

A decorative graphic in the top left corner consists of several overlapping circles of various colors (yellow, orange, red, purple, blue) that are divided into segments, resembling a stylized sun or a cluster of data points.

# System z in the Mobile World

**Sophia Lopez**

Manager, Product Line Management

Application Infrastructure Middleware z Software



Celebrating 50 years



**Make the extraordinary possible**



**Robert LeBlanc**  
Senior Vice President  
IBM Software Group

**IBM MobileFirst**

<https://www.youtube.com/watch?v=ZFLLER32pQE>



# Hot topics today



Are you ready for the future?

Be prepared



*Technology shifts will change the way businesses deliver value*

*What you will see with rapid data and social sharing is the **death of the average and the era of you.***

***Businesses will be able to truly serve the individual.***

Ginni Rometty  
CEO, IBM





## **Poll: How far along is your company on mobile?**

1. We have no mobile applications or plans.
2. Some of our websites are mobile-ready.
3. We have an app or mobile site in planning stages.
4. We have implemented an app or site.
5. We have a companywide mobile strategy.







A hand holding a black smartphone is the central focus, set against a background of a large, vibrant red and orange flower. The text "MOBILE MOMENT" is overlaid in large, white, sans-serif capital letters.

# MOBILE MOMENT



# It's official - we're the leader in mobile trading

Access innovative technology so you can research and trade anywhere

Exactly what you'd expect from the firm with the most mobile accounts and trades per day. We offer innovative ways to stay active and connected to the market while on the go - giving you the power to manage your account, create customizable interactive charts, and access live streaming news from CNBC.



TD Ameritrade Mobile

TD Ameritrade Mobile Trader

**Customer Ratings**  
Current Version:  
★★★★ 10 Ratings  
All Versions:  
★★★★ 1319 Ratings



## Customer Reviews

### Streaming Quotes – Gone ★

by mmherman

As far as I can tell, **the new version today (6/4/14)** just went back to the previous version from two days ago. I now get real time streaming quotes, but the **pull down refresh in Combined Accounts view stopped working.**

[...More](#)

### Real-time quotes broken ★★★★★

by groovyboy

The last **app update (June 4th)** seems to have broken real-time quotes, now displaying on the Quotes screen: "Real-time quotes unavailable / Streaming offline this session".

Still, this is an excellent app for managing your portfolio. TD Ameritrade has done a fabulous job with their online

[...More](#)

### What happened to real time streaming quotes?!? ★

by Yonger


"Real time quotes unavailable." "Streaming offline this session." What???? What good is a trading app that doesn't offer this? It looks like the position quotes will be real time, as long as you reload, but no streaming. I thought this was a glitch, but have spent an hour to try and figure out how to get real time streaming quotes. Cannot understand this.

[...More](#)



## Smart Patient About

- My Numbers >
- My Appointments >
- My Checklists >
- Doctors' Orders >
- The Dr. Oz Show >
- Smart Patient Videos >



**What's a Smart Patient?**

## Doctor Visit Back Uncheck

**Add question** >

What to bring to the appointment

- Insurance card/information
- Health profile/history
- Medication list
- Questions on new symptoms, treatments or conditions

Questions:

- How's my health overall?
- Are you concerned about any aspect of my health? Which one(s) and why?
- Are there any tests I should have based on my age or for other

## Blood Pressure Back

**Record today's blood pressure** >

Blood pressure at most recent reading:  
**120/80**

Goal is: 120/80 or less  
Date last recorded: 22 July 2013



Blood Pressure

### Customer Ratings

Current Version:  
★★★ 11 Ratings

All Versions:  
★★★★ 44 Ratings

**Absolutely useless** ★☆☆☆☆

by MarkC514 – Sep 19, 2013

This is just a note taking app. No links to my healthcare at all.

Was this review helpful? Yes | No | Report a Concern

**This app is a joke** ★☆☆☆☆

by DJSSeattle – Sep 21, 2013

In anticipation of switching from Group Health to United Healthcare, I downloaded the United Healthcare app. I read the reviews of the app and was a little dismayed at their negativity. Now that I have seen the app, I must say, it is worthless. In fact, it is scary that you think so little of my health that you put out a generic piece of marketing department pablum. Let me point you to Group Health's app as a very good standard. On GH's app, I was able to log in; make appointments; see my lab results; re-order medications; email my healthcare team; and more. You are not creating a good customer experience and, more importantly, you are dealing with a cornerstone of my life.... my health and well being. Get it right! If this system allowed me to rate you with negative numbers, I would.

Was this review helpful? Yes | No | Report a Concern

**Useless** ★☆☆☆☆

by chokoboi – Dec 25, 2013

No information about my account available

Was this review helpful? Yes | No | Report a Concern

**Useless useless useless it has no insurance information** ★☆☆☆☆

by Brianthelion555667 – Jan 17, 2014

If this is a health care app then Evernote does a better job! This app has no link or relation to anything related to your united healthcare policy, coverage, claims or health insurance. It really is a waste of storage and bandwidth. If having an app is a decider in choosing a health care provider then you should really choose someone else!

Was this review helpful? Yes | No | Report a Concern

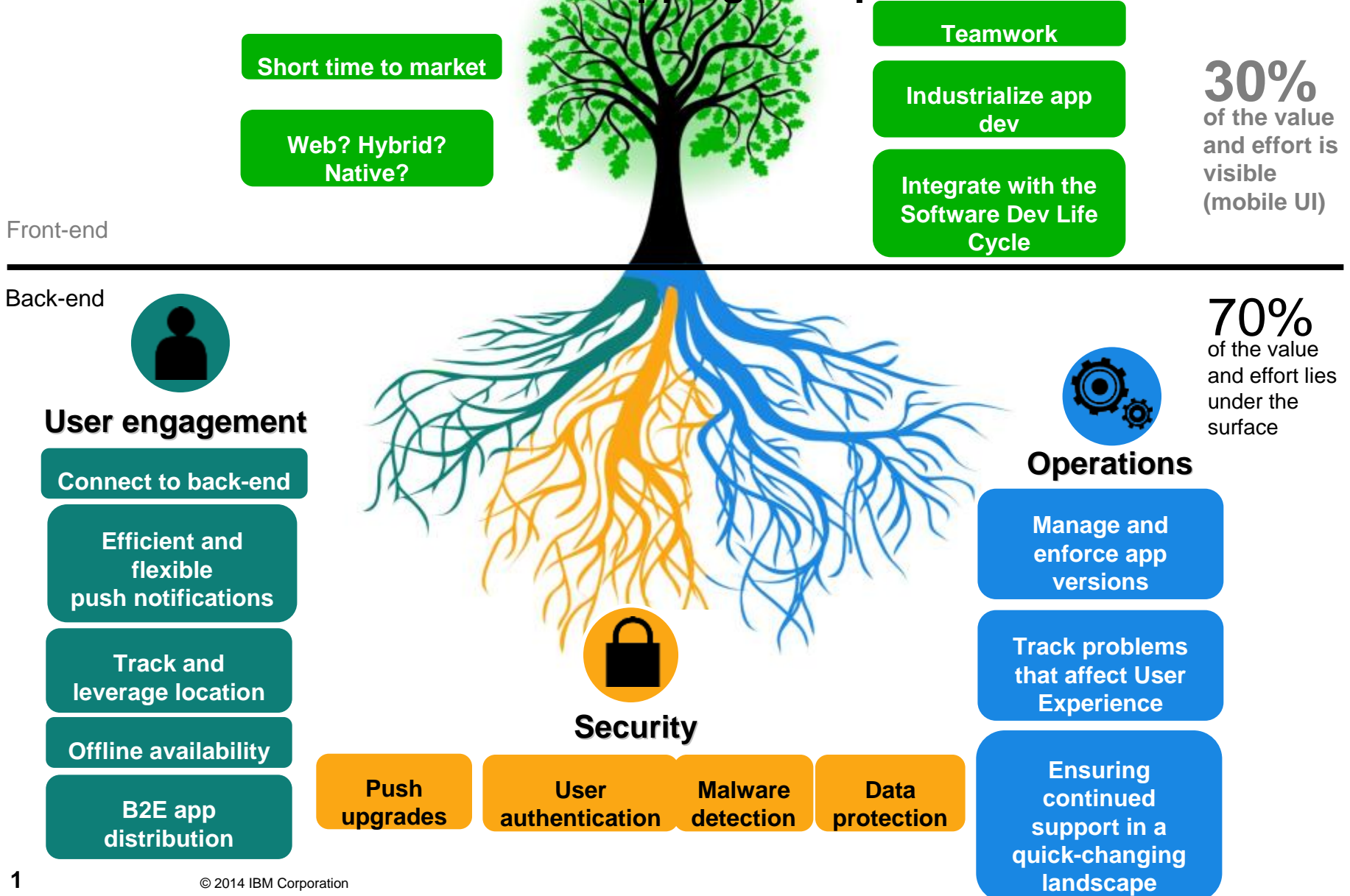
**Useless!!!! I cannot believe it....** ★☆☆☆☆

by A-Gabi – Jun 11, 2014

Did UH pay for the good reviews!? This app is a joke. At first, I thought I was missing something but after trying to better understand I realized that there is nothing to learn. I cannot believe a company like UH had the courage to create this app. I'm extremely disappointed. I cannot keep track of anything related to my benefits, deductible & out of pocket I have spent. I'm pregnant & was hoping you guys would create something useful!!!!



# Infrastructure Matters - Mobile apps go deeper than front-end UI



A dramatic landscape featuring a vast green field in the foreground, a dark treeline on the horizon, and a stormy sky with a bright lightning bolt striking down on the right side. The text "What's Next?" is overlaid in white, sans-serif font across the middle of the image.

What's Next?



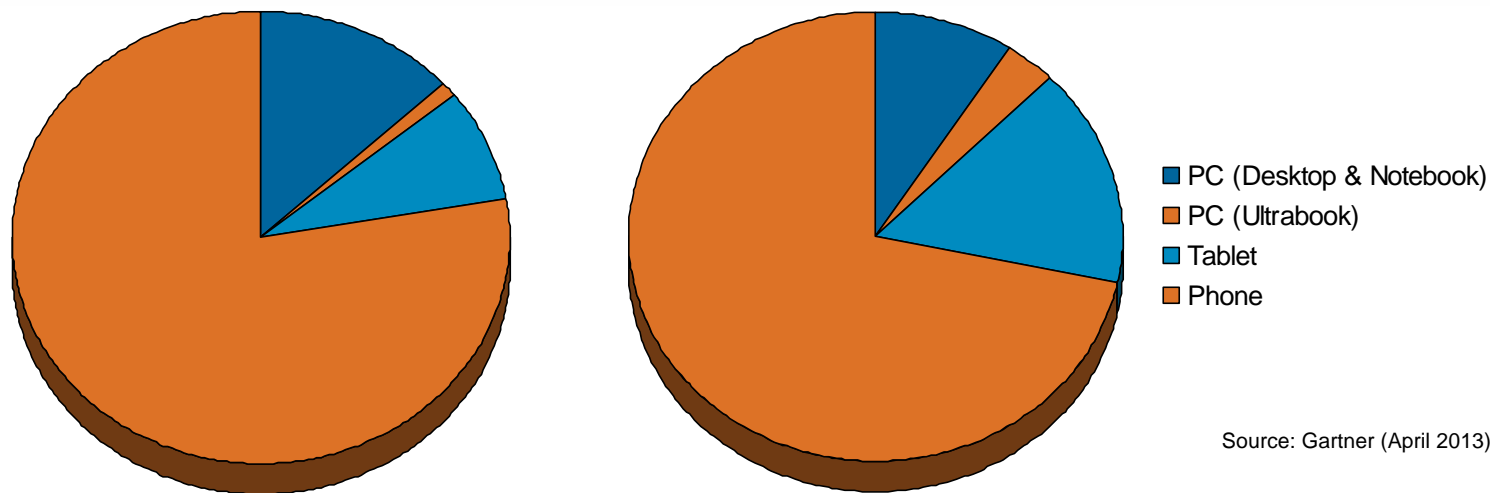


# Mobile Internet users will surpass PC internet users by 2015

The number of people accessing the Internet from smartphones, tablets and other mobile devices will surpass the number of users connecting from a home or office computer by 2015 (IDC, September 2013)

2013

2017



Source: Gartner (April 2013)

Mobile has already superseded the Web  
Web is the new legacy!



# Square

## **Square**

\$16 billion in mobile transactions



**JIM MCCARTHY**  
SENIOR VICE PRESIDENT  
INNOVATION AND STRATEGIC PARTNERSHIPS  
VISA

<https://www.youtube.com/watch?v=k0EU9zEWBMA>



What's Now?





# Small screens – a big opportunity for business growth



90 seconds

average response  
time to a text

10 billion+

devices accessing  
information

**Create** new services

**Access** new markets

**Deliver** timely information



Customer expectations driving need for even higher performing mainframes

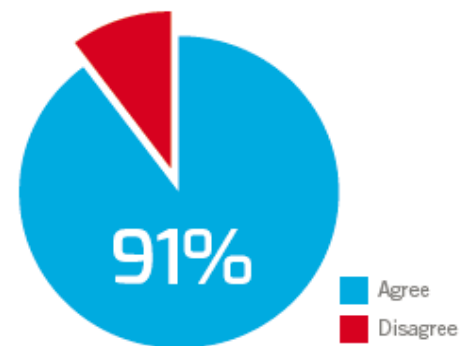
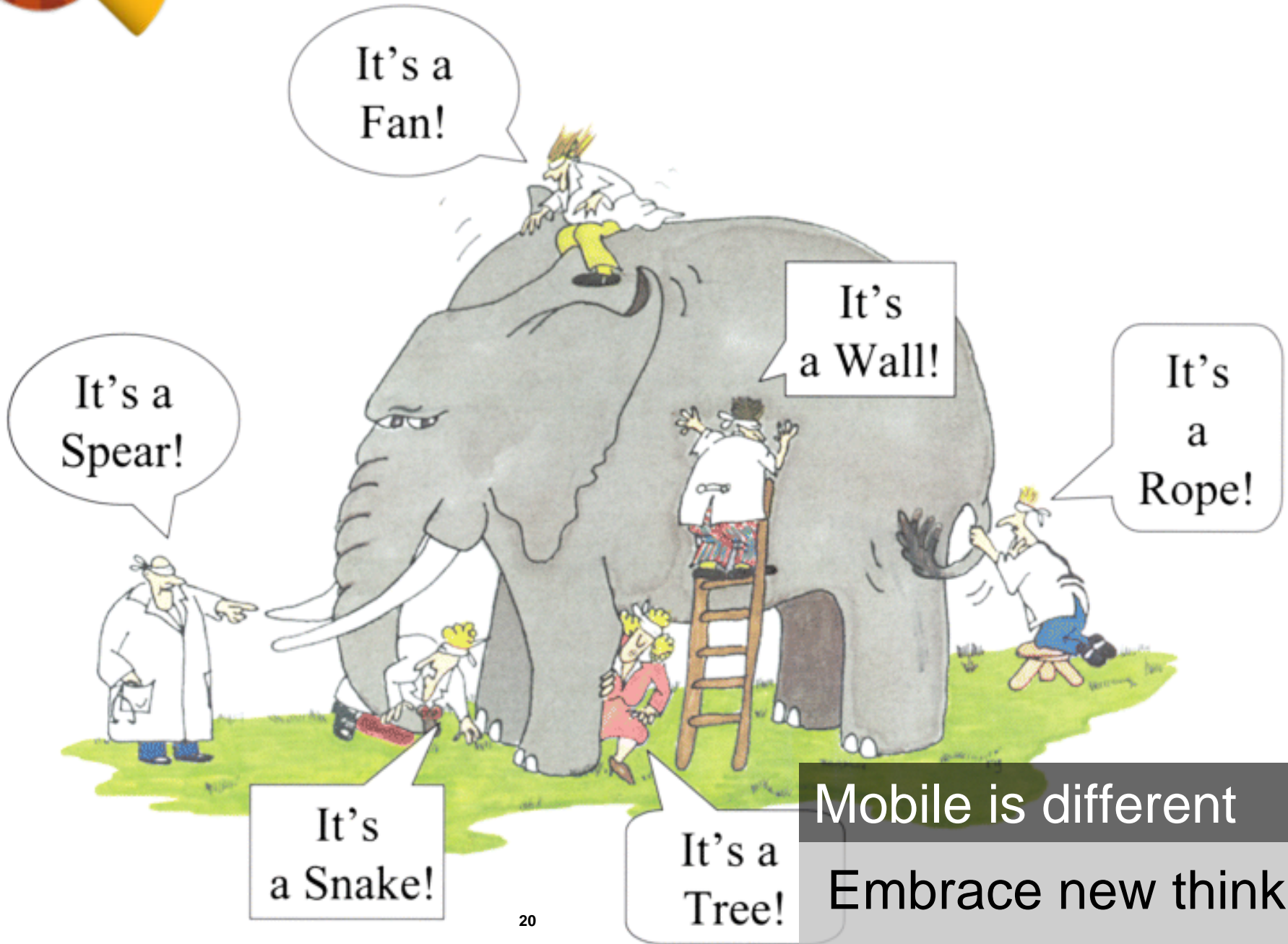


Chart 4: 91 percent of CIOs say now that customer-facing applications are using the mainframe and performance expectations on it have increased.





Mobile is different  
Embrace new thinking



# Mobile Growth = challenges for the data center



- **Inconsistent peaks 24/7 are common**  
*Peaks of data can occur any time of day as well as exploding micro activity levels and difficult to predict*
- **Increased system load**  
*Increase in overall transaction rates due to ease in accessing the data anytime*
- **New versions of apps occur weekly vs. yearly**  
*Customers expect new features weekly vs. once a year*
- **Development, control and support of apps and multiple devices is not standard**  
*Users are not sophisticated but want the app on their device support through non traditional methods*
- **Employees are bringing their own device to work (“BYOD”)**  
*200 Million employees do so today with access to confidential data*
- **Security is paramount**  
*Data must be secured from device to data*





<https://www.youtube.com/watch?v=tcRIH0nAsu4&list=PLezLS0Tuqb-5CQ66kegl-YzHvUso8CpL&index=4>



# System z addresses Enterprise mobile development and delivery challenges



## Fragmentation and developing for multiple mobile platforms

- Highly fragmented set of devices, platforms, languages, and tools complicates development, test, and operations



## IBM Worklight Studio and RDz

- Seamless integration with z data and transactions.
- Device runtime provides mobile device independence.

## Accelerated time to market requirements

- Accelerated development demands instant provisioning of development servers.
- Spikey mobile traffic demands highly scalable cloud-based infrastructures, for both SoE and SoR.



## System z Scalability

- System z Linux cloud enables rapid provisioning of Worklight servers.
- z/OS is highly and easily scalable to handle workload increases.

## Connecting apps with existing enterprise systems

- Apps typically need to leverage existing enterprise services, which must be made mobile-consumable, and remain secure.
- Enterprise systems must be able to instantly provision new services and environments.

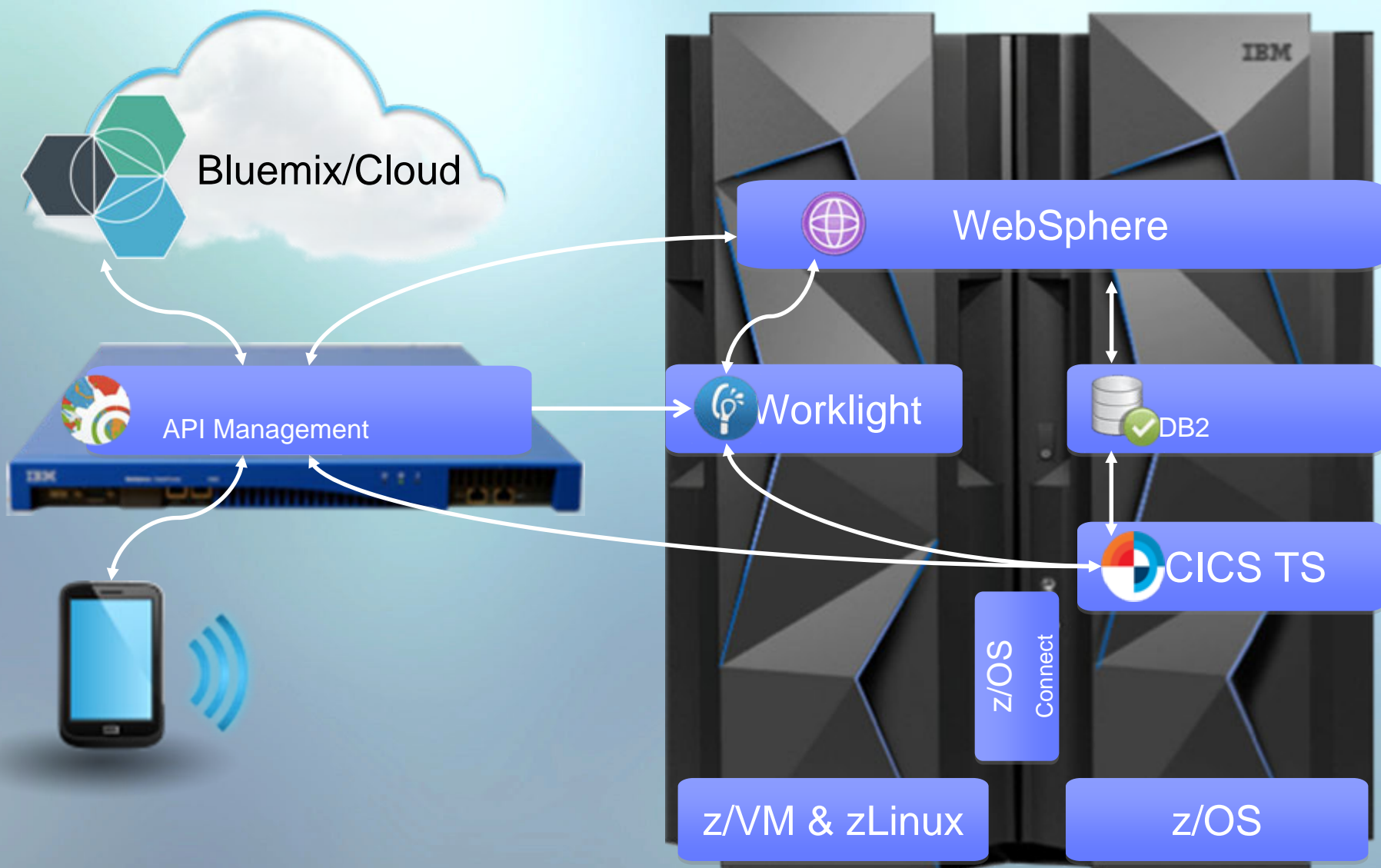


## z/OS is mobile enabled

- z/OS subsystems are mobile-ready, with consumability enhancements planned. Eg: MongoDB API for DB2
- End to end mobile security.
- System z Solution for Mobile
- High-performance access from z/Linux



# Systems of Engagement meets System of Record







# System z unique characteristics to support mobile applications



- Easy-to-consume APIs from CICS, DB2, IMS allow you to leverage your investment in z/OS transactions to quickly add a mobile channel.
- z/OS enables massive and simple scalability in a single footprint, to handle the workload of millions of devices and sensors
- Worklight security integrates with z/OS security providing end-to-end security and data privacy for mobile apps.
- z/OS Workload Management ensures your crucial applications remain responsive during sharp spikes in demand.
- **Low-latency I/O.** Mobile usage patterns favor short, read-only data requests (Users check account balances) So fast access to operational data, with low latency, is key. The mainframe offers exceptional I/O with dedicated hardware I/O processors. This reduces latency, which increases mobile app response times.
- **Business Resiliency for critical mobile apps**

## 70% of mobile applications touch a mainframe system

Infrastructure matters for mobile applications. The System z platform's scalability, security, and resilience can enhance critical mobile applications.





# New System z Mobile Workload Pricing

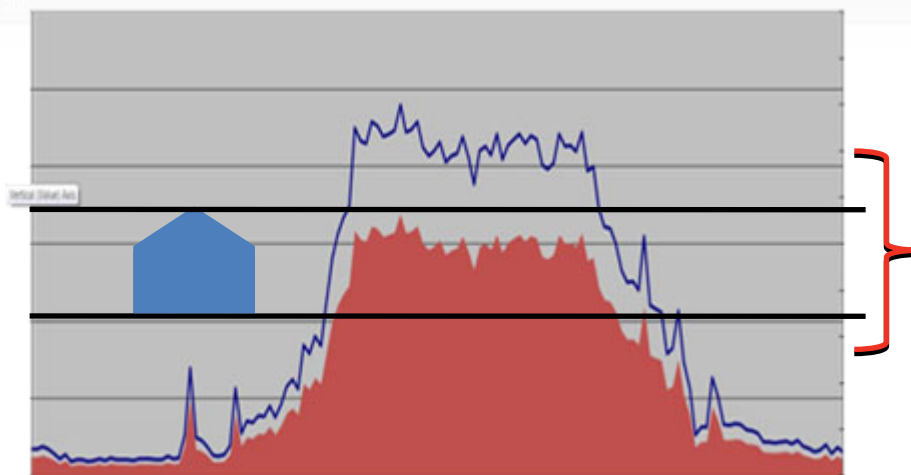


Enables IT investments to scale with growth & business returns of mobile



**No Infrastructure Changes Required**

**Improving the economics of mobile computing**

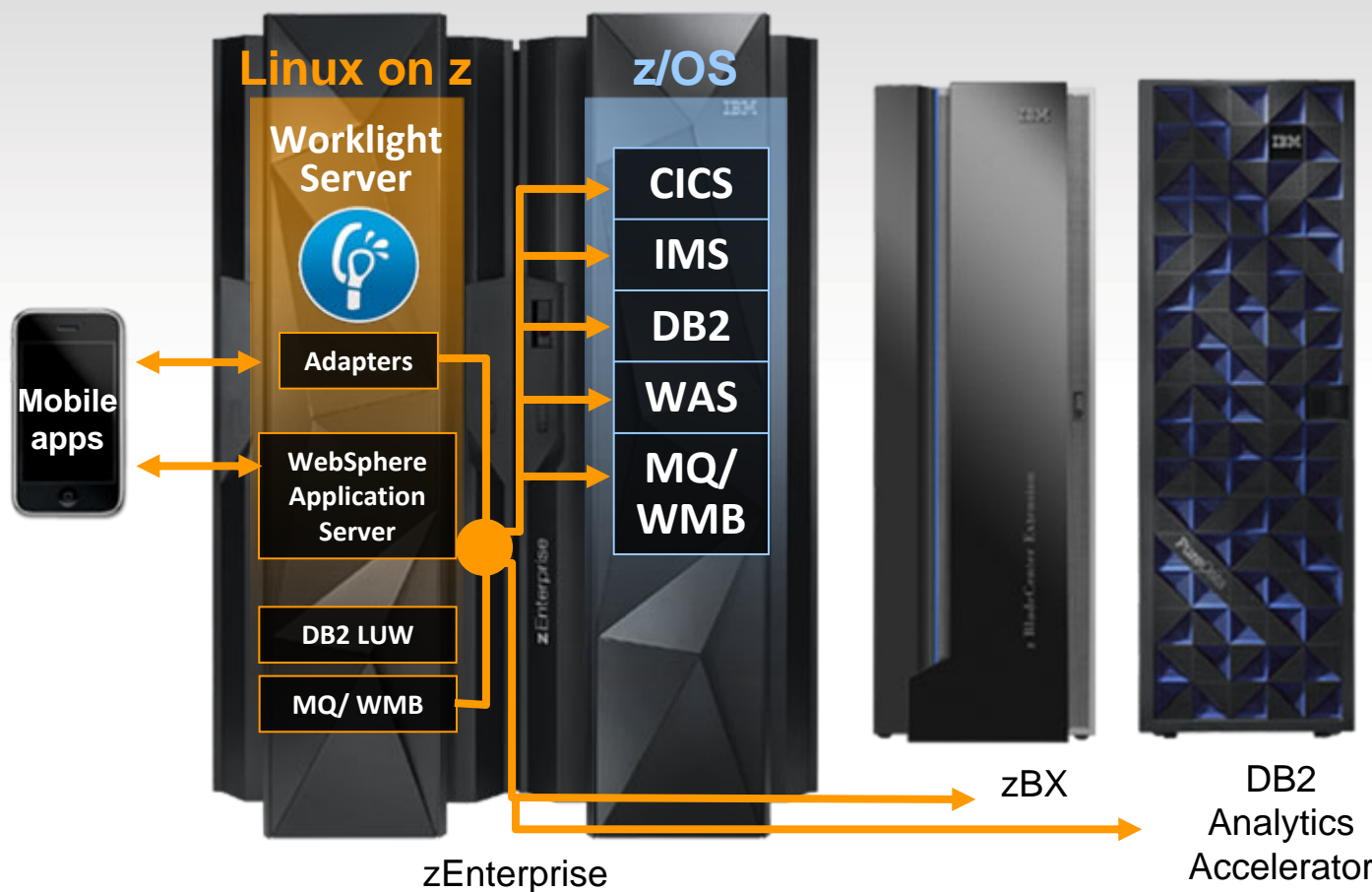


**Up to 60% reduction in incremental growth from mobile transactions**

*Enhanced sub-capacity reporting providing up to a 60% reduction in incremental peak workload growth resulting from mobile transactions.*



# Connecting mobile apps on zEnterprise




- **Server side software components and adapters for channeling System z to mobile devices** with IBM Worklight Server

- **Mobile application support** with WebSphere Application Server on System z

- **Mobile protocol connectivity with core System z applications** including CICS, IMS, MQ, IIB and DB2





# Reaching new mobile heights



# Simplify with a platform



# Mobile First means diverse set of decision makers and needs

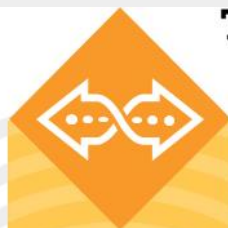


*(CxO, LOB Exec)*

Drive revenue and productivity through mobile  
Transform the value chain with mobile

**Transform**

Create new value  
at the moment  
of awareness



*(CMO)*

Create deeper engagement  
by delivering contextually  
relevant experiences

Discover new opportunities  
using mobile information



**Engage**

Connect  
with customers  
in context



**Build**

Develop and run  
applications

*(VP Apps, Developer)*

Deliver differentiated mobile apps that run on any device quickly and iterate often  
Unlock back office capabilities to create better front office engagement



*(CIO, IT Exec, CSO)*

Manage and Secure the  
mobile enterprise

Enable our employees to work  
anytime and anywhere

Ensure trusted mobile  
interactions

**Optimize**

Secure & Manage the mobile  
infrastructure to optimize  
performance





# Rapid multi-platform development using a single shared codebase



## From the complexity of many...

- Multiple sets of tools & frameworks
- Four codebases to develop and maintain



## To the simplicity of one

- One development environment
- One codebase to develop and maintain







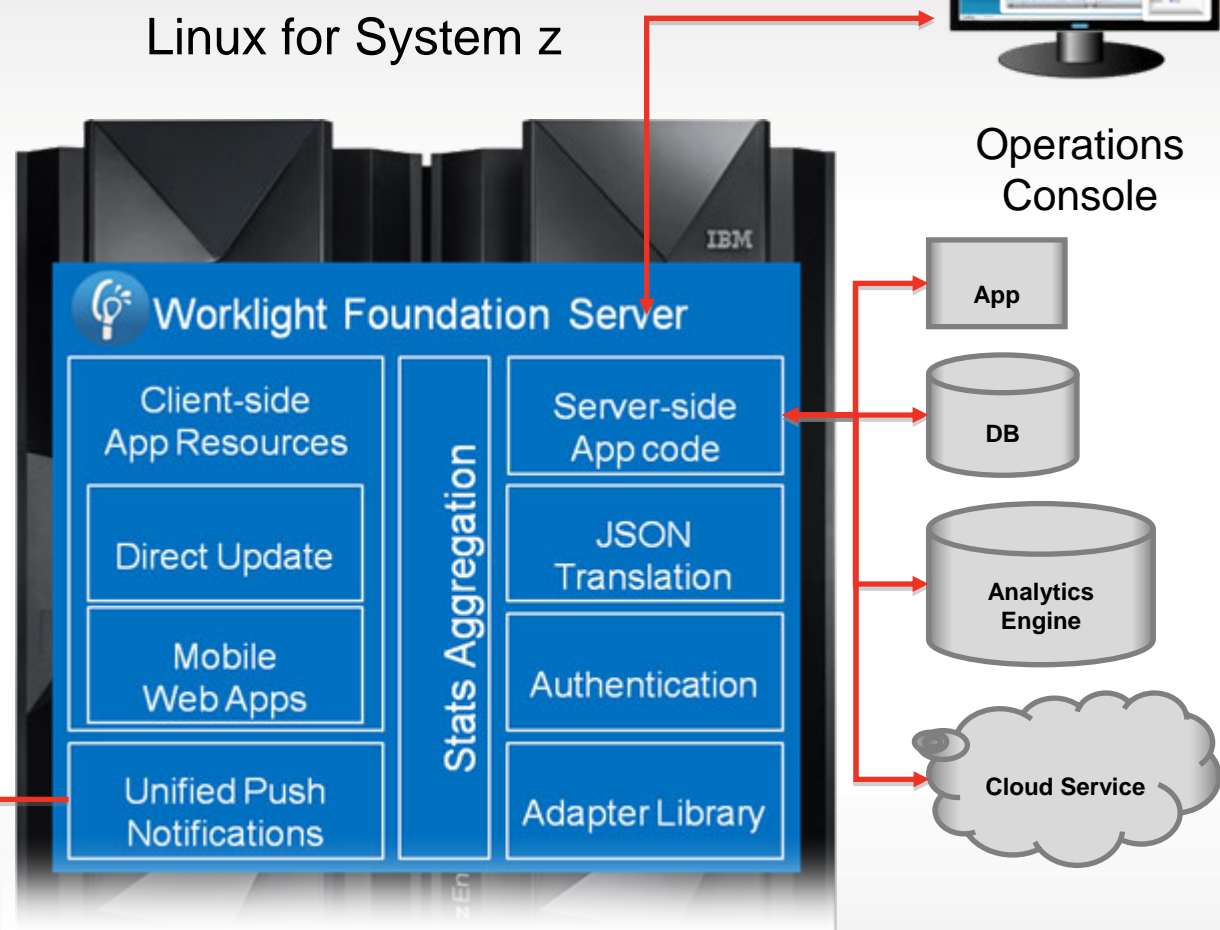
# Worklight Foundation Server: A control point for mobile enterprise access

- Authentication and caching
- Mobile application management
- Push notifications

## Enterprise App Store



Linux for System z





# How Customers are Leveraging System z Transactions and Data Today

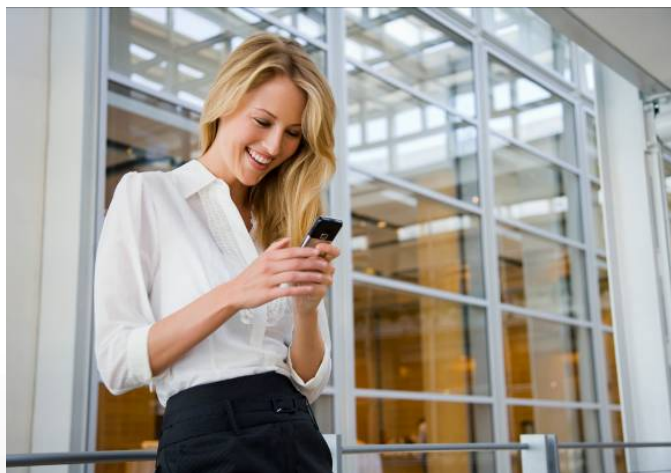


*System z is the Smartphone's Coolest Accessory and the foundation for a mobile enterprise*

**150M** monthly mobile banking transactions with **< 30 milliseconds** end-to-end response time



Avoids **\$1.5M** per year in energy costs, while growing mobile transactions



Brings the branch to the client and enables personalized services to support **10M** new customers

Large UK Retailer - New B2E mobile based inventory management system on System z keeps shelves freshly stocked with what customers want, saves over **2.4M** per year for ROI in only **16 days**



# Worklight on System z with CICS - 16-day ROI !



- 100 Managers making 10 trips of 10-minutes back to their screen a day
- $100 \times 10 \times 10 = 10,000$  minutes a day or walking back and forth to the screen across all the managers.
- $10,000$  minutes per day  $\times$  5-days a week  $\times$  48-weeks a year =  $2,400,000$  minutes per year or  $40,000$  hours
- Fully burdened rate of a DC Manager = £70k per Annum
- Cost per hour of a managers time =  $\text{£}70,000 / 48\text{-weeks} / 37.5 \text{ hours} = \text{£}38.88$  per hour
- Cost of wasted walking around time =  $40,000 \text{ hours} \times \text{£}38.88 = \text{£}1,555,200$

Or £4,260.82 per day

**If WorkLight cost £70K then this business case  
pays for itself in 16.43 days!**





# Build & integrate enterprise & mobile applications to optimize the customer experience



## IBM WebSphere Liberty z/OS Connect

Rapid and secure enablement of web, cloud and mobile access to z/OS assets

Discover z/OS assets  
Simplified connection  
Auditing and chargeback

Embedded in z/OS middleware:  
CICS, IMS, WebSphere Application Server  
Batch, UNIX applications

## IBM CICS Transaction Server v5.2

Enhanced mobile protocol support and flexible application lifecycle management in a cloud environment



## IBM Mobile Quality Assurance

Capture tester and live-user experience for building great mobile apps



## IBM Continuous Integration for System z

Compresses application delivery cycle from months to weeks or days





# z/OS Connect: Secure Enterprise Connectivity from mobile to mainframe



*Standard open API technology for securely connecting mobile and cloud applications to System z*

Discover/Reuse services

Simplify connection

Audit and chargeback

**Mobile-Optimized APIs**



**Cloud enabled**



**JSON-REST**



Integrates with standard z/OS middleware

**CICS TS**  
**IMS** (via IMS Connect)  
**WAS**  
**z/OS Batch**  
**z/OS UNIX®**  
**SAF security**



# Evolution – Cloud, mobile, API management...



...business and technology continue to accelerate

90% of all *phones in Africa* are *mobile phones*

84% of *companies* are *deploying cloud* in the next 24 months

By 2018 68% of all *Mobile Apps* will be *powered by APIs*



# Getting a fast start is essential

- 1.
- 2.
- 3.
- 4.
- 5.



None

Mobile Web

Enterprise mobile platform

Mobile analytics driving ROI

Mobile first omni-channel experience



None

Ad-hoc APIs

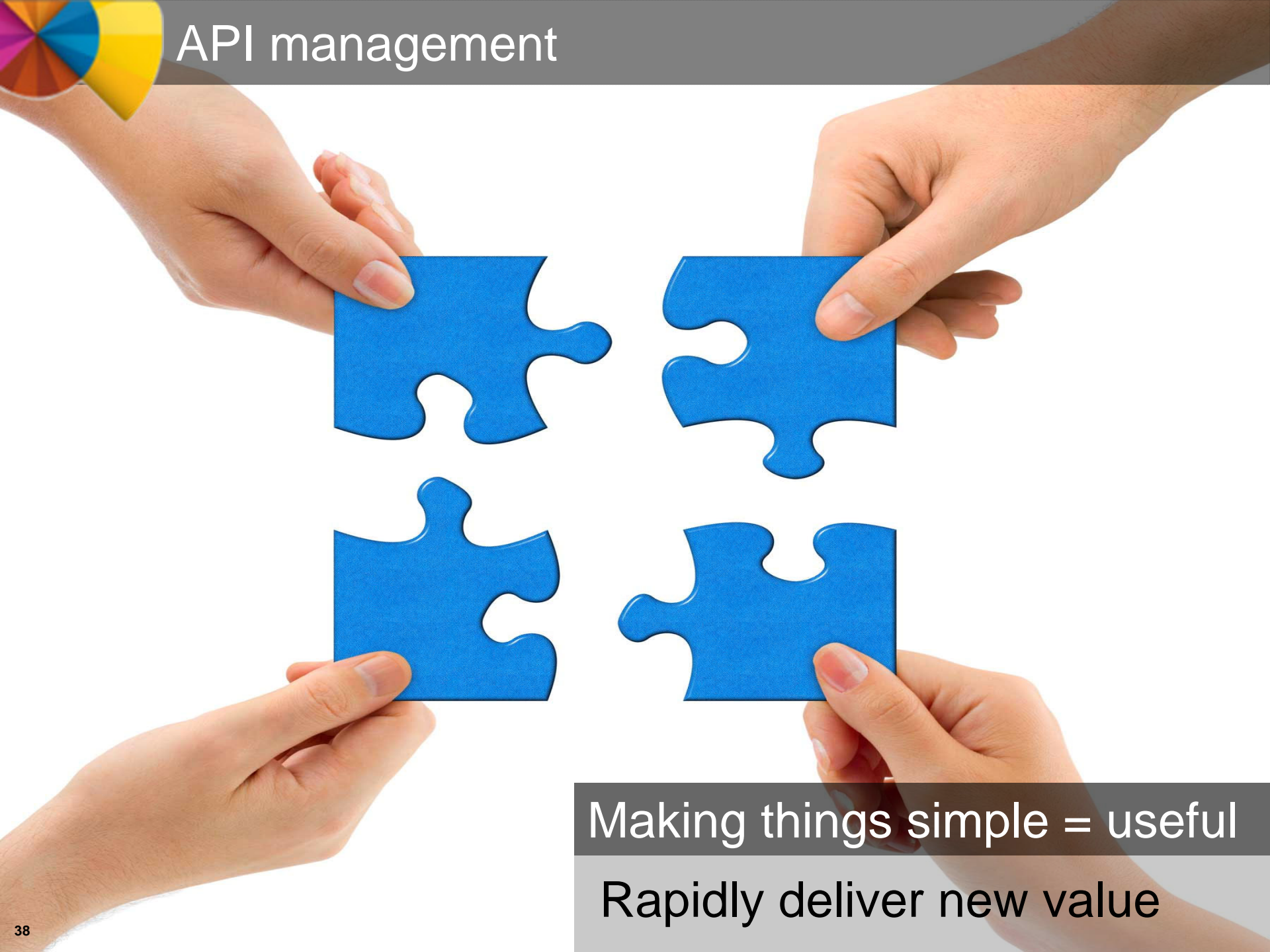
Standardized internal API catalogue

Security, chargeback and billing

Composable business and "APIs as a product"



# API management



Making things simple = useful

Rapidly deliver new value





## Standardize internally

- Build a service catalogue
- Understand billing & chargeback





# API Management



Make it secure  
Datapower





What once was private can make a profit



Share the wealth within kingdom  
Your unique services and data



## Systems of Engagement



## Systems of Record

- Select services from virtual shelf
- Snap together to create new apps & business processes



# Getting started with mobile



Make a start for the future...

- No cost IBM MobileFirst workshop
- Mobilize the Mainframe PoT July 9 RTP



# Schedule IBM On Ramp to Mobile Workshop



## Workshop



For Line of business and IT leaders seeking expertise and experience in developing, enhancing, and/or executing their mobile enterprise strategy.

## Client Value



- Industry expertise with top use cases and successes
- Capability assessment including identification of opportunities and gaps in mobile strategy
- A detailed client report and next steps

## Highlights



- Interactive discussion to understand client business drivers, pains and requirements
- Overview of IBM MobileFirst Strategy, technology and POV's
- Industry trends and imperatives
- Structured working session to outline next steps

To schedule a workshop, email: [ibmmobile@us.ibm.com](mailto:ibmmobile@us.ibm.com)

Half day interactive workshop with an IBM Mobile expert to help enterprises plan and develop a customized roadmap for success





# Getting started with API management

Make a start for the future...

- Sign up for free 90 day web API trial
- No cost API workshop on site






Remove the barriers

## Work across the enterprise

- Mobile Accountability
- Build an agile approach to develop applications



Celebrating 50 years - Let's do this together



**MAKE THE EXTRAORDINARY  
POSSIBLE**

