

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 sunburst or a cluster of data points.

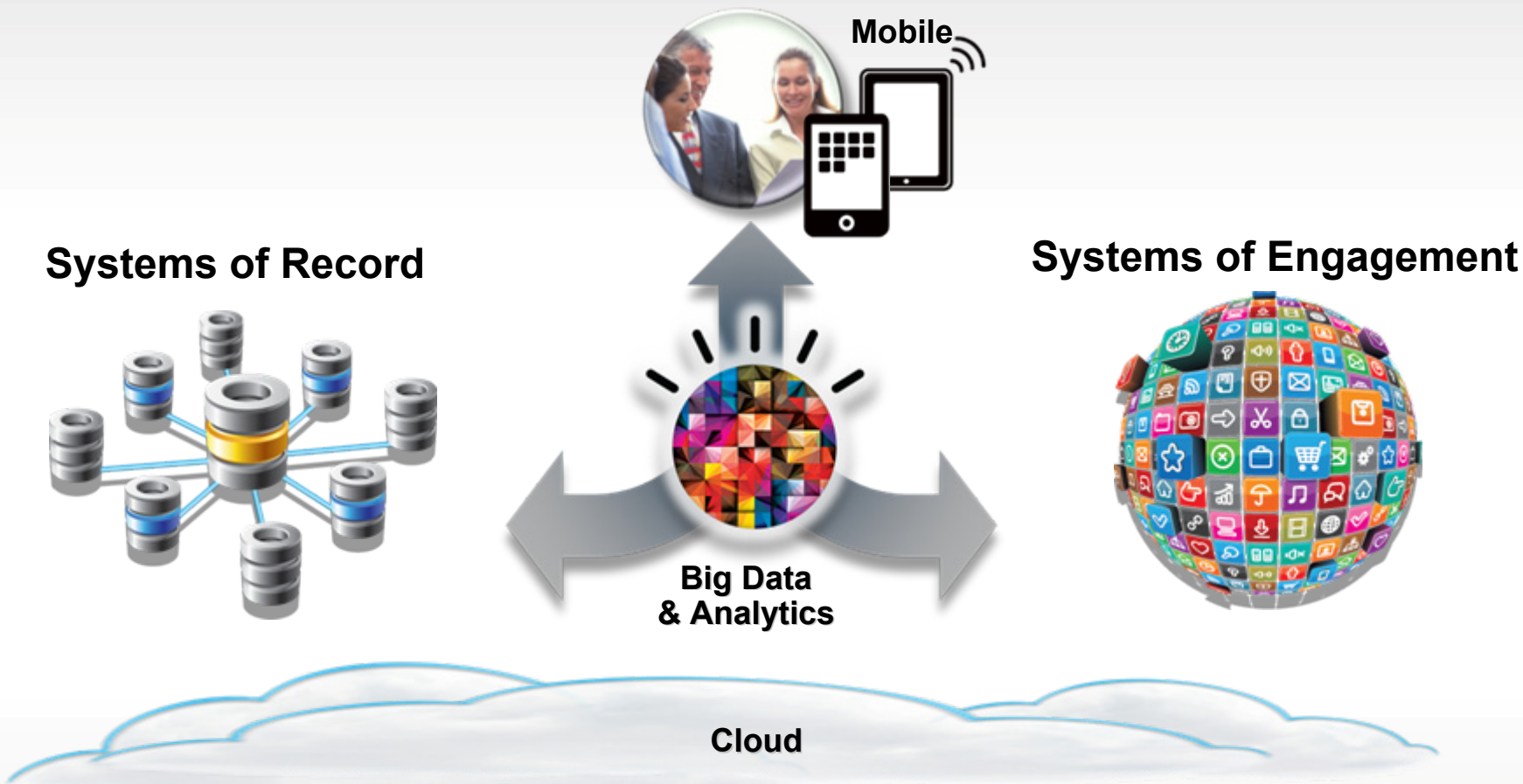
Optimize and Innovate with IMS

Barry Baker - Director, IMS

Kyle Charlet - STSM, IMS Architect, Cloud, Mobile,
Analytics and SOA



Business and industries are being transformed by Cloud, Analytics, Mobile and Social





IMS 13 delivers...

100K
IMS

IMS 13
celebrating
45 years

IBM

Speed & Scalability

Meeting your growing demands with ease and without compromise

- **117,292** tx/sec on a single IMS System
- Increase workload throughput by up to **130%**

Affordability

Lowering your cost per transaction

- Up to **10%** CPU savings for traditional workloads
- Up to **62%** CPU savings for Java workloads

Simplicity

With easier integration, access and administration

- **Native SQL** support for COBOL
- **Dynamic change** and **version** capabilities for DB
- New **web interface** for administration





IMS 13 Scalability Achieved Through Performance Improvements*



Focus Areas

Measured Improvements

Log Latch Contention	66-88% contention reduction
BMP Latch Contention	50% elapsed time reduction
IMS Connect/OTMA	164% ETR improvement
IMS UDB Driver Type-2	18-62% CPU reduction
zIIP Offload	4-22% GP reduction



IBM zEnterprise EC12

Sample Benefits

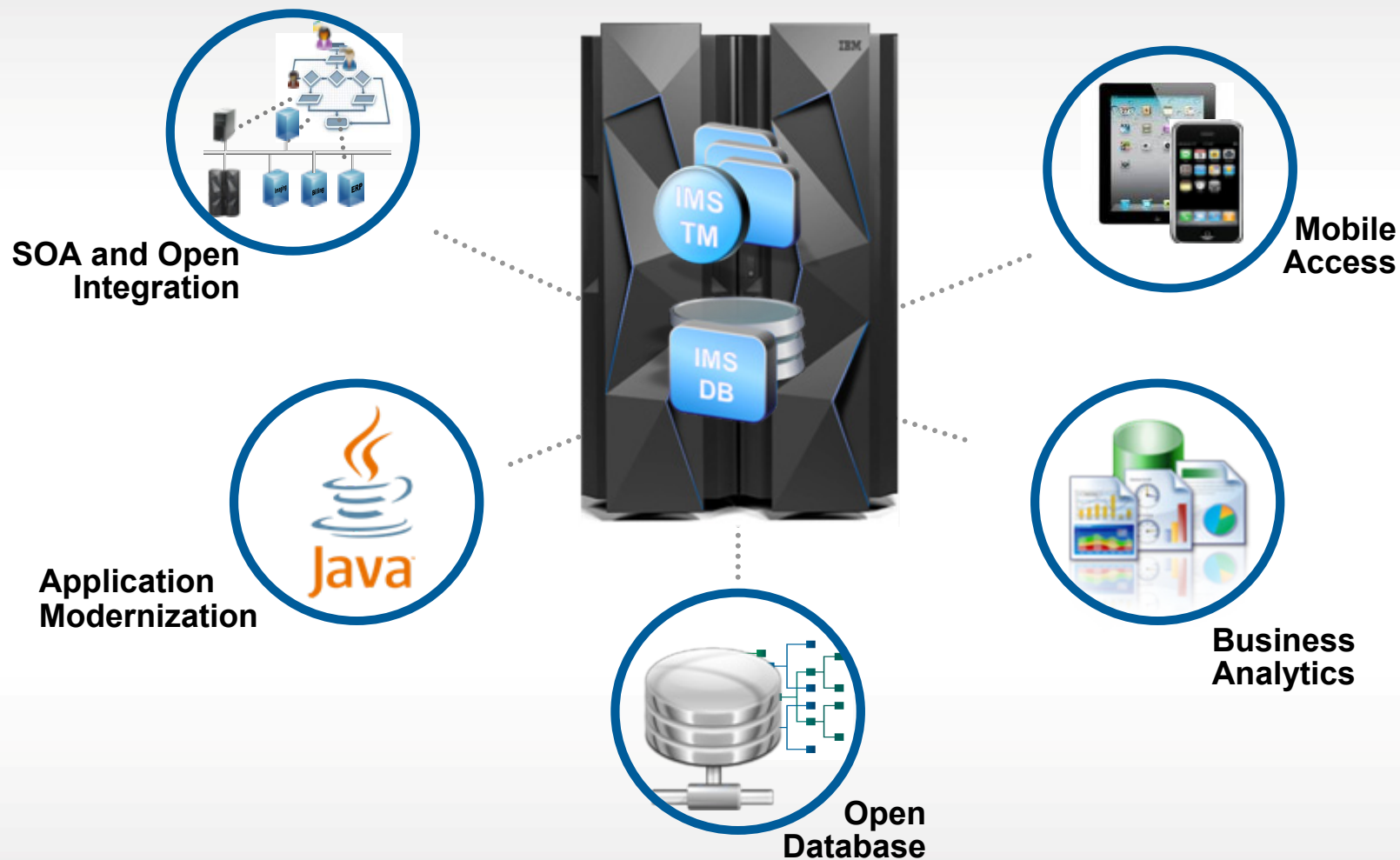
Fast Path Workload
24% ETR improvement

Full Function w/ HALDB Workload
7.6% ETR improvement

CICS-IMS DBCTL Workload
10.8% ETR improvement



Leaders are innovating with IMS...





...and transforming their businesses



Business Need: launch a reliable, secure and highly responsive mobile channel

Solution: integrated new Java-based mobile front end with core banking services running on IMS

Benefits Delivered

First

to market

#1 In mobile banking

- 30 millisecond response time
- “live” date
- Secure

Benefits Delivered

Single

Version of the truth

- Eliminate “stale data”
- Reduce data movement
- Reduced infrastructure and software costs

Business Need: Operational business intelligence in real-time

Solution: enable BI against IMS operational data through Open Database (SQL) support in IMS



Large Bank in AP

Business Need: reduce fraud through smarter transaction processing

Solution: enable IMS application to call, in-line, to an enterprise fraud and anti-laundering solution

Benefits Delivered

65%

Response time improvement

- Anti-money laundering obligations met
- Simplified architecture



IMS Cloud and Mobile Integration Available Today!



~70%

of enterprise to pursue hybrid cloud by 2015

74%

of CIOs say mobile solutions are part of their vision for increasing competitiveness

91%

of CIOs said new customer client-facing apps are accessing the mainframe

- **IMS Mobile Feature Pack** (in IMS Enterprise Suite 3.1.1 – GA June 13, 2014)

Deliver IMS applications and data to mobile and cloud developers in a secure, governed, and optimized way via:

- An integrated platform that supports full discovery, modeling, enablement, and deployment of both IMS transactions and IMS data
- A singular approach for System z clients using WAS, CICS, IMS, and DB2





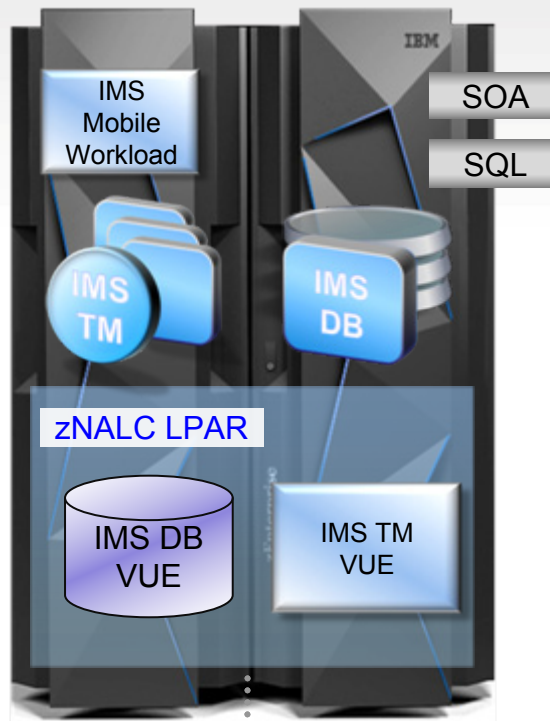
Supporting business growth and innovation in IMS aligned with value

Mobile Workload Pricing

can reduce the cost of growth for mobile transactions processed by programs such as CICS®, IMS™, and DB2® for z/OS.

Up to **60%**

reduction in incremental growth from mobile transactions



zIIP Enablement

can help free-up general computing capacity and lower overall total cost of computing for select data and transaction processing workloads

Up to **22%**

GP savings for DRDA (SQL)

Up to **8%**

GP savings for SOAP (SOA)

IMS DB and TM Value Unit Editions

Introduces a new one-time-charge pricing metric specifically for new workloads like data sharing to enable new analytics workloads, new IMS Open Database for Java or SQL workloads, new mobile applications, new Java applications, etc.



IMS Product Strategy



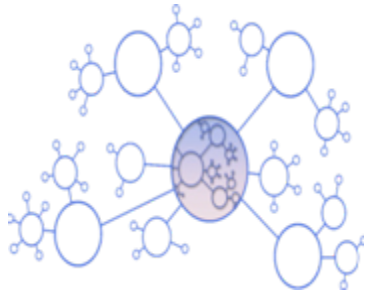
Strategic Intent

Investment



- Continue to deliver the IMS Value Proposition
 - Superior performance, reliability, availability and serviceability
 - Minimize cost per transaction

- Core Capabilities
 - Reduce path length, contention, I/O...
 - Reduce planned outages
 - More dynamic capabilities



- Innovate and extend the value of your IMS investment

- Big Data & Analytics
 - Accelerate time to insight
- Cloud/Mobile
 - Rapidly enable/control cloud & mobile access to IMS resources



- Expand and empower the IMS talent population

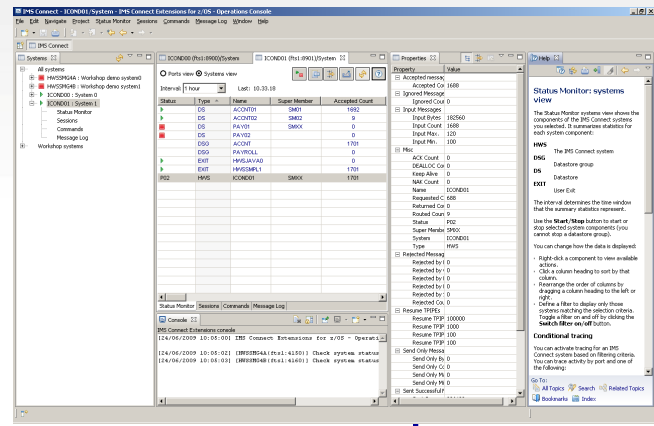
- Open interfaces & Java
- Modern tooling for administrators, developers and DBAs



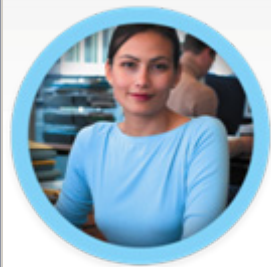
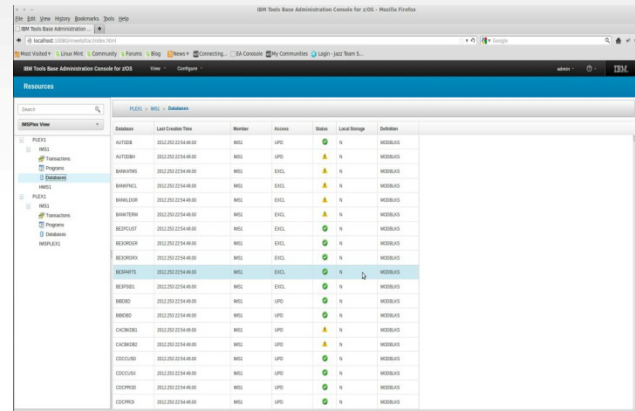
IMS User Experience



IMS Explorer for Development (Eclipse)



IMS Explorer for Administration (Web Browser)



Developers



Administrators

```

MENU LIST OPTIONS HELP          Realtime snapshot
GJEP600                          Row 1 to 16 of 16
COMMAND ===>                     SCROLL ==> PAGE

IMSplex... DLEXI                 Date: 07/09/08
SM server: UIS1                  Time: 09:55:46

Enter * to display statistics for the selected component
      * to display z/OS information for the selected component
      *d to produce an SVS dump for the selected component
      *t to produce SVS dumps for the selected component, type across the plus

Cmd ID  Type  Version  z/OSName  JobName  SMName  DLInns  IRLName  Status
----  -
IMS1   IMS  9.1.0    ECTST21  IMS1     DBRECSAJ  DLIECSAI  IRLMEZN  READY
-----
DBRC  9.1.0    ECTST21  DBRECSAJ
DSRS  9.1.0    ECTST21  DLIECSAI
IRLN  2.1.0    ECTST21  IRLMEZN  READY
CQ51  CQS  1.4.0    ECTST21  CQ5E31  READY
OM10H OM  1.2.0    ECTST21  OM1     READY
RHLRH RH  1.2.0    ECTST21  RHL     READY
SC15SC SCI  1.2.0    ECTST21  SC11    READY
IMS2   IMS  9.1.0    ECTST22  IMS2     DBRECSAJ  DLIECSAJ  IRLMEZN  READY
-----
DBRC  9.1.0    ECTST22  DBRECSAJ
DSRS  9.1.0    ECTST22  DLIECSAJ
IRLN  2.1.0    ECTST22  IRLMEZN  READY
CQ52  CQS  1.4.0    ECTST22  CQ5E12  READY
OM20H OM  1.2.0    ECTST22  OM2     READY
RHLRH RH  1.2.0    ECTST22  RHL     READY
SC15SC SCI  1.2.0    ECTST22  SC12    READY
-----
***** Bottom of data *****

```

ISPF



IMS



Mobile



IMS Customer Internship Program – 2014



- In depth education provided by IMS Subject Matter Experts
- Sessions include: Installation, HALDB features, IMS OTMA and Connect, application topics, mobile, analytics and MORE!



“...every subject was successfully covered by the most appropriate expert. While I was there at SVL, the program was flexible enough so we could address certain topics which I personally identified, that would benefit me...”



“...a unique experience, where I was given the opportunity to meet with the IMS developers and testers at the IBM Lab, and work side by side with them...?”

Need help Optimizing and Innovating with IMS?



IMS Regional User Groups & Migration Workshops



- Health Checks
- Business Value Assessments
- Version-to-Version Migrations
- Modernization Projects
- Capacity Planning
- High Availability

IMS Expertise

IBM Knowledge Center

developerWorks

Communities

IMS Best Practices

IMS Best Practices

IBM Best Practices IMS

IMS Version 13 Technical Overview

Redbooks

IMS Resources

Get Connected with IMS!

Facebook Find us on Facebook
facebook.com/IMSFans

slideshare present yourself
slideshare.net/ibmims

twitter
twitter.com/IBM_IMS

LinkedIn
linkd.in/IBM_IMS

Instagram
instagram.com/ibm_ims

YouTube
bit.ly/IMS_YouTube

IMS Ecosystem



Cloud, Mobile and Analytics with IMS

Kyle Charlet



Systems of Record integration



The most significant technical barrier to creating effective customer-facing systems

1

Inadequate integration with back-office systems

42%

Inadequate security

35%

Inadequate master-data management

34%

Inadequate content management

30%

Slow or unpredictable performance

30%

91% of CIOs said new customer client-facing apps will access the mainframe

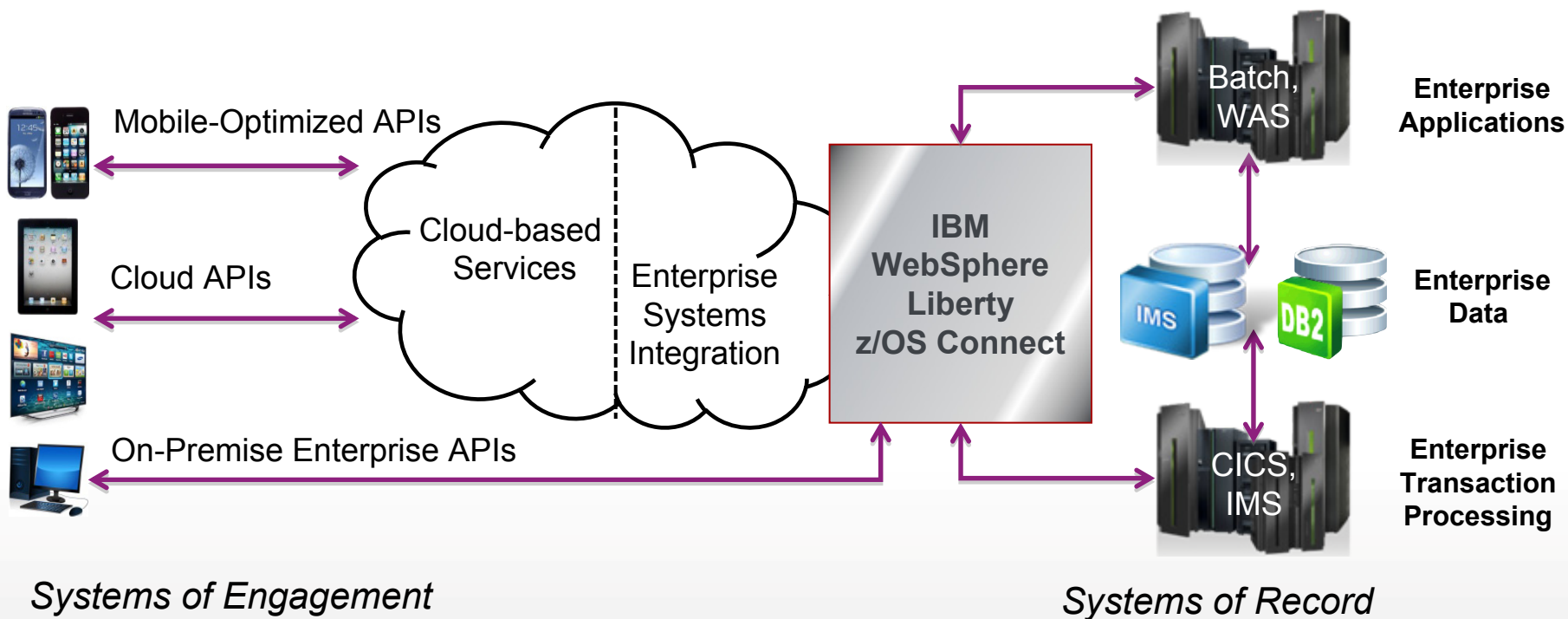
Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, Q1 2013



Secure and consistent enterprise connectivity for mobile and cloud



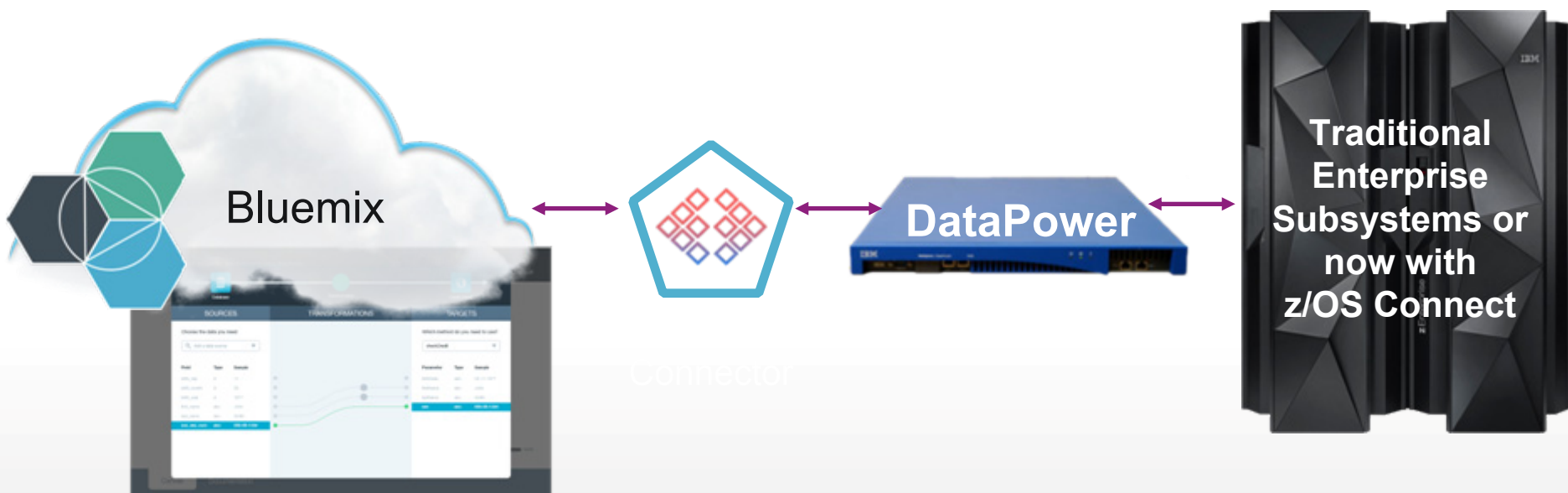
- *IBM WebSphere Liberty z/OS Connect* – Shipped with WAS, CICS, and IMS
- *Unifies z/OS connectors* – a common solutions for mobile, cloud, and web
- *Simplified integration* – Hide complexity of connecting to z/OS using REST





Integrate into existing applications

- *Combine mobile and cloud for best of both* – mobile applications in the cloud linked to the enterprise is your competitive advantage
- *Fast time to market of cloud based applications* – combined with the trusted transactions of traditional mainframe systems
- *Securely connect* – leverage data from your existing enterprise systems



APIs - the building blocks for apps

Application Programming Interface

The **“API economy”** has changed how developers think about building apps, and how organizations deploy software in the cloud

Many of the core business functions reside in z based services (CICS, IMS, WAS)

Bank Externalized Services





It's more than just the API

- APIs
- REST basics <
- REST APIs** <
- Release notes <
- Air <
- SOAP basics <
- SOAP APIs <

REST APIs

© Rectangular Ship

Infuse travel into your applications with Sabre REST APIs

Power your applications with the growing collection of REST APIs in *Sabre® Dev Studio*. Our APIs are powered by technology and infrastructure that's mobile-friendly and scalable to meet your customer demand.

Now you can incorporate new shopping and intelligence capabilities like never before. Integrate a six-month calendar shopping capability into your application or shop across hundreds of alternate airports by budget or theme. Forecast the future with our intelligence services — show your users everything from the crowds at a destination, to whether or not the time is good to book travel.

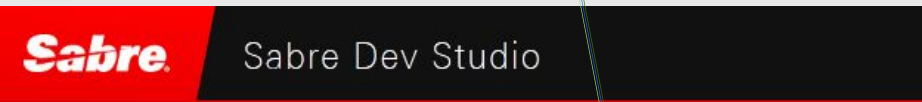
Help your travelers decide

- When are the best dates to travel to my destination?
- Want to go somewhere but not sure where?
- Want to know where you can fly and when within your budget?
- Is this a good price relative to what others have purchased lately?

Name	Category	Function	API type	Docs
▶ Lead Price Calendar	✈ Air	🔍 Search	REST	➔
▶ InstaFlights Search	✈ Air	🔍 Search	REST	➔
▶ Destination Finder	✈ Air	🔍 Search	REST	➔
▶ Low Fare Forecast (beta)	✈ Air	📊 Intelligence	REST	➔



- Describing details on how to invoke an API
- Listing and categorizing APIs



- APIs
- REST basics
- REST APIs
- Release notes
- Air
- SOAP basics
- SOAP APIs

- APIs
- REST basics
- REST APIs
- Release notes
- Air
- Search
- Lead Price Calendar
- InstaFlights Search
- Destination Finder
- Intelligence
- Utility
- SOAP basics
- SOAP APIs
- API suitability
- Method and endpoint
- Request
- Response

Destination Finder

The Destination Finder API retrieves a then current nonstop lead fare and an overall lead fare available to destinations from a specific origin on round-trip travel dates from the Sabre® cache. (A lead fare is the then current lowest published fare available via the Sabre cache for an origin, destination, and round-trip date combination.)

Calling this API

We designed several sets of request parameters for calling the Destination Finder API. You must pass a single origin airport in all cases:

- Provide a single set of round-trip travel dates (in `departuredate` and `returndate`). You can pass any single departure date from the current date to the current date + 192. You can pass any single return date that is equal to or later than the departure date, that does not exceed the maximum length of stay. (Length of stay is 0-16.)
- Provide a single length of stay (in `lengthofstay`) without any dates. The API retrieves lead fares for 30 consecutive dates that begin on the current date. To calculate return dates, the API adds `lengthofstay` to the departure date, where `lengthofstay` is 0-16.
- Provide a length of stay (of 0-16 days) with earliest and latest departure dates (in `earliestdeparturedate` and `latestdeparturedate`). For `earliestdeparturedate`, the date can begin with today's date. The `latestdeparturedate` can begin on today's date + 192, but the span of departure dates cannot exceed 30 days. The length of stay is from 0-16. The API retrieves lead fares for each departure date in your range, and calculates the return date by adding the `lengthofstay` to the departure date.

You can use these optional parameters in any request format, in any combination:

- `theme`. Filters the response for destinations that are based on a theme. A theme is similar to a travel category, and is based on geography or points of interest, such as beaches or national parks.
- `location`. Filters the response for destinations that are based on a country code.
- `minfare` and `maxfare`. Filters the response for lead fares based on these amounts. You can use these parameters together or separately.

Ready to try the APIs?

Ready to get your hands dirty?

- Register
- Try the APIs

Ready to launch?

Ready to step up to the production level service? We're standing by to fit you for your specsuit.

- Request Production Key

Download the lists of city pairs supported for the certification (CERT) and the production (PROD) environments for this API. Check back for updates as we expand these lists.

- Download the CERT List
- Download the PROD List

REST APIs

Infuse travel in

Power your application and infrastructure that
Now you can incorporate capability into your app intelligence services — book travel.

Help your travelers decide

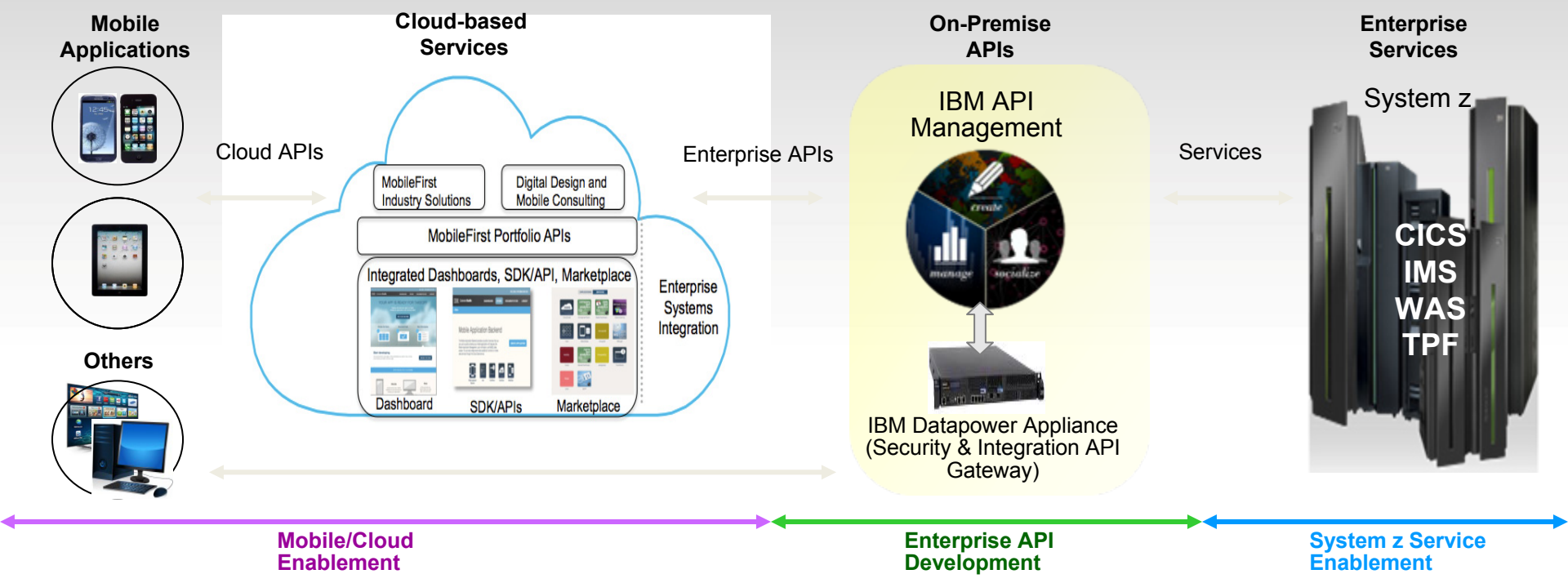
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Lead Price Calendar	Air	Search	REST	→
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Destination Finder	Air	Search	REST	→
Low Fare Forecast (beta)	Air	Intelligence	REST	→

End-to-end API accessing System z services

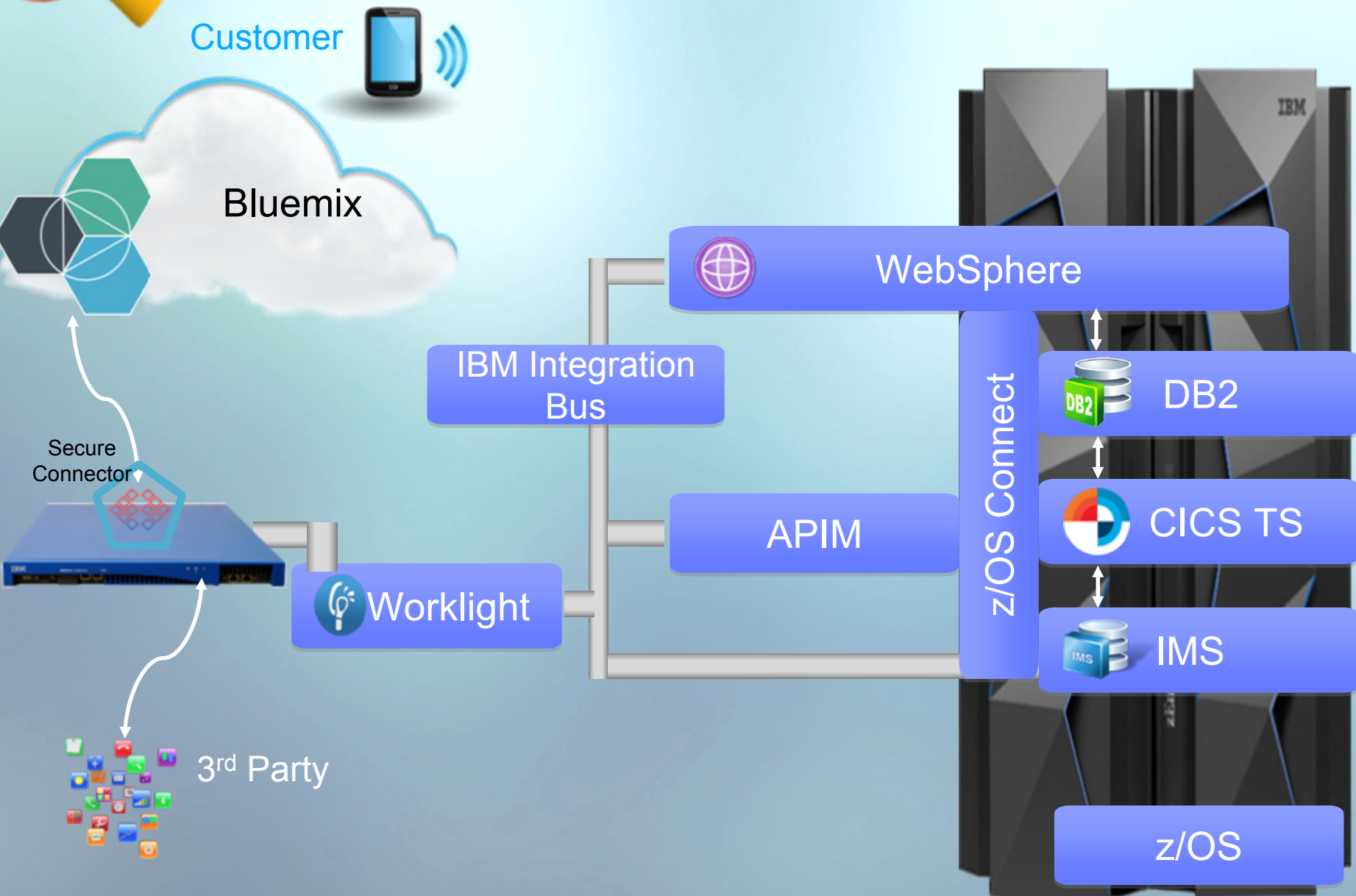


System of Engagement | **System of Record**



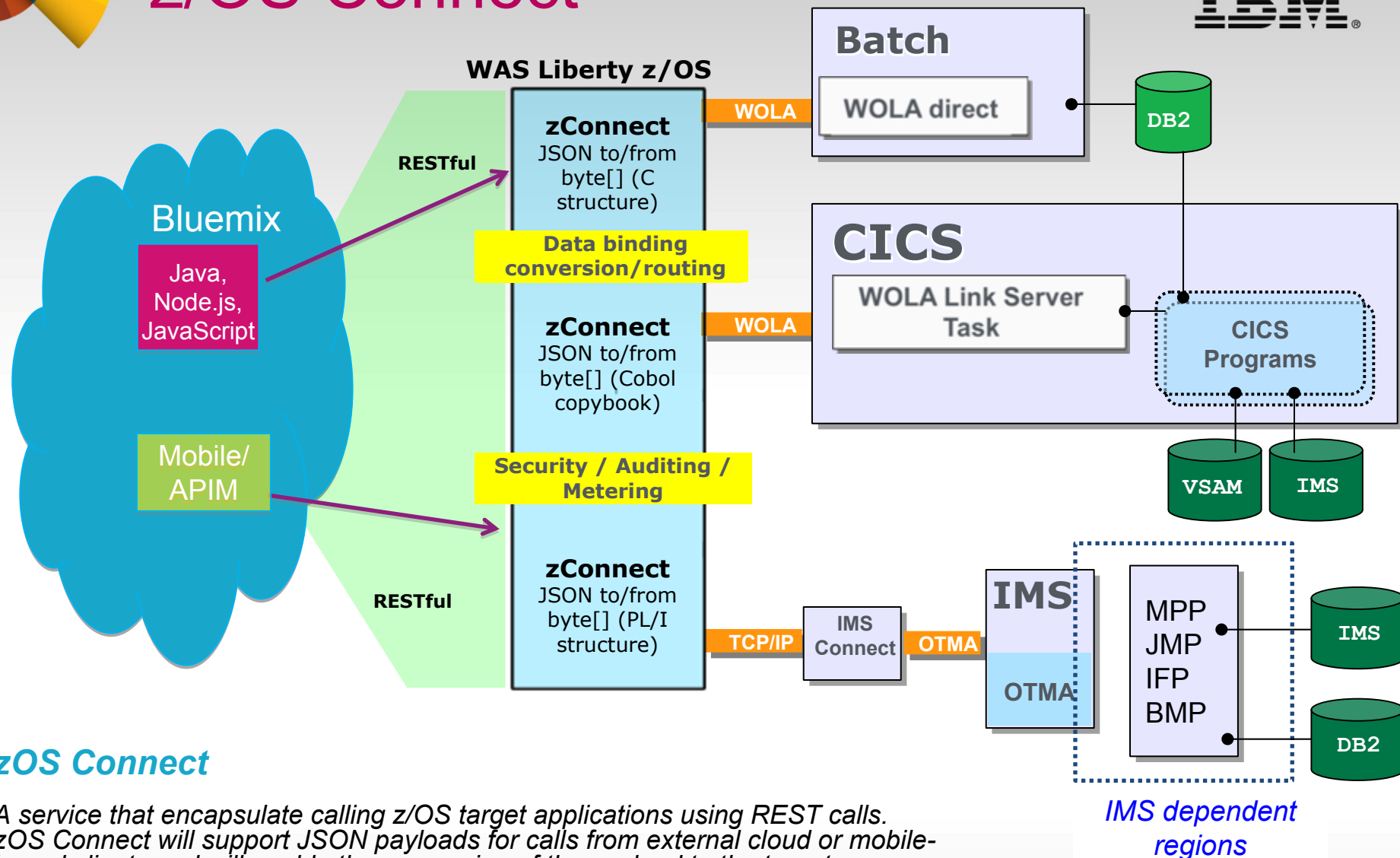
<p>Jane <i>Mobile Developer</i> Use API to access z services</p>	<p>Shavon <i>API Developer</i> Develop Enterprise APIs from z services</p>	<p>Bob <i>System z Service Developer</i> Develop SOAP or REST services for IMS, CICS, other z apps</p>
<p>Mobile/Cloud/Third-party Application Development - Invokes APIs for accessing SOR (System of Record)</p>	<p>API Management - Consumable by internal and external developers (creation and look up) - Entitlement Management (securing, workload enforcement) - Usage monitoring & Analytics</p>	<p>Service Enablement - Enables invocation of z applications by remote applications using standard protocols (WSDL, REST) - Converts SOAP or JSON into application specific (e.g., COBOL, PL/I) data and invokes applications</p>

Systems of Engagement meets System of Record





z/OS Connect



zOS Connect

A service that encapsulate calling z/OS target applications using REST calls. zOS Connect will support JSON payloads for calls from external cloud or mobile-based clients and will enable the conversion of the payload to the target program's expected format. It will also provide the response payload conversion from a byte array into JSON format before returning the response to the caller.

IMS dependent regions



IMS and Analytics

Use case

Solution

- BI, dashboarding, reporting of IMS data



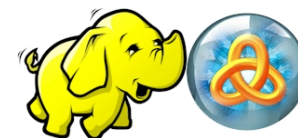
- Cognos 10.2 BI



- Merge HDFS data with trusted OLTP
- IT analytics (log data)



- IBM InfoSphere BigInsights



- Bring analytics to the data



- IBM DB2 Analytics Accelerator



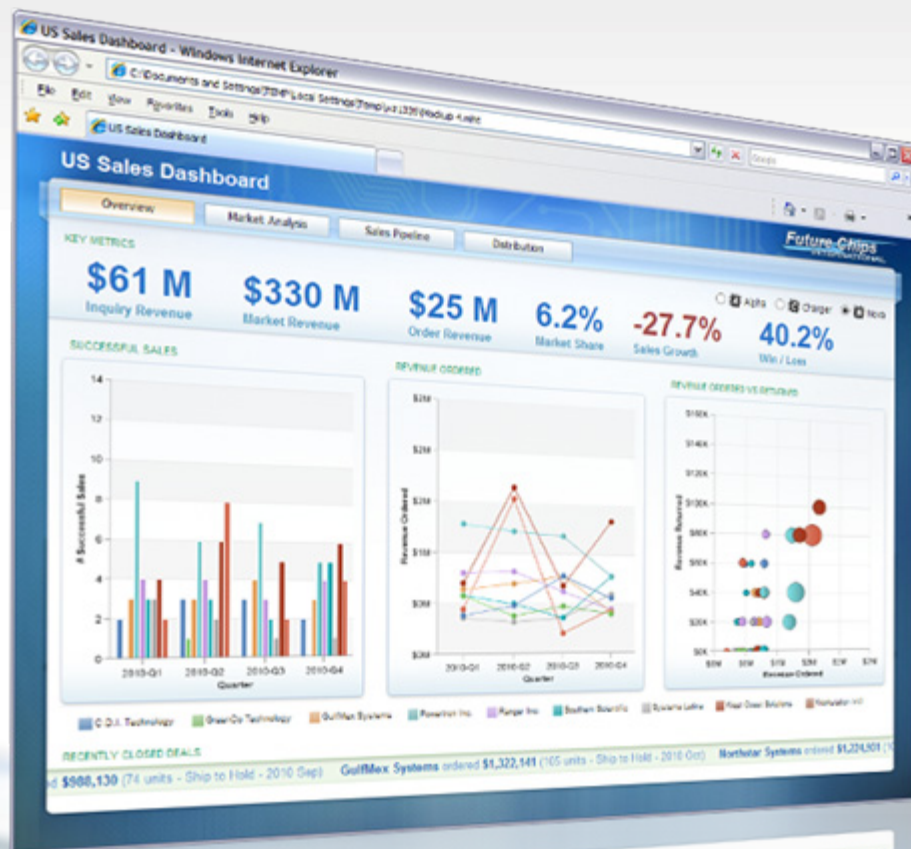
- Visualize entire big data landscape



- IBM Watson Explorer

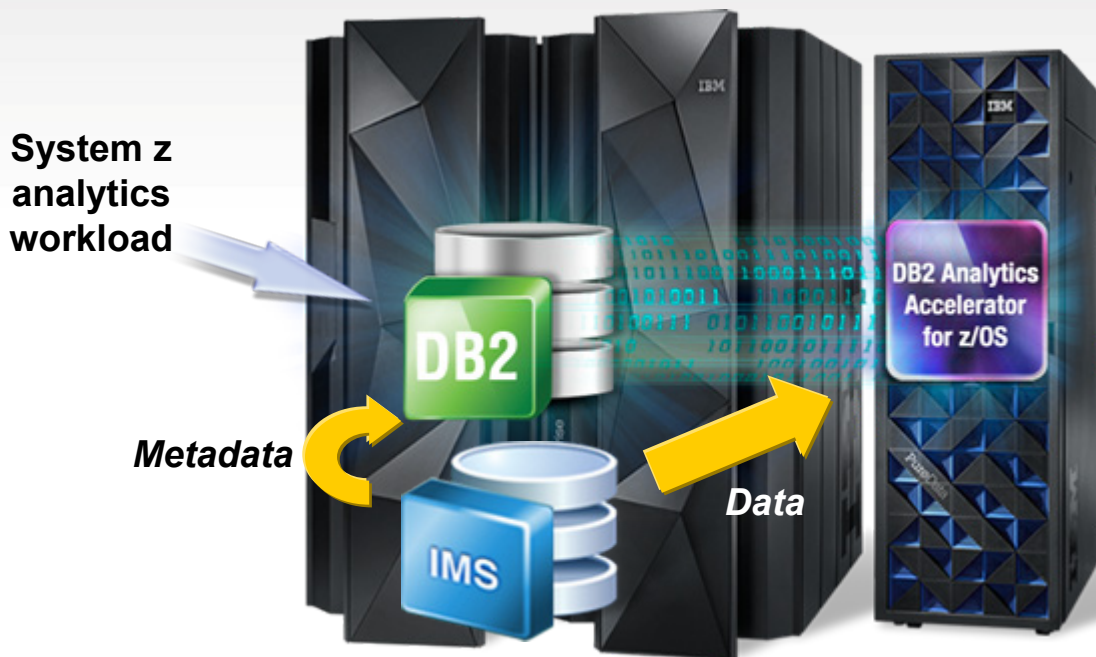


Cognos 10.2 BI with IMS Data



- Certified against IMS 12 using IMS Open Database technology
 - Universal JDBC driver
- Real-time analytics

IBM zEnterprise and DB2 Analytics Accelerator



The hybrid computing platform on zEnterprise

- Supports transaction processing and analytics workloads concurrently, efficiently and cost-effectively
- Delivers industry leading performance for mixed workloads

DB2 Analytics Accelerator and DB2 for z/OS

A self-managing, hybrid workload-optimized database management system that runs each query workload in the most efficient way, so that each query is executed in its optimal environment for greatest performance and cost efficiency



IDAA Use Cases with IMS Data



Make better decisions faster



Large volume reporting of combined IMS and DB2 assets

Better understand your customers



Leverage full breadth of transactional data for analytics

Trust your data



Ensure consistency of data relationships between IMS and DB2



Get Started Today!

- Technical Whitepaper and “how-to” guide available [here](#)



Enhancing IMS analytics on System z with Big Data



- Much of the world's operational data resides on z/OS
- Unstructured data sources are growing fast
- There is a need to merge this data with trusted OLTP data from System z data sources
- IMS provides the connectors and the DB capability to allow BigInsights v2.1.2.0 to easily and efficiently access the IMS data source

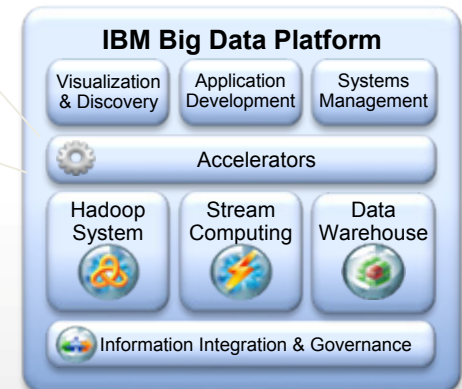
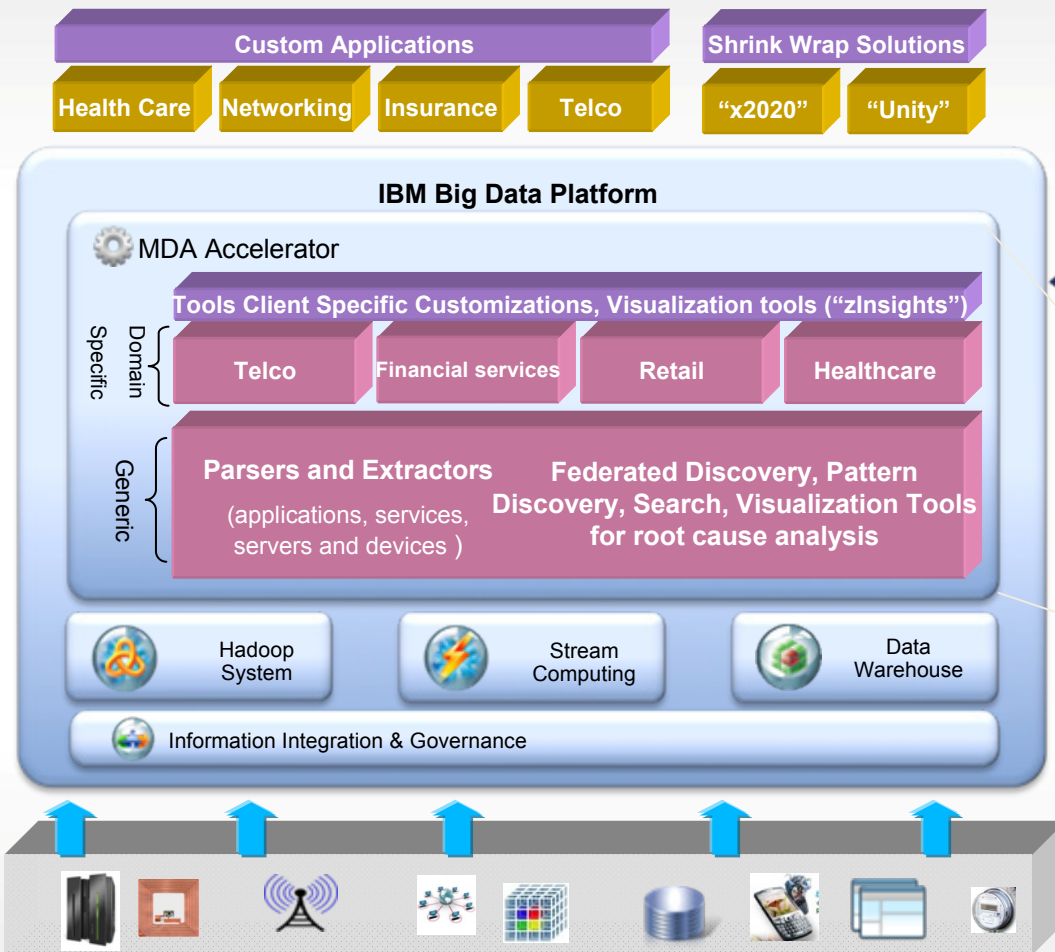




IT Analytics for IMS



- Log ingestion and analysis
- Value: allow correlation of an entire ecosystem of application servers with IMS to provide deep insight, filtering, analytics, as well as faceted search capabilities





Watson Explorer - visualization and discovery across all data sources: "Integration at the glass"



Improve customer service & reduce call times



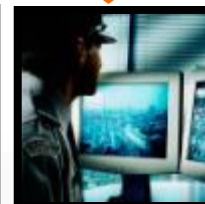
Increase productivity & leverage past work increasing speed to market



Analyze customer information & data to unlock true customer value



Identify areas of information risk & ensure data compliance



Create unified view of ALL information for real-time monitoring