IBM System z Forum

System z Software Update

(**2014 Q2** zSW Announcements)

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Using System Z to meet the demands of Mobile

Mobile is Redefining the Data Center

91%
Mobile users keep their device within arm's reach 100% of the time

75%
Mobile shoppers take action after receiving a location based message

96%
Year-to-year increase in mobile cyber Monday sales between 2012 and 2011

90%
Users use multiple screens as channels come together to create integrated experiences
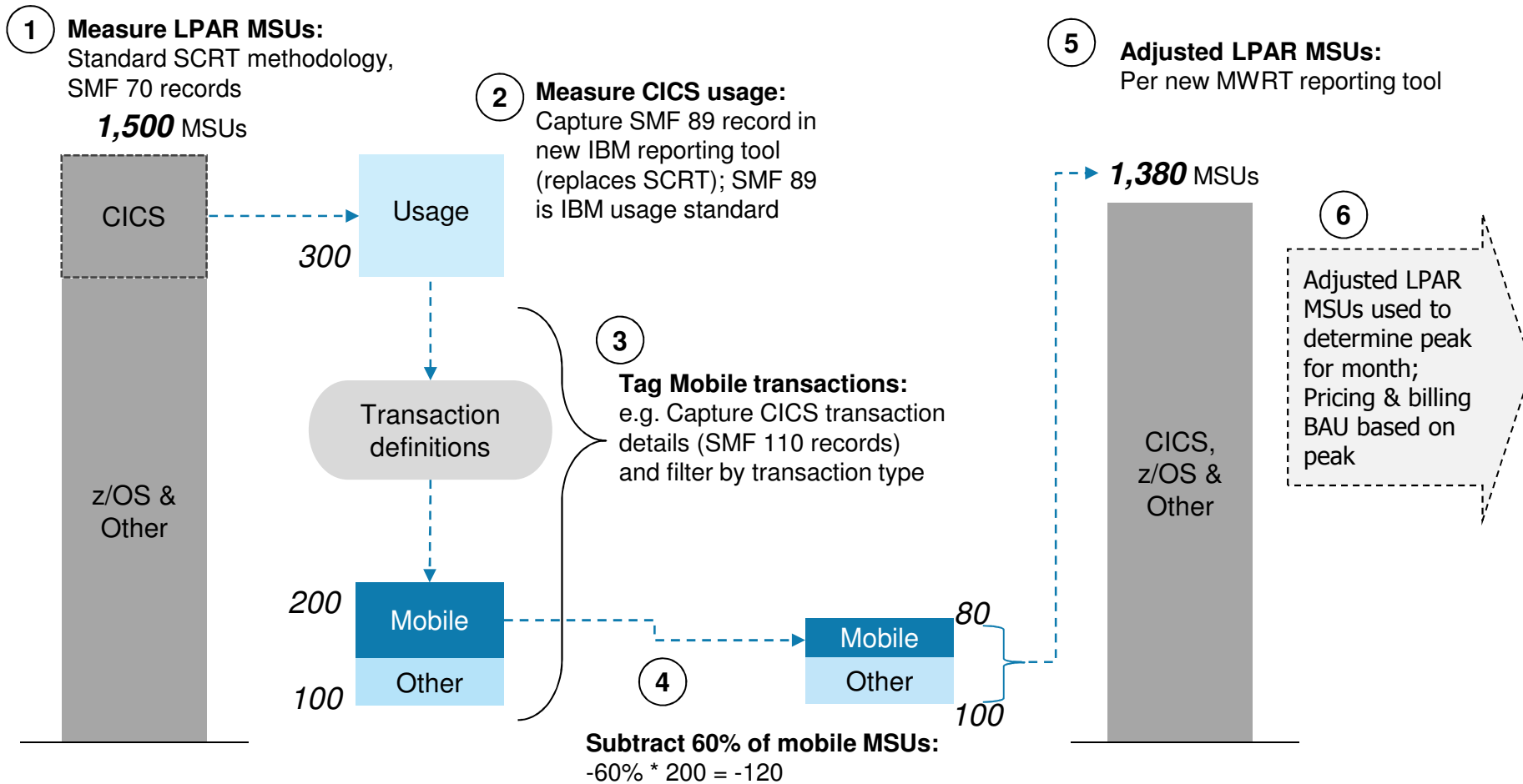
900%
Increase of global machine-to-machine connections by 2022

Mobile Workload Pricing for z/OS

- Mobile Workload Pricing (MWP) for z/OS® enhances Sub-Capacity pricing
  - Mitigates the impact of Mobile on MLC charges where higher transaction volumes cause a spike in machine utilization

- No infrastructure changes required, no separate LPARs needed
  - It is an enhanced way of reporting sub-capacity MSUs
  - System runs as it always has, workload execution is not altered

- Hardware requirements
  - Available to all enterprises running a IBM zEnterprise® EC12 or IBM zEnterprise server
  - actual mobile work may run on any zEnterprise machine (z196, z114)

- New Mobile Workload Reporting Tool (MWRT) – available 30 June 2014
  - Standard SCRT methodology plus new feature to adjust for Mobile workload impact
  - New tool will replace SCRT for customers who take advantage of Mobile Workload Pricing

- Customers must track mobile transactions and produce a file showing mobile CPU consumption each month
  - Run MWRT and submit the results to IBM each month (Replaces SCRT process)

- MSU adjustments and monthly peak calculation for billing
  - MWRT will subtract 60% of the reported Mobile MSUs from a given LPAR in each hour, adjusting the total LPAR MSU value for that hour
  - This will function like a partial "off-load" from a software pricing perspective
  - When an LPAR value is adjusted, all software running in the LPAR will benefit from lower MSUs
  - Tool will calculate the monthly MSU peak for a given machine using the adjusted MSU values

IBM Announcement Letter ENUSAP14-0219

Example : reducing impact of Mobile on LPAR peak

(1) Measure LPAR MSUs:
Standard SCRT methodology, SMF 70 records
1,500 MSUs

CICS

z/OS & Other

(2) Measure CICS usage:
Capture SMF 89 record in new IBM reporting tool (replaces SCRT); SMF 89 is IBM usage standard

Usage
300

Transaction definitions

(3) Tag Mobile transactions:
e.g. Capture CICS transaction details (SMF 110 records) and filter by transaction type

200
Mobile
Other
100

(4)

Mobile *80*
Other *100*

Subtract 60% of mobile MSUs:
-60% * 200 = -120

(5) Adjusted LPAR MSUs:
Per new MWRT reporting tool

1,380 MSUs

CICS, z/OS & Other

(6)

Adjusted LPAR MSUs used to determine peak for month; Pricing & billing BAU based on peak

LPAR MSUs for billing (Standard)
z/OS/Other 1,500
CICS   1,500

Figures are for illustrative purposes only.

LPAR MSUs for billing (Adjusted)
z/OS/Other 1,380
CICS   1,380

Identifying Mobile Transaction Workload

- Customers are responsible for processing their mobile transaction data into a predefined format to be loaded into MWRT for each sub-capacity reporting period.
    - IBM must approve the data gathering methodology.

- The data must consist of **general purpose processor CPU seconds** for each mobile transaction program summarized by hour by LPAR for all machines processing mobile transactions.
    - Detailed instructions, including CSV file format, available in the MWRT user's guide.

- Mobile Workload Pricing Defining Programs:

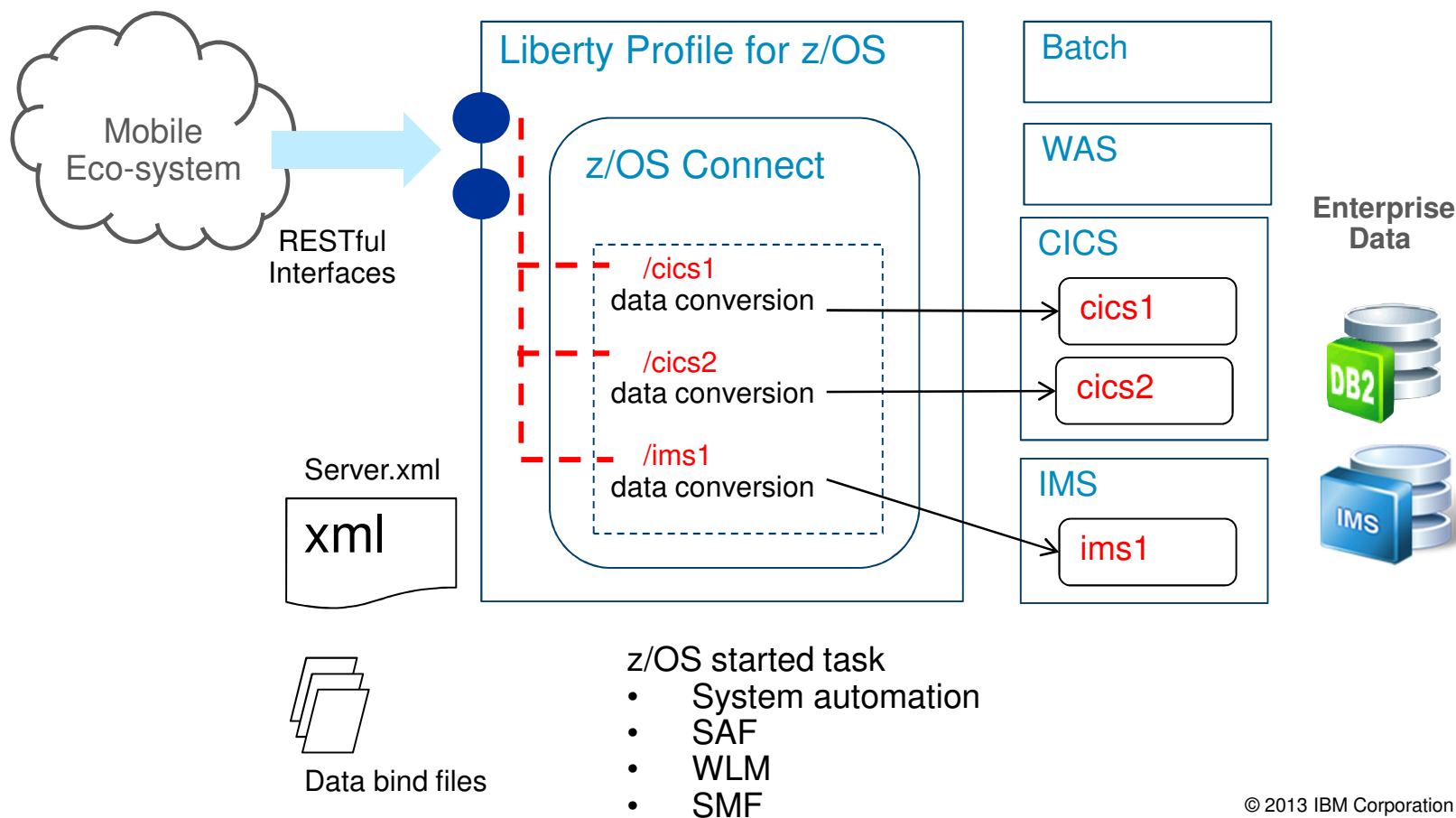|			
5655-S97	CICS TS for z/OS V4	5635-A04	IMS V13
5655-Y04	CICS TS for z/OS V5	5655-DSQ	IMS DB VUE V12
5722-DFJ	CICS VUE V5	5655-DSM	IMS DB VUE V13
5635-DB2	DB2 V9 for z/OS	5655-L82	WebSphere® MQSeries® for z/OS V6
5605-DB2	DB2 10 for z/OS	5655-R36	WebSphere MQSeries for z/OS V7
5615-DB2	DB2 11 for z/OS	5655-W97	WebSphere MQSeries for z/OS V8
5697-P12	DB2 VUE V9	5655-VUE	WebSphere MQSeries VUE V7
5697-P31	DB2 10 VUE	5655-VU8	WebSphere MQSeries VUE V8
5697-P43	DB2 11 VUE	5655-N02	WebSphere Application Server for z/OS V7
5635-A02	IMS V11	5655-W65	WebSphere Application Server for z/OS V8
5635-A03	IMS V12		

IMS Mobile Feature Pack

- Part of IMS Enterprise Suite for z/OS, V3.1.1 (5655-TDA)   *FREE*

- IMS Mobile is a comprehensive solution with which clients can
  – discover IMS assets,
  – model asset metadata, and enable them
  – publish those assets as RESTful services.

- Once published, those services are hosted by IMS Mobile for discovery by mobile and cloud Application Developers.

- z/OS Connect
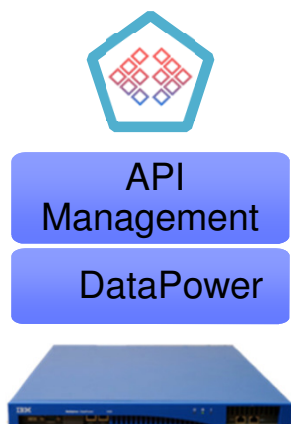
- Associated tooling is delivered via IMS Explorer for Development.

z/OS Connect

- **IBM WebSphere Liberty z/OS Connect** – *ships with WAS, CICS, and IMS*
- **Unifies z/OS connectors** – *a common solution for mobile, cloud, and web that builds on z/OS qualities of service*
- **Simplified integration** – *Hide complexity of connecting to z/OS using REST*
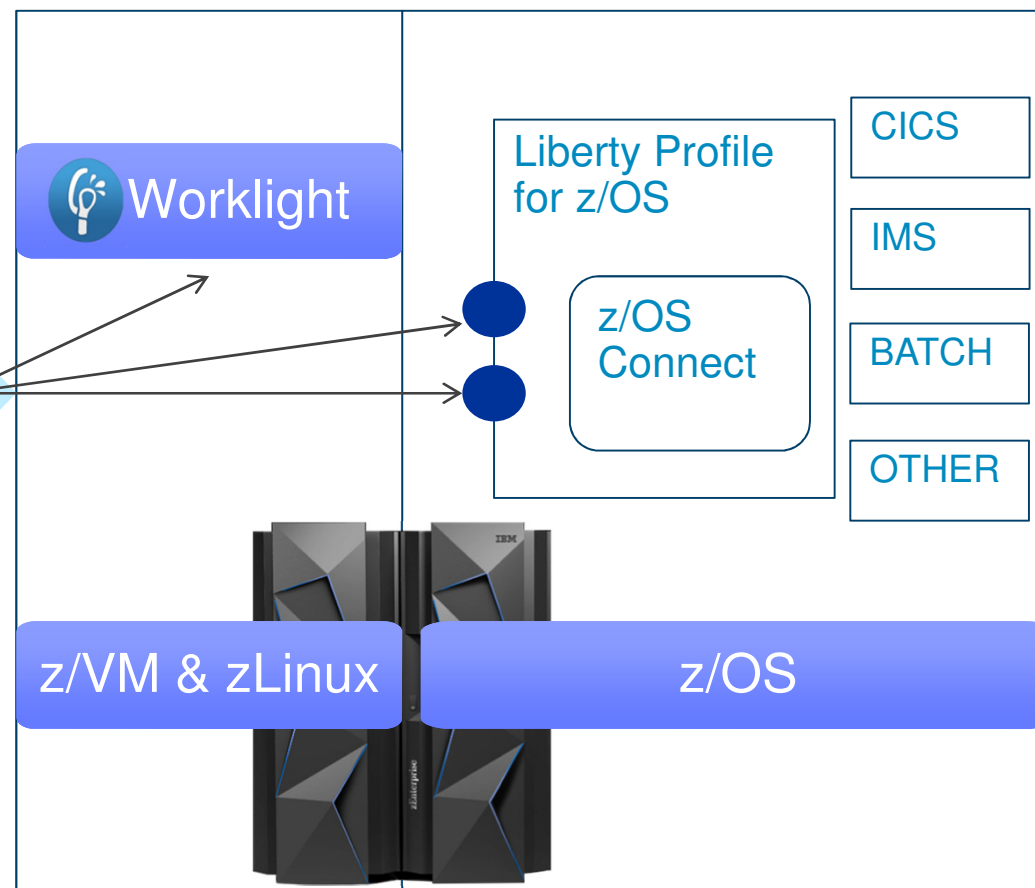- **Discover z/OS assets** – *Enhance user experience with System of Record*

Mobile Eco-system

RESTful Interfaces

Liberty Profile for z/OS

Batch

WAS

z/OS Connect

/cics1
data conversion

/cics2
data conversion

/ims1
data conversion

CICS

cics1

cics2

IMS

ims1

Enterprise Data

DB2

IMS

Server.xml

xml

Data bind files

z/OS started task
- System automation
- SAF
- WLM
- SMF

8

Where z/OS Connect fits within Mobile Ecosystem

Worklight

Worklight

API Management

DataPower

Liberty Profile for z/OS

Worklight

z/OS Connect

CICS

IMS

BATCH

OTHER

z/VM & zLinux

z/OS

Bluemix

IMS Transaction Manager Value Unit Edition (V12; V13)

A one-time charge version of IMS TM

A separate licensed product running in a zNALC LPAR

Specifically for qualifying new Java workloads

- *New qualifying Java workloads*
  - Net new Java workloads are approved through a qualification process

- *New qualifying packaged applications*
  - Qualifying packaged applications can also be run within IMS TM VUE

- *First class Java environment*
  - Built on multi-threaded Java 7 infrastructure
  - Allows IMS to run more Java applications, by delivering enterprise-class scalability for Java workloads

Example : Banking Use Case

A Bank with *web/mobile applications*:

- Sees 30% + growth in their traditional workload, from mobile, mostly inquiries
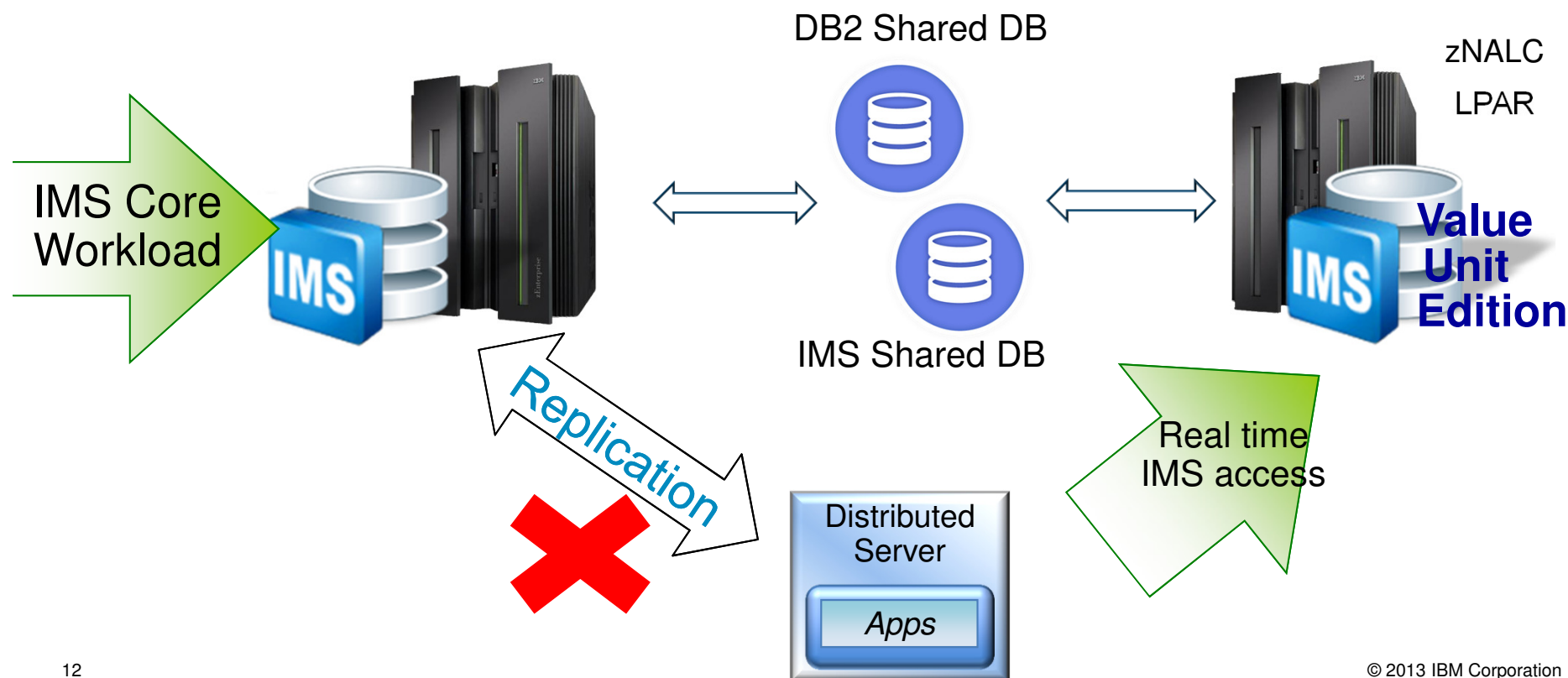- Does not want to see increase in their MLC costs

Solution:

- Separate the inquiries from web/mobile from traditional/existing transactions
- Active-Query architecture with IMS TM VUE on the secondary site
- Route the web/mobile inquiry only workload to the secondary site

IMS Core Workload

Active

Query/Active

Java/Mobile Workload

IMS TM/DB

IMS TM/DB **Value Unit Edition**
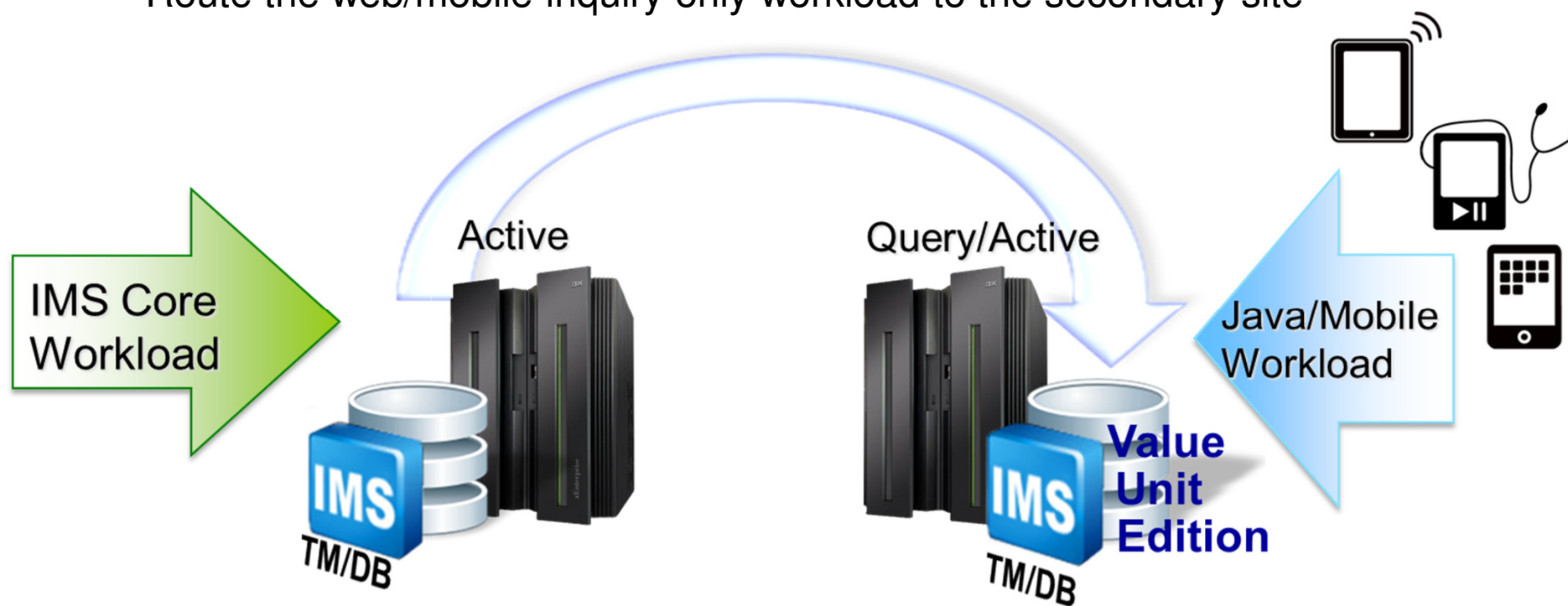
Shared Databases: An Alternative to Replicating off Platform.

Common Scenario : Copy the data off mainframe to a distributed server, in order to deploy a new system of engagement.

- Replication adds latency, costs, governance issues, moving parts etc…

- Keeping the data & transactions on the mainframe avoids many of these challenges, with multiple attractive licensing models.

DB2 Shared DB

zNALC

LPAR

IMS Core Workload

IMS

IMS Shared DB

Value Unit Edition

IMS

Replication

Distributed Server

Apps

Real time IMS access

CICS Transaction Server V5.2 for z/OS

1   Integrates mobile capabilities and broadens the web programming model, *without requiring additional middleware*

2   Support distributed security standards and automatically safeguard critical runtime resources, *without requiring additional system code*

3   Deploy and manage several versions of a multi-program application and run them concurrently, *without requiring additional regions*

*   Various work on the Technical Foundation

MQ V8.0 for z/OS

Exploitation of System z capabilities
- Up to 100 64-bit buffer pools
- Extended LogRBA
- MQ messages stored in EC12 Coupling Facility flash storage

Improved performance and scalability
- Pub/Sub hubs within MQ cluster
- Read-ahead and Write changes to deliver large increases in the data rates for Q Replication

Enhanced Security
- new authentication options
- multiple security certificates
- SHA-2 cryptographic hash functions

Increased Connectivity
- Client Attachment Feature required for WebSphere MQ V7 (5655-R36) is no longer required.
- Available for MQ V7 via PI13429

Standards
- JMS 2.0 support

![IBM logo]

QMF V11 available … as a feature of DB2 V10.

DB2 QMF for TSO and CICS

DB2 QMF High Performance Option (HPO)

DB2 QMF for Workstation

DB2 QMF for WebSphere

… and

DB2 QMF Analytics for TSO (new)

- Expanded analytics
- New charting and statistical analysis capabilities
- Access to QMF dashboards and reports now on tablet devices
- Text analytics capabilities

NEW webcast (July 22)
https://ibm.biz/QMFwebcast
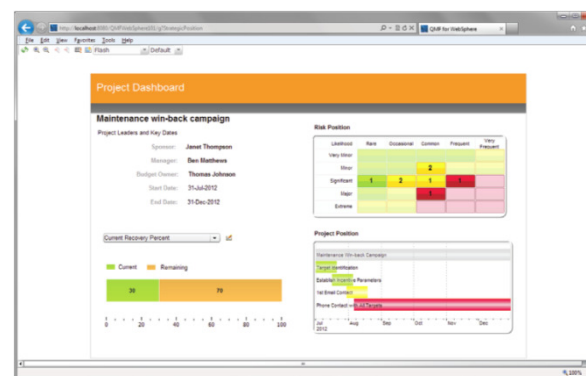
IBM DB2 Accessories Suite for z/OS, V3.2 (5697-Q04)

Spatial Data

IBM Text Search

IBM Data Studio V4.1

…. and

JSON support for DB2 /OS

- Java API to store, update, and intelligently query JSON documents

- Command line processor for performing administration tasks and data access operations on JSON data

- Wire Listener service that extends the support to other languages through an open source wire protocol for accessing JSON data

Logs are like a Gold Mine

- Contain important information like:
    - System health and errors
    - Software errors
    - Stack traces
    - Customer transaction/session information
    - Transaction timing and routing
    - Configuration information
    - Ticketing data

- Supplementary sources:
    - Social Media Feeds
    - Support doc repositories

- This data is often vital for solving complex problems
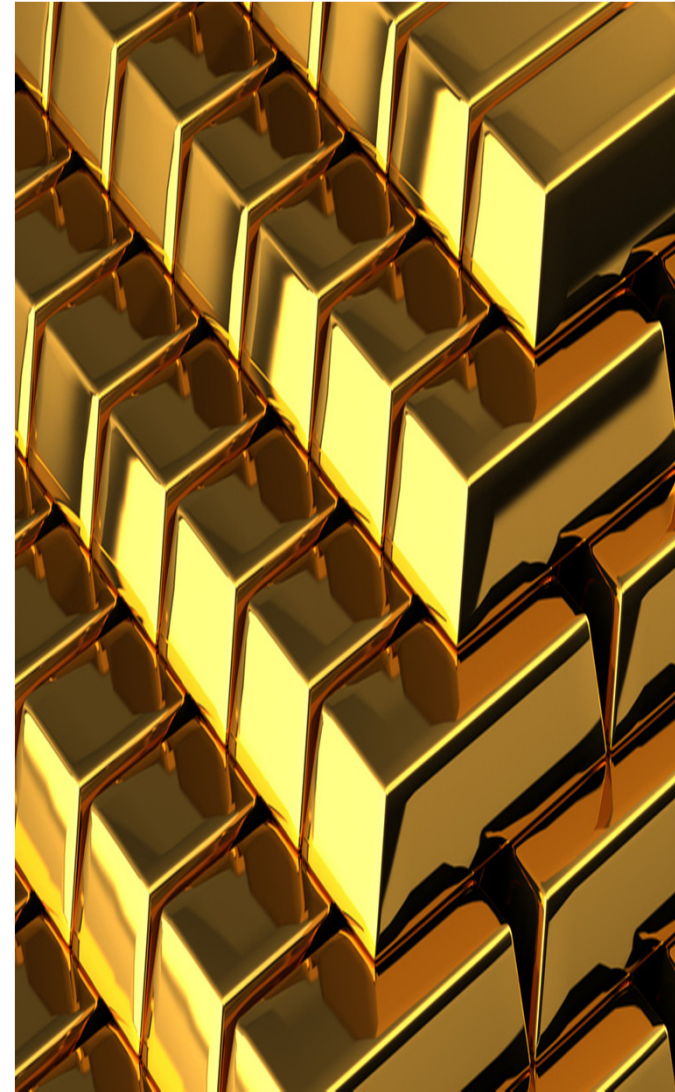
Smart Cloud Analytics Log Analysis for z/OS V1.1
… Insight Packs for SYSLOG ; WAS
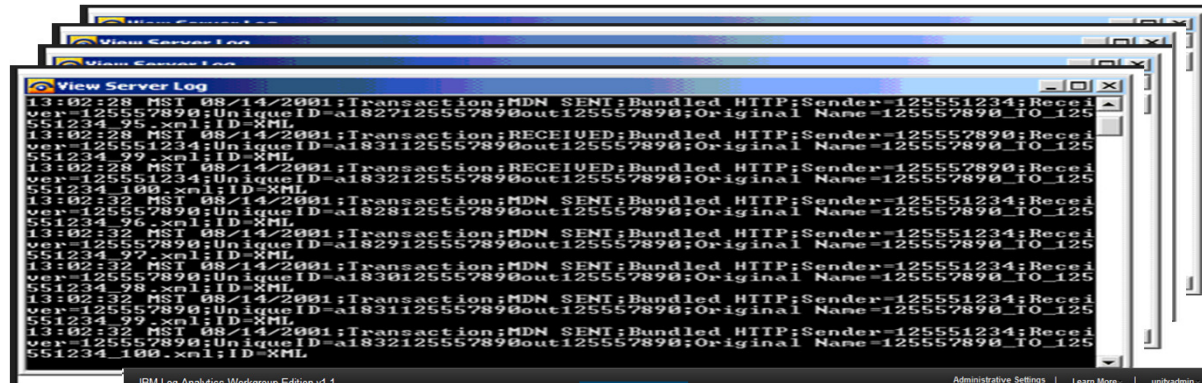
GBs of obscure text data - log files, events

Get Insight through Text Analytics and Search

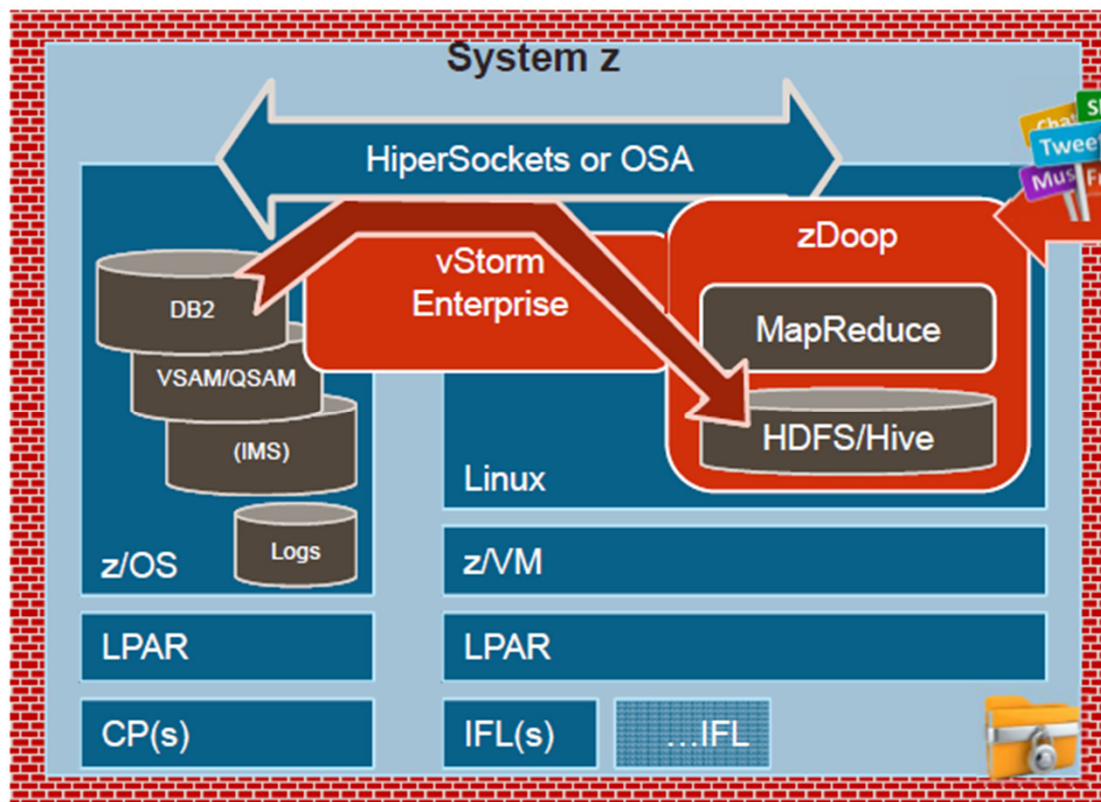Insight Packs to extend domain intelligence

Intelligent Support Docs Integration through Advanced Text Analytics

Big Data and System Z

The most relevant insights come from enriching **your** primary enterprise data

System z Mainframe

Sensitive, Structured

Customers, Transactions, ...

Semi-public, Unstructured

Call center data, Claim Systems, Social,…

vStorm Enterprise

- **vStorm Enterprise** includes Hadoop on System z
  - Stays on EAL5 System z
  - Click to copy z/OS to HDFS
  - No SQL, ETL or staging
  - HiperSockets or OSA
  - Use IFLs for processing

- Enables queries and apps against *raw/detailed* primary data

- Brings Hadoop innovation and skills to primary data

Demo @ www.veristorm.com
IBM Global Solutions Directory
www.veristorm.com/ibmpw

Questions?