13053: Is that a Mainframe in Your Pocket?

(Discussion Session)

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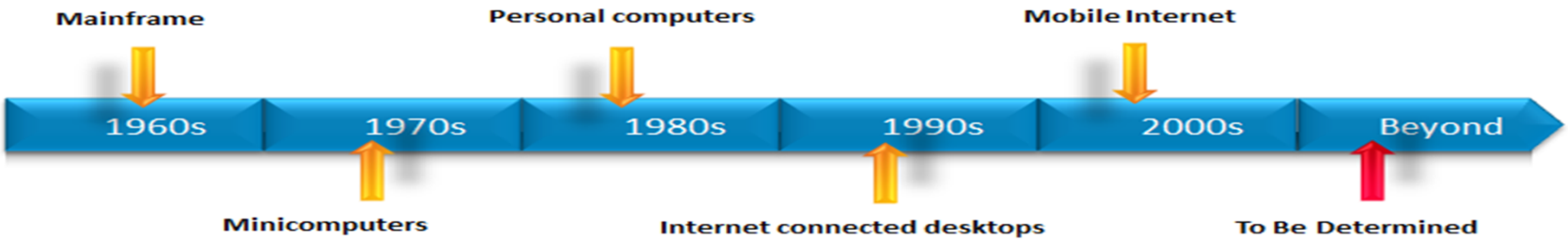
Abstract

- **13053: Is that a Mainframe in Your Pocket?**

- Today's mobile devices are extremely powerful and with pervasive and secure connections you can take your mainframe with you wherever you go. The current generation of mobile devices offers some new and more natural ways to interact with the mainframe and its data. This session will be a lively discussion on mobile and the mainframe. Whether you have an iPhone, iPad, Kindle or Android Phone or device, what are your ideas for how we can leverage them to provide a better, more intuitive interface for the systems programmers of tomorrow? What are your mobile needs today? What challenges do you face in providing access to mainframe data to your mobile users? What can IBM do to help improve the mobile access for you and for your customers?

IMHO: First: A Little Historical Perspective



1. **1960's brought Mainframes (IBM)** - They were very powerful and adaptable. As Apple would do later on IBM owned the operating systems and hardware. They were expensive, cost millions of dollars and had thousands of customers -- typically only big business, banks and insurance companies, government, the military and scientific computing communities could afford them.
2. **1970's Mincomputers (DEC, Sun)** - These were less powerful, smaller, interactive, smaller and less expensive. They were used typically, by mid-size businesses and colleges. Tasks included process control, computer aided design, and they popularized e-mail. They also fostered the development of UNIX.
3. **1980's Personal Computers (Microsoft)** – First popularized by the introduction of the IBM PC in 1981. They established the IBM-Intel standard. The well documented architecture lead to manufacturing competition which quickly drove down cost. This was the first affordable computer for the consumer.
4. **1990's Desktop Internet (Google)** – Introducing the Browser to desktop and laptop computers opened the door to the Internet. Initially, in 1996, there were only 16 million users today that number is over 2 billion internet users and growing. The Internet not only connected millions of users, but it also provided free open access to a wealth of new resources.

IMHO: Mobile Internet

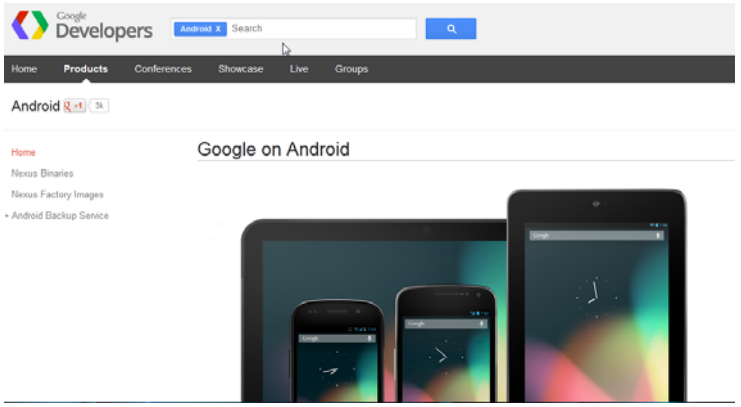
- **Mobile 1.0**: First generation Smartphones like Trio and Blackberry. Windows XT tablet edition. These were adopted the by business and tech savvy consumers, but were either too complex or expensive to gain rapid adoption by the general public.
- **Mobile 2.0**: Was heralded by the introduction of the iPhone and later the iPad and Android devices. Key features included:
  - Always on, always connected to the internet,
  - Apps simplified the user experience and made using these devices even easier
  - Apps development environments /stores for Apple and Android changed the way applications were created and sold
- **Mobile 3.0**: ?
- Some trends already underway:
  - Competition is forcing prices lower will continue to put mobile in everyone's pocket
  - Tablets and smartphone seem to be overtaking laptops as the primary device for consumers to connect to the internet.
  - As cellular become faster and more pervasive cloud storage is making easier to leave now bulky laptops behind

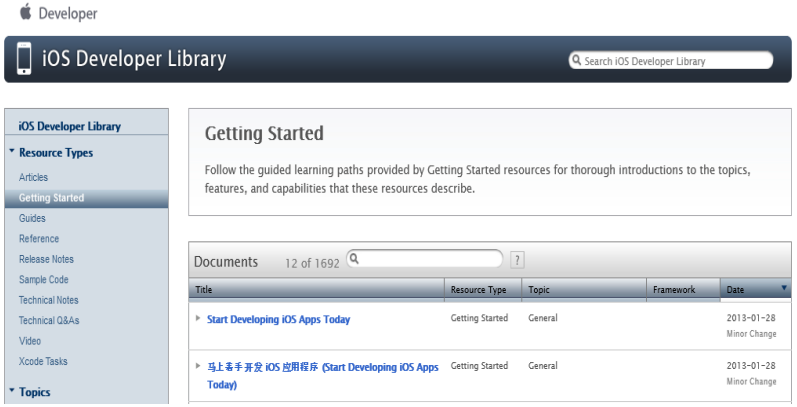
IMHO: Novel features of the iPhone

- The user interface was a more natural touch screen where your finger was the stylus.
- The flexibility to have specialized “APPS” opened the door to all sorts of possibilities.
- The Browser that provided a scalable web experience where reading a conventional web page was as easy to do with a gesture.
- Pervasive internet – Although it was criticized when it came out, the choice of ATT’s E network did mean that 97% of the country would have internet access with this device.
- It was the next generation of an already wildly popular device – the iPOD
- It had built-in accelerometer and later real GPS which would lead to countless possibilities
- It challenged the industry to come up with competing devices and competition drives down prices.

IMHO: Mobile Revolutionized Development, Sales and Distribution of Software

- Simplified the user interface,
- Innovative apps took advantage of the (new function GPS documenting good places to eat)
- All platforms not have APPS and development environments for them
- Desktop software was prices in the $10s, $100s and thousands of dollars
- Mobile apps either free or only most cost only a few dollars
- Apps stores, and mobile retail offered consumers instant gratification.
- Apps development was to anyone who was clever enough to write a popular app.
- Made some app developers rich overnight.





IMHO: Social Impacts

- Collaboration: enabling people with like interests to work together to develop new ideas, products, markets and so on.
- Revolution: Mobile devices such as smartphones with cameras combined with communities like Facebook and Twitter have already been used to successfully organize demonstrations, document abuses of power and foment revolution.
- Casual learning: Thousands of “Apps” provide tools for people of all ages to learn new languages, play a piano, learn about astronomy, see and manipulate the atomic structure of the elements.
- Higher Education: Universities are embracing learning at a distance providing education reducing the cost, reaching more people across the globe.
- Individuals and companies alike can use You Tube, podcasts and other venues to publish content, advertise their brand and build an audience or customers

IMHO: Mobile Importance to Business

Examples of Mobiles Importance to Business:

- Create apps to provide access, sell, perform transactions with their existing lines of business
- Find ways to leverage mobile to provide a competitive edge to their business
- Bring in new revenues via mobile apps devices/channels
- Effectively use social media, You-Tube, Facebook, Twitter to promote and build their Brand
- Leverage the real-time nature of mobile to sell products (offering instant coupons to shoppers currently in your store, based on their buying history) Getting information to and from agents in the field. (Insurance agents sending pictures, getting quotes, resolving claims). Monitoring stock market.
- Innovators will use mobile technologies that will force more innovation to keep up and compete.
- Cybercrime/espionage/cyber terrorism. Mobile technologies open new channels for disruption, IP theft, identity theft and protecting their customers and in turn their business.

IMHO: Why is mobile important?

Collaboration:

- Enabling people with like interests to work together, to innovate, to develop, and to disrupt.

Revolution

- Mobile devices provide real time communications with the planet
- Communities like Facebook and Twitter
- Social change: have already been used to successfully organize demonstrations, using the built in cameras, people have documented abuses of power and foment revolution.

Casual learning

- Thousands of “Apps” provide tools for people of all ages to learn new languages, play a piano, learn about astronomy, see and manipulate the atomic structure of the elements.

Higher Education

- Universities are embracing learning at a distance providing education reducing the cost, reaching more people across the globe.

Individuals and companies alike

- Using YouTube, podcasts and other channels to publish content, advertise their brand and build an audience or customers.

IMHO: Mobile More than Smartphones and Tablets

Mobile offers new opportunities for businesses who embrace it. It can be disruptive for businesses that don't.

- Benefits of mobile are countless and new innovations are occurring every day.
- Some examples of innovation that leverage the mobile internet:

  – Health care organizations are using mobile technology to bring doctors, home health care provider can improve care
  – Leveraging technologies like GPS , facial recognition, tracking your buying habits, businesses are already personalizing product they present and the services they offer.
  – Internet connected everything: cars, appliances, electric meters
  – Cars that drive themselves using GPS and the mobile internet
  – Cloud offerings make it even easier to leave laptops behind
  – Appliances such as refrigerators that can call in grocery orders when stocks are low

  – As mainframe System Programmers, success will rely on connecting mobile with the enterprise.

Mobile Computing is Growing Fast and it Will be Everywhere

Mobile is a mandatory transformation

10 Billion devices by 2020

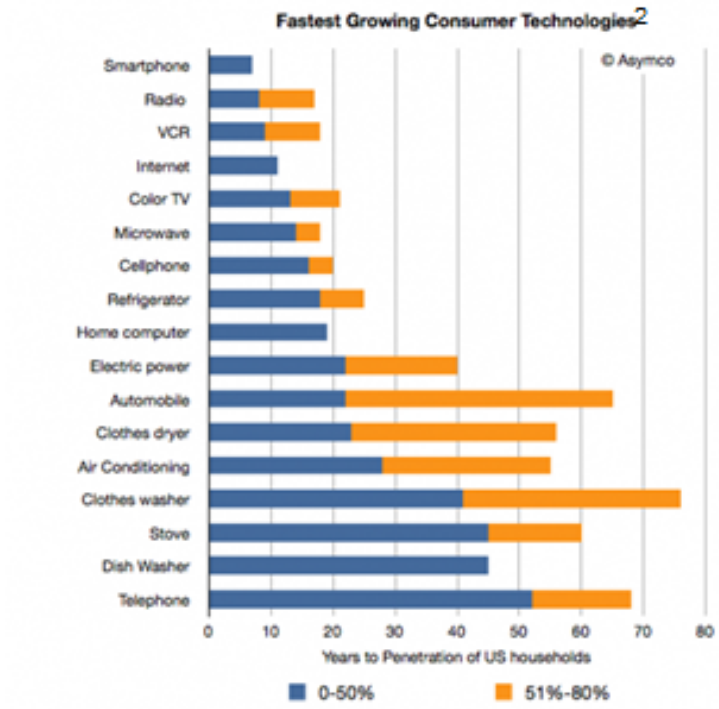
61% of CIOs put mobile as priority

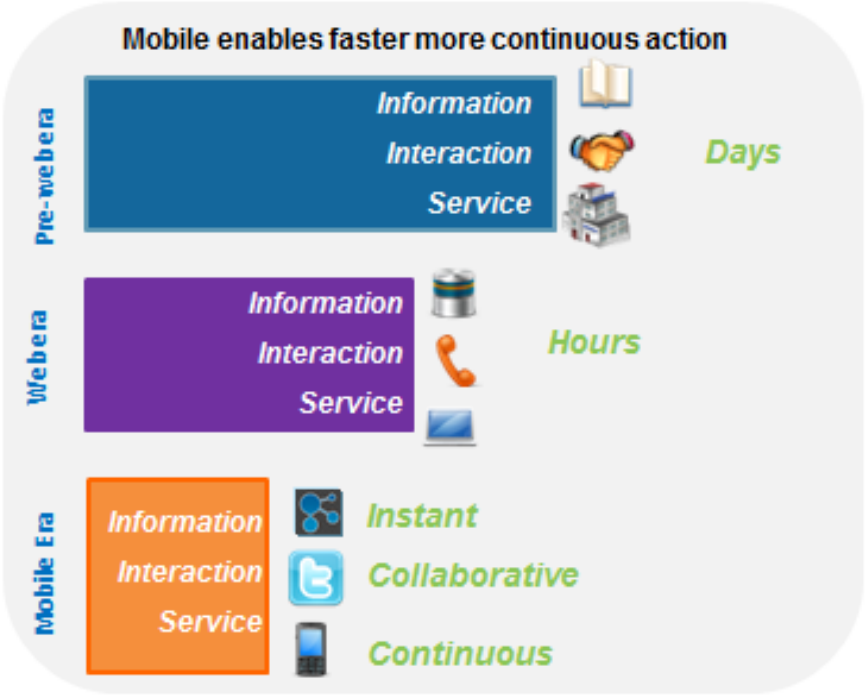
45% increased productivity with mobile apps

Broad Adoption of Mobile Technology has Made Action Instant and Continuous

500% growth

Estimated growth in tablet sales 2010 - 2016[1]





89% Urgency

Of users list "urgency" as their reason for using mobile to access information[3]

1. based on Gartner forecast for WW media tablet sales from Gartner 2011 to 2016
2. The Economist, The revolution to come Apr 13th 2012
3. The Mobile Movement Study, Google/Ipsos OTX.Media CT, April 2011

We See Four Trends With Strong Implications for the Future of Mobile

4 Trends Supported By Market Data

1 Mobile is Everywhere
There will be **10 billion** connected devices by 2020[1]

2 Mobile makes action instant and continuous
90% of mobile users keep their device within arm's reach 100% of the time[2]

3 Mobile Changes the Nature of Interaction
90% of users use multiple screens as channels come together to create integrated experiences[3]

4 Mobile Interaction Presents Big Opportunities
Mobile Commerce is expected to reach **$119 billion** by 2015[4]

Forward Thinking Customers

AIR CANADA

Air Canada processes passenger check in 80% more cost effectively than those done at the customer service counter

VCC responds to RFPs in minutes vs. days, leading to 40% more new business

Ottawa Hospital provides seamless interactions among care providers, improving quality of care, patient safety & experience

1. The Economist Online, "Beyond the PC" Oct 7th 2011
2. Source: "China Mobile 50k survey"; Morgan Stanley Research; 200
3. IBM Global Technology Outlook 2013, Google
4. ABI Research

New Interactions Enabled by Mobile are Creating Opportunities for Value

New consumption patterns require seamless experience[1]…

…And are Increasing the demands of customers, partners & employees

Leaders are engaging individuals by leveraging systems of record and engagement to create greater value

Utility Example: Systems of Record & Systems of Engagement


Service Availability

Customer outage reports:


Resource Scheduling

Extended device Communications:


Asset Allocation & Location

Customer Status Apps:

Rewards will come for companies able to fully integrate mobile into their value chains

Capture new customers and **new markets** through innovative business models and deeper, data enabled insights

Extend existing business capabilities to mobile employees, customers, and partners

Reduce time and expense from operations in ways that **increase productivity** and employee satisfaction

1. IBM Global Technology Outlook, 2013

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Systems of Engagement Integrate Existing Operational Systems with Rapid Delivery of New Client-facing Apps

Transformational value from mobile will result from connections to systems of record

IBM Mobile Momentum

Jan 2012
IBM Worklight

April 2012
IBM Cast Iron

June 2012
Tealeaf CX Mobile

Oct 2012
IBM Mobile Connect

March 2012
IBM Endpoint Manager

April 2012
IBM Mobile Foundation

Oct 2012
IBM Security Access Manager for Cloud and Mobile

Nov 2012
IBM Mobile Development Lifecycle Solution

- Over a Million Devices Under Management
- Over 200 Mobile Business Partners
- Reached 100,000 Individuals Through Marketing Programs
- Over 25,000 Participating in Mobile DeveloperWorks Community
- Tripled Development Investment
- Over 300 New Customers

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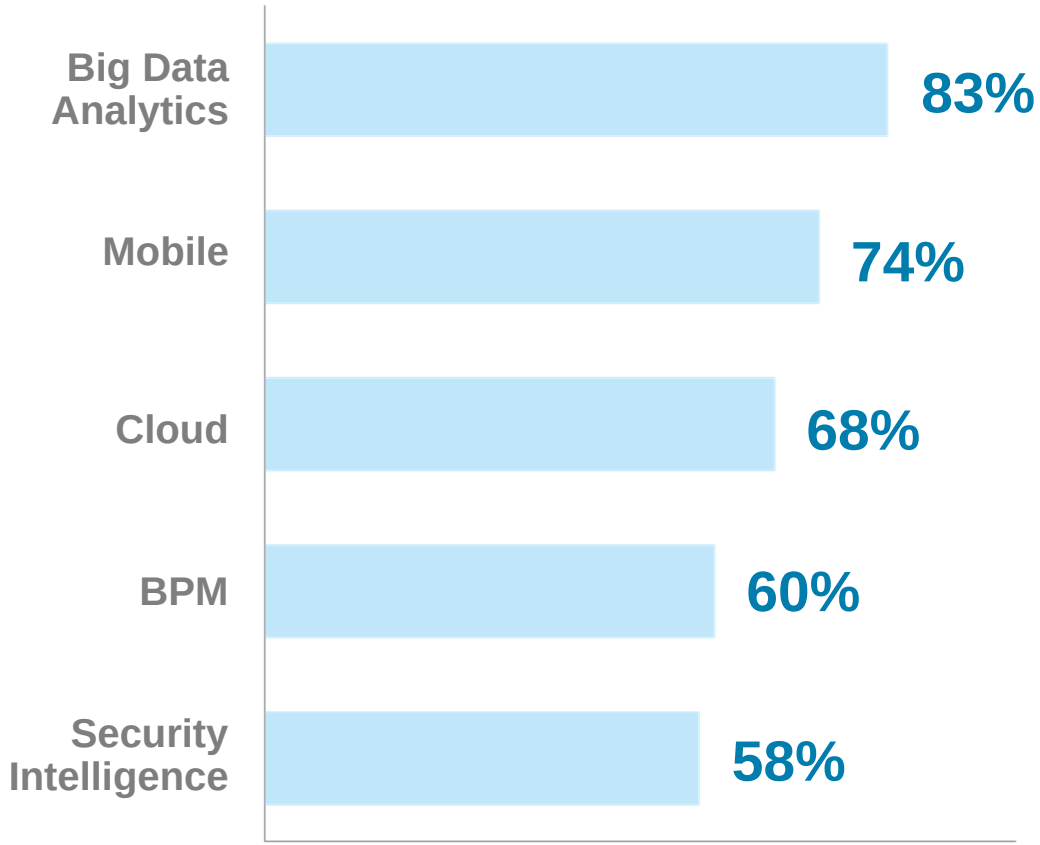
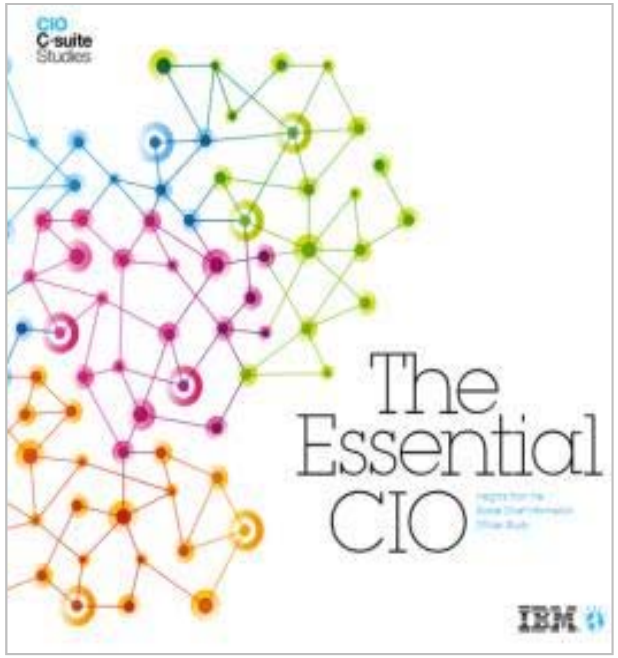
CIOs Prioritize Analytics and Mobile to Solve Their Business Challenges

Technologies for Innovation and Solving Specific Business Challenges





IBM and Mobile

IBM Comprehensive Mobile Strategy

Extend & Transform

Extend *existing business capabilities to mobile devices*

Transform *the business by creating new opportunities*

Key Capabilities

- Strategy, planning and implementation
- Mobile-enabled solutions including analytics, commerce, and social business
- Mobile as a service

Build & Connect

Build *mobile applications*

Connect *to, and* ***run*** *backend systems in support of mobile*

Key Capabilities

- Multiplatform mobile web, hybrid and native app development
- Enterprise data, service, and application integration
- Iterative teamwork

Manage & Secure

Manage *mobile devices, services and applications*

Secure *my mobile business*

Key Capabilities

- Mobile Governance
- Device analytics and control
- Secure network communications & management

IBM Worklight: A mobile enterprise application platform

Speeding the development, integration and management of mobile applications

IBM Worklight goes beyond mobile app UI creation to deliver full mobile middleware.

Client Challenge

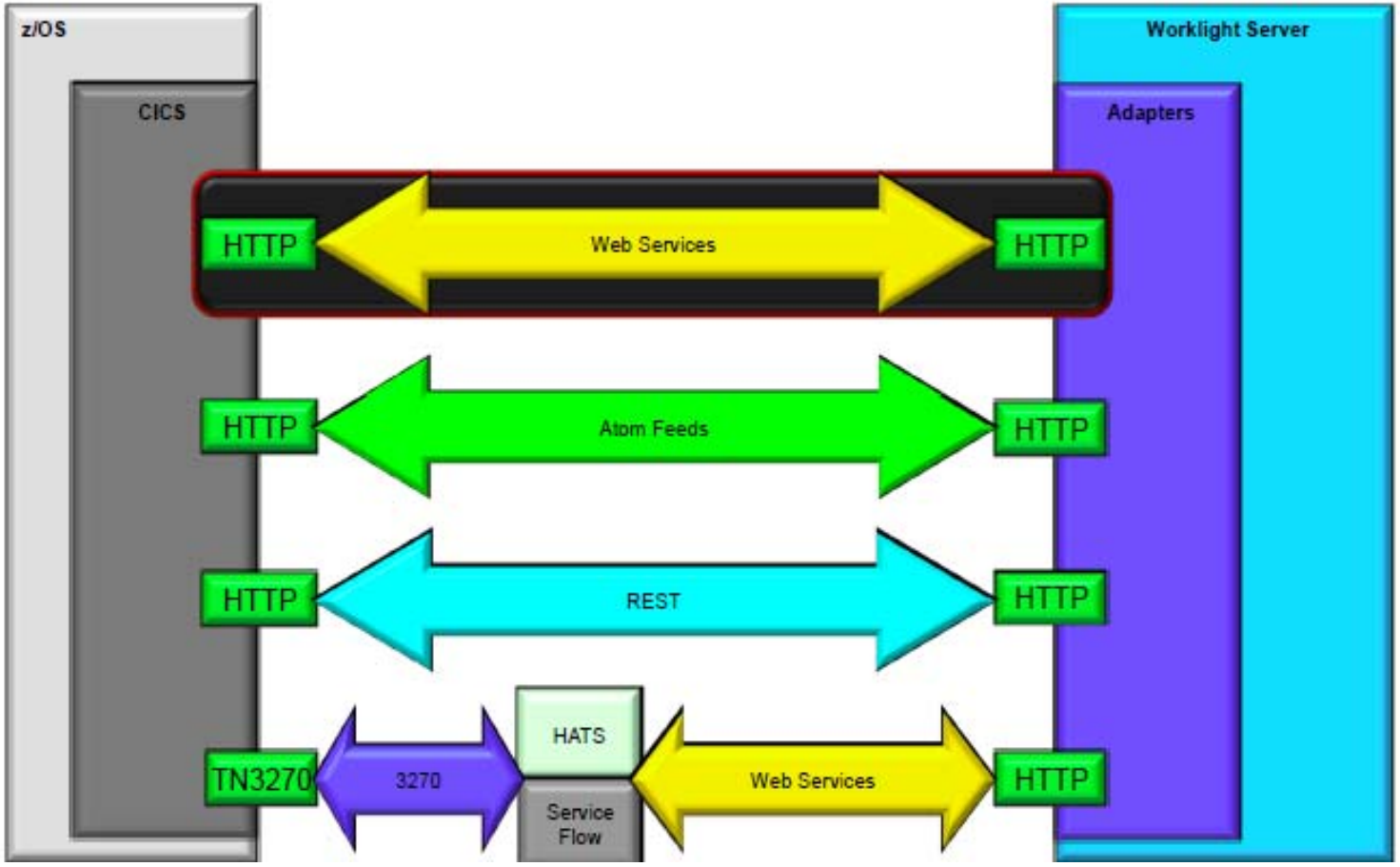
Using standards-based technologies and tools and delivering an enterprise-grade services layer that meets the needs of mobile employees and customers

Key Capabilities

Mobile optimized middleware

- Open approach to 3rd-party integration
- Mix native and HTML
- Strong authentication framework
- Encrypted offline availability
- Enterprise back-end connectivity
- Unified push notifications
- Data collection for analytics
- Direct updates and remote disablement
- Packaged runtime skins

IBM's Worklight Makes it Easy to Tie into Enterprise Data



Worklight Overview

Worklight Studio
The most complete, extensible environment with maximum code reuse and per-device optimization

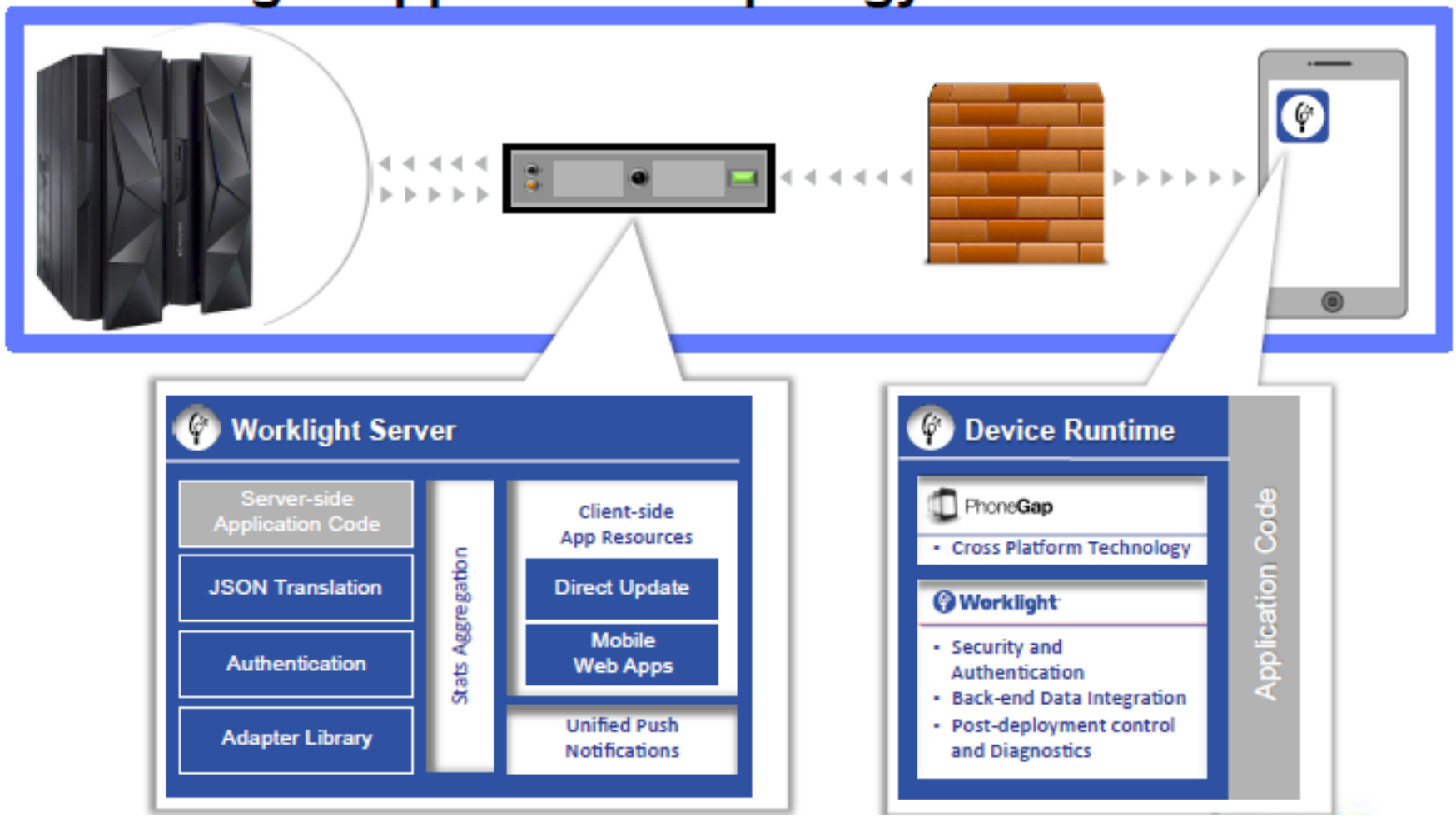
Worklight Server
Unified notifications, runtime skinning, version management, security, integration and delivery

Worklight Runtime Components
Extensive libraries and client APIs that expose and interface with native device functionality

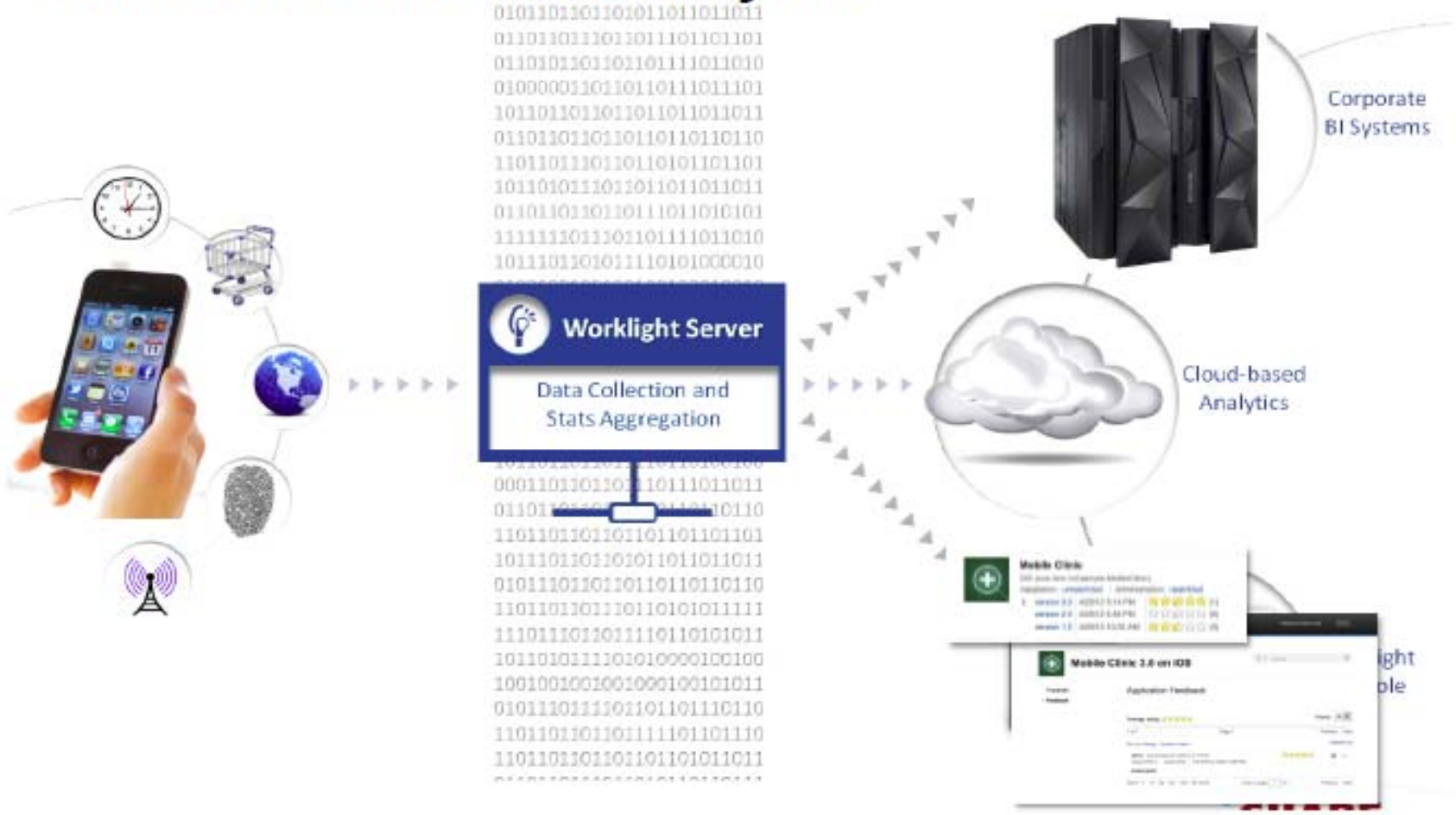
Worklight Console
A web-based console for real-time analytics and control of your mobile apps and infrastructure

Worklight Application Center
A cross-platform private mobile application store focused on the needs of a development organization or a team

Worklight Application Topology



Data Collection and Analytics



Discussion

- How many in the room have either a smartphone or tablet?
- How many of you have been working on connecting the mobile world with the mainframe?
- Do you have plans on how you can safely securely develop new business using mobile?
- What are your competitors offering in this space?
- What sorts of things can IBM do to help?

More Information

- Share Sessions on Mobile:
- https://share.confex.com/share/120/webprogram/start.html#srch=words%7Cmobile%7Cmethod%7Cand%7Cpge%7C1
- IBM Worklight
- http://www-01.ibm.com/software/mobile-solutions/worklight/
- IBM Mobile Enterprise
- http://www.ibm.com/mobile-enterprise/us/en/
- IMPACT 2013 – Business in Motion
- http://www-01.ibm.com/software/websphere/events/impact/?re=impact2013mte&cm_sp=MTE25583&cm_sp=MTE25583

More Information