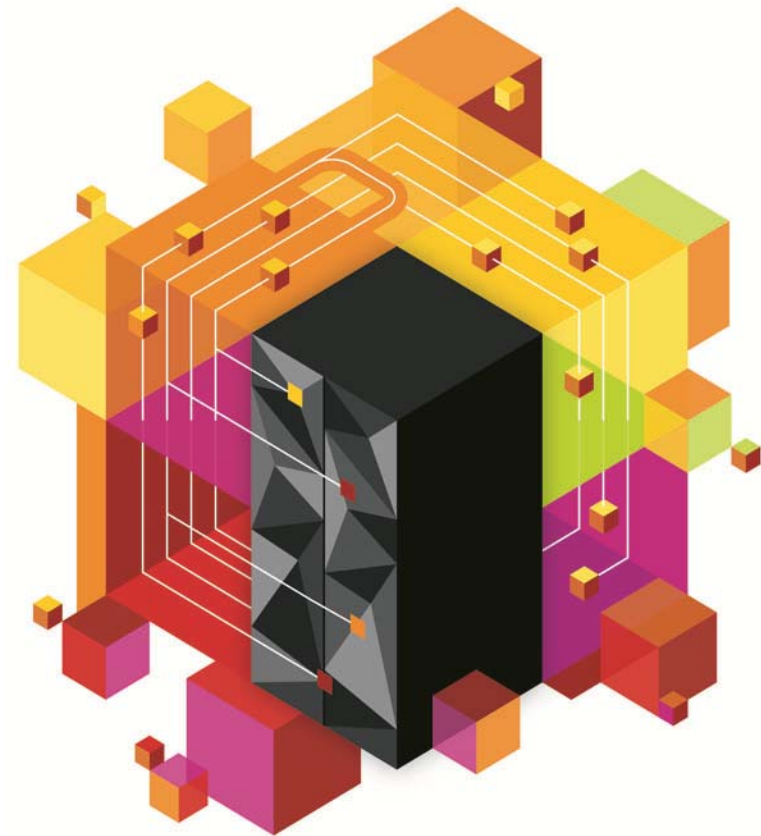




IBM zEnterprise Technology Summit

Presenter -

Date:





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IMS runs the world's most critical workloads



2000 customers worldwide run IMS



75% of the top 100 banks worldwide run IMS



The top 5 US banks run IMS



The top 5 European banks run IMS

16 petabytes of production data managed by IMS

\$3.0 trillion (\$US) per day is transferred through IMS....by one customer

300+ million users served every day

500 million accounts....for one customer

46,000 transactions per second....on a single IMS system

A decorative graphic in the top left corner consisting of several 3D cubes in various colors (red, orange, yellow, black, grey) arranged in a cluster.

What you're talking to us about

A Venn diagram consisting of four overlapping circles. The top-left circle is blue and contains the text 'TCO'. The top-right circle is purple and contains the text 'Integration'. The bottom-left circle is orange and contains the text 'Skills'. The bottom-right circle is light blue and contains the text 'Core Capabilities'. The circles overlap in various combinations, creating a central area where all four overlap.

TCO

Integration

Skills

**Core
Capabilities**



Time Is Money

Outages Are Costly

How much interruption can your business tolerate?

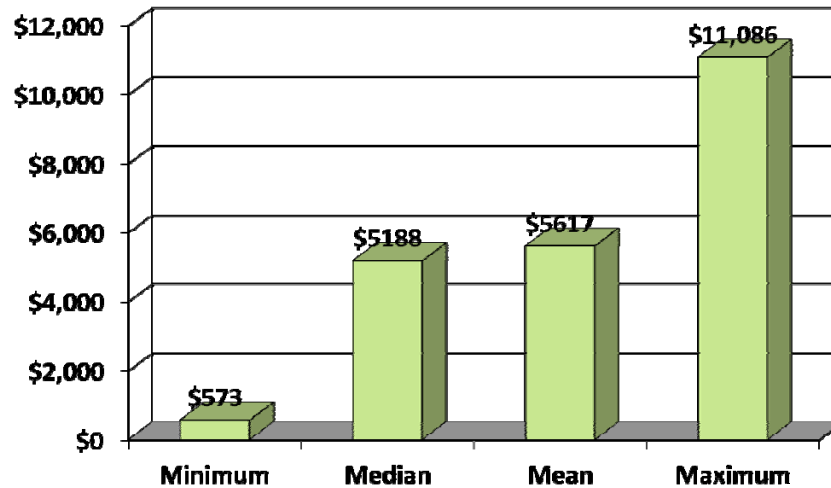
Cost of Downtime by Industry	
<u>Industry Sector</u>	<u>Loss per Hour</u>
Financial	\$8,213,470
Telecommunications	\$4,611,604
Information Technology	\$3,316,058
Insurance	\$2,582,382
Pharmaceuticals	\$2,058,710
Energy	\$1,468,798
Transportation	\$1,463,128
Banking	\$1,145,129
Chemicals	\$1,071,404
Consumer Products	\$989,795

Source: Robert Frances Group 2006, "Picking up the value of PKI: Leveraging z/OS for Improving Manageability, Reliability, and Total Cost of Ownership of PKI and Digital Certificates."

- **Detection Cost**
- **Containment Cost**
- **Recovery Cost**
- **Ex-post Response Cost**
- **Equipment Cost**
- **IT Productivity Loss**
- **User Productivity Loss**
- **Third-party Costs**
- **Lost Revenues**
- **Consequences of Business Disruption**

Total Cost Per Minute of an Unplanned Outage - 2011

8 hours	\$275,040	\$2,490,240	\$2,696,160	\$5,321,280
60 minutes	\$34,380	\$311,280	\$337,020	\$665,160

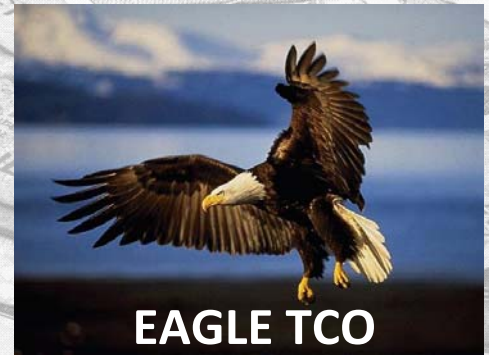


IMS: Highest Efficiency at the lowest TCO

- Aggressively reduce MIPS
- End planned outages
- Increase zIIP offload
- Reduce contention
- Increase throughput
- Minimize fraud
- Reduce pathlength
- Implement dynamic changes
- Increase autonomies



TCO



IMS: Integration at every level

- .Net Access to IMS DB (futures)
- DataPower
- Cognos for Real-time Analytics
- InfoSphere Optim Designer
- InfoSphere Discovery
- SAP and IMS Database
- Data Studio
- Big Data



Integration

Building Next Generation Experts

- **IMS evolves to a Gen-less system**
- **SQL access to IMS data**
- **Tooling and GUIs based on familiar SDKs, such as the eclipse-based IMS Explorers**
- **Free workshops – Database, SOA Implementation, Application Development/Modernization, Business Value Assessment**
- **System z Academic Initiative**
- **Customer Internship Program @ SVL**



Skills

What our Customer Interns say

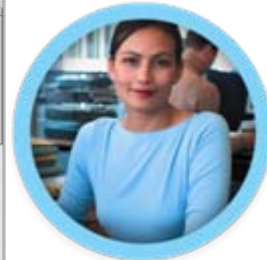
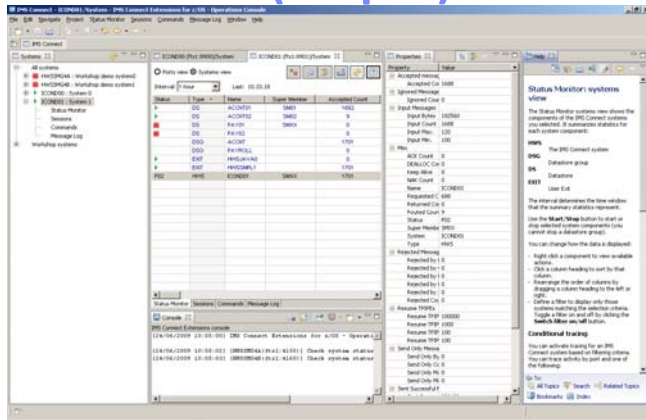
“...every subject was successfully covered by the most appropriate expert. While I was there at SVL, the program was flexible enough so we could address certain topics which I personally identified, that would benefit me at my home location....With all the knowledge I acquired in these 4 weeks, I cannot forget to mention and thank all the Lab personnel involved for their kindness and patience and the treatment I received.”

“The Customer Internship Program was 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...It's incredible to meet people whose work is known worldwide.”

“Caio's manager, Guto, wants to thank the IMS Team for the attention and training [that was] provided for his team. Caio and Selmar really benefited and learnt a lot from their stay here!”

IMS Explorer for Development and Administration

IMS Explorer for Development (Eclipse)

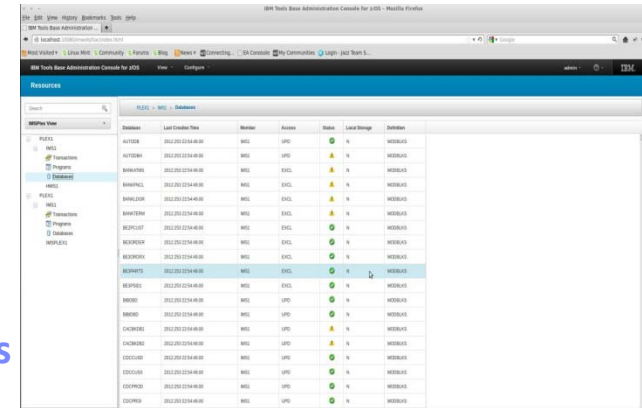


Developers



Administrators

IMS Explorer for Administration (Web Browser)



ISPF

```

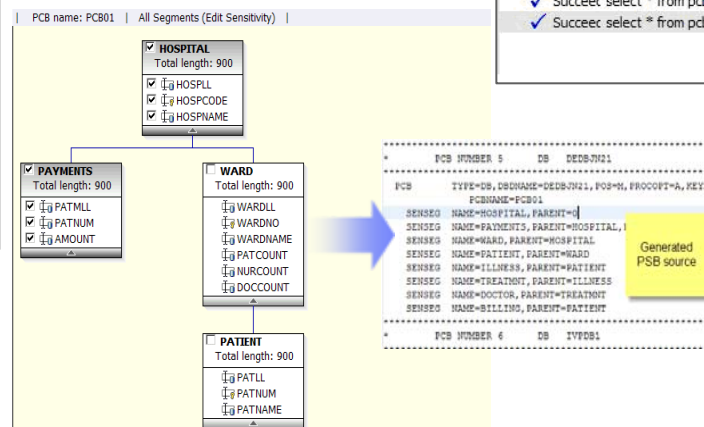
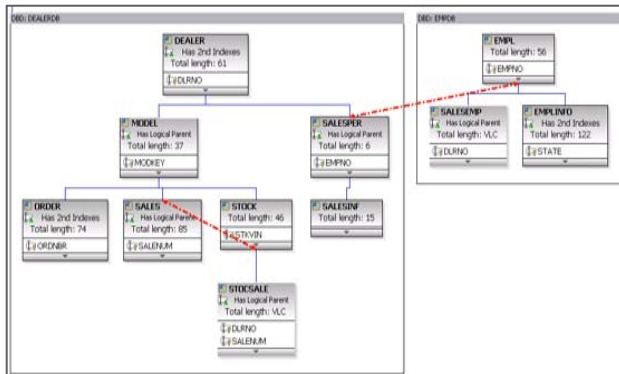
CDSM1 1.2.0  EC13T22  CDS1  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM2 1.2.0  EC13T22  CDS2  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM3 1.2.0  EC13T22  CDS3  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM4 1.2.0  EC13T22  CDS4  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM5 1.2.0  EC13T22  CDS5  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM6 1.2.0  EC13T22  CDS6  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM7 1.2.0  EC13T22  CDS7  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM8 1.2.0  EC13T22  CDS8  DBRECSM3  DLIC05M3  IRLM2CN  READY
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CDSM10 1.2.0  EC13T22  CDS10  DBRECSM3  DLIC05M3  IRLM2CN  READY
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CDSM16 1.2.0  EC13T22  CDS16  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM17 1.2.0  EC13T22  CDS17  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM18 1.2.0  EC13T22  CDS18  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM19 1.2.0  EC13T22  CDS19  DBRECSM3  DLIC05M3  IRLM2CN  READY
CDSM20 1.2.0  EC13T22  CDS20  DBRECSM3  DLIC05M3  IRLM2CN  READY
  
```



IMS

IMS Explorer for Development

- Visualize IMS database structure as defined by DBD source
- Change IMS Database and Program Definitions sources
- Graphically access IMS data using SQL
- View your mainframe datasets
- Submit JCL and inspect output in JES



```

SELECT HOSPNAME, HOSPCODE, HOSPLL
FROM PCB01.HOSPITAL
    
```

Status	Operation	Da	HOSPLL	HOSPCODE	HOSPNAME
✓	Succes select * from pcb...	8/2	1	R 1210010000A	ALEXANDRIA
✓	Succes select * from pcb...	8/2	2	R 1210020000A	SANTA TERESA
			3	R 1210030000A	SANTA CLARA
			4	R 1210040000A	NEW ENGLAND

IMS Explorer for Administration

- Provide IMS system programmers and DBAs a state-of-the-art user interface to manage, configure, and deploy IMS systems
- Full operational single point of control for all IMS address spaces
- Full GUI support for IMS resources
- Immediately react to and resolve issues in the system
- Cloud-style IMS system management
- Integrated with IMS Tools

IBM Tools Base Administration Console for z/OS

Resources

Search

IMSplex View

ECODEV9

- PLEX1
 - IMSPLEX1
 - IMS1
 - Transactions
 - Programs
 - Databases

Member Name	IMSplex	Member	Member Type	Member Sub Type	Job	Status	Version	OS Image	Completion Code
IMSPLX1	CSLPLEX1	OMDOM	MSCON		HWS1	ACTIVE	12.1.0	ECODEV9	0
OMDOM	CSLPLEX1	OMDOM	OM						
RMURM	CSLPLEX1	OMDOM	RM	MULTRM					
SCISGC	CSLPLEX1	OMDOM	SCI						
USRT011	CSLPLEX1	OMDOM	ADP						
MS1	CSLPLEX1	OMDOM	MS	DEDC					

IBM Tools Base Administration Console for z/OS

Resources

Search

IMSplex View

ECODEV9

- PLEX1
 - IMSPLEX1
 - IMS1
 - Transactions
 - Programs
 - Databases

Database Name	Database Type	Status	Access Type	Area Name	Definition Type	Member	Part Name	Last Access Time	Completion Code
AUTDOB	DLI	🟢	UPD		WOOLKLS	MS1			0
AUTDOBH	DLI	🟡	UPD		WOOLKLS	MS1			0
BANKATMS	DLI	🟡	EXCL		WOOLKLS	MS1			0
BANKFNCL	DLI	🟡	EXCL		WOOLKLS	MS1			0
BANKFLDOR	DLI	🟡	EXCL		WOOLKLS	MS1			0
BANKTERM	DLI	🟡	EXCL		WOOLKLS	MS1			0
BCPCUST	DLI	🟢	EXCL		WOOLKLS	MS1			0
WEGOSBR	DLI	🟢	EXCL		WOOLKLS	MS1			0

IBM Tools Base Administration Console for z/OS

Resources

Search

IMSplex View

ECODEV9

- PLEX1
 - IMSPLEX1
 - IMS1
 - Transactions
 - Programs
 - Databases

Transaction	Value	Related Program	Value	Related Databases
IMS Attribute		PGM Name	RELAPK23	Database
Transaction Code	BNA2	Status	🟢	Member
Status	🟢	BSM Type	N	Access
Control Mode	SAGL	Definition Type	WOOLKLS	Status
Conversational	N	Dynamic Option	N	
Fast Path	N	Fast Path	N	
Class	F	Language Interface		
Link Count	8553	Member	MS1	
Storage Control Count	0	Region Size	8MP	
Global Control Count		Local Scheduling Type	SERIAL	
Member	MS1	Last Time Accessed		
PGM		CC Test		
Ability		Completion Code	0	
AD Command Support	N	Generated PSB	N	
APPC LU Name		Last Time Created	2012-08-10 10:33:37.77	
CC Test		Last Time Imported		
Completion Code	0	Last Time Updated		
Conversation ID		Local Defined Resident	N	
Definition Type	WOOLKLS	Local Resident		
ESR Routine		Model Name		
ESR Buffer Size	0	Model Type		
Expiration Time	0	Routing Code		
Global Status		Transaction		
Input Data to Upper	Y	Transaction Statistics	N	
Inquiry	N	Work		
Link Scheduling Priority	1			
Link System ID	05			



New – IMS Certification Exams

IMS Certified Database Administrator Exam

www.ibm.com/certify/tests/ovr548.shtml



IMS Certified System Programmer Exam

www.ibm.com/certify/tests/ovr549.shtml



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IMS' Legendary Hallmarks of Service

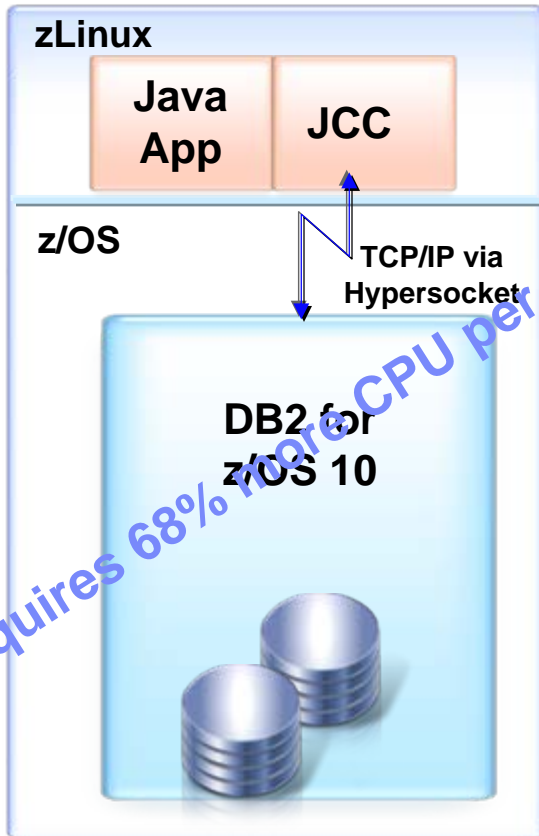
- Availability
- Reliability
- Scalability
- Performance
- Security
- Integrity

Core
Capabilities

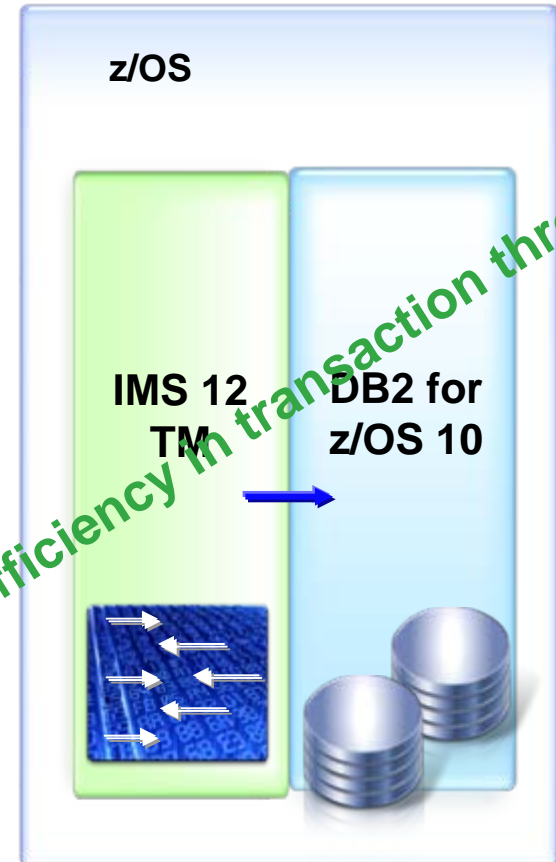
CICS - DBCTL Performance Improvement

- **IMS DB + CICS enterprises**
- **Exploitation of Open Transaction Environment (OTE)**
 - CICS TS 4.2+ and IMS 12
- ***Significant CPU savings* and increases in throughput for threadsafe applications**
- **Impressive performance metrics: CICS 4.2 with IMS 12 (OTE) demonstrates:**
 - **6.78 % improvement** in ITR efficiency (v. CICS 4.2 and IMS 11)
 - **31.36 % improvement** in throughput capability (transaction rate)
 - **43.33 % reduction** in average response time per transaction
- **The bottom line? *Threadsafe applications running in CICS 4.2 and IMS 12, using OTE, can save money, execute faster, and improve throughput***

IMS TM – For Superlative Access to Data on DB2 for z/OS



Distributed Java clients on zLinux driving to DB2 z/OS



IMS 12 TM on z/OS driving to DB2 z/OS

IMS on zEC12



IMS 12 on zEC12 shows
30% improvement in
transaction rate.

IMS Java on zEC12
uses 4% less CPU to
perform 35% more
transactions.

The IMS (R)Evolution Continues



Installation of IMS 12 is the most aggressive of the last 4 IMS releases – up 73% in 2Q12!



"Modernizing IMS using IMS Repository will increase our availability and simplify the process to develop new IMS applications."

Handelsbanken

- Curt Bergqvist

"We rolled out IMS 12 in our production environment before it reached GA, and there are some interesting features...we know we can rely on them to give us innovative solutions." - Andreas Wagner



WellPoint

Business

- The largest health benefits company in America by membership, WellPoint is a merger of 14 companies. One out of every nine Americans is a member of a WellPoint-affiliated health plan.

Challenge / Objective

- Modernize WGS, WellPoint's primary IMS-based administration system, to support migration, migrate to an SOA model, and enhance performance.

Solution

- Establish a Sandbox environment that includes IMS, IMS Connect, and Open Database.
- Install IMS SOA Integration Suite: IMS TM Resource Adapter, SOAP Gateway, Connect API.
- Migrate OBIS and OBUS from mid-tier AIX to Linux on System z, replacing MQ calls with IMS TM Resource Adapter and IMS Connect API.
- Evaluate use cases of inbound and outbound transactions.

Benefit

- Average 30% increase in the overall performance when using WAS/TM Resource Adapter/IMS Connect.
- 25% performance improvement for inbound mainframe transactions.

“Overall, we found that our new architecture is faster, uses less mainframe CPU, and enables mainframe transaction avoidance through configuration-based side caching.”

- Dave Holman

Enterprise Architect, Wellpoint

Solution components:

- IMS
- IMS SOA Integration Suite
- IMS Connect
- IBM DataPower
- WebSphere eXtreme Scale



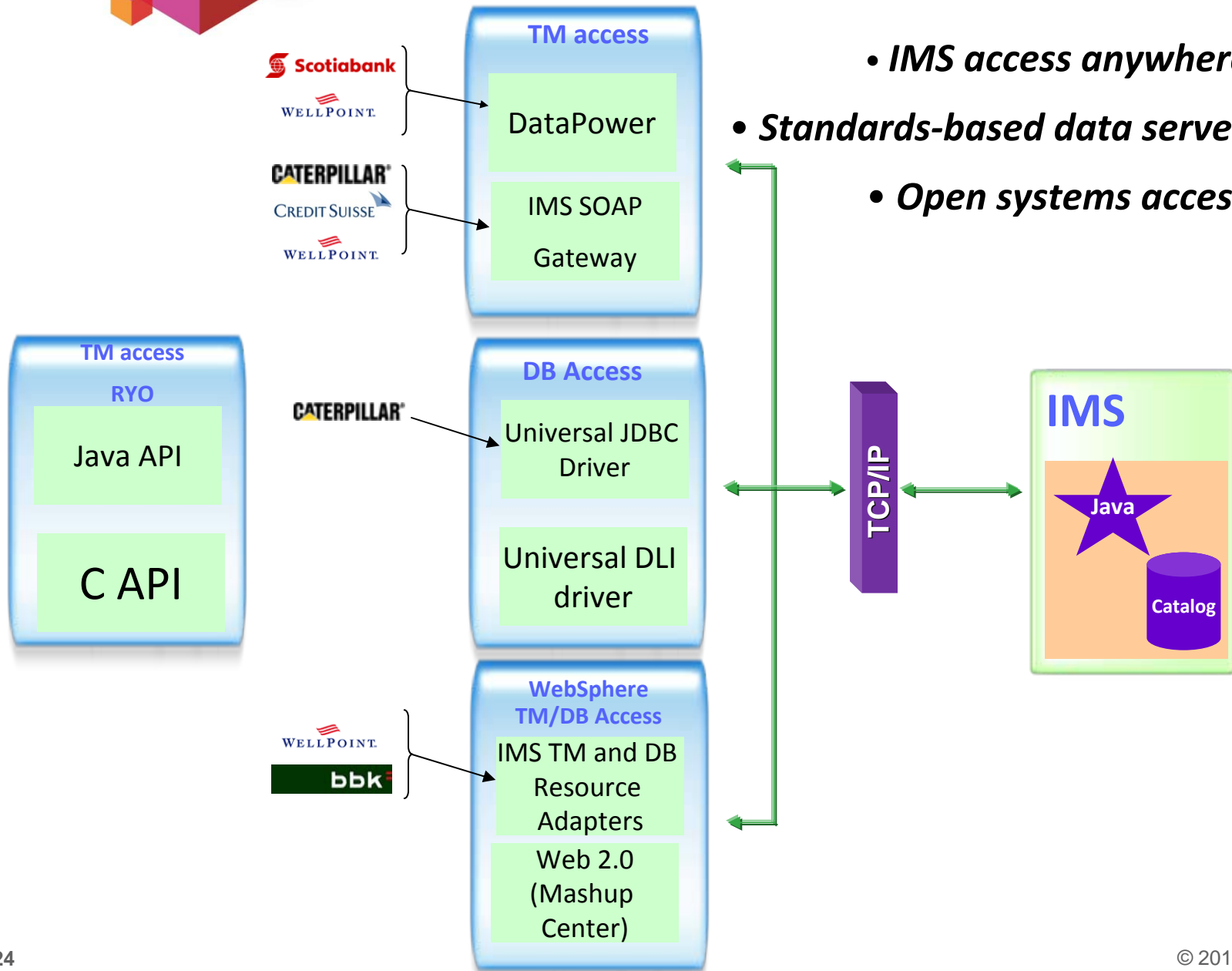


IMS Middleware – All You Need in One

- **A z/OS middleware that inherit all strengths of zEnterprise**
- **A Messaging & Transaction Manager**
 - Based on a messaging and queuing paradigm
 - A real benefit in case of surge of traffic, or in case of unavailability of users to receive their transaction answers.
 - High-volume, rapid response transaction management for application programs accessing IMS and/or DB2 database, IMS and/or WebSphere MQ queues
 - “Universal” Application Connectivity for integration
 - Integrated with Business Rules & Business Events
- **A Batch Manager**
 - Standalone z/OS batch support
 - Batch processing region centrally managed by the IMS control region
 - Managing the batch-oriented programs — providing checkpoint/restart services
- **A Database Manager**
 - Central point of control and access for the IMS databases based on a hierarchical database model
 - Used by companies needing high transaction rates
 - Provides “Universal” Database Connectivity based on JDBC / DRDA
 - Lot of new features in this space! Stay tuned

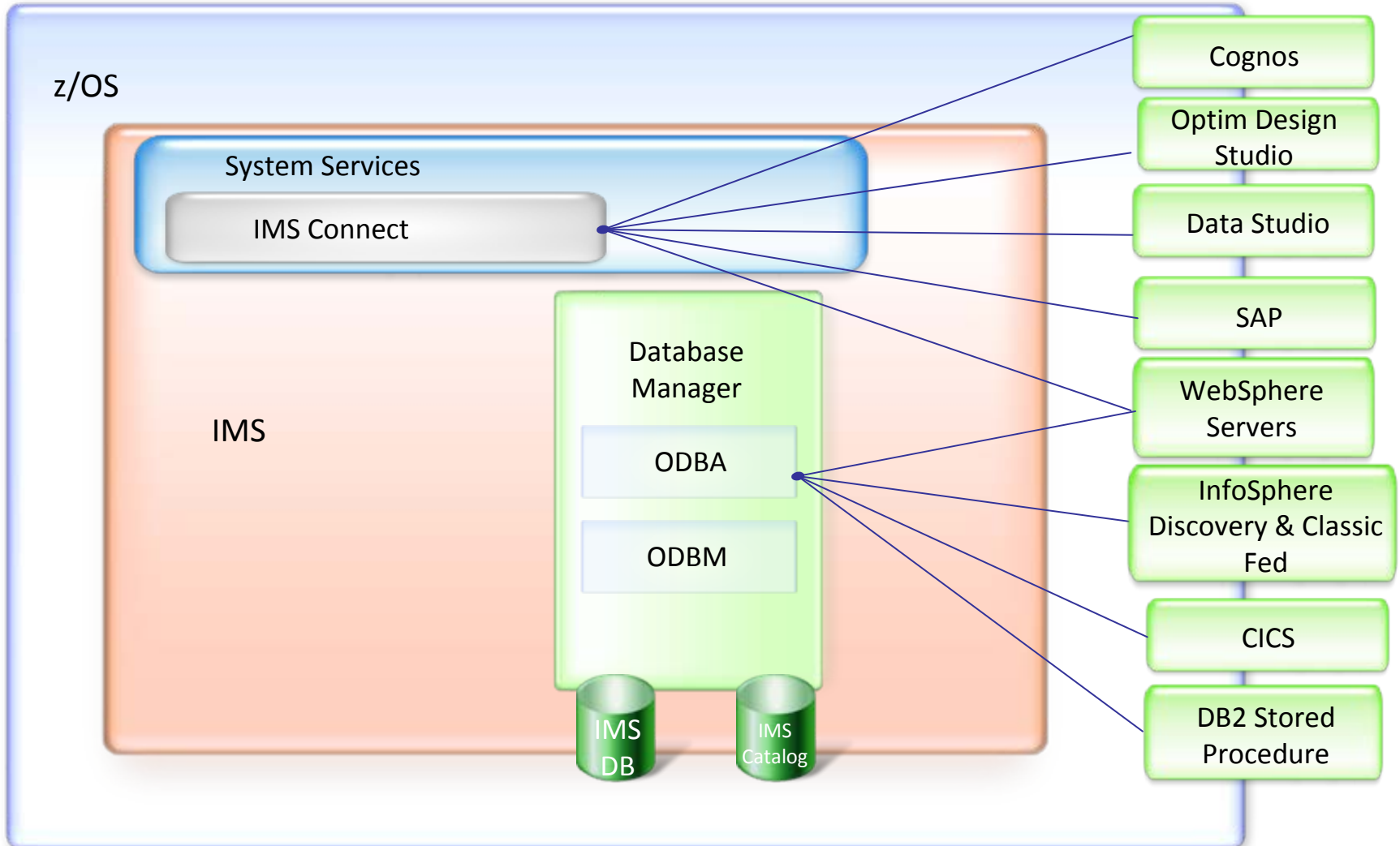
... THE z/OS Integrated
Middleware Solution

IMS Integration Solutions



- *IMS access anywhere*
- *Standards-based data server and TM*
- *Open systems access*

IMS Database – Integration



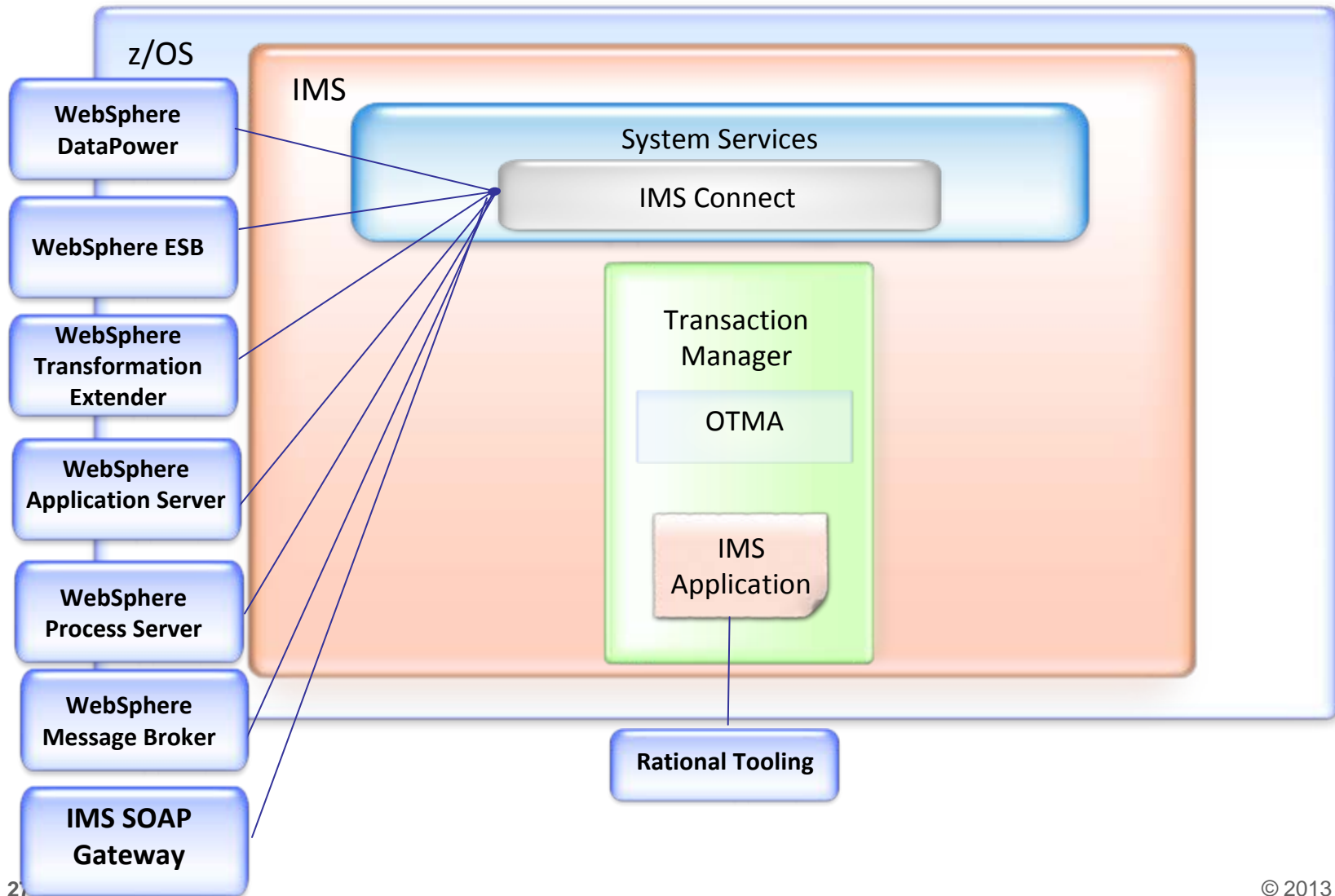


IMS DB Key Differentiators

- **Most efficient database model:**
 - Fastest
 - Lowest TCO
 - Uses less CPU
 - Requires less DASD
- **Fastest read/writes for enterprise workloads**
- **Most stable response time as data volumes grow**
- **Most efficient logging, driving the fastest recoveries with the highest integrity**
- ***Gold standard* for database locking**
- **Created new paradigms that persist to this day**

IMS Database.....revolutionary in 1968...(R)Evolutionary today.....

IMS Transaction Manager – Integration



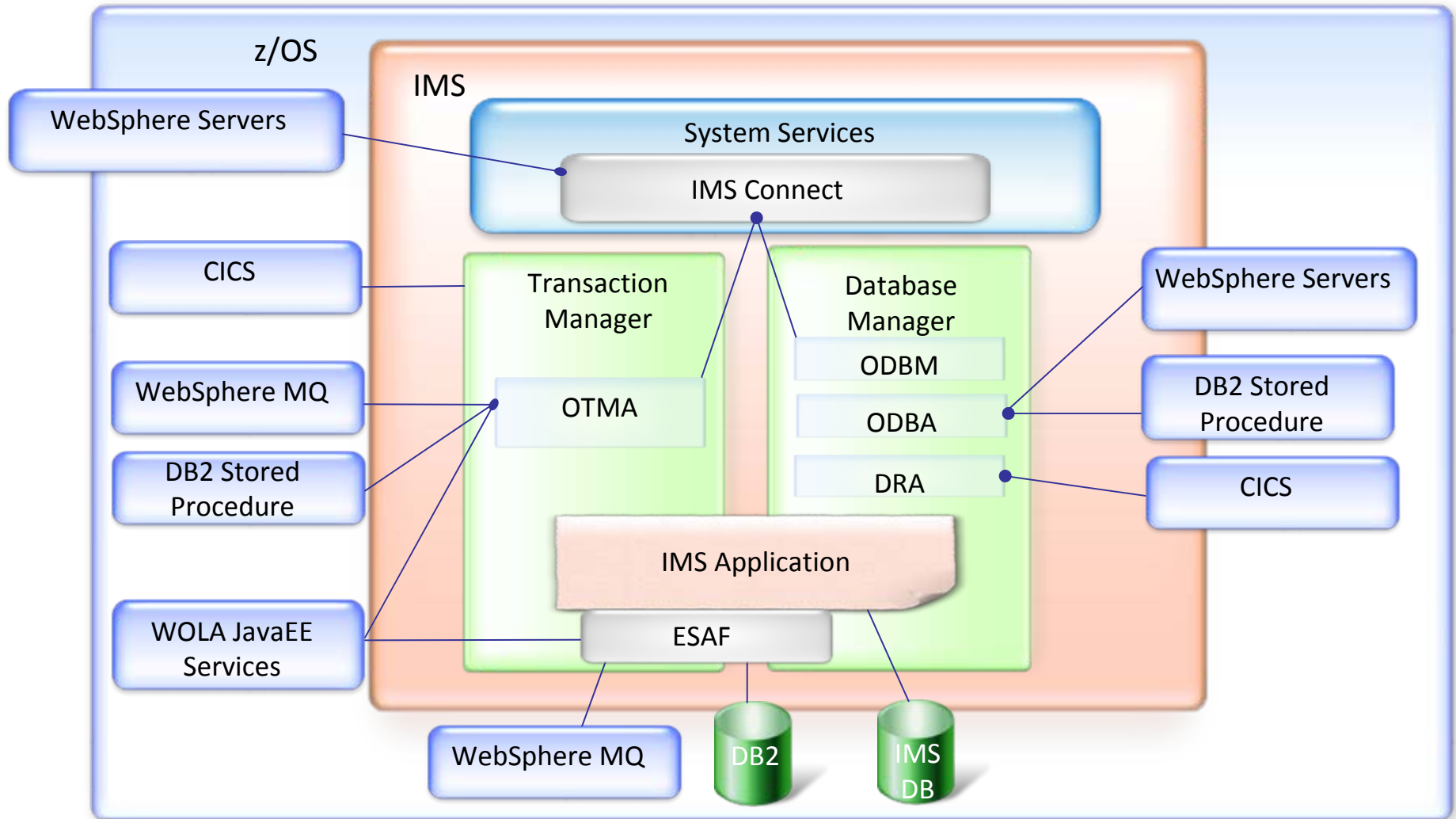


IMS Transaction Manager Key Differentiators

- **Most efficient with highest volumes of transactions**
- **Lowest cost per transaction**
- **Unmatched speed, legendary reliability**
- **Simplest connectivity model**
- **Most streamlined scalability in the industry**
- **Best data recovery and data integrity**
- **Gold standard for batch processing**

“Businesses quickly became enamored with IMS because they knew if a transaction said it was complete, then it was; if the transaction did not complete, they knew that no portion of the transaction was complete.”

IMS Middleware Integration





IMS Resilience and Availability

▪ Reduces planned outages

- Most-used resources can be changed dynamically and do not require that IMS be recycled:
 - Databases
 - Application Programs
 - Transactions
- System configuration settings

▪ Recovers quickly from unplanned outages



IMS Strategic Objectives

- **Reduce Total Cost of Ownership**
 - Reduce MIPS usage
 - Advanced autonomies – IMS is self-managing and self-tuning
- **Extend the lead in availability, scalability, and performance**
 - Consistently deliver IMS capacity limits that are well beyond customer needs
 - Provide IMS performance metrics that help you grow your business securely
- **Extend the lifecycle of IMS applications and transactions**
 - Pervasive integration capabilities enable reuse of trusted IMS resources
- **Enable high-volume transaction processing for next wave of applications**
 - Big Data, next gen Web Services, Cloud, and more

Two New IMS White Papers



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IBM Cognos Proven Practices: Best Practices for Using IMS Data in IBM Cognos BI Reports

Product(s): IMS, IBM Cognos BI Server; Area of Interest: Business Intelligence

Richard Tran, Software Engineer, IBM
Kevin Hite (khite@us.ibm.com), IMS Solution Test, IBM
Nigel Campbell, Senior Developer, IBM
David Hanson, Information Developer, IBM

Date: 03 Oct 2012
Level: Intermediate
PDF: [A4 and Letter](#) (281 KB | 13 pages) [Get Adobe® Reader®](#)

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bit.ly/IMS_YouTube



In Summary

- **45 years of the highest levels of performance, availability, reliability and more - this is just the beginning**
- **Integration, expansion, stability, and lowered TCO drive our vision**
- **Partnering and collaborating with complimentary products, services, and tools from a variety of vendors to keep the IMS ecosystem—and your business—vital**

Trust IMS



Questions??

Thank you!