IBM MobileFirst and System z

Put your business in motion.
Build a mobile enterprise with System z

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Mobile Is Changing Interactions And How Work Gets Done

People are transacting on mobile
- The average mobile phone user checks their phone 150 times a day

This data is helping organizations deliver new value
- By 2020, 90% of new passenger cars sold will have some form of vehicle mobile platform, up from 10% in 2012.

But the experience of mobile is not yet meeting expectations
- 80% of apps are used once then deleted

Mobile transactions are generating unprecedented amounts of data
- Global mobile data traffic will increase 26-fold between 2010 and 2015, reaching 6.3 exabytes per month by 2015

Mobile enterprises leverage this data, putting the right information into the right hands at the right times
- By 2015, 2/3 of the workforce will own a smartphone, and 40% of the workforce will be mobile

As a Result, Leaders are Redefining Their Agendas

73% of CEOs
Are prioritizing investments in customer insights

82% of CMOs
Plan to increase the use of social media

74% of CIOs
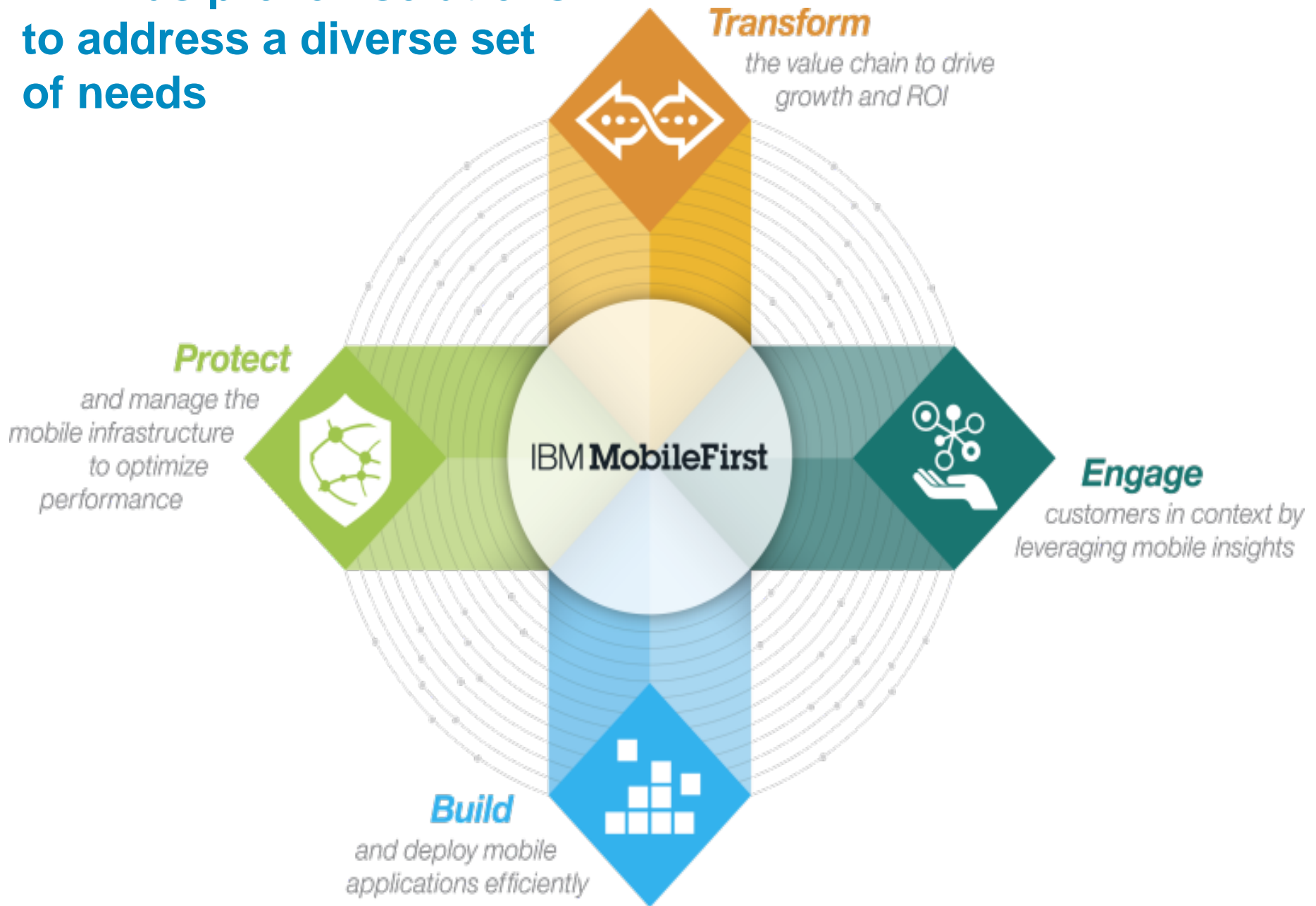Say mobile solutions are part of their vision for increasing competitiveness

70% of COOs
Identify supply chain visibility as the top challenge in delivering on their agendas

IBM has proven solutions to address a diverse set of needs

Transform the value chain to drive growth and ROI

Engage customers in context by leveraging mobile insights

Build and deploy mobile applications efficiently

Protect and manage the mobile infrastructure to optimize performance

IBM **MobileFirst**

Solving Key Business And IT Challenges with System z

Build
and deploy mobile applications efficiently

- Developing apps that integrate with information from System z data
- Customer demands drive need to rapidly develop, deploy and update apps with stability and compliance
- Deploy apps that access back-end systems with optimal performance

Protect
and manage the mobile infrastructure to optimize performance

- Protection of privacy and confidential information
- Policies for client-owned smartphones and tablets
- Visibility, security and management of end-to-end security
- Infrastructure complexity from multiple device platforms

Engage
customers in context by leveraging mobile insights

- Clients operate in a "4 screen" world
- Leverage mobile information to deliver deeper engagement
- Analytics on System z extending to mobile apps

Transform
the value chain to drive growth and ROI

- New process and business designs required for transformation opportunities
- Rapid and disruptive innovation shortening time to value requirements
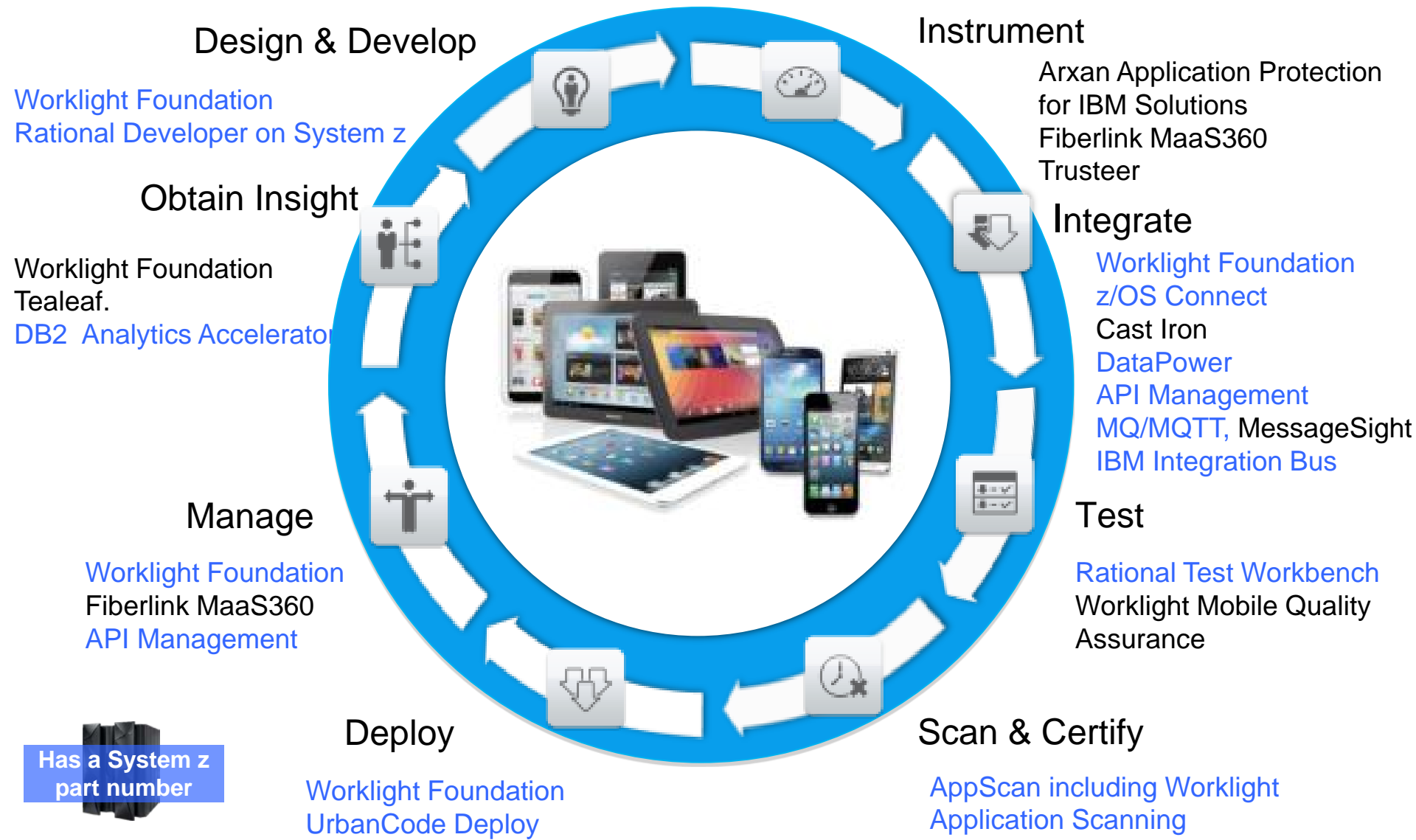
Build

and deploy mobile applications efficiently

IBM **MobileFirst**

With System z:

- Quickly develop, test and deploy quality mobile apps across multiple applications on System z

- Seamlessly integrate rich mobile apps with System z

- Leverage existing z/OS transactions and data in new mobile applications

Design &Develop · Instrument · Integrate · Test · Scan & Certify · Deploy · Manage · Obtain Insight

The System z mobile application development lifecycle

Design & Develop

Worklight Foundation
Rational Developer on System z

Obtain Insight

Worklight Foundation
Tealeaf.
DB2 Analytics Accelerator

Manage

Worklight Foundation
Fiberlink MaaS360
API Management

Instrument

Arxan Application Protection
for IBM Solutions
Fiberlink MaaS360
Trusteer

Integrate

Worklight Foundation
z/OS Connect
Cast Iron
DataPower
API Management
MQ/MQTT, MessageSight
IBM Integration Bus

Test

Rational Test Workbench
Worklight Mobile Quality
Assurance

Scan & Certify

AppScan including Worklight
Application Scanning

Deploy

Worklight Foundation
UrbanCode Deploy
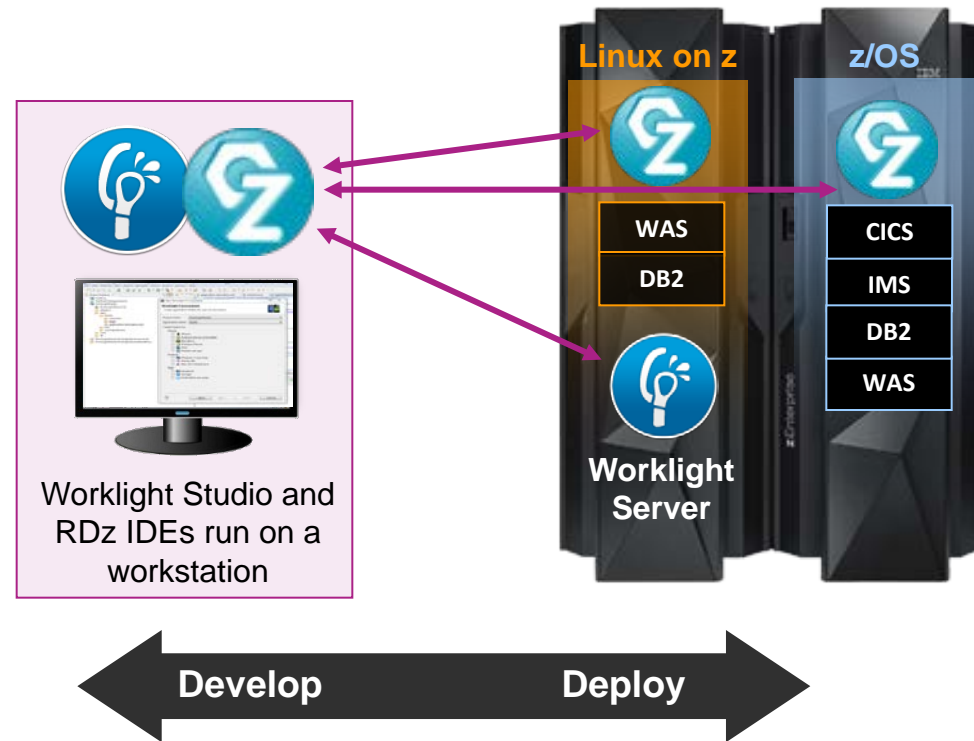
Has a System z
part number

Building mobile apps on the zEnterprise

1 **Advanced application development**
IBM Worklight integrated with Rational Developer for z Axian and AppScan

2 **Developer mobile tools with programming models**
WebSphere Application Server Developer Tools for Eclipse

3 **Application determination for support of mobile**
Rational Asset Analyzer

Linux on z

z/OS

WAS

DB2

CICS

IMS

DB2

WAS

Worklight Server

Worklight Studio and RDz IDEs run on a workstation

Develop   Deploy

Why build apps with System z Solutions?

Easily understand and extend z/OS applications for mobile

Rational Developer for System z (RDz) and Rational Asset Analyzer (RAA)

Simple wizards for mobile to z/OS integration

RDz

Interaction of System z components for mobile

RAA

End to end tooling for mobile and enterprise components of z/OS applications

Rational Team Concert and UrbanCode Deploy

✓ Common Eclipse-based IDEs for all types of mobile development

✓ Develop and test System z mobile applications anywhere, anytime

✓ Manage all types of code from JavaScript to COBOL

✓ Lifecycle Integration Adapters to leverage third-party tools

Connecting mobile apps on the zEnterprise

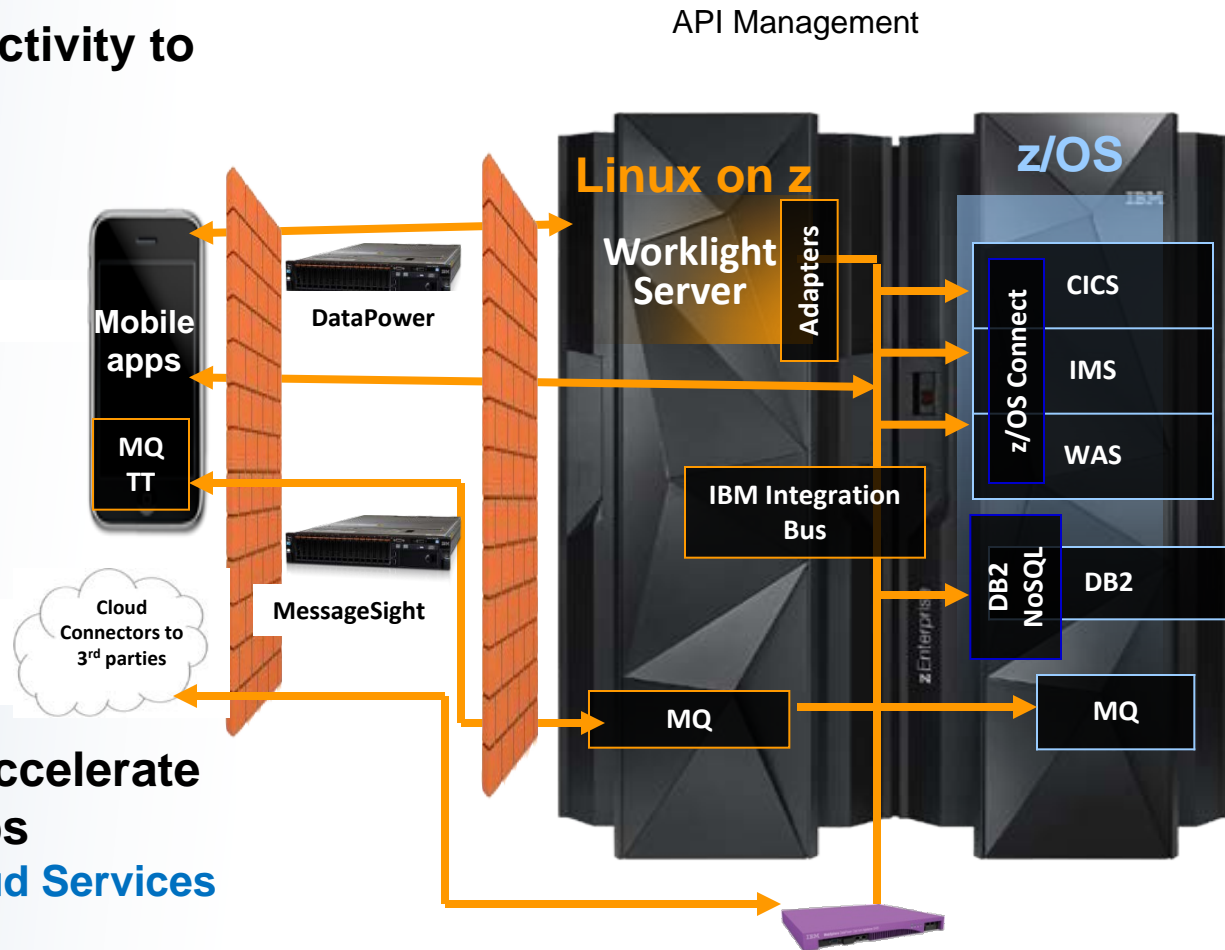**1** **Mobile protocol connectivity to System z applications**
z/OS Connect
API Management
DB2 NoSQL

2 **Extending enterprise apps to mobile**
IMS Mobile Feature Pack
CICS Mobile Feature Pack

3 **Scalable services to accelerate and enrich mobile apps**
IBM Bluemix Mobile Cloud Services

API Management

Linux on z

z/OS

Mobile apps

MQ TT

DataPower

MessageSight

Cloud Connectors to 3rd parties

Worklight Server

Adapters

IBM Integration Bus

MQ

z/OS Connect

CICS

IMS

WAS

DB2 NoSQL

DB2

MQ

Unmatched scale to support millions of transactions per day

Why connect apps to System z solutions?

Optimal mobile throughput and response time to mobile devices

Worklight Foundation on Linux for z

Direct interface from mainframe to mobile

z/OS Connect

Easily create, publish, manage and socialize API's for the enterprise

API Management

Leading SaaS enterprise applications

Cast Iron
DataPower

Advanced web protocol support with high performance

MQTT
MessageSight

Superior ESB environment for integrating mobile traffic

IBM Integration Bus

Complete Integration Solutions

Philippines bank **RCBC** transforms IT to gain 1.2M customers in one year

Solution

Developed mobile solutions using IBM Worklight platform and Rational Team Concert software workflow to track the development process, from code checkout to promotion to the target environment which extended their business beyond traditional brick-and-mortar branches

Benefits

Reduced new product launch times by 50 percent and increased its readiness to effectively compete in the marketplace, moving two to three years ahead of its competition.
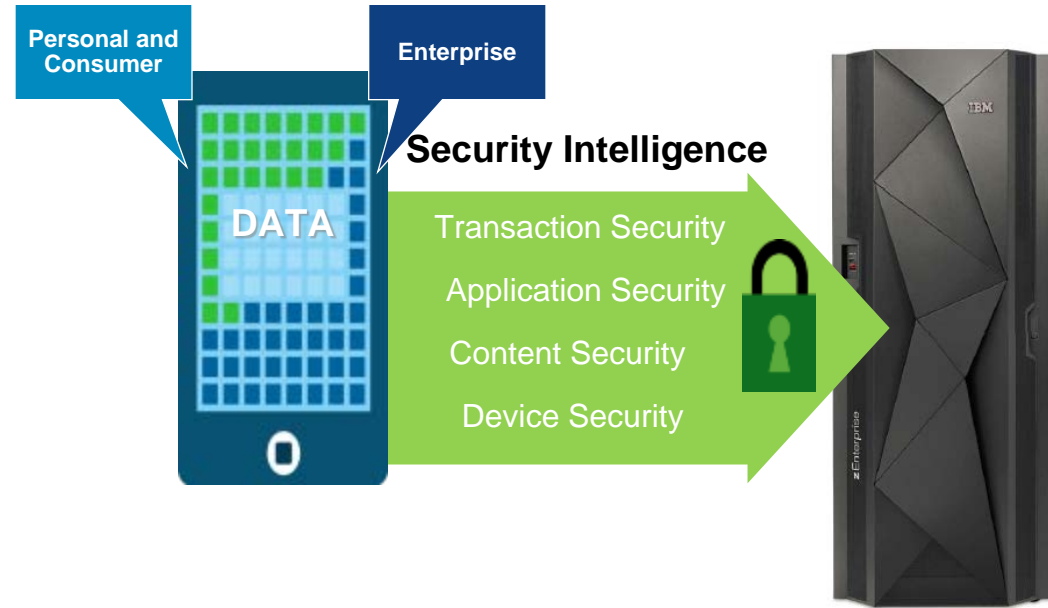
Challenges

RCBC needed an IT infrastructure to support a core-banking system that would help the bank improve efficiency, launch products faster and provide anywhere-anytime mobile access to banking products and services.

Protect
and manage the mobile infrastructure to optimize performance

IBM MobileFirst
With System z:

- Instrument applications with security protection from mobile to back-end systems

- Secure mobile transactions from customers, partners and suppliers

- Preserve native device experience without compromising security

- Separate personal and business data

- Provide intelligent access based on risk and location

Personal and Consumer

Enterprise

DATA

Security Intelligence

Transaction Security

Application Security

Content Security

Device Security

Enterprise Applications and Cloud Services

Securing mobile apps for sensitive data on System z

1 **Unified management and security control for mobile devices**
Fiberlink MaaS360
Trusteer

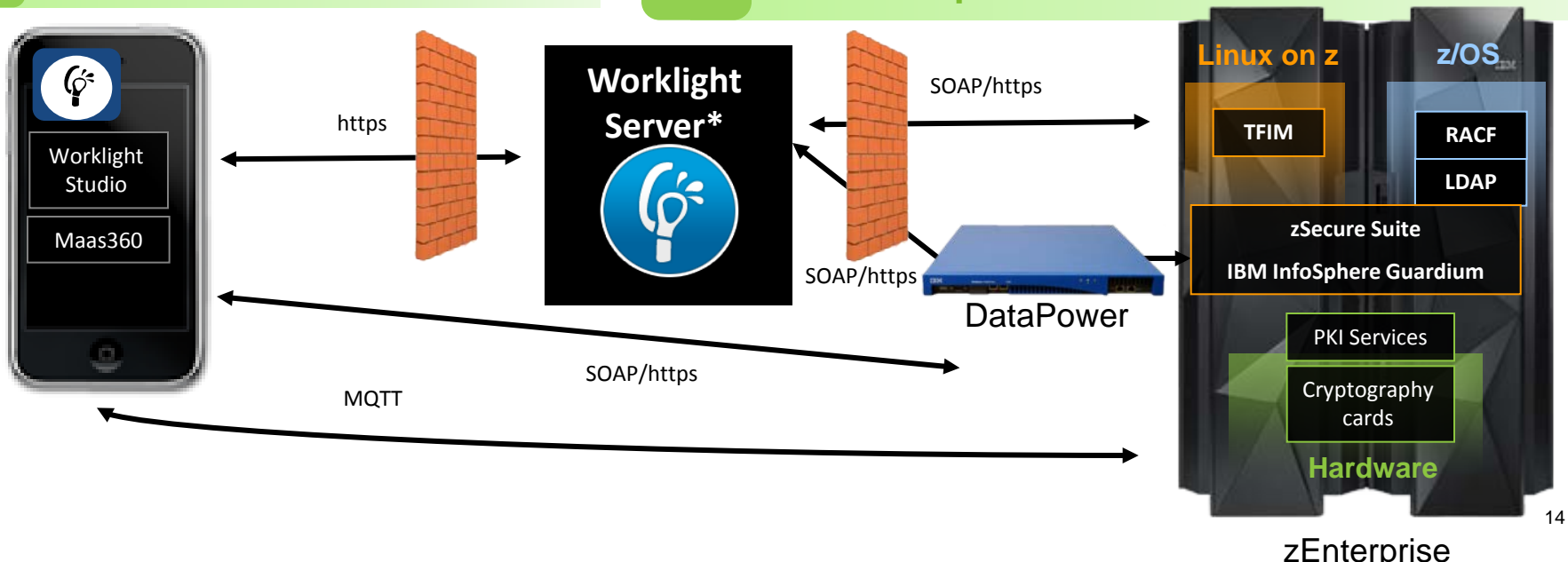**2** **Enforce web and mobile security policies**
IBM DataPower
IBM CastIron

3 **Protect against fraudulent and unauthorized access**
IBM Security Access Manager for Mobile
Arxan Application Protection for IBM Solutions

4 **Security foundation for System z mobile workloads**
IBM Security zSecure Suite, RACF, LDAP,
IBM Security QRadar SIEM,
IBM InfoSphere Guardium

Worklight Studio

Maas360

https

Worklight Server*

SOAP/https

SOAP/https

DataPower

SOAP/https

MQTT

Linux on z

TFIM

z/OS

RACF

LDAP

zSecure Suite

IBM InfoSphere Guardium

PKI Services

Cryptography cards

Hardware

zEnterprise

14

Why secure apps with System z Solutions?

Highest Level of security for operating system, hardware, applications and database

zEnterprise System, z/OS, DB2 for z/OS, IMS, CICS, PKI Services, Cryptography.

Easily authenticate and authorize mobile users connecting to mainframe

IBM Security Access Manager

Monitor real-time vulnerabilities in applications, databases, and operating systems on the mainframe

IBM Security zSecure

IBM InfoSphere Guardium for z/OS

IBM Security AppScan ,

✓ **End-to-end Security**

✓ **Real-time Security Intelligence**

UK's saving and mortgage **Nationwide** transformed from legacy core systems to a modern, real-time, multi-channel banking system

Solution

Used DB2 for z/OS to enable to operate in real-time and across multiple channels with resiliency and stability for managing millions of accounts. Used IBM security tools to manage different levels of access rights with ease.

Benefits

24/7 availability to support anytime, anywhere banking services, shorter time-to-market for new accounts, and ample scalability to support Nationwide's ambitious growth plans.

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Challenges

Nationwide knew that it needed to transform its service offerings to embrace new channels and personalized products.
Customers demanded an always-on, multi-channel banking system

Engage
customers in context by
leveraging mobile
insights

IBM MobileFirst

With System z:

- Quickly create and deploy personalized mobile campaigns and gain insights with analytic information from System z

- Maximize brand value by integrating the physical and digital experiences of mobile customers

- Receive timely, informative and interactive information to support decision-making, regardless of location.

Analytics solutions for mobile apps in the zEnterprise

1

Informative and interactive business intelligence
IBM SPSS and Cognos Solutions on Linux on System z
Next Best Action Solution on zEnterprise

2

Complex queries in seconds
IBM DB2 Analytics Accelerator for z/OS

3

Visibility into the customer mobile experience to optimize app design
IBM Tealeaf

DB2

DB2 Analytics Accelerator for z/OS

Mobile apps

Providing superior customer service at **Banca Carige** by launching innovative mobile services and analytics

Engage customers in context by leveraging mobile insights

Solution

Banca Carige built an analytics environment and a new mobile banking service using IBM software on IBM zEnterprise EC12 mainframes, which provide round-the-clock availability and high security

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Benefits

Launching new services meets changing customer demands, while the proven underlying technology accelerates deployment and reduces risk; consolidating to a single platform cuts cost and complexity. .

Challenges

Banca Cariage needed to develop an improved understanding of consumer behavior through analytics, and launch new mobile services that engage and retain customers through great service.

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Transform
the value chain to drive growth and ROI

IBM MobileFirst

Can Help You:

- Design new engagement models placing the customer first

- Use cost-effective workload mobile pricing on System z for competitive advantage

- Use Linux on z solutions to build new business models that drive revenue

In essence,
Reinvent Business with Mobile

Transform your mobile apps with System z

1 **Collaborate with IBM mobile experts and design new System z mobile innovation**

IBM MobileFirst Studios

2 **Develop cost-effective mobile solutions with System z**

IBM Workload Pricing on System z

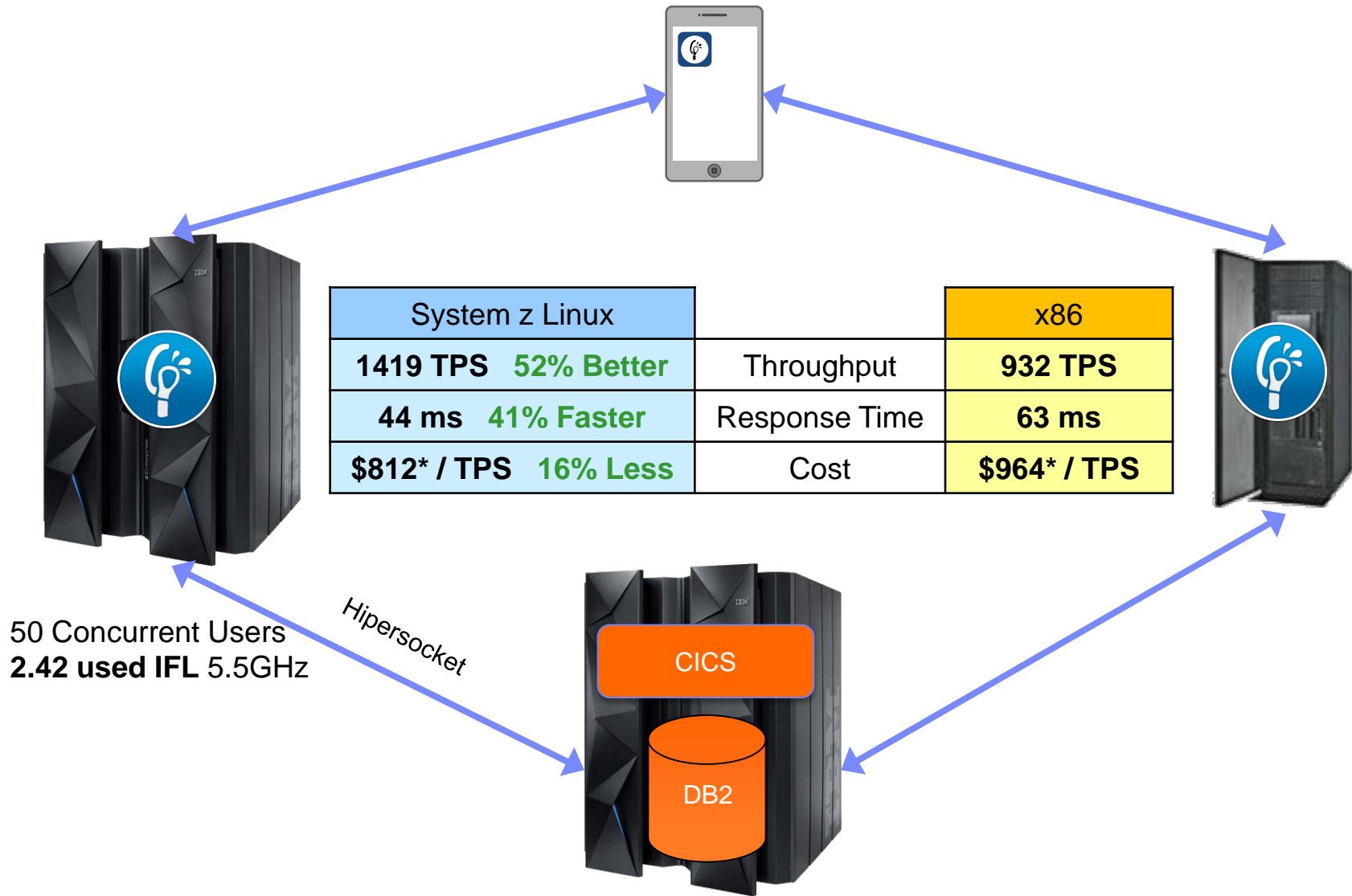**3** **Accelerate the Mobile Transformation Journey with System z solutions**

IBM Ready Apps

Linux on System z solutions

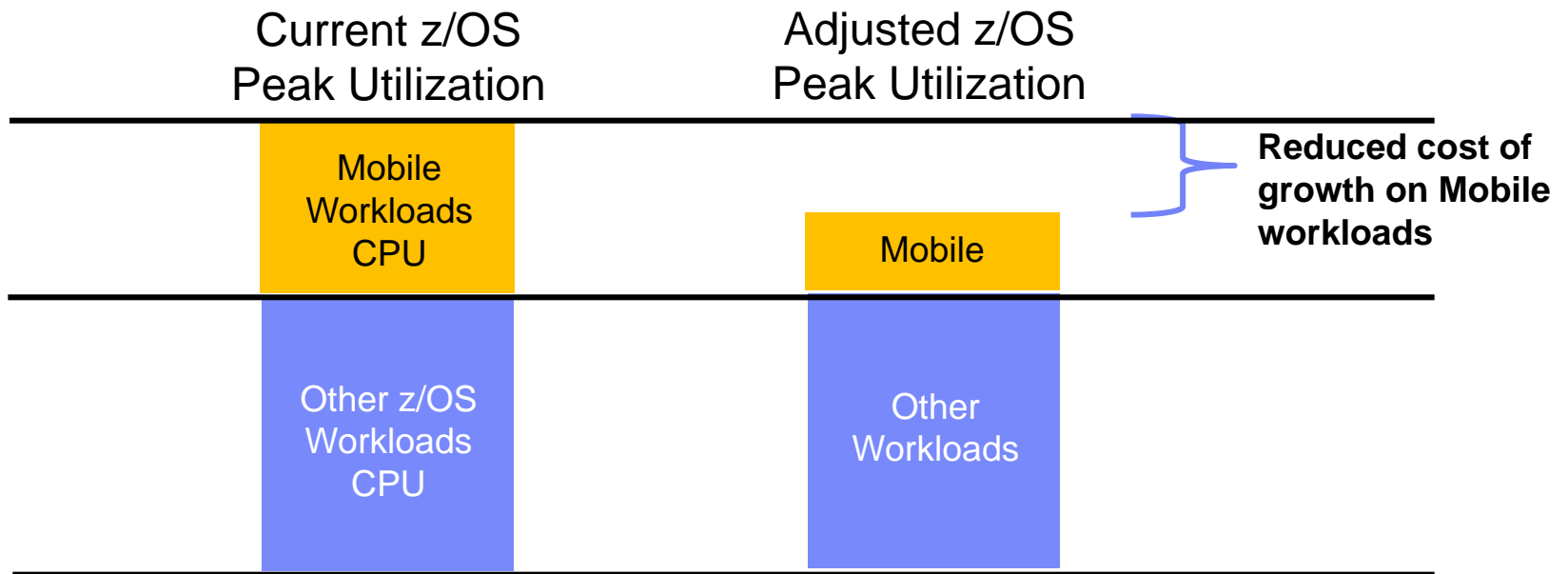# Worklight Server on Linux on System z Linux is cost-effective

System z Linux		x86
1419 TPS **52% Better**	Throughput	**932 TPS**
44 ms **41% Faster**	Response Time	**63 ms**
$812* / TPS **16% Less**	Cost	**$964* / TPS**

50 Concurrent Users
2.42 used IFL 5.5GHz

Hipersocket

CICS

DB2

* 3-Year TCA for Worklight Server (Front-end) for Prod + Dev/QA + DR. Rounded cores to 3 for the cost study.
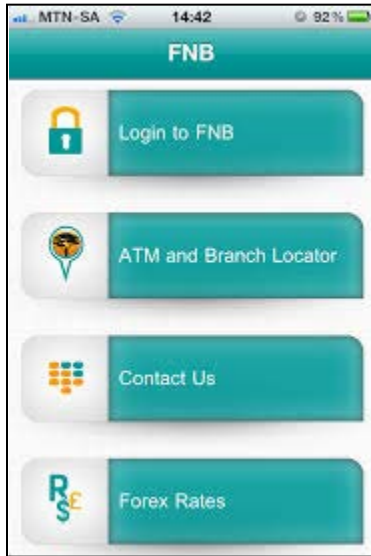
Grow mobile transactions on z/OS with System z Mobile Workload Pricing

- Reduce z/OS peak MSUs attributable to mobile workloads -- up to 60%
- No Infrastructure Changes Required… (such as separate LPARs)

Current z/OS
Peak Utilization

Adjusted z/OS
Peak Utilization

Reduced cost of growth on Mobile workloads

Mobile
Workloads
CPU

Mobile

Other z/OS
Workloads
CPU

Other
Workloads

FNB drives unprecedented growth and performance in mobile banking

Challenges

in South Africa, more people have cellphones and smart mobile devices than bank accounts. FNB wanted to launch a reliable, secure and highly responsive mobile channel before its competitors, and looked for a platform that would enable very short time-to-market.

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Solution

FNB integrated a new Java-based mobile front-end directly with tried-and-trusted business logic and core banking services running on IIMS on an IBM zEnterprise EC12 server. IBM IMS Enterprise Suite Connect APIs for Java and C and IBM IMS Enterprise Suite SOAP Gateway manage links between the channel applications and core functionality and data on the mainframe.

Benefits

Rapid deployment enabled FNB to gain first-mover advantage in the market, gaining the number one spot for mobile banking. Ultra-low average end-to-end response times of 30 milliseconds ensure snappy performance for mobile banking users. Fast, secure and reliable mobile banking generates more business for FNB and reduces its average cost per transaction.

Transform
the value chain to drive
growth and ROI

IBM MobileFirst with System z provides seamless connection to Systems of Record

BUILD and deploy to back-end systems to access mission critical data for enhanced customer experience

PROTECT critical data with military strength security solutions from app to mainframe

ENGAGE customers with the fastest analytics capabilities for the enterprise

TRANFORM enterprise business with packaged mobile solutions and services

Up to **60%** improvement in mobile transaction throughput with System z

Call To Action: Engage with your clients on this broad Mobile Story

Download and Access:

1

- IBV mobile study: http://ibm.co/ibvmobile
- SWG for Mobile z Acceleration Page
- SWG Know on the Go Mobile Conversations
- System z for Mobile Whiteboard Oct 16th

Sign your client up for:

2

- Free Mobile Agenda Workshop ibmmobile@us.ibm.com
- z/OS Connect & Mobile Wildfire Workshop Oct 21-22

Reach out for assistance:

3

- zRational   Brett McCarthy
- zAIM   Al Grega
- zC&SI   John Meehan
- zSecurity   Andy Nietupski
- zIM   Lori Bucciarelli
- SWG Mobile Sales   Heather Johnson-Dunnings
- STG Mobile Sales   Khaylen Stanton

Thank you