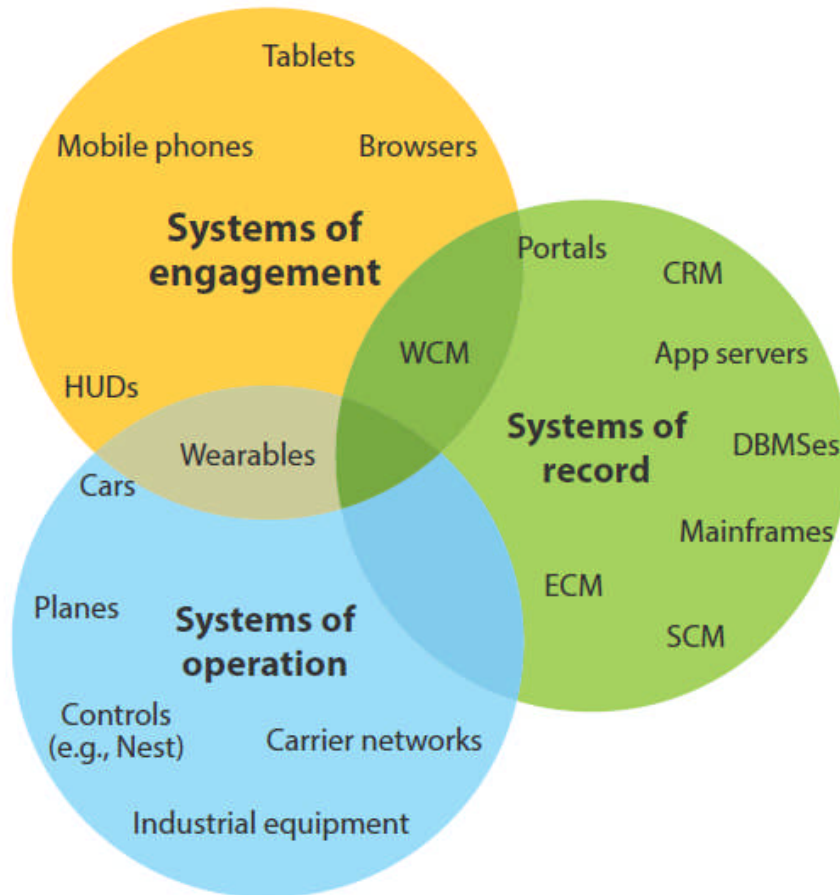
Failure to adapt = epic failure

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Kodak	360	\$18	-99.8%	Not so well

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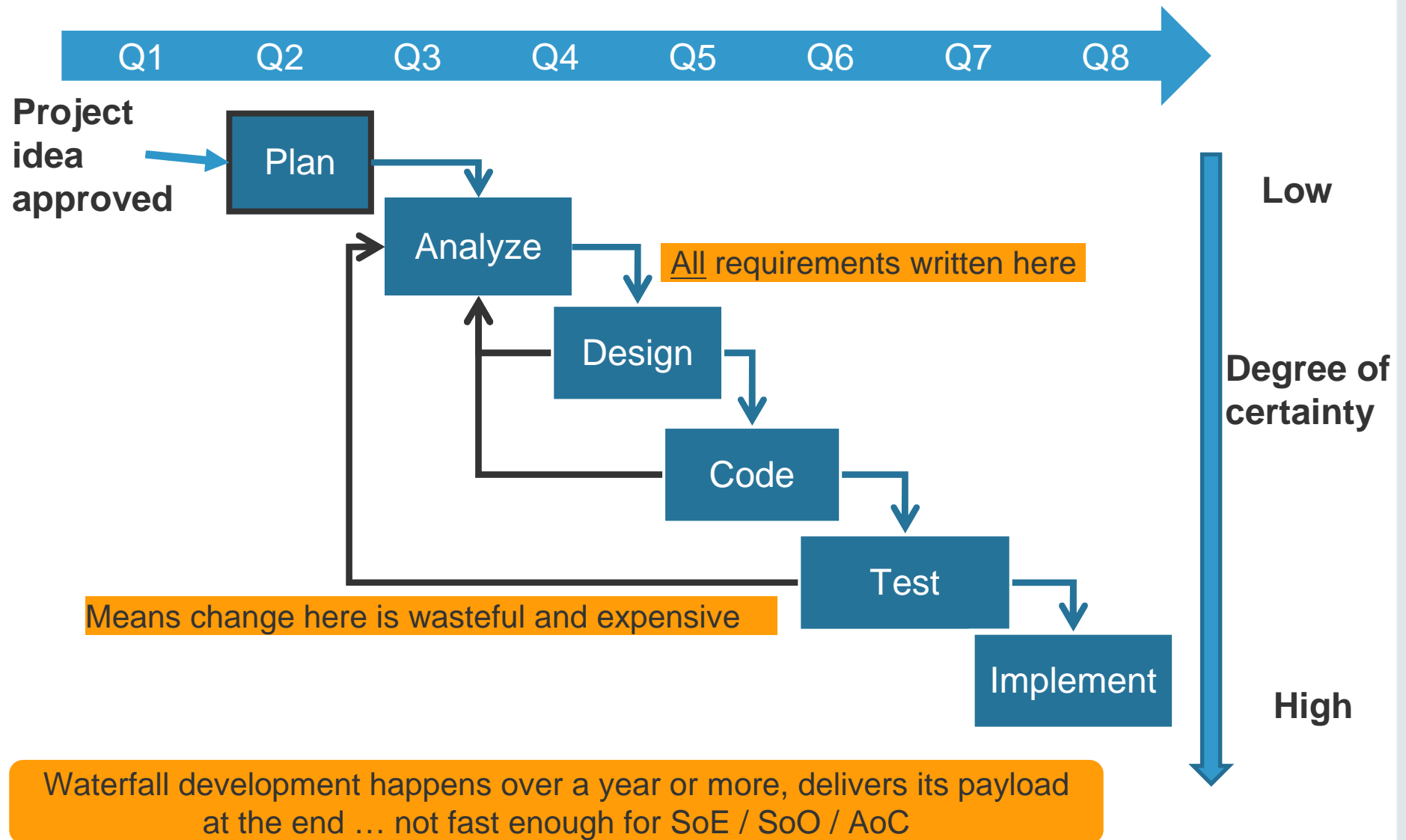
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AoC employs new system-types ...



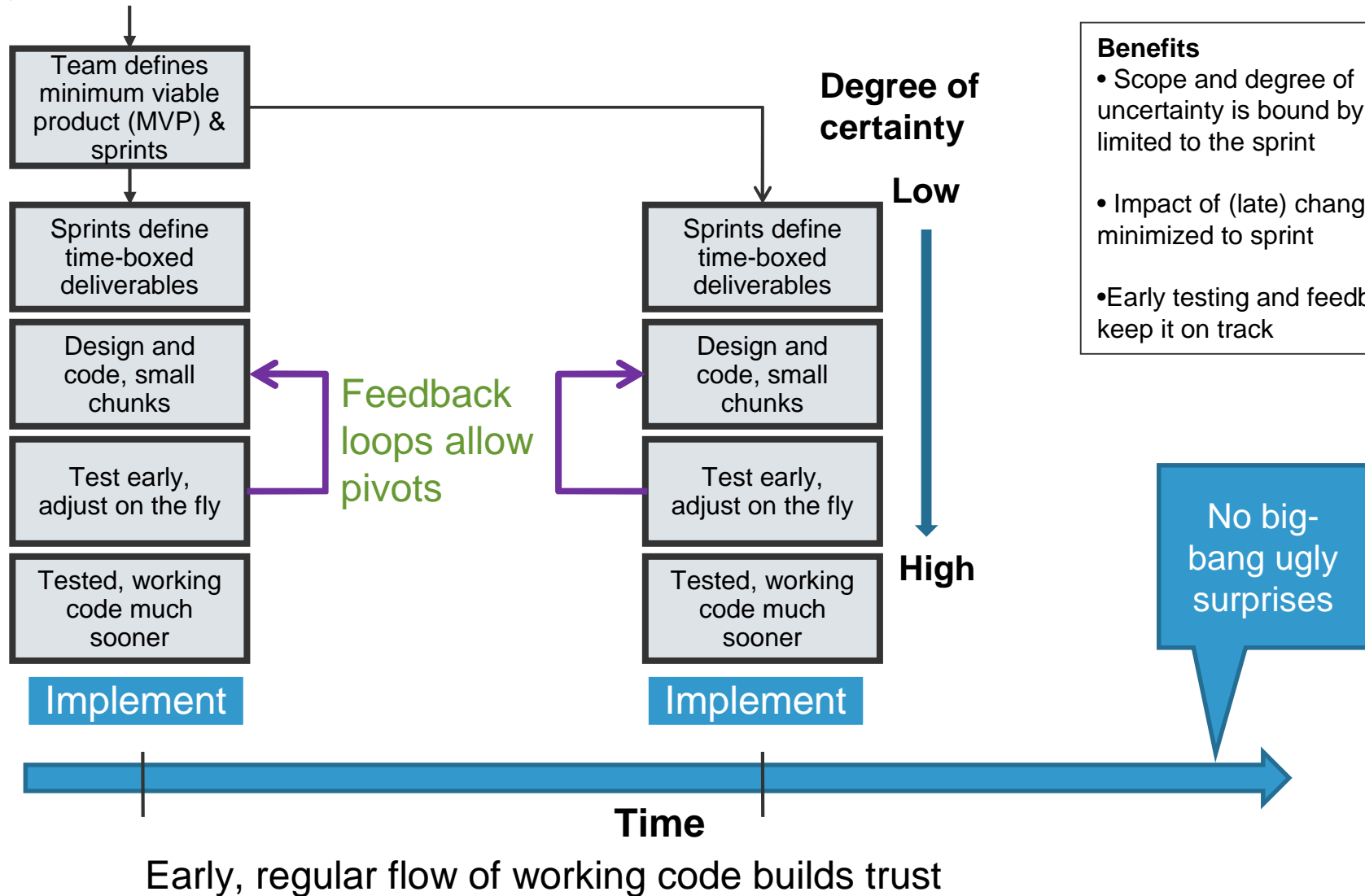
- › Systems-of-record - we've been building for decades
 - Mainframe / Unix / Web
 - Sources-of-truth and record keeping
- › Systems-of-engagement attract and retain customers
 - Mobile / Web apps that literally change customer behavior
- › Systems-of-operation instrument the world around us
 - Sensors,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

Earlier decades favored mainframe / waterfall development



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

Project Idea Approved



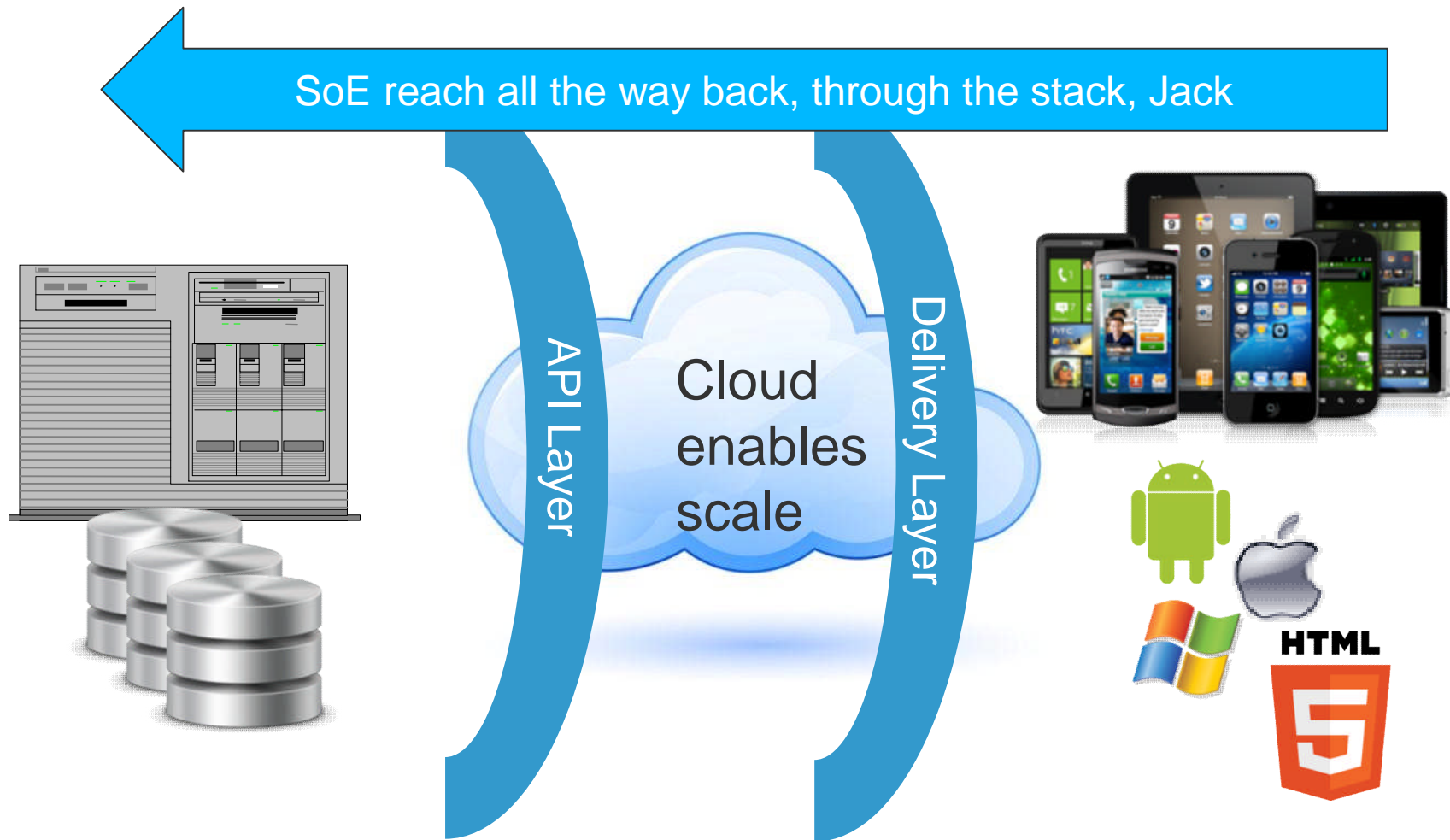
Mobile SoE: More than just a pretty / social face



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!

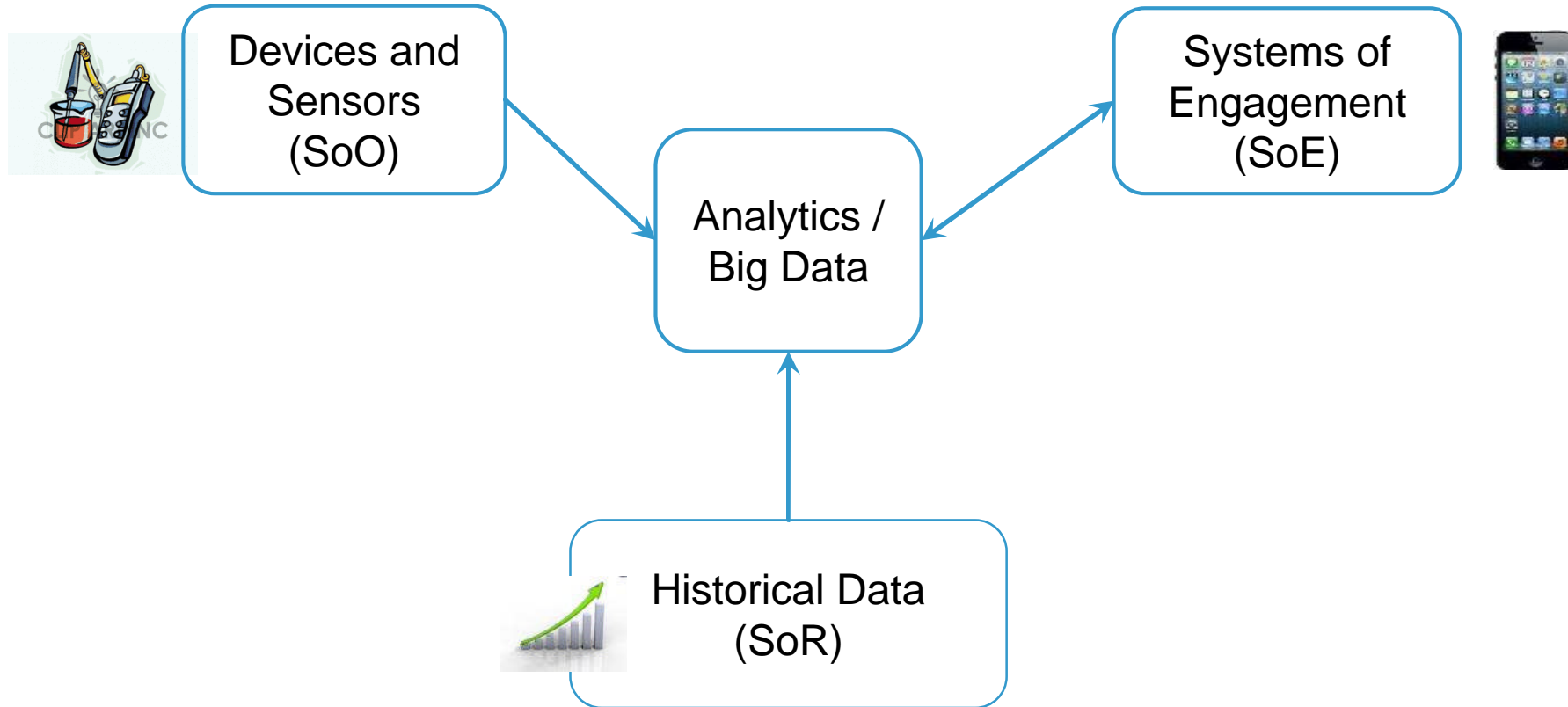


Fast &
continuous!

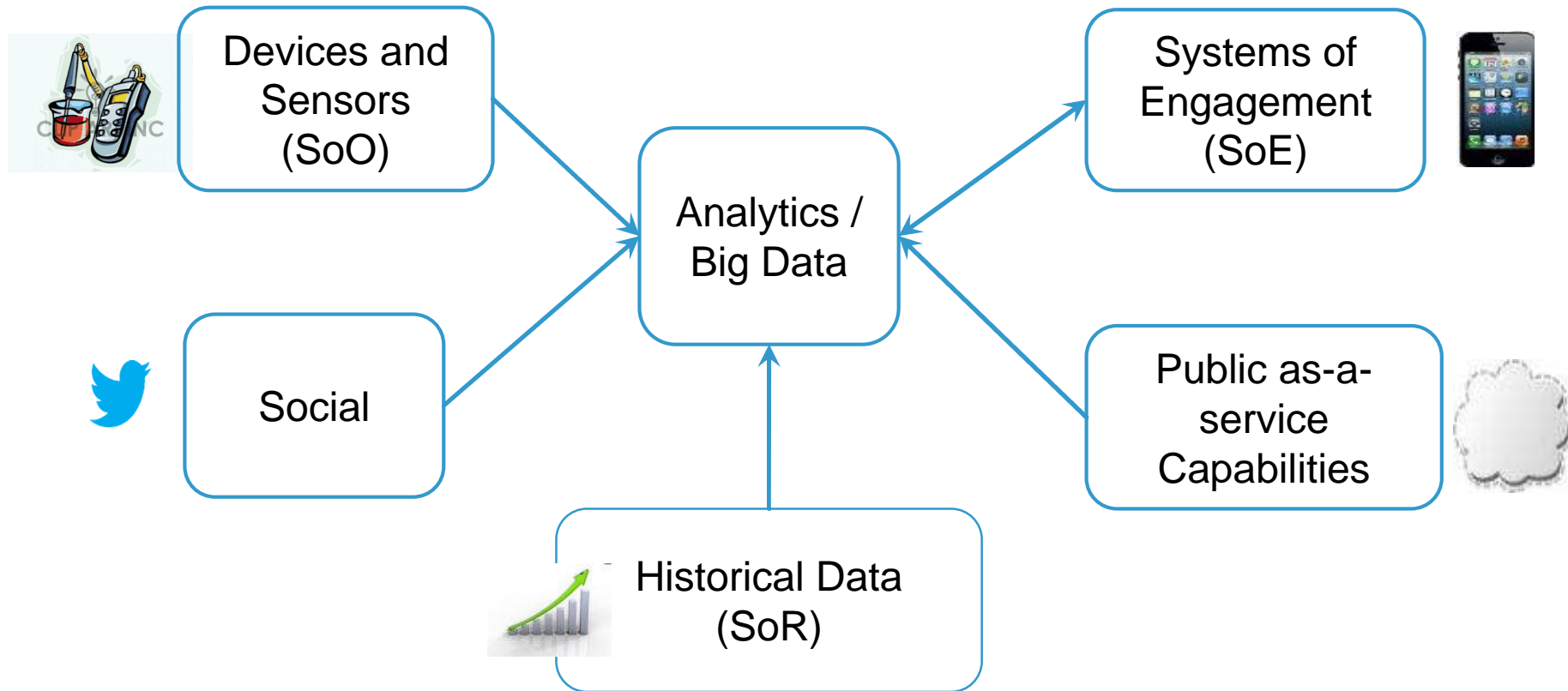
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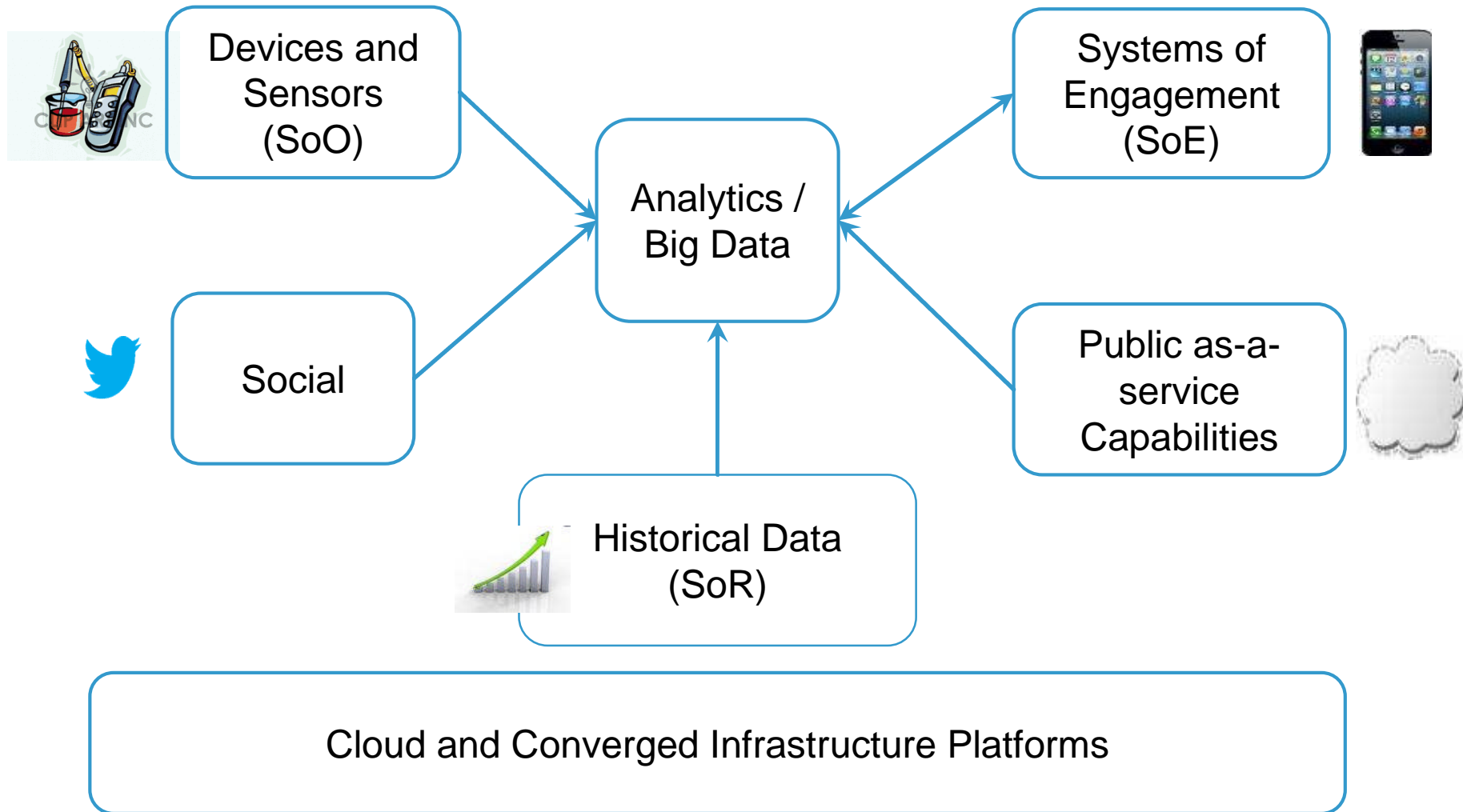
AoC = Data from various system-types (SoR, SoE, SoO)



AoC = Plus Social and as-a-Service sources

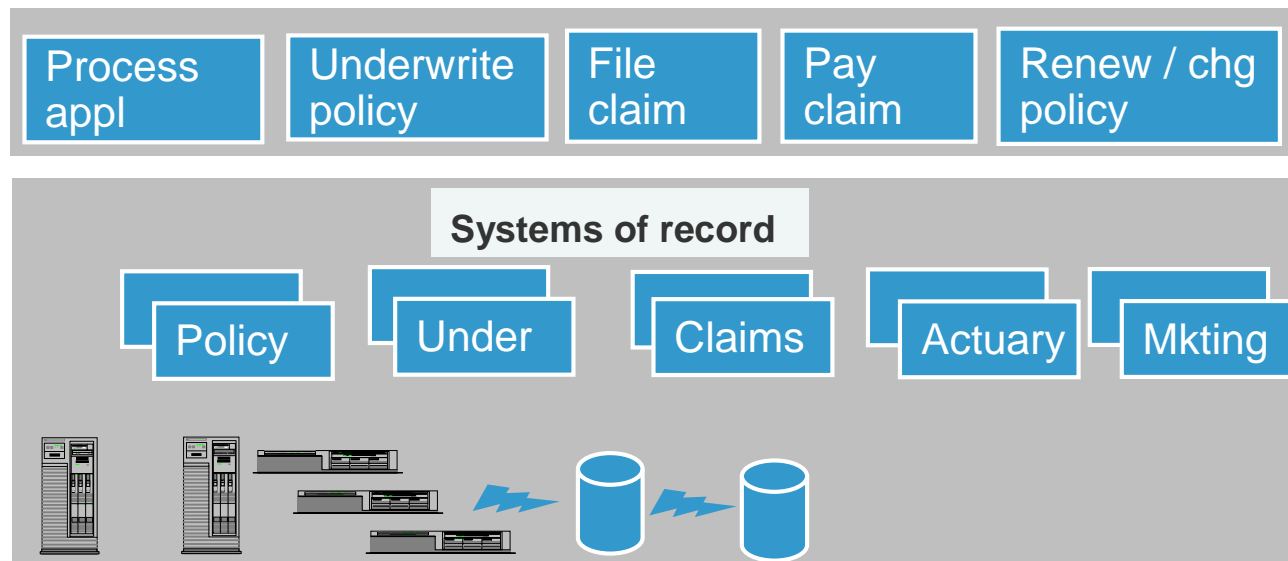


AoC = Interacting with Cloud & converged platforms



Our SoR accomplish core business functions

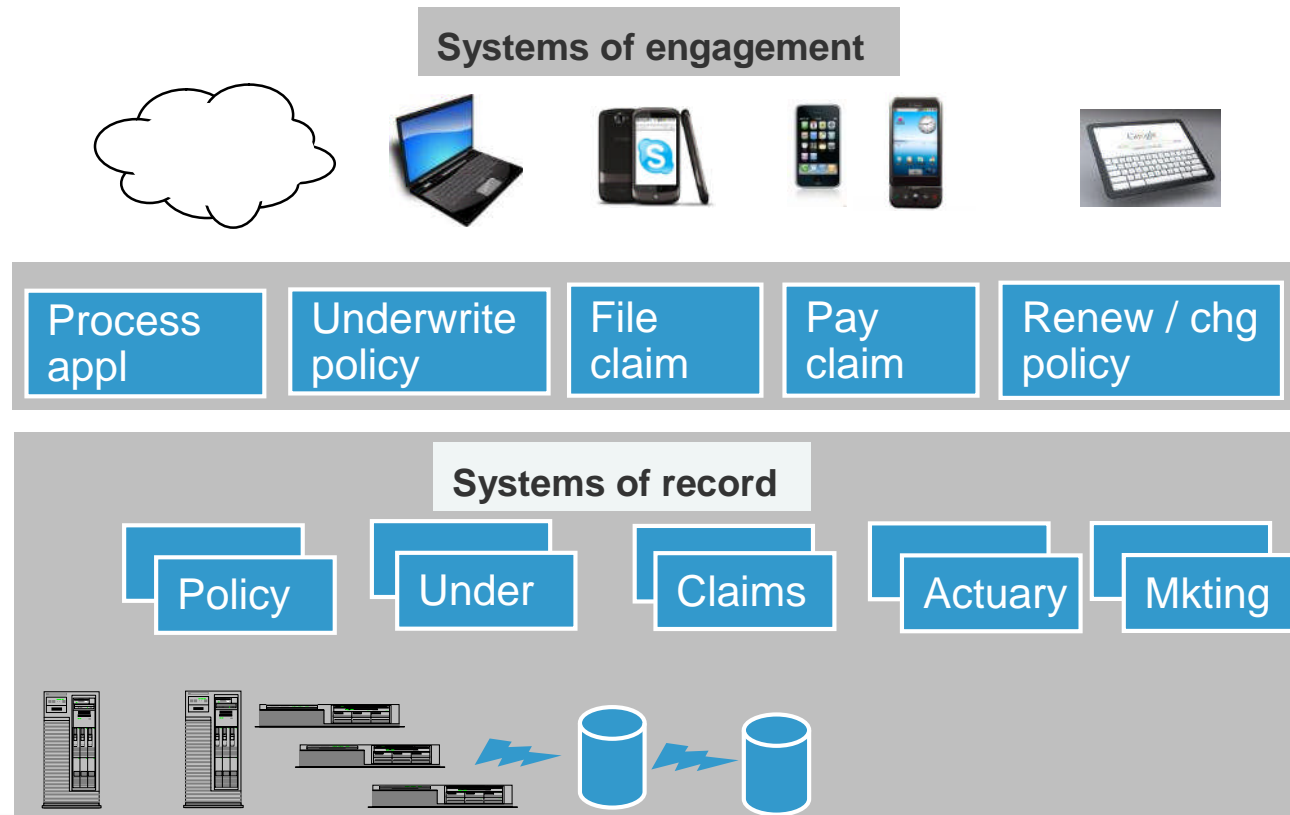
Traditionally – IT built systems-of-record – silos of data and functionality with varying levels of integration and redundancy



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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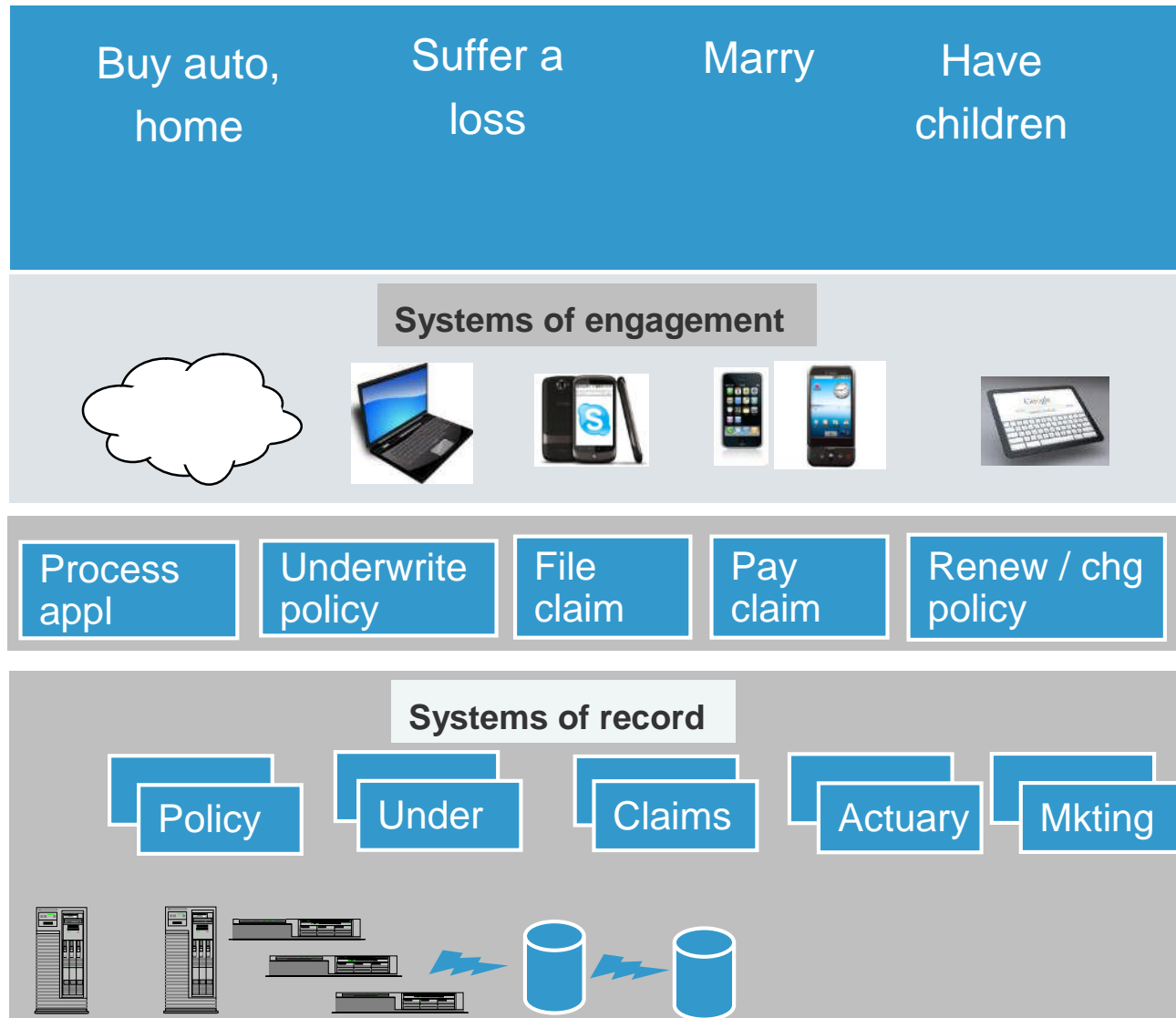


AoC mindset focuses on the customers' life-events

Life events trigger customers to engage in different ways

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

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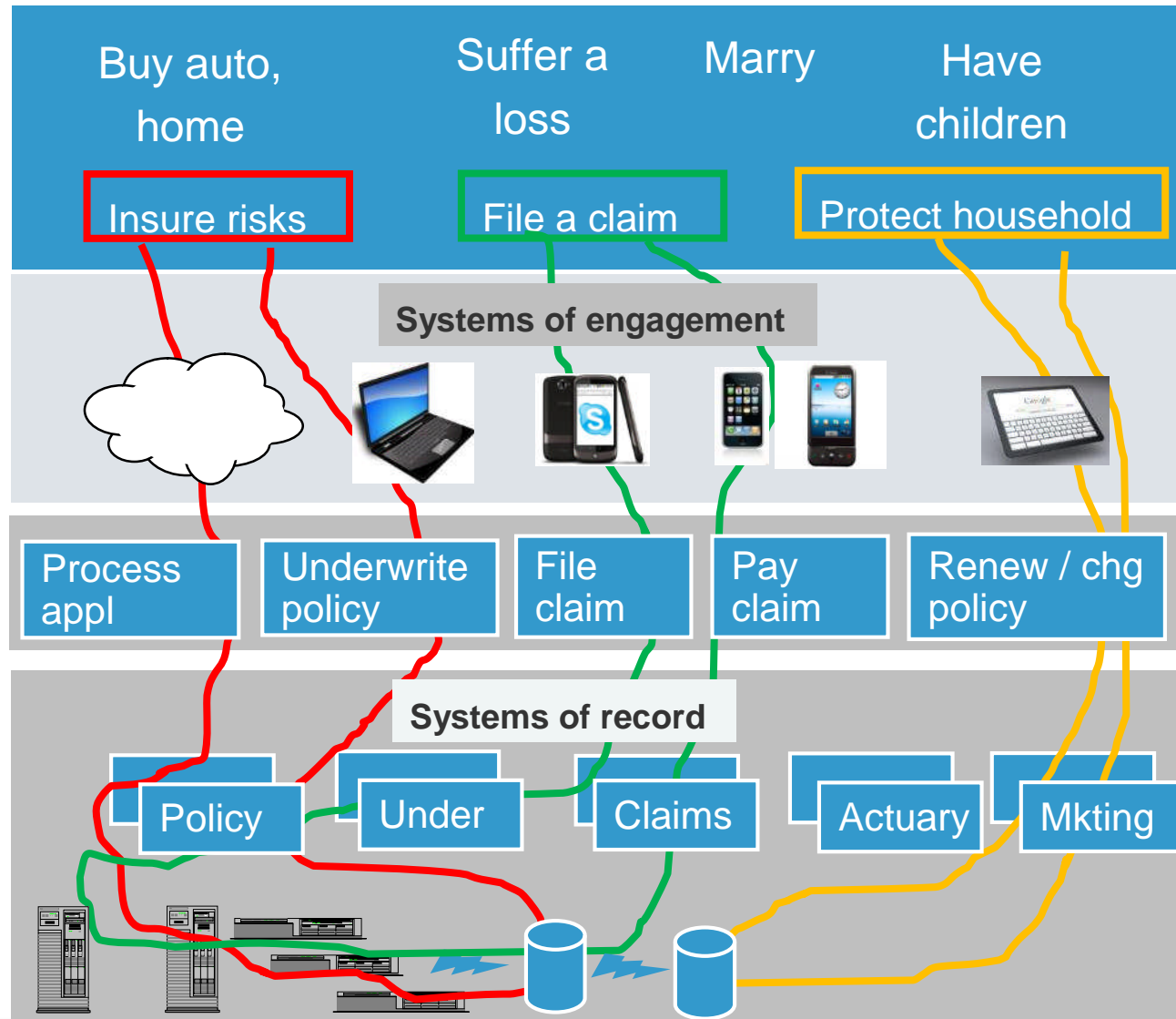


AoC crosses perceived SoE, SoR, and SoO “boundaries”

Life events trigger customers to engage across traditional silos

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

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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



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Channel

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?

?

?

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?

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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



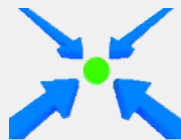
- Smartphones & tablets & API consumers
- Manage software and policy on the device
- Performant over wireless networks
- Outstanding experience online & offline

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



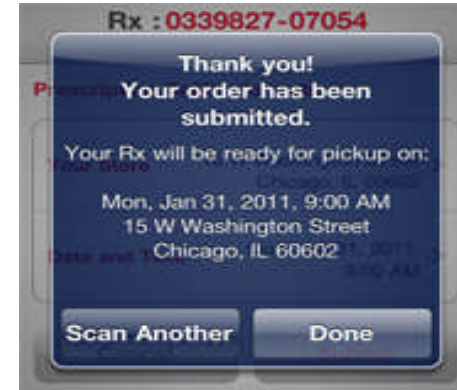
- Transaction and content systems of record
- Security often originates here

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AoC success means you adapt-to-survive

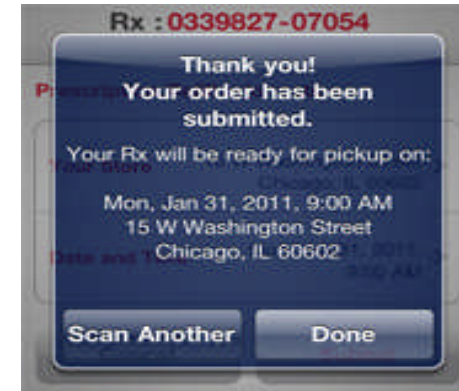
- › SoE apps in retail pharma – Walgreens:
 - Single mobile app, many functions
 - Result: +50% of online prescriptions now filled via mobile
 - Result: Mobile customers spend 4x-6x what store-only customers spend



AoC adaptation brings new perspectives on “data”

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- Single mobile app, many functions
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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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 - SoE will drag your systems-of-record toward (more) continuous delivery

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

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 - 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

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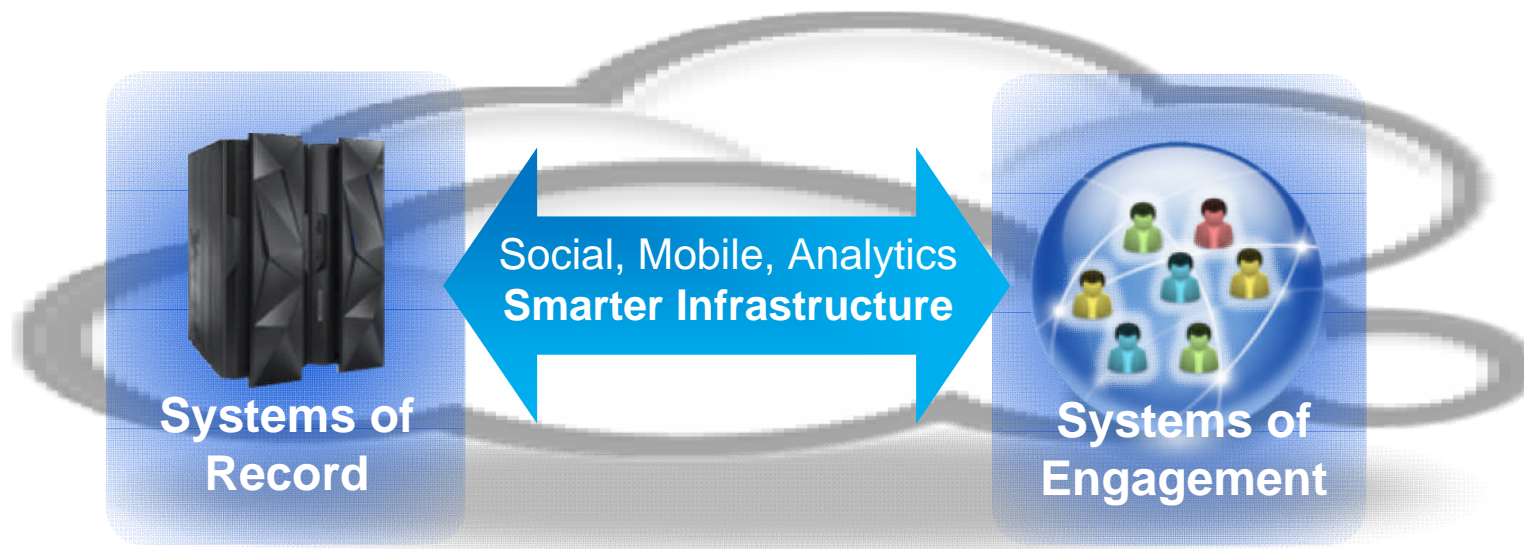
mfacemire@forrester.com

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



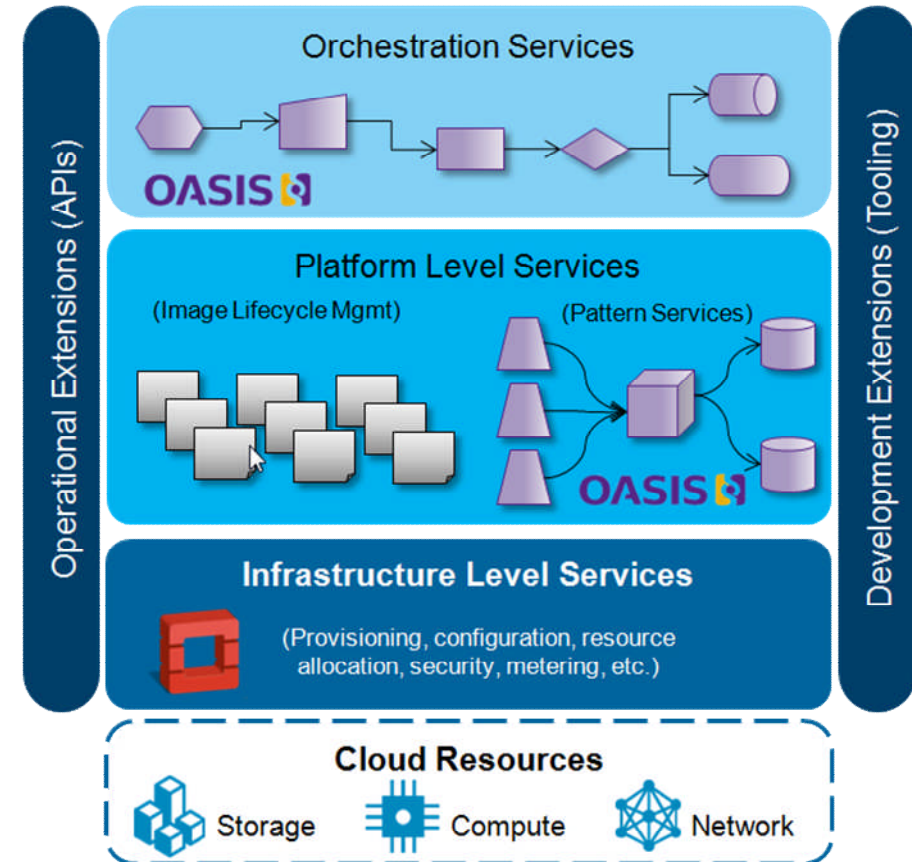
Top Mobile Adoption Concerns:

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

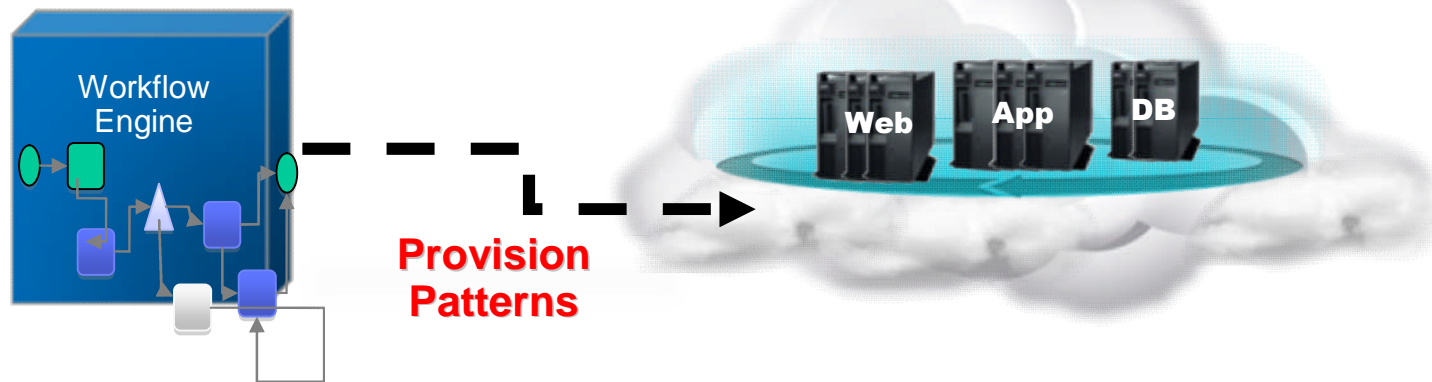


Benefits:

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



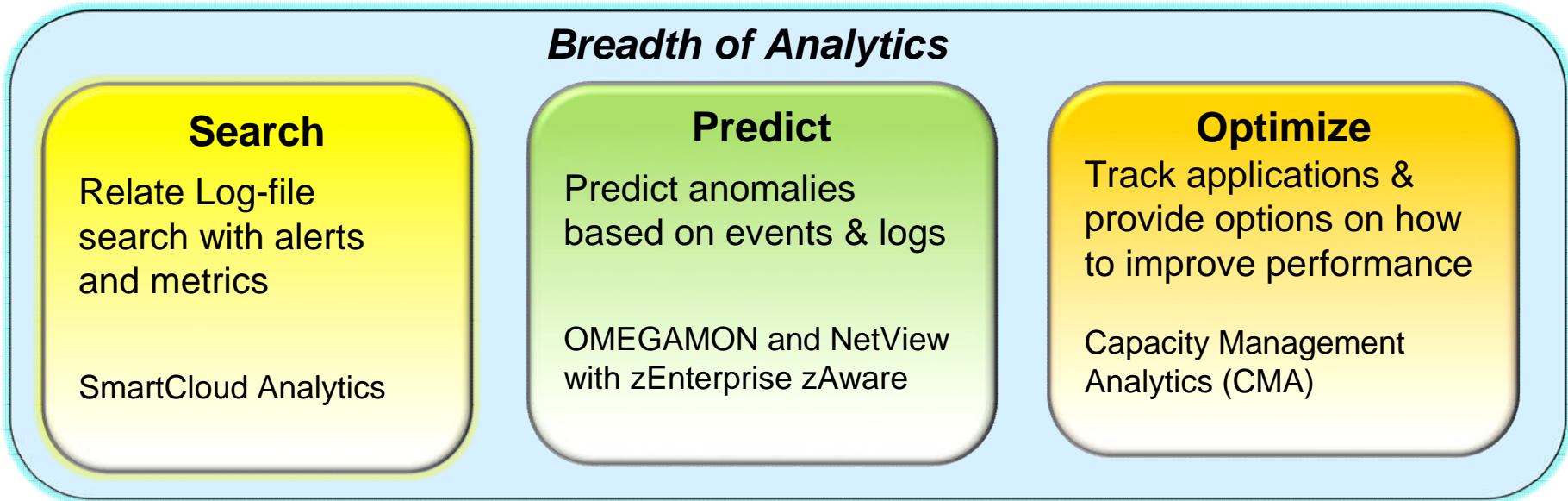
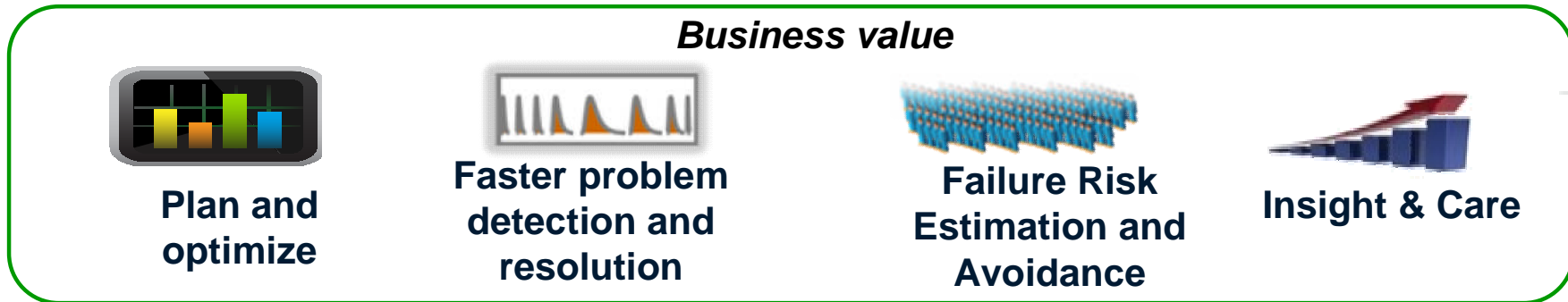
Manage all components of Data Center Lifecycle with Cloud based on open standards fit for purpose approach **SmartCloud Orchestration**



<p>Resource Management Onboard, provision, manage CPU, Storage and Network</p>	<p>Workload Management Workload aware placement, optimization and operation</p>	<p>Service Management 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

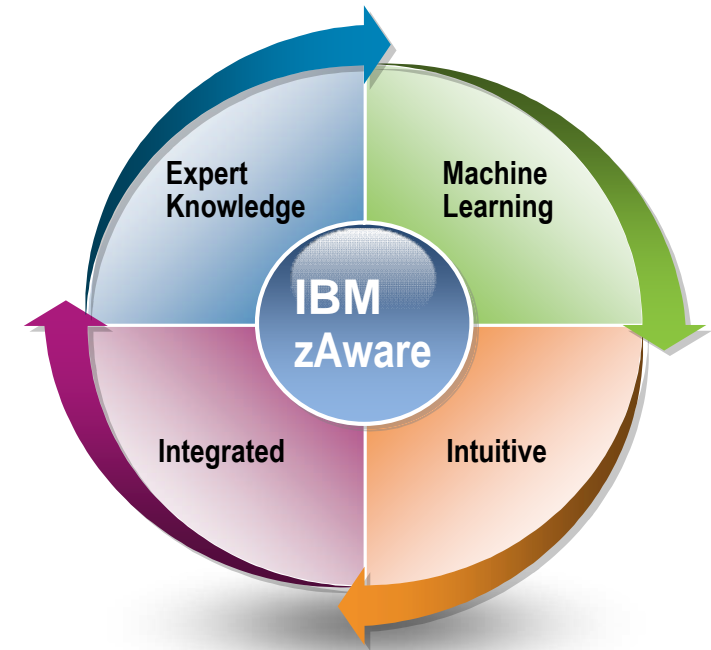




Predictive analysis for improved availability with enhanced monitoring and management in OMEGAMON

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



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



Thank
You

<http://www-01.ibm.com/software/os/systemz/itsm/>