IBM MobileFirst

Put your business in motion. Build a mobile enterprise.

Meeting the Mobile Challenge with IBM z Systems
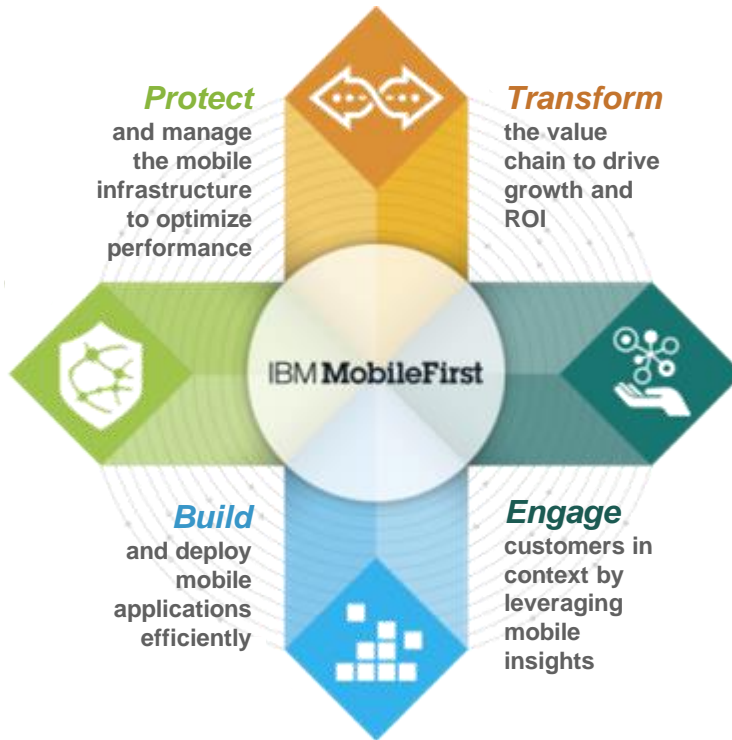
It's been said that 80% of the world's data resides or originates on mainframes

The need to access information on mobile devices is prevalent everywhere. Customers demand access to your enterprise from any device, anywhere, at any time. Employees require real-time access to business information. There are three times as many mobile phones in the world as there are computers. But where is all this data? The fastest and most cost-effective way for businesses to extend data to a mobile channel is to leverage existing investments and locate the processing where the data resides.

Businesses have made significant investments in developing valuable assets that support core business functions running on IBM z Systems. The result? A secure, reliable, and scalable high-performance transaction-processing platform. Mobile application enablement builds on accessing these assets to improve the customer experience.

IBM MobileFirst has identified a four-part strategic approach that helps mobile enterprises address the pain points of putting their businesses in motion:

Protect
and manage the mobile infrastructure to optimize performance

Transform
the value chain to drive growth and ROI

IBM MobileFirst

Build
and deploy mobile applications efficiently

Engage
customers in context by leveraging mobile insights

Build and deploy mobile applications efficiently – By using industry-leading organizational, process, and technology capabilities, you can cost-effectively deliver a portfolio of differentiated mobile applications that run on any device.

Protect and manage the mobile infrastructure to optimize performance – Leading security and management capabilities address the needs and challenges at every layer of the mobile enterprise.

Engage customers in context – Leveraging mobile insights with advanced interactive and analytics capabilities helps you deliver targeted, relevant experiences while extracting and activating insights from rich sets of user, network, and device data.

Transform the value chain to drive growth and ROI – Deep industry expertise and cutting-edge technologies equip organizations to address complex business issues proactively and holistically – driving growth while improving the bottom line.

This e-guide will show you how a mobile strategy that meets all your constituents' needs can be quickly developed by connecting to the mainframe.

Resources
Video: Mobilize the Mainframe with WebSphere and z Systems
Webcast: More on Mobile – New Mobile Capabilities for z Systems Software and What They Can Do for Organizations
Redbook: IBM z Systems in a Mobile World

Build, test, and deploy mobile applications quickly to existing enterprise data on the mainframe

DevOps for mobile provides a software delivery strategy and a set of capabilities all organizations need, to some degree, to build and deploy quality mobile apps. The key challenges businesses need to address are:

Design &Develop   Instrument

Obtain Insight   Integrate

Manage   Test

Deploy   Scan & Certify

- *Collaboration* across diverse teams responsible for a mobile app. Organizations need to draw together internal and external members, from LOB/digital leaders responsible for the mobile app to the development teams involved (mobile app, cloud, back-end) to the end users;

- *Integration* across tooling and phases of an agile development process; and

- *Automation* of processes required to rapidly build, test, deploy, and assess mobile apps.

To help organizations meet these challenges, the IBM MobileFirst platform – which runs on multiple platforms, including Linux on z Systems – provides a world-class mobile application development environment that enables businesses to rapidly build, test, and deliver customer-facing apps using state-of-the-art frameworks and tools. While it's the MobileFirst Platform Server that takes care of managing mobile applications when deployed, it's integration with Rational Developer for z Systems, an Eclipse-based environment, that speeds development time by enabling agile methodologies integrated across teams and platforms in easy-to-use tools.

- Development tasks can be managed collaboratively with [Rational Team Concert](), which also includes change management, source control, and build management in a single application. This gives developers involved with the tasks a complete and real-time view of ongoing activities whenever they want it.

- Integrated tightly with the Rational tools are corresponding z/OS tools for both [CICS]() and [Problem Determination](), which aid in application configuration, dependency management, deployment, performance, and more. These tools enable continuous optimization during development and operations throughout the application lifecycle.

- z/OS Connect, a feature of the [WebSphere Application Server Liberty profile for z/OS](), provides a simple, consistent, and secure way to discover and invoke services on z/OS from mobile, cloud, and web apps. It uses standardized interfaces and data, including RESTful APIs and JSON, making it easy for developers to build web and mobile apps that access mainframe assets. It also provides Audit Interceptor to write SMF 120.11 records capturing information about the service request. The Authorization Interceptor provides a mechanism to control access to z/OS Connect functionality. In addition, z/OS Connect is available as part of IBM IMS, and both IBM CICS Transaction Server and IBM CICS Transaction Gateway offer z/OS Connect-compatible JSON web services to simplify the mobile enablement of mainframe assets.

The API Advantage

In today's API economy, exposing APIs to developers in a controlled manner is essential, and [IBM API Management]() provides your organization the ability to govern the complete API lifecycle for creating, securing, and socializing API usage. [IBM WebSphere DataPower]() provides enterprise integration across both distributed and mainframe architectures, and does so in a secure manner through features such as the DataPower Secure Connector. These solutions enable your developers to build mobile apps that simply and securely integrate the mainframe applications.

Although there is often a speed mismatch between faster moving front-office and slower moving back-office systems, delaying time to obtain feedback, developers can leverage integrated and automated functional testing to improve the quality of delivered apps. To help your organization address this challenge, IBM provides:

- Rational Test Workbench. Provides continuous testing and employs virtualized back-end services to maintain agility and drive testing earlier in the cycle.

- MobileFirst Quality Assurance. Automates cloud-based mobile app testing with sentiment analysis and metrics that deliver rapid, actionable feedback directly from end users.

- UrbanCode Release. Provides release management and coordination platform that manages multiple applications.

- UrbanCode Deploy. Push button multi-platform deployment, integrated with testing tools, to support continuous integration. Deploy and rollback incremental changes of mobile, mainframe and distributed applications. It simplifies z/OS application deployment by proving out of the box support for clients to automate JCL submission and plugins for CICS, DB2, IMS, and Batch.

Mobile Lifecycle

Resources

Whitepaper: DevOps for Mobile Apps Challenges and Best Practices

Webcast: DevOps for the Mobile Enterprise: Build & Connect

Webcast: DevOps for the Mobile Enterprise : Test & Deploy

Whitepaper: IBM Mobile Quality Point of View

Whitepaper: Best Practices for a DevOps Approach With IBM z Systems

Video: Mobile DevOps in Action

Video: z/OS Connect Overview

Analyst Report: CICS Tools

Article: CICS Makes Light Work of Mobile Integration

Tech Article: Building and Deploying Mobile Applications

Solution Brief: IBM Integrated Solution for z Systems Development

Protect critical data with military strength security solutions from application to mainframe

Although laptop computers have forged the way for enterprises to secure devices that are often or always outside the firewall, mobile devices take the challenge to a whole new level.
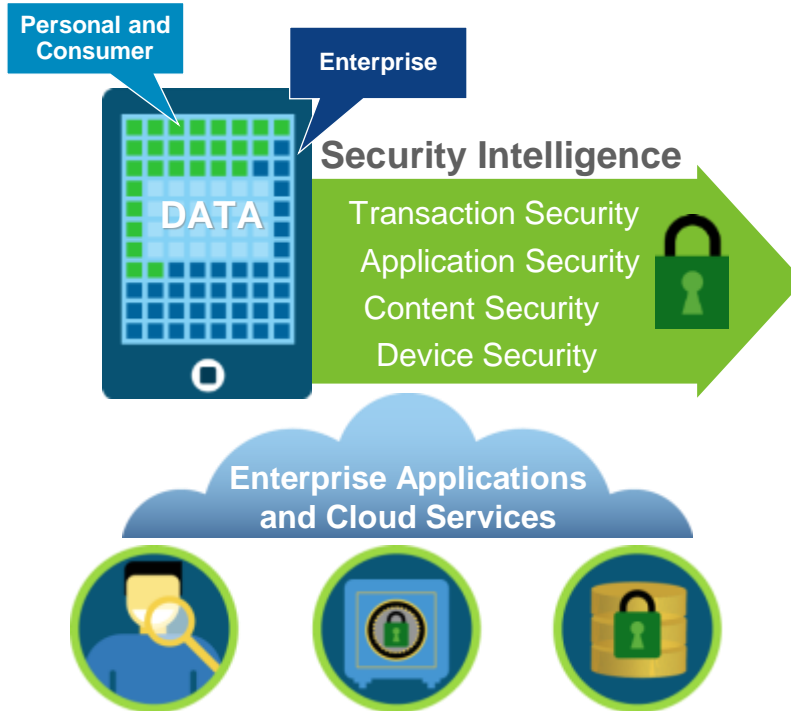
While BYOD infrastructure and policies provide a necessary basic level of security for those devices to access enterprise email and other basic productivity applications, enterprise applications present additional challenges since they access critical line of business applications. Since the latter are often transactional systems and have customer data, security becomes even more paramount. So does compliance. Here are three steps your organization can take to protect itself:

1. Secure users and devices for the mobile enterprise. IBM Security Trusteer Apex protects the endpoints throughout the threat lifecycle. IBM Security Access Manager for Mobile proactively enforces access policies for web environments and mobile channels.

2. Secure the mobile enterprise run-time environment. Arxan Application Protection for IBM Solutions extends IBM Security AppScan vulnerability analysis to help your organization securely build, analyze, and release mobile applications.

3. Protect the endpoint. IBM WebSphere DataPower enforces web and mobile security policies and provides traffic management.

Personal and Consumer

Enterprise

DATA

Security Intelligence

Transaction Security
Application Security
Content Security
Device Security

Enterprise Applications and Cloud Services

IBM's solutions provide your organization with the tools to ensure your enterprise mobile applications have the highest possible security built in from the start, not bolted-on as an afterthought:

- IBM Resource Access Control Facility (RACF), IBM Security zSecure suite, IBM Security QRadar SIEM and IBM InfoSphere Guardium provide the secure foundation for z Systems mobile workloads delivering identity and access management, real-time monitoring, alerting, threat detection, and audit and compliance reporting.

- InfoSphere Optim Data Privacy solutions ensure your mobile apps are tested thoroughly and comply with privacy laws by using authentic looking and behaving data without exposing the real values of the data.

- IBM MobileFirst Platform and Console provide a comprehensive way to manage all of your enterprise's mobile applications and works with IBM Fiberlink MaaS360. You can granularly control which users get access to what applications, including the ability to deprecate old versions and require users to upgrade them. Synchronization data flows built into your apps can be monitored, and even push notification services for the various mobile platforms can be managed in a unified way.

- IBM MobileFirst Security offerings add even more capabilities to your security arsenal. These include automated vulnerability scanning, testing, and reporting, and the ability to route your apps' data traffic through clientless VPNs.

Resources

Demo: Information Protection Solutions with InfoSphere Guardium for z Systems

Demo: Protecting Data in Development and Test Environments

Whitepaper: Safeguard Enterprise Compliance and Remain Vigilant Against Threats

Case study: For Halkbank, Everything Comes Back to the Reliability, Stability and Security of IBM CICS and DB2 on the IBM z Systems Mainframe

Case study: South American Automotive Financing Company Prevents Unauthorized Activities and Monitors Database Changes Across Its Distributed and Mainframe Application Databases

Redpaper: Securing your Mobile Mainframe

Engage customers with the fastest analytics capabilities for the enterprise

Mobile is more than just another channel. It is fundamentally changing the business landscape and the way your company does business. Here are just a couple of scenarios:

Mobile apps

- Executives want to stay connected to their business 24/7. They need that insight whether they are at home, in an airport, or in a cab on the way to a meeting. Is now the right time to make that decision? Have sales in a region reached a particular threshold? Has the market-shift changed our outlook on that acquisition? Smart connected devices have become the mobile office.

- Mobile is driving real-time business analytics. Customers can be in a retail store and the company and its competitors know their browsing and purchase history, as well as their physical location. These retailers have a small window of opportunity to make customers an offer they can't refuse. So the back-office business analytics, as well as the systems of records that support those analytics, have to report in near real time to make that system of engagement effective.

Big Data Drives Mobility

Enterprise users increasingly need access from anywhere to the massive investment that organizations have made and continue to make in business intelligence, and now big data. It's not enough for your salesperson in the field to check on their customer's order. They need to know the historical patterns for that customer, and how they compare to other customers, enterprise and industry benchmarks, and trends.

As mobile drives broader use of analytics to more users and different devices, the need for organizations to support the most timely, accurate, and secure insight is critical. This ability to leverage highly current, real-time data for business-critical analytics in the mobile space is driving the requirement to bring transactional systems, analytics, and your mobile strategy together in a single, mixed workload environment. To help you meet this challenge, IBM z Systems provides a proven hybrid transactional/analytics environment perfectly suited to meet modern big data, analytics, and mobile demands. Here's what z Systems brings to the table:

- It is secure, highly available, reliable, and responsive – all qualities now essential to the mobile experience.

- It can accommodate mobile workloads cost effectively without affecting existing workloads.

- It simplifies deployment, maintenance, and management of analytics and mobile solutions.

Combining your mobile strategy with the end-to-end big data and analytics solution on IBM z Systems puts insight in the hands of your mobile users when and where they need it. It also enables your business to apply analytics in real time to mobile client interactions for improved business performance.

The big data and analytics solution on z Systems includes:

- **IBM DB2 Analytics Accelerator** can accelerate queries more than 2000x faster, ensuring that mobile users get the answers they need fast.
- **InfoSphere BigInsights** brings additional big data sources into your analytics environment for broader insight.
- **Cognos BI** offers reporting, analysis, and dashboards accessible via mobile devices.
- **SPSS** provides predictive analytics and real-time scoring in transaction for analytics at point of impact.
- **Cognos TM1** provides reporting, analysis, operational, and financial planning and consolidation.
- **IBM zEnterprise Analytics System 9700/9710** offers a cost-competitive, integrated combination of hardware, software, and services to deliver analytics across the enterprise.

This powerful analytics solution combined with mobile helps your organization's employees take their "mobile office" with them, allowing them to stay involved and connected with the business insight they need 24/7.

Resources

Demo: Big Data Success with IBM z Systems
9sight Consulting Whitepaper: Real value delivered through IBM Business Analytics
Whitepaper: When "pull" turns to "push": Mobile computing is now mission critical
Whitepaper: Ensuring the security of your mobile business intelligence
Clipper Group Analyst Report: Enabling Your Mainframe Data on Mobile Devices
IDC Analyst Report: The Mainframe as a Key Platform for Big Data and Analytics
Petrol accelerates its analytics queries and increases retail sales
Webcast :When analytics and mobile collide. Are you prepared?

Transform enterprise business with mobile solutions on Linux on z

The IBM MobileFirst portfolio is an ideal starting point for transforming your own mobile strategy, especially when it comes to integrating z Systems applications and data. Here's how to get started:

- [IBM MobileFirst studios](#). These mobile-technology focused studios offer clients the opportunity to work side-by-side with our mobile professionals to quickly conceive, design, build, and deploy working prototypes. Our strategy consultants, researchers, designers, and developers, with deep industry-specific mobile expertise, can help you take advantage of the transformational nature of mobile solutions to create new ways to engage with your clients, your market, your eco-system, and your employees.

- [IBM MobileFirst for iOS](#). These industry specific apps combine the power of enterprise data and analytics with elegant user experience to fundamentally redefine the ways enterprises empower their professionals to interact, learn, connect and perform.

Linux on IBM zEnterprise System

So what about those who do not already own a z Systems? The mobile challenge is an opportunity to rethink your data center and start consolidation initiatives of all your Linux systems on a new z System.

A recent study by the IBM Competitive Project Office has shown that the fastest way to achieve ROI when adding mobile capability to z Systems is to leverage the transactions and data you already have on z/OS, and add a new mobile system of engagement in Linux on z Systems to serve the mobile applications.

Linux on z Systems has proven to be an excellent platform for mobile engagement, hosting the IBM MobileFirst Platform Server, which is IBM's premier mobile enterprise application platform. Low cost and light weight, MobileFirst Platform Server has demonstrated excellent performance and ROI on Linux on z Systems, reporting 61% better throughput, 36% better response time, and 10% lower cost than MobileFirst Platform Server running on x86. MobileFirst Platform Server on Linux on z Systems scales better than x86, and the cost per mobile transaction is lower when running MobileFirst Platform Server on Linux on z Systems, with 50 or more concurrent users.

Recognizing that the cost of growth for mobile transactions processed in z Systems can be substantial, we offer Mobile Workload Pricing for z/OS, which can reduce the cost of growth by up to 60% for mobile transactions processed in z Systems environments such as CICS, IMS, and DB2.

Resources

Redbook: Understanding Mainframe Economics

Gartner Research Note: Develop a Game Plan to Mitigate the Financial Impact of Mobile Workloads

Redbook: IBM z Systems in a Mobile World Providing Secure and Timely Mobile Access to the Mainframe

Case study: Banca Carige is running their mobile banking service on Linux on zEnterprise and is another step forward in their continual evolution on the mainframe

IBM z Systems CPO study: IT Optimizations with Linux on z Systems

Case study: Sicoob - Compared with databases on our previous distributed landscape, DB2 running on Linux on the IBM z Systems platform offers more reliability and performance, and better integration with our backup, monitoring and ETL tools

Case study: FNB drives unprecedented growth and performance in mobile banking

Explore, Learn, and Implement

IBM's comprehensive MobileFirst solutions for mobile on z Systems empower you to easily meet your enterprise's objectives by enabling you to:

- *BUILD, test, and deploy mobile applications quickly to existing enterprise data on the mainframe*

- *PROTECT critical data with military strength security solutions from application to mainframe*

- *ENGAGE customers with the fastest analytics capabilities for the enterprise*

- *TRANSFORM enterprise business with mobile solutions on Linux on z Systems*

Now that you have seen how the z Systems infrastructure is the ideal platform for enabling your enterprise mobility plans, what's next?

If you are the learn-by-doing sort, then we suggest downloading the IBM MobileFirst Platform Developer Edition to see for yourself just how powerful a platform it is.

In addition, please check out the additional resources provided in each section of this e-guide, and go online to see what webcasts and seminars IBM provides. As IBM solutions continue to improve and evolve, visit the z Systems Mobility website for all the latest information, including new white papers, videos, demos, etc.

Of course, the fastest course of action is to call your IBM software representative today so they can analyze your unique needs and recommend the best mix of products and services to get you up to speed the fastest.

Resources

Website: MobileFirst on ibm.com

Website: IBM z Systems Mobility software on ibm.com

Website: IBM z Systems Mobility solutions on ibm.com

Whitepaper: Considerations in opening the mainframe to mobile devices: A guide for enterprise teams working on mobile applications

Trial Download: IBM MobileFirst Platform Developer Edition

Cloud-based trial: IBM Integrated Solution for z Systems Development

Full Day Technical Seminar: Extending the mainframe to the mobile enterprise