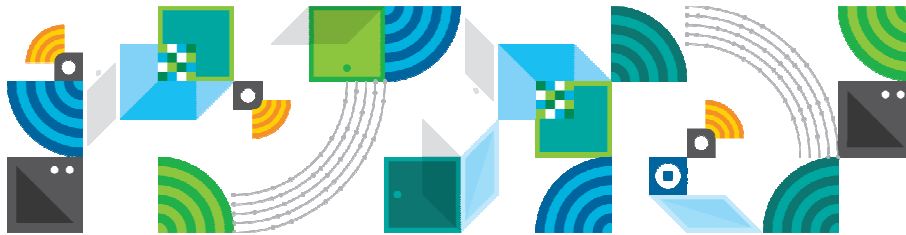
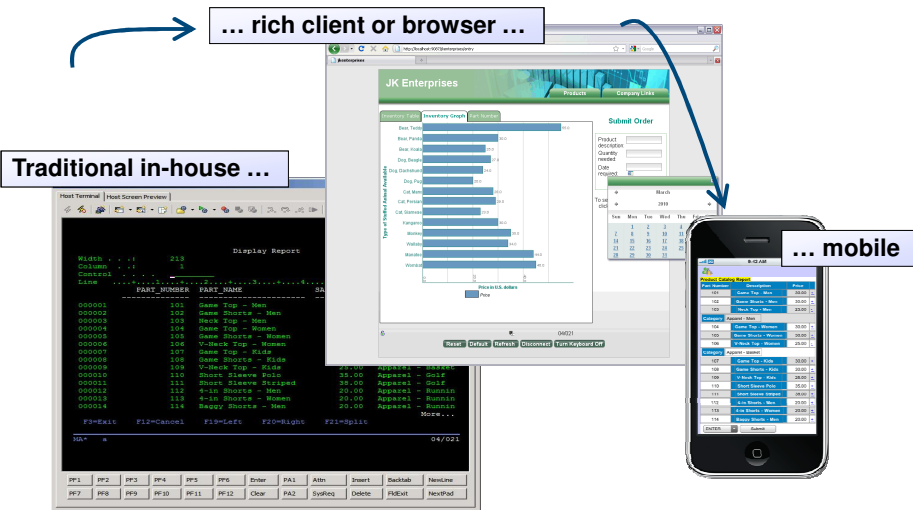



Mobile on IBM i

Wayne Bowers
wbowers@us.ibm.com










Evolution of User Interface




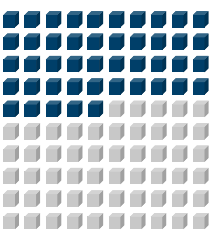
IBM MobileFirst 

Mobile services are now a must-have...

 <p>10B+ mobile devices in the world by 2020¹</p>	<p>2013 mobile phones overtook PCs as the most common web access device worldwide²</p>	<p>95%  government leaders looking to sustain or increase investment in mobile technologies over the next 12-18 months³</p>
<p>80%  handsets sold will be smart phones (by 2015)⁴</p>	<p>70% CIOs who view mobile as a top priority⁵</p> 	<p>37%  government leaders who report having "Limited to no mobile strategy" at present⁶</p>
<p>1/3  citizens accessing government websites are logging in from phones or tablets⁷</p>	<p>>20% native mobile apps used by citizens to interact with gov will not be developed or owned by gov (2014)⁸</p>	<p>81%  US Federal workers who feel mobile devices are critical to their job; 82% feel they increase productivity⁹</p>

3 #IBMMobile © 2014 IBM Corporation

IBM Market Development & Insights 

	<p>48% of workers use a smartphone for business. Forrester (8/2013)</p>	<p>6.3B mobile subscriptions</p>
<p>77</p>	<p>77 % of employees haven't received any education on the risks of BYOD. +50% of companies don't have any security policies in place for personal devices.</p>	<p>Percentage of world's population with mobile 96% WW mobile penetration</p>
<p>50</p>	<p>Half of employers will require employees to use their own devices at work by 2017. Source: Gartner</p>	<p>310 billion downloads of mobile apps by 2016 70 billion apps downloaded in 2013</p>
		<p>Tablet shipments surpassed desktops & laptops in 2Q 2012</p>
		<p>Source: Gartner (April 2013)</p>

© 2014 IBM Corporation

IBM Market Development & Insights **IBM**

Mobile drives new systems of engagement that can empower customers, partners, and employees to take action in their immediate context and moments of need

- The shift of focus from the devices themselves to managing the user as the endpoint rather than the devices
- Mobility is the flash point for a much more holistic, far-reaching change. Mobile devices and apps are powerful tools that firms harness to engage customers, serve partners, and empower employees

Engagement goals are supported by mobile apps

Systems of engagement touch people

- Serving customer, partners, and employees
- Enabled by smartphones, tablets, and smart products
- Focused on in-the-moment tasks and decisions
- Delivering in an individual's personalized context
- Providing analytics-driven experiences
- Leveraging social and cloud technologies
- Short, rapid, iterative release cycles

Systems of record host processes

- Targeting employees
- Supported by ERP packages and large databases as part of core business processes
- Maintain state, status, and history
- Long development and deployment cycles

Customer apps

Partner apps

Employee apps

Mobile apps for smart products

7 Source: Forrester © 2014 IBM Corporation

Power Systems **IBM**

IBM i bridges Systems of Record & Systems of Engagement

Systems of Engagement

at&t, PayPal, f, MySQL, Salesforce, mongoDB

Mobile Apps

Existing Apps



Cloud APIs

Systems of Record

Finance, Corporate Data Warehouse, Accounting, Order Fulfillment


Systems of Engagement can be cloud-based, decentralized, and support rapid app development

Systems of Record are well integrated, trusted repositories



PowerSystems  

Plumbing

- RPG Open Access
- JOpen Lite
- XML Service
- Web Services




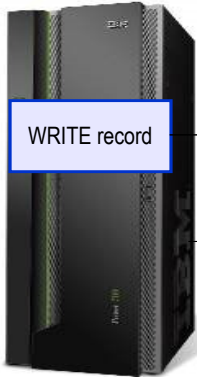
20

PowerSystems  

Rational Open Access: RPG Edition

With no Open Access

5250 Screens 

RPG Application 

WRITE record

program I/O buffer

Other information:
•state
•names
•pointers

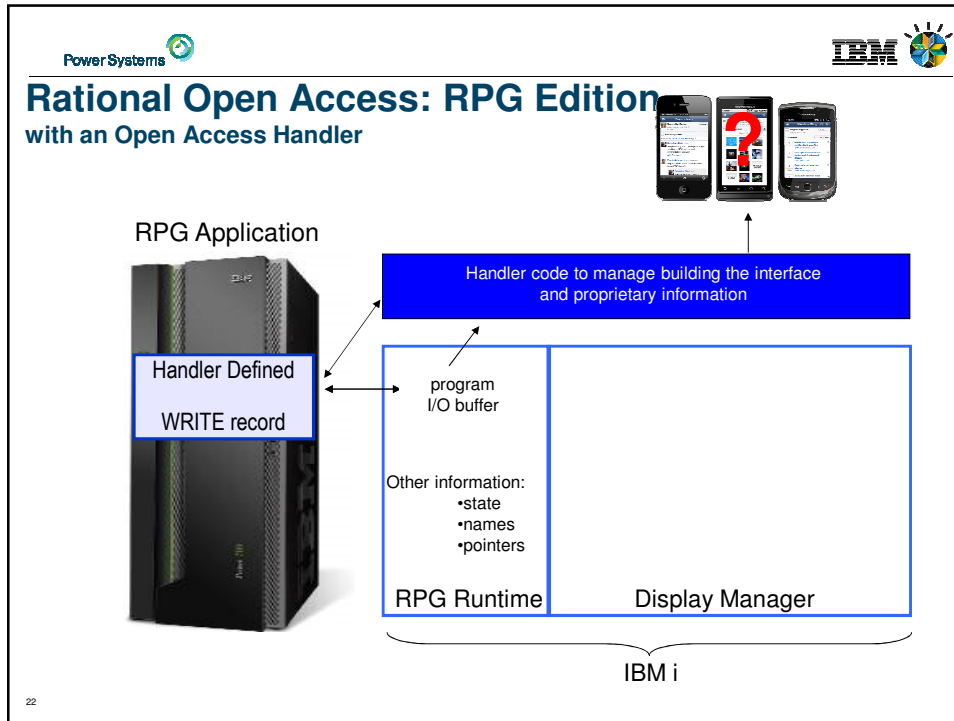
5250 datastream

Display file object
* DSPF

RPG Runtime

Display Manager

IBM i




JTOpen Lite (JTLite) – Java Toolbox for the Mobile World

- Reduced footprint Java toolbox for IBM i
- Supports mobile devices capable of a Java environment
- Targeted to the high use elements:
 - Database -- JDBC (SQL) and record-level access (DDM)
 - Integrated File System – open, read, write, delete
 - Program calls (RPG, COBOL, service programs, etc)
 - Commands
 - Job Information
 - Messages, Message Information (DSPMSG QSYSOPR)
 - Disk Status (WRKDSKSTS)
 - Object Information (WRKOBJ)
 - User and group Information

Java + JTOpen Lite

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PowerSystems 

Access IBM i from anywhere – XML Service

IBM i 7.1: TR5

Easy access to IBM i data and resources from any where
(similar to IBM ToolBox for Java)

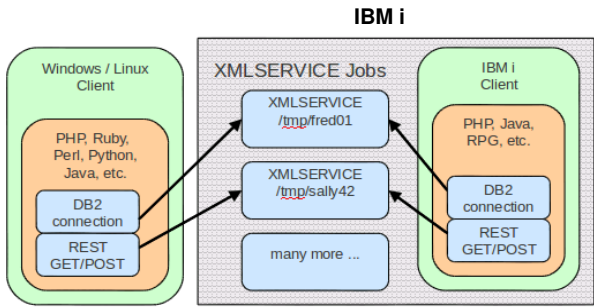
- DB2 for i – SQL and Native
- Program call
- Procedure call
- Data Area
- Data Queue
- Message Queue
- Commands
- System values
- Spool files

Windows / Linux Client

PHP, Ruby, Perl, Python, Java, etc.

DB2 connection

REST GET/POST



IBM i Client

PHP, Java, RPG, etc.

DB2 connection


REST GET/POST

XMLSERVICE Jobs

- XMLSERVICE /tmp/fred01
- XMLSERVICE /tmp/sally42
- many more ...

<http://www.youngprofessionals.com/wiki/XMLSERVICE>

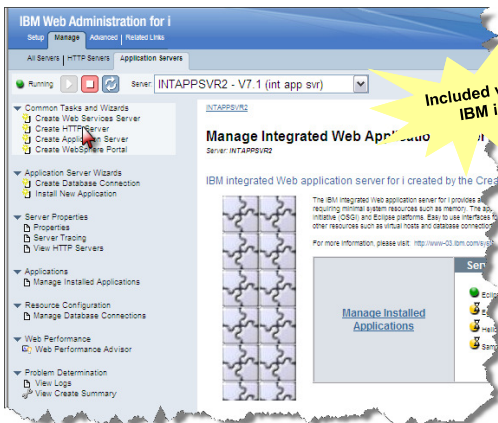
24

PowerSystems 

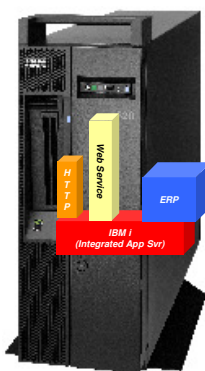
IBM i Integrated Web Services

Enabling RPG & COBOL as Web Services

Now with BOTH SOAP & Rest services!!



Included with IBM i



<http://www-03.ibm.com/systems/power/software/i/iws/>

PowerSystems 


Tools for Mobile Device Enablement

- Mobilize your existing 5250 applications
- Create new mobile applications



26
26

PowerSystems 


```

10/08/11 11:22:49      Equipment Search      Sys: MS04TEST
Type option, press Enter to continue.  [I]=Detail  [M]=Accessories
[O]=Object  [P]=Print/Print Run: 40x40  [S]=Sessions  [R]=Rates  [D]=Days
[O]=Task Card

Get Cat/Class Description          Search Node      Avail
---
100-0100 TANK 21K GAL OPEN TOP      TANK 21K          16
100-0200 TANK 21K GAL OPEN TOP 11000  TANK 21K          18
100-0300 TANK 21K GAL OPEN TOP 10015  TANK 21K          17
100-0700 TANK 21K GAL OPEN ACCESS   TANK 21K          2
100-0800 TANK 21K GAL CLOSED TOP    TANK 21K          2
100-0900 TANK 21K GAL SAFE TOP      TANK 21K          2
100-1000 TANK 21K GAL SAFE TOP 10015  TANK 21K          2
100-1010 TANK 21K GAL SAFE TOP 10015  TANK 21K          2
100-1020 TANK 21K GAL SAFE TOP 10015  TANK 21K          2
100-1100 TANK 21K GAL SAFE TOP 10015  TANK 21K          2
100-1200 TANK 21K GAL 22 ACCESS     TANK 21K          4
100-1810 TANK 21K GAL 22 ACCESS SHRT  TANK 21K          4
None....
                    
```

➔





PowerSystems

```

10/30/11 11:22:49      Equipment Search      Type: QSIBTEST
                               Cap: BT Loc: C08
                               Rpt: R11 Loc:
                               Rpt: R11 Loc:
Type option, press Enter to continue.  I1=IME  I2=Local  I3=Accession
I>Select 2ndVal1/loc 3rdVal1/loc 4thVal1/loc 5thVal1/loc 6thVal1/loc 7thVal1/loc 8thVal1/loc 9thVal1/loc
Get Cat/Class Description      Search Word      Avail
---
100-0200 TANK 21X GAL OPEN TOP      TANK 21X      18
100-0200 TANK 21X GAL OPEN TOP LINED TANK 21X      18
100-0200 TANK 21X GAL OPEN TOP CO2L5 TANK 21X      18
100-0700 TANK 21X GAL OPEN ACCESS   TANK 21X      18
100-1000 TANK 21X GAL CLOSED TOP    TANK 21X      17
100-1000 TANK 21X GAL SAFE TOP      TANK 21X      7
100-1000 TANK 21X GAL SAFE TOP      TANK 21X      7
100-1810 TANK 21X GAL SAFE TOP SUBST TANK 21X      7
100-1800 TANK 21X GAL SAFE TOP CO2L5 TANK 21X      18
100-2110 TANK 21X GAL SAFE TOP CO2L5 SHWR TANK 21X      18
100-1000 TANK 21X GAL IZ ACCESS     TANK 21X      18
100-1000 TANK 21X GAL IZ ACCESS SUBST TANK 21X      4
None....

I3=Exit  F=Refresh  F2=
Select Cat/Class with one
    
```

Work with IBM - Saxophone

For IBM i our ISVs are a key part of our strategy

ADVANCED SOFTWARE MAD **Rocket** looksoftware™

BCD for IBM i modernization **Others.....** **CNX™**

PowerSystems

Why Consider one of these Solutions

- Incorporate features of the mobile device into the backend application
 - Camera, GPS location, Maps, etc
- Write once, deploy to many devices
- Cost effective
 - Compare cost of re-writing vs transforming
- Speed of implementation
 - Transform in days not years
- Intuitive development environment
- Leverage existing IBM i applications
- No need to learn new languages
 - Use existing RPG/COBOL and DDS skills

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The slide is titled 'Applications for a Modern and Mobile World'. It features the 'PowerSystems' logo on the top left and the 'IBM' logo on the top right. The content is as follows:

- IBM Navigator for i
- Access Client Solutions
- IBM Domino / Verse
- IBM Traveler
- IBM Connections
- DB2 WebQuery for i

- ISV Solutions

At the bottom right of the slide, there is a central image of a smartphone surrounded by numerous colorful application icons from various sources, including social media, productivity, and e-commerce.

IBM Notes Traveler

- Full-featured e-mail for smartphones and tablets
- Adheres to important corporate policies and safeguards sensitive corporate data
- No charge mobile offering for IBM Lotus Notes® and Domino® users
- Read and compose Lotus Domino encrypted mail
- Search corporate directory for contacts
- Support remote wipe for lost or stolen devices
- Security policies enforce password rules, denial of access and prohibiting of camera use
- Data on device is encrypted on Apple iOS, Google Android and Nokian Symbian devices



IBM Connections

- The social platform that can integrate social into business processes across an entire customer experience
- Leading social software platform that enables organizations to engage the right people, drive innovation, and deliver results
- Integrated and secure
- Powerful social analytics and metrics
- Delivered to any mobile device, including tablets.
- The social business solution offering the choice to deploy in the cloud, on premise and hybrid options.



DB2 Web Query for i – Intuitive, Insightful, Extensible

Fast access to business information for query, reporting and analysis



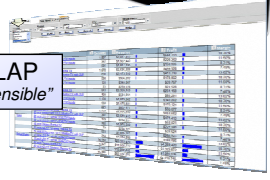
Authoring Tool
"Intuitive"



Reports & Graphs
"Flexible delivery"



Dashboards
"Insightful"



OLAP
"Extensible"

- Providing Analytics and Query/400 Modernization for the IBM i Client
- Low Cost Solution Offering Value Upgrade from Query/400
- Leveraging Best Practice Meta Data Layer Approach
- Leveraging DB2 for i Advanced Query Optimization Technology
- Leveraging features that allow a single report to replace many Query/400 reports

www.ibm.com/systems/i/db2/webquery


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IBM i Mobile Access Overview




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Power Systems 


IBM i Mobile Access

IBM 


- We have been hearing the need for an IBM i OS management and usage tool that is optimized for a mobile device environment.
 - The IBM Navigator for i interface is optimized for full screen desktop web browsers
 - IBM i Access for Web is also optimized for full screen desktop browsers and has lacked some key management views
 - The last reduced screen footprint solution that IBM i OS had was IBM i Access for Wireless, or Management Central Pervasive
- On April 28th, 2014, IBM announced the Technology Preview of the IBM i Mobile Access solution to begin addressing the need in this environment.
 - Multiple PTF updates since
- GA PTF SI56123 released May 19, 2015!




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Power Systems 


IBM i Mobile Access

IBM 


- This IBM i Mobile Access Solution is a web browser based solution that has been optimized for reduced screen footprint environments.
- Easy to deploy and get running
- Simple URL to connect to
- Robust IBM i OS system interaction
 - System Management Views
 - Printing, Database, IFS, Commands, Messages
 - 5250 Interface
- Highly Customizable
 - “What the users have access to” can be simply set based on IBM i OS User or Group Profile



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PowerSystems 

BYOD

IBM 


- Bring Your Own Device (BYOD)
- Do you use your own personal device for work ?
- Company provide a specific device type for you to use ?
 - A Logicalis research study from Feb 2013 found that almost 75% of users in high-growth markets use personal devices for work
 - The same study finds that in mature developed markets the number of BYOD users to be closer to 44%

“Gartner Predicts by 2017, Half of Employers will Require Employees to Supply Their Own Device for Work Purposes “




<http://www.gartner.com/newsroom/id/2466615>


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PowerSystems 



BYOD Options

IBM 


- Installed
 - Write custom for each supported mobile device
 - Write once, leverage something like Apache Cordova or PhoneGap to provide the native install
- Not Installed
 - Web Based solution
 - Write once accessible from ANY web enabled mobile device




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PowerSystems  **IBM i Mobile Access** 

- My Mobile Access home page running on an iPad Mini & iPad



PowerSystems  **IBM i Mobile Access Screens** 



iPhone 4

Galaxy Nexus



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Power Systems  

IBM i Mobile Access: Getting Started




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Power Systems  Getting Started 

- The IBM i Mobile Access Solution Technology Preview is being distributed as part of the r7.2 IBM i Access for Web (5770XH2) product
 - Customers at IBM i OS r7.1 or r6.1 can obtain and run r7.2 IBM i Access for Web
 - For r6.1 order refresh feature 6289 of 5761SS1
 - For r7.1 order refresh feature 6289 of 5770SS1
 - Install r7.2 5770XH2 LPP
 - If already running r6.1 or r7.1 of Access for Web, need to re-run the CFGACCWEB command for those instances
 - The IBM i Mobile Access Technology Preview will be updated via PTFs to Access for Web
 - Requires minimum Tech Preview PTF SI52768 for 5770XH2
 - What you see today is in GA Level PTF SI56123 for 5770XH2 released in May 19, 2015

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Getting Started




- The IBM i Mobile Access Solution is designed to be integrated into the IBM i OS *ADMIN HTTP Server environment
 - Requires IBM i OS HTTP Server Group PTF to deploy new ADMIN5 job specifically for this solution
 - r7.2 5770DG1 Group SF99713 Level 1
 - r7.1 5770DG1 Group SF99368 Level 27
 - r6.1 5761DG1 Group SF99115 Level 38
 - Started and stopped automatically with the *ADMIN HTTP Server
 - Can be started and stopped individually (r7.1 IBM i OS and later)
 - » STRTCPSVR SERVER(*IAS) INSTANCE(ADMIN5)
 - » ENDTCPSPVR SERVER(*IAS) INSTANCE(ADMIN5)

ADMIN5 runs on port 2011

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Getting Started




- Deployed with a simple 2 parameter CL or QShell command
 - CL command in QIWA2 Library
 - `CFGACCWEB2 APPSVRTYPE(*INTAPPSVR) INSTANCE(*MOBILE)`
 - QShell command in /QIBM/ProdData/Access/Web2/install
 - `cfgaccweb -appsvrtype *INTAPPSVR -instance *MOBILE`

It can be deployed on other IBM Integrated Application Server instances or other Web Application Server types like WebSphere Application Server, though additional customization is required

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Power Systems 

Getting Started


IBM 

- Connected to via a simple URL from HTTP *ADMIN port 2001
 - <http://system:2001/iamobile>
- ADMIN5 runs on port 2011
 - 2001/iamobile redirects
 - Can also use
 - <http://system:2011/iamobile/iWAHome>

65

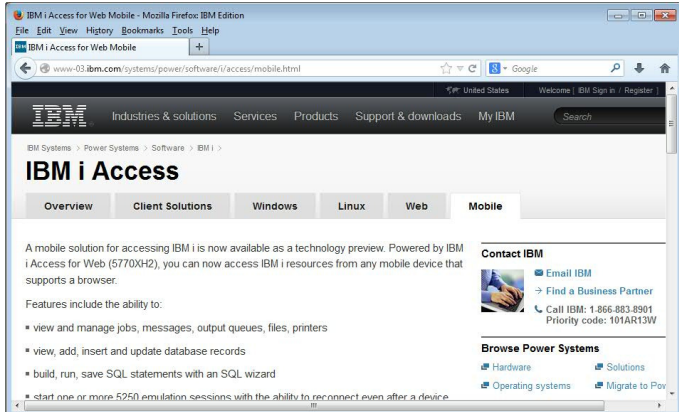
Power Systems 

IBM i Mobile Access

IBM 

More Information:
<http://www.ibm.com/systems/power/software/i/access/mobile.html>

Latest Information available at this location





66


PowerSystems  





IBM i Mobile Access Functional Overview















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PowerSystems  **IBM i Mobile Access** 

5:07 PM 96% 

garage.rchland.ibm.com    

My Mobile Access [garage.CS4.RCHLAND.IBM.COM]

-  My Mobile Access
-  Print
-  Messages
-  Jobs
-  5250 
 - Active sessions
 - Configured sessions
 - Start session
-  System
-  Database
-  Files
-  Command
-  Download
-  Customize

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