



## IMS for Information On Demand Business Transformation



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### **Key Message: IBM continues to enhance IMS and the environment in which it runs**

In 1964 IBM announced the System 360. In 1965 IBM delivered the Operating System. And the first part of 1966, when I was born, a small group of IBMers put together the initial IMS architecture. Later that year, IBM, North American Aviation (Rockwell), and Caterpillar Tractor agreed to jointly develop a hierarchical database management system based on the IBM System 360 for the Apollo Space program. Today, IMS is the cornerstone of your Information On demand business transformation. IBM is continuing to provide enhancements to help you with this for IMS and for the environment in which it runs. I'll be talking about some of the latest of these enhancements and where we are heading in the future.

Information On Demand

## Securing your investment in IMS

### Keeping IMS

**THRIVING**

- Your Success is Our Success
- Being Responsive



**VITAL**

- Listening/Addressing Your Needs
- Ensuring Quality



**RELEVANT**

- Leveraging Latest Technologies
- Planned Evolutionary Rollout



... Well Into the Future

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### Key Message: At IBM we are securing your investment in IMS

At IBM , we are keeping your investment secure,  
by keeping IMS:

#### THRIVING


Your success as a business is important to us  
We do not succeed unless our clients are succeeding with our technologies  
Be responsive to requests for information and in times of need

#### VITAL

Listen to our clients  
Ensure we can handle the volumes and throughput needed  
Maintain a continual focus on quality

#### RELEVANT

Ensure that customers can use IMS with the latest technologies  
e.g. WAS, SOA, XML, SOAP, Java, JDBC, etc  
New versions planned well into the future  
Evolutionary roll-out of new technologies (HALDB in v7 => OLR in v9)  
+ SUP tapes & technology previews  
More than 90% of Fortune 1000 customers continue to use IMS !



**Information On Demand**

## *IMS is CORE to our Client's businesses*

- Usage statistics continue to rise
  - Clients have exceeded 100 million trans/day
  - Clients process almost \$3 trillion/day in customer transaction
  - Multiple Clients have gone > 8 years without an unplanned outage
  - Asian bank has exceeded 250,000,000 savings accounts on-line
  
- Client investment in IMS
  - Applications continue to expand
    - Databases growing in both size and number
    - Transaction volumes continually rise
  - New applications integrating IMS data across the business

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**Key Message: IMS is critical to our clients and their continued growth**

IMS is critical to our client's businesses, allowing them to drive the capacity and availability numbers up to address their needs. Our customers continue to grow their investment in IMS, expanding their database sizes and transaction volumes with new users as well as adding new applications which continue to drive the numbers up. Only traditional Transaction Monitors, like IMS, can provide our customers unmatched qualities of services.




**Challenges**

- ▶ Data center consolidation
  - from mostly non-IBM environment
  - from distributed environment
- ▶ Thousands of stations (sessions)
- ▶ 250+ million accounts
- ▶ Production throughout 2003/2004/2005
  - Drastic increases in amount of data
  - Exponential increases in transaction volume
- ▶ "High availability essential"

**Solution**

- ▶ IBM Parallel Sysplex
  - 2 way initial data sharing implementation going to 4 way soon
- ▶ IMS Data Base
  - HALDB for large DB's requiring multiple secondary indexes
  - Fast Path DEDB's for both large DB and efficiency
  - Fast Data Base Recovery function for high availability
- ▶ PPRC/GDPS planned for remote site backup
- ▶ Automatic Restart Manager (ARM) used for quick image restart
- ▶ IBM Tivoli System Automation tool used for subsystem startup/shutdown/etc.

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**Key Message: New customers are embracing key IMS function for growth and manageability.**

China Construction Bank is consolidating multiple branches from different platforms into two data centers in an IBM Sysplex. They have an extremely large customer base requiring extremely large database support

As different branches are added into the database there is a substantial increase in the amount of data stored and in the transaction volume each time. Because of the instantaneous jump in processing each time a branch is added the need for planning and up front performance analysis is critical.

Parallel Sysplex was implemented to accommodate the substantial capacity growth needs and for high availability.

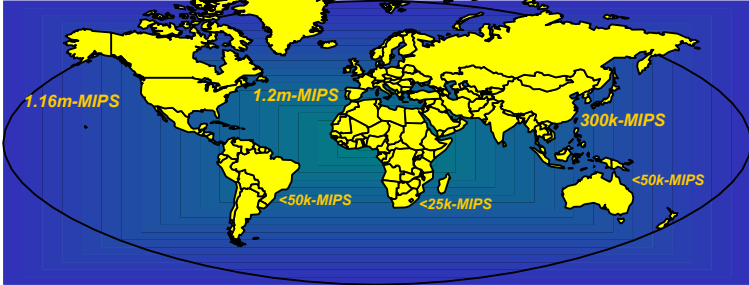
IMS V8 DB, the IMS High Availability Large Database (HALDB) support, and the Fast Path Data Entry Database (DEDB) support, and particularly the IMS V8 >240 area support, was chosen for efficiency in processing very large data base capacity. In addition, the IMS Fast Data Base Recovery (FDBR) function, could be used for the quick restoration of availability for all databases in the event of a system failure.

In addition, to provide for automatic restoration of service in the event of a site disaster, planning is underway for using IBM's Peer-to-Peer Remote Copy (PPRC) and Geographically Dispersed Parallel Sysplex (GDPS)

Additionally, IBM's Automatic Restart Manager (ARM) facilities and the IBM System automation Tools are being used to automate quick image restart and subsystem startup/shutdown/etc.

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## IMS: The World depends on it !!!



37 Years of Proven Quality, Performance and Commitment

**Over 2.6 million MIPS running IMS !!!**

**IMS Growth**

- IMS MIPS Growth (> 25%/year)
- V to V upgrades V7 V8 V9
- New license growth

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### Key Message: IMS usage continues to grow

I'm pleased to report to you that the overall health of IMS is quite robust and has never been better, in its 36 year history. IMS is on its way to its third record breaking year in a row, as measured by the revenue delivered to IBM. This is quite important, because if we want IBM to continue to invest in IMS we must show the business a satisfactory return on its investment. Therefore, if I haven't already said it, on behalf of the IMS team of Silicon Valley Lab: "Thanks for your business".


IMS growth comes in three flavors: additional workload as measured in MIPS; upgrades from old versions to new and additional licenses. The best indicators for us that we are addressing the requirements of our customers are workload growth and migrations to the latest versions. We also get some new licenses through mergers and acquisitions in the US and in Europe and the installation of new zSeries footprints in emerging countries, mostly in Asia. Our main focus however, is assuring that we are developing the right stuff for our existing customers, so we look at worldwide workload in MIPS as the best indicator of that.

There is no better way to show the value and strength of IMS to its customers and to IBM than through its increased growth.

Customer's IMS Mips have been growing rapidly over the past two years +55% to over 2.6 million MIPS WW running IMS.

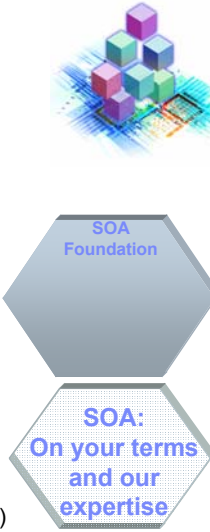
IMS V7 and V8 installations have also been growing rapidly with greater numbers in production faster than predecessor versions.

And the Revenue stream for IMS has been growing year to year with version upgrades and new license growth.



**Service Oriented Architecture (SOA)  
Enables Integration and Collaboration**

- **Leveraging your existing IT investment**
  - Standard interfaces for asset reuse
  - Evolutionary, not revolutionary
- **Business and IT coupled together**
  - Business understanding for competitive advantage
  - Industry-centric
- **SOA requires a flexible & robust infrastructure to model, assemble, deploy and manage**
  - Open, Standards based
  - End to End integration of people, process, information
  - Seamless lifecycle from model, assemble, deploy, and manage
- **Skill and experience are important for your customer's success**
  - Leverage our best practices and experience
  - Our partners take us to the next level
  - Free offerings to get started (SOA Jumpstart & SOA Project Definition)



SOA Foundation

SOA:  
On your terms  
and our  
expertise

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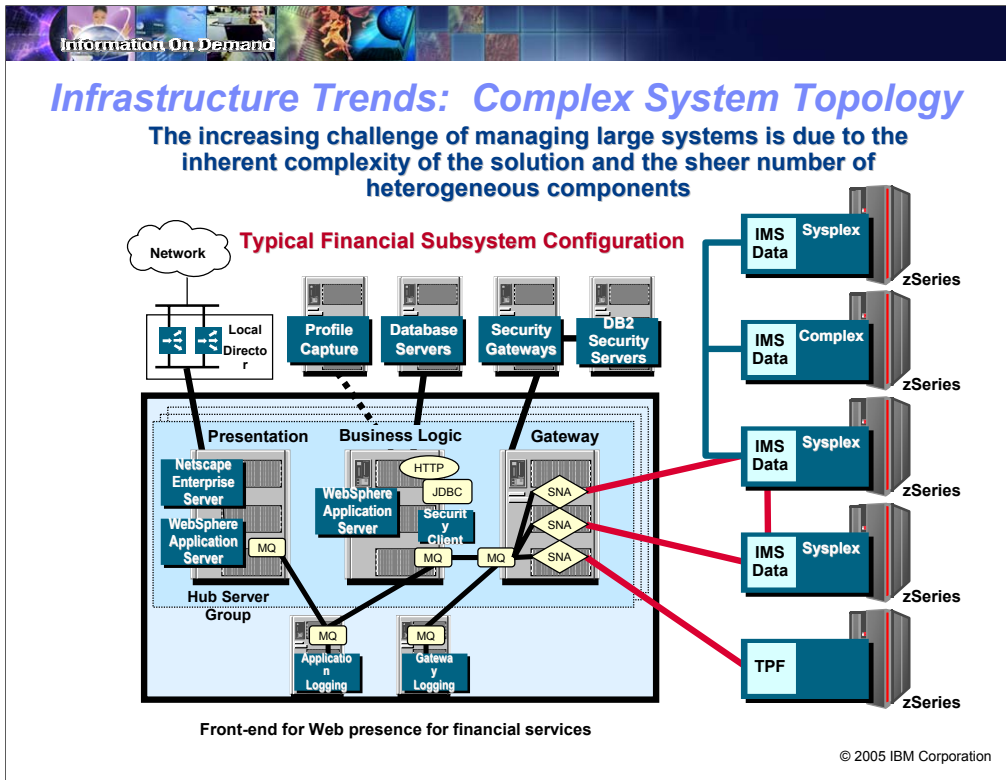
**Key Message: SOA helps integrate, collaborate, transform and IBM can help get you started**

To help address Information On Demand requirements, customers have been embracing a Service Oriented Architecture. Using applications and data as the web services building blocks, SOA can help company's leverage their investments

(CLICK) SOA can also provide a better coupling of business and IT goals, building on business knowledge with industry focus for a competitive edge. An extensive integration capability allows you to automate your business processes and provide benefits for your business and IT departments

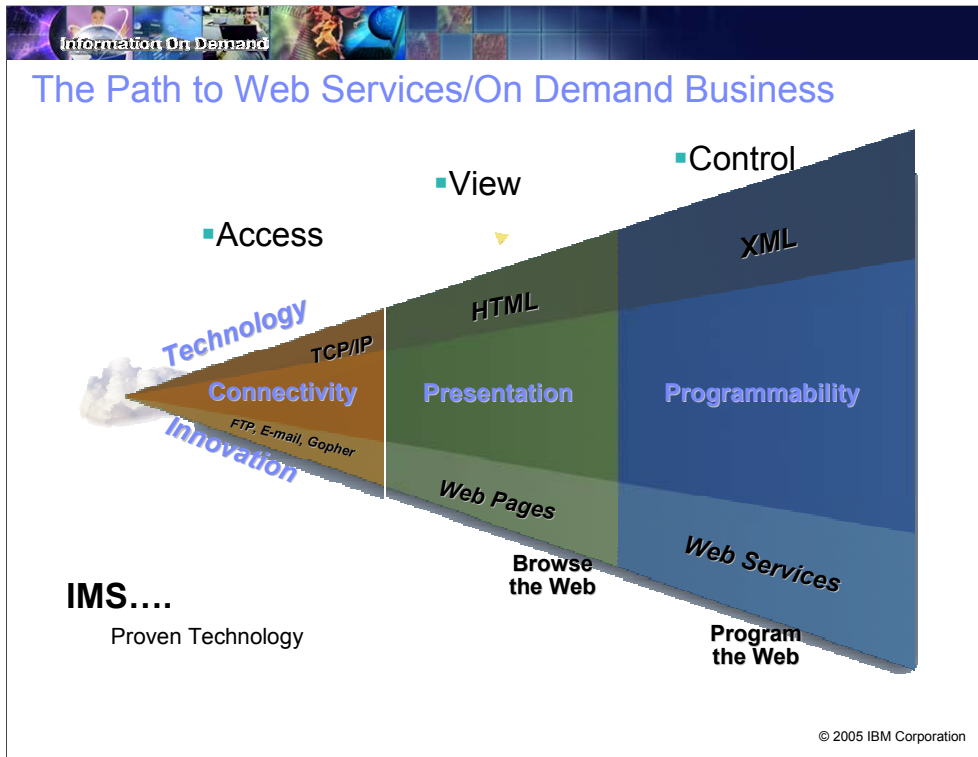
(CLICK) SOA creates a flexible and robust infrastructure to model, assemble, deploy and manage the open environment with seamless end-to-end integration using Open standards.

(CLICK) And we at IBM can offer our product tools, skills, and experience to help you in this endeavor.



### Key Message: IMS Customers' environments are becoming more and more complex

Information technology has significantly changed to address the changing world of business. Market forces have been changing the way we do business. Regulation, economics, have been changing as businesses become more global. Growth of the Internet, the global reach, the new commerce channels are changing the way everybody does business, like the upswing in mergers and acquisitions. Views into information are becoming as important as the information itself. Amalgamation and aggregation have become widespread in the industry. Businesses are exploiting new technologies to enable new customers with new information across the web, in a global day. Businesses are being challenged with balancing priorities and need new ways to gain and retain competitive edge to address increasing demands and sophistication of their customers. IMS customers are at the bleeding edge of this reality. Yet at its heart, business stays the same. Industry forces are making the highest demands for performance and availability, along with interoperability, flexibility, and support for new, emerging technologies. This is something IMS people have been hearing for years. And IMS continues to help efficiently provide heterogeneous access across global networks and in addressing companies' changing needs. IBM is providing integrated solutions with IMS to help our customers with on demand processing. And the increasing challenges of managing the complexity of the solution and the sheer number of heterogeneous components are being addressed by IMS and the environment/products with which it runs.



**Key Message: IMS is continuing to address the latest technology as it evolves to address on demand business needs.**

As technology has evolved over the years, companies demand more and more from their business applications and information infrastructure. Internet technology provides more flexibility to view that information. XML usage is growing exponentially in transactions, purchase orders, invoices, and other forms. IMS XML DB allows the storage and retrieval of XML documents from existing or new IMS databases, while maintaining the security, stability and performance that only IMS and the IBM Mainframe can provide.



Information On Demand

## IMS Transaction and Data Integration with Web Services and Service-Oriented Architecture

- **Web services -- Next step in the evolution, allowing programmable elements be placed on sites for distributed web access across platforms**
- **Enabled as Web services, unchanged IMS Transactions support a Services Oriented Architecture**
  - Leveraging past investments
  - Reducing new programming efforts
  - Aiding business process transformation
  - Aiding application integration with partners, suppliers, and customers
- **IMS C, Cobol and MFS-based Transactions enabled as Web services via WebSphere/Rational Servers/Tooling**
- **IMS Transactions enabled as Web services via IMS SOAP Support**

The diagram illustrates a Service Oriented Architecture (SOA) with a central 'Enterprise Service Bus'. It shows 'Service flow' and 'Data' moving through the bus. Key components include 'Portal Service', 'SOAP Service Request (e.g. J2EE, .NET)', 'B2B Interactions', 'New Service Logic', and 'Existing Applications'. Two yellow boxes highlight 'IMS Data' and 'IMS Applications' as part of the existing applications. A small 3D cube graphic is also present in the upper right.

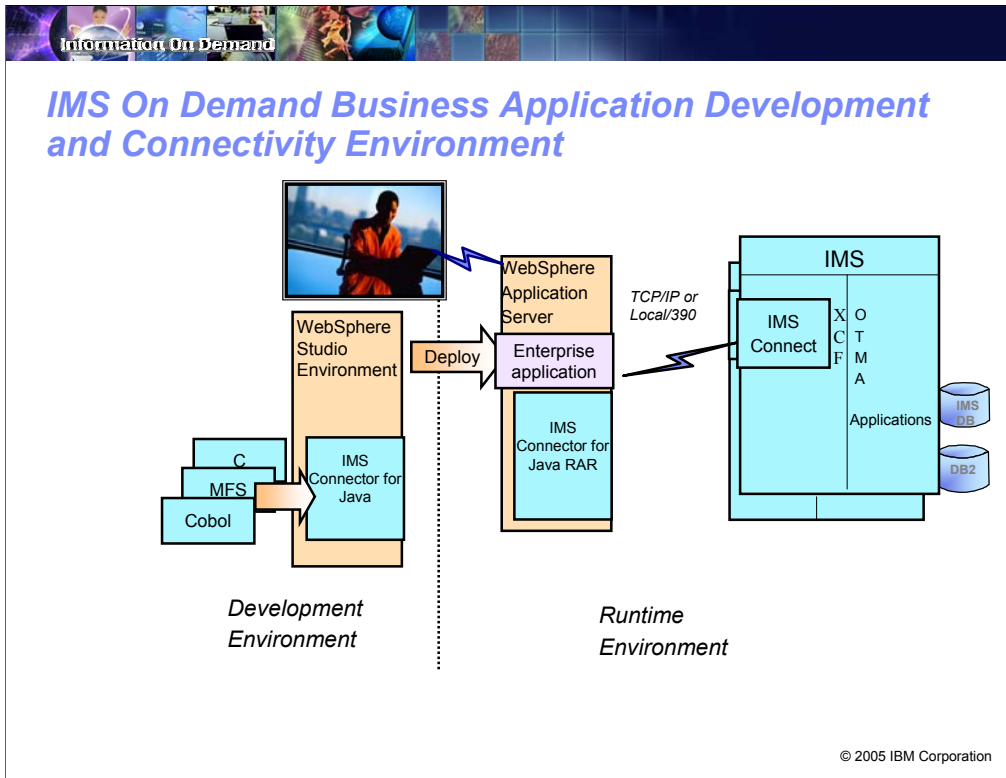
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### **Key Message: IMS is supporting Web services and the Service Oriented Architecture.**

Today IMS Transactions and Data can be enabled as Web services, and be supported in a Service Oriented Architecture (SOA). support. This provides for the leveraging of past investments in application development. This can also eliminate or greatly reduce new programming effort, reduce end-to-end business process transformation, and facilitate integration with partners, suppliers, and customers.

(CLICK)

IMS COBOL, C, and MFS-based applications can be enabled as Web services using WebSphere and Rational tooling. IMS transactions are also being enabled as Web services via the IMS SOAP support.



**Key Message: IBM is providing Development and Deployment tooling for integrating IMS applications in on demand environments**

The IMS Connector for Java Development support, which enables development of Java applications running under WebSphere Servers, originally shipped with VisualAge Java, evolved and now provides mapping of Cobol, C, and MFS IMS applications, and ships as part of the WebSphere Studio Application Development Integration Edition (WSADIE). The IMS Connector for Java J2EE Runtime piece, ships as part of IMS Connect and can be downloaded to a WebSphere Server platform for deployment in connecting to IMS transactions via IMS Connect. IMS Connector for Java interacts with the J2EE server to provide you transparent support of Quality of Service (like Transaction management, Connection management, Security management). Your application is unaware of all the complicated issues. The Connector for Java continues to be enhanced for the latest WebSphere and RAD tooling.

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## Avnet

### Challenges

- Redevelop new Web services-based applications to access existing MFS-based IMS transactions in a B2B environment

### Solution

- IMS MFS Web Services

### Benefits

- Flexibility, ease of integration, and reduced total cost of ownership

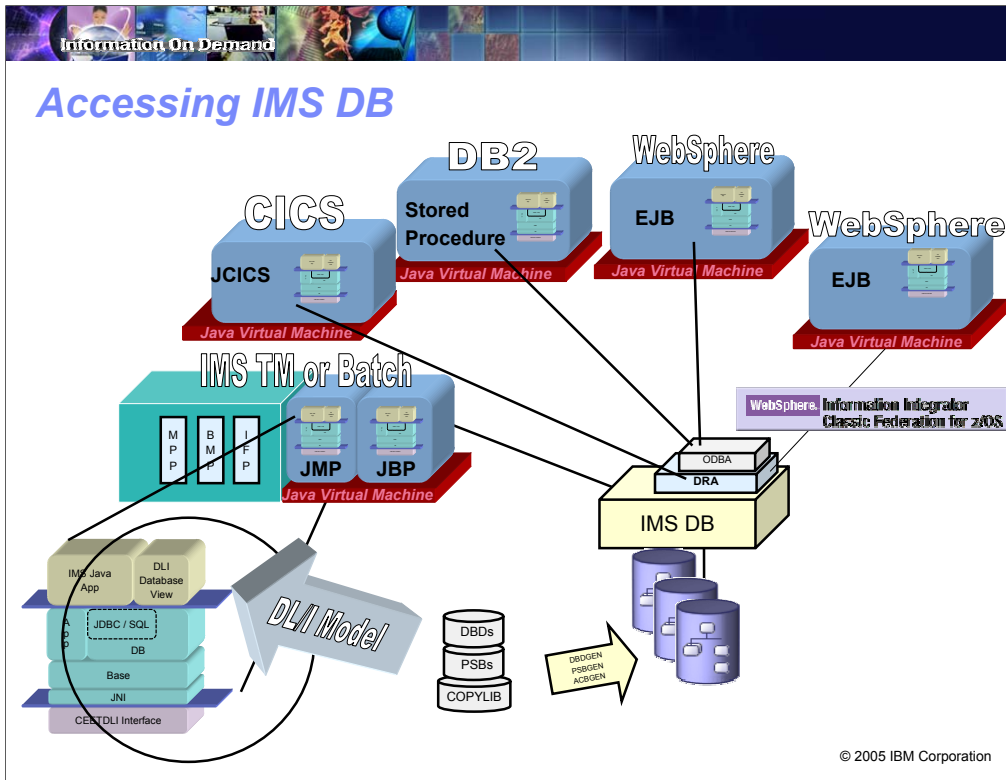
“a better application at a lower cost--and certainly more sustainable” Avnet

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### Key message: Avnet and other IMS customers are implementing IMS SOA solutions

Avnet Inc. is one of the largest B2B electronics distributors, serving customers in 68 countries, ranked #217 on the Fortune 500 list. In order to improve the speed and efficiency to serve customers, Avnet has implemented the IMS MFS Web Services solution for the flexibility, reuse of existing business logic, open architecture, and ease of integration into other applications. Avnet’s Vice President of Business Applications, Bob Pischke, describes IMS MFS Web Services as “...a better application at a lower cost--and certainly more sustainable.

There is an article on this in the latest IMS Newsletter issue.



**Key Message: IBM is providing Development and Deployment tooling for integrating IMS data in on demand environments**

IMS Java application support and IMS Java Database (JDBC) access is built on the IMS Open Database Access (ODBA) facility. JDBC access to IMS DB is available from IMS TM and CICS Java applications, DB2 Java Stored Procedures, and WebSphere ejbs. Distributed SQL/JDBC access is also provided through WebSphere Information Integration Classic Federation (IICF).

Along with this is Development Tooling, the DLI Model Utility for generating information about your data. Different levels are provided for use by your IMS and/or your Java experienced people.

Information On Demand

# IMS Version 9 Enabling Information On Demand Business Transformation


Integrated Connect Function  
for High Performance Access

XML Database support  
for Universal Information  
Interchange

Integrated HALDB  
Online Reorganization  
for Scalable/Available Data

State-of-the-Art Tooling to  
Easily Develop/Deploy/Manage  
Applications at Low Cost

Publish IMS Transactions  
as Web Services for Better  
Business Process Integration



Generally available since October 2004

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**Key Message: IMS V9 has been providing Information On Demand solutions**

IMS is the cornerstone of your Information On demand business transformation and IMS Version 9, generally available since October 2004, is a key element for enabling this transformation.



## IMS Version 9: Meeting Challenges for the On Demand Operating Environment

**Rapid response across the web**

**Integrated IMS Connect function**

- Connecting Customers, Partners, Suppliers, Employees
- Accessing IMS Applications, Operations, Data
- Providing Security and Management with better resource utilization and reduced efforts



**Universal interchange of information**

**Store and retrieve native XML data**

- Throughout the Enterprise with Partners and Customers
- Hierarchical -- a natural fit with no overhead
- Gaining Performance and Security of IMS for mission critical data



**Continuous access with virtually unlimited capacity**

**IMS High Availability Large Database Online Reorganization**

- Handling unpredictable volumes
- Non-disruptive, zero outage
- Administrative updates at any time



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### **Key Message: V9 is providing additional key enhancements for on demand environments.**


Today's On Demand Operating Environment must provide rapid response for business transactions and inquiries from many customer, partner, supplier and employee locations. To meet this need, the Integrated IMS Connect function provides high performance access to IMS applications, operations, and data, using TCP/IP from practically any application environment, including LINUX, across the Internet. It offers security options and provides commands to manage the network environment - resulting in better resource utilization and reduced design and coding efforts for client applications

For high speed, universal interchange of information throughout the enterprise and with partners and customers, IMS provides the ability to store and retrieve XML data natively. As both are hierarchical, there is a natural fit with no overhead required for translation or conversion. IMS also converts non-XML data to XML for interchange, and provides the flexibility to convert it back or store it natively. Without the need to store XML data on a file system or a separate database, users gain the performance and security of IMS for this mission-critical data.

For continuous access to critical business information and virtually unlimited data management capacity to handle unpredictable volumes, IMS now provides High Availability Large Database online reorganization capability. This is totally non-disruptive, with zero outage to customers for those applications that cannot go offline. DBAs love the ability to make administrative updates at any time.

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## Toronto Dominion Bank



### Challenges


- High cost to transport IP messages from distributed platform to IMS
- Over 10 million IP transactions per day

### Solution

- Implement IMS V9 Connect function for largest Web Banking application
- Bring in IMS Connect Extension product

### Benefits

- IMS Connect wins as overall system workload gets busier
- Better workload distribution and failover build into system layer
- IMS Connect lowers CPU Consumption to 40% for transport of message to IMS



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**Key Message: Toronto Dominion is utilizing IMS V9 function for their largest applications**

Toronto Dominion Bank implemented IMS V9 Connect function for their largest web banking application. It offers them better workload distribution and failover and lowers their cpu consumption for message transport to IMS.



Volvo Group

*... driven by imagination and  
Internet access to IMS data*



**Connect  
Extended  
Teams**

**Challenge:** Provide secure and easy access to technical drawings, technical data and financial information

**Solution:** Internet / intranet access to existing IMS data

**Benefits:** Maximize value of corporate data, maximize value of existing skills base and maximize value of existing investment to provide competitive advantage

"IMS V9 enables Volvo to exploit Java applications in their development environment." - Volvo Information Technology

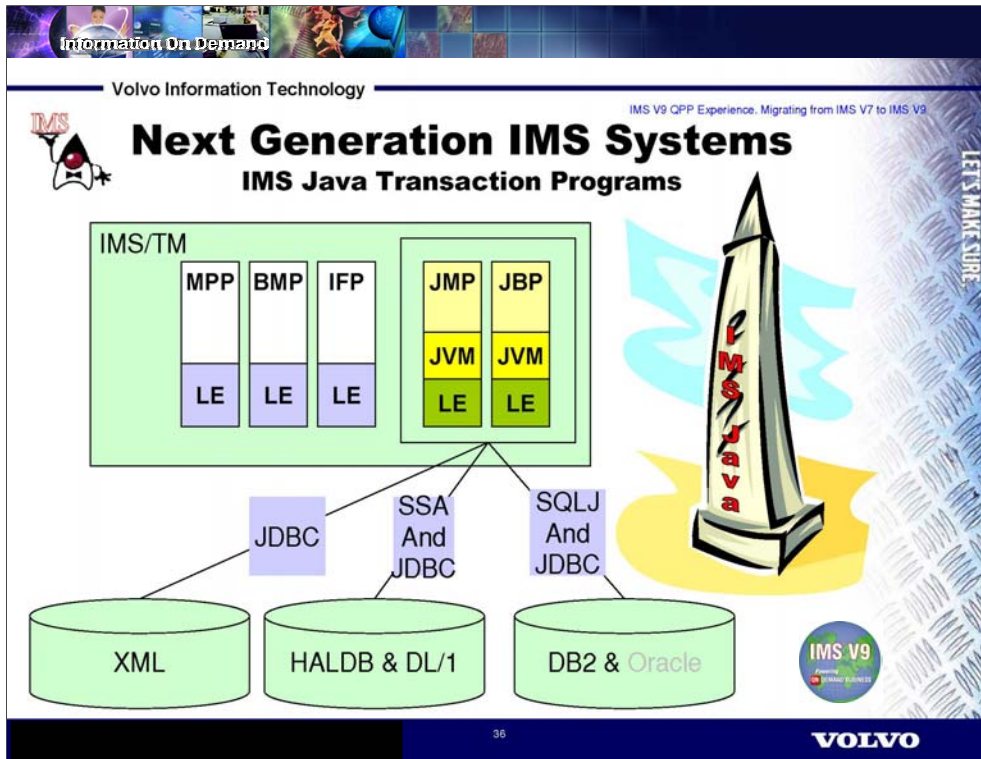
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**Key Message: And Volvo is embracing integrated IMS solutions with new technology**

Volvo has been making a reality of the intranet and web browsers for legacy data. From Volvo's point of view, it maximizes the value of the corporate investment in zSeries technology, maximizes the value of their existing skills base, and, even more maximizes the value of the data, all delivering competitive advantages for the group. Taking the Parts business as example, the challenge is in delivering thousands of parts globally and at the same time providing various teams around the world with the proper information, including drawing, for example, for trucks, both old and new. The business driven process takes the traditional technical drawings on paper in filing cabinets to screens for business benefits. Using web browser technology, they are able to create a more integrated approach, delivering uniformity of presentation and ease of use, whether accessing financial data or technical drawing, while retaining complete security and control of the data at Volvo using the strengths of the zSeries processors. And they were pleasantly surprised by the ease of implementation (with high praise for the Open nature of the zSeries environment).

Volvo was one of the earliest users of IMS Version 9 for exploiting Java applications in their development environment and for exploiting the Integrated Connect function for access to IMS applications and data across the internet. Their next generation systems use IMS TM Java Message and Batch applications using JDBC, as well as traditional database calls, to access IMS databases (including XML and HALDB), DB2 and Oracle. The new IMS Java regions can also run the new Object Oriented COBOL.





**Key Message: Volvo has implemented IMS V9 for their next generation systems.**

Volvo was one of the earliest users of IMS Version 9 for exploiting Java applications in their development environment and for exploiting the Integrated Connect function for access to IMS applications and data across the internet.


Their next generation systems use IMS TM Java Message and Batch applications using JDBC, as well as traditional database calls, to access IMS databases (including XML and HALDB), DB2 and Oracle. The new IMS Java regions can also run the new Object Oriented COBOL.

Volvo IT has provided an environment for their next generation of IMS Systems, enabling IMS V9 Java application development, JDBC access to IMS database, and IMS XML Databases

Last year, Anders Ohrnberg from Volvo was here presenting their environment. He is here with us again this week.

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## Royal Bank of Canada



Dave Cameron

### Challenges


- Remove XRF while maintaining high IMS availability
- Improve Sysplex workload balancing

### Solution

- Migrate to IMSplex with Block Level Data Sharing, Shared Queues, VTAM Generic Resources and OTMA spraying
- Merge and clone existing IMS systems

### Benefits

- Allows everything everywhere processing
- Provides availability through redundancy
- Better LPAR capacity utilization



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**Key Message: Royal Bank is also utilizing IMS V9 and Sysplex function for improved availability and capacity utilization.**

Royal Bank of Canada (RBC) is Canada's largest bank as measured by assets and market capitalization. IMS is their mission-critical platform in 3 production centres processing 50 million transactions a day, for their clients coast-to-coast in Canada through an extensive branch and ATM network, telephone banking, and internet banking. As such, IMS availability is critical to the bank, and XRF has been a dependable solution for them since 1989. They see the IMSplex as the strategic infrastructure for availability, and through a number of IMS versions have implemented full data sharing and shared queues. They are in the final phases of completing the migration to VTAM generic resource and OTMA spraying. When completed, their new IMSplex environment will help them maintain their high availability objectives without the cost of XRF, and provide more flexibility for workload balancing and LPAR utilization.

And Dave Cameron from Royal Bank of Canada is here this week to present his experiences with IMS V9 and using the IMS Sysplex for everything everywhere processing and better availability and capacity utilization.



## **IMS V9 Enhancements**

### **Integration/Openness in Application Development/Connectivity**

- Integrated IMS Connect function
- Java/XML tooling enhancements, Distributed JDBC, and XML Database support
- OTMA/APPC security/serviceability enhancements
- RACF enhancements to replace SMU security
- VTAM Multi-node Persistent Sessions replace of Uservar/3745 for XRF
- >255 Trans Scheduling increased to 999 for enhanced usability

### **Manageability Ease for Autonomic Computing**

- IMS Sysplex Database Commands added to Single Point of Control
- Enhanced Command Environment
- Enhanced Serviceability with new /Diagnose Command and Knowledge Based Log Analysis (KBLA)
- IMS install/system generation reduced time/effort enhancements

### **Scalability in Performance/Capacity/Availability/Recovery**

- Integrated IMS Online Reorganization (OLR) by partition of HALDBs w/concurrent online update/availability
- Additional HALDB usability enhancements
- DBRC Vendor Tools interface, enhanced capacity/usability/integrity
- Fast Path performance/serviceability/usability enhancements
- Enhanced Recoverability with DB2

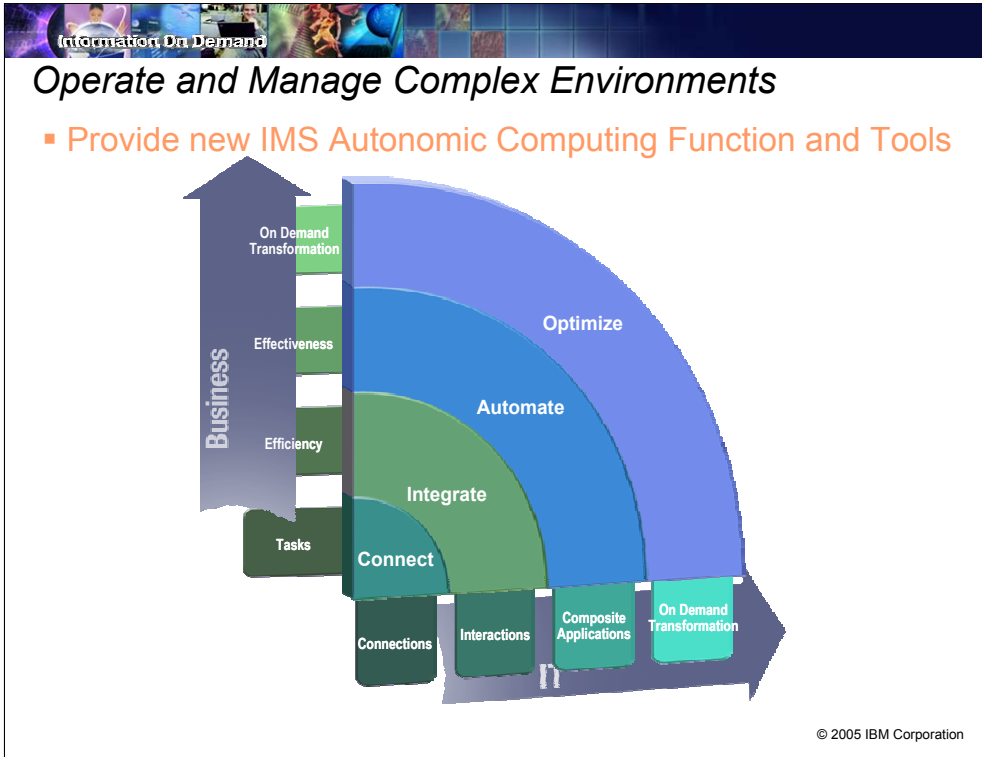
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### **Key Message: IMS V9 has a lot more function for integration, open, autonomies and virtualization**

The wide number of additional IMS Version 9 line items provide customer value in simplifying/expanding development and enablement with new technology and ensuring growth. IMS V9 addresses integration/openness in Application Development Connectivity with Integrated IMS Connect function, Java/XML tooling enhancements and other connectivity security, serviceability and usability enhancements across the product.

IMS V9 addresses Manageability ease for Autonomic Computing with enhanced commands and the command environment, enhanced serviceability with Knowledge Based Log Analysis facilities, and reduced time/effort for IMS installation/system generation

IMS V9 also addresses scalability with Integrated Online Reorganization by partition of HALDBs with concurrent online updates for availability, Database Recovery Control (DBRC) application programming interface, enhanced recoverability with DB2, and additional HALDB, DBRC, and Fast Path enhancements



**Key Message: IBM has many solutions to help IMS clients manage their complex environments.**

IMS V9 provides a number of additional application development/deployment and management enhancements. And IBM has also been providing WebSphere, Rational application tooling, and Tivoli and IMS management tooling, to ease the increasingly complex environments for our IMS Clients.



## IMS V9: A competitive advantage

"IMS V9 enables Volvo to exploit Java applications in their development environment. "

- Volvo Information Technology

"IMS V9 continued in the tradition of recent IMS releases by proving to be reliable and robust from the outset. " Royal Bank of Canada

"Very good education and experience. Very good support. Fast migrations." - Sparkassen Informatik

"XML data in IMS - clearly important. A lot of what IMS has done or is doing, we are playing catch up. But nobody is doing it well. IMS is hierarchical and is a perfect match. We have a requirement to store XML documents. "

- a US Telecommunications company

"All business process run inside IMS, we need to access IMS transactions for Business Applications. IMS Connect is for all java/servlet Applications built by (our company) " - a French Insurance Company

"Reduce some planned outages. Simplifies many of our automated processes. Wanted this for a long time. " - a US Aircraft Manufacturer

"Great value. Something that's long overdue. It's what we have been waiting for for several years" - a North American Bank

"Great idea. We have been waiting for this a very long time - thank you." - a German bank

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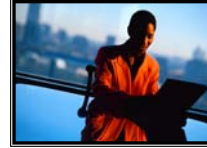
**Key Message: IMS V9 has also been well received by many other clients as well.**



**And Wait...**

**There's a Lot More...**

- **Enhancing IMS Integration and Transformation with New Technology in a Service Oriented Architecture**
  - IMS MFS Web Enablement
  - IMS SOAP Beta
  - IMS XQuery Technology Preview
  - IMS Application Tooling
- **Providing Continuing Enhancements for IMS V9**
  - Increased Ease of Integration
  - Improved Systems Management
  - Scalability
- **Easing IMS Installation and Management**
  - IMS V9 Service Upgrade
  - IMS Management Tooling
  - IMS V9 Installation Workshop



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**Key Message: IMS is also providing additional solutions to ease transformation, integration, and installability**

2005 also brought with it a number of additional announcements for IMS itself. Enhanced support using new technology was provided for IMS to ease integration, installation and management. These were provided as web downloads, or through service.

(CLICK) We are also easing installation and management with enhanced delivery vehicles, New Tivoli and IMS Management Tooling that can help with infrastructure simplification, and increased education. I'll take you through a sampling of this but the rest of the conference offers numerous additional information about these and more.

Information On Demand

## Utilizing Application Transformation Tooling for IMS

**Transform User Experience**

**Transform Application Connectivity**

**Transform Application Architecture**

Enhance user interface and workflow for quick return on investment

Improve business processes and develop customer, partner and supplier relationships using Web services and Java connectors

Update and extend mission-critical applications as services, leveraging their core value in new ways

Portal Service  
SOAP Service Request (e.g. J2EE, .NET)  
B2B Interactions  
Service flow  
Data  
IMS Data  
Existing Applications  
IMS Applications  
New Service Logic

**Single integrated delivery vehicle across application transformation styles**

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**Key message: New Application Tooling is being provided for help with transformation/integration**

Across platforms, we have Application transformation tooling, needed to allow each part of the environment to play to its respective strength with IMS providing mainstream processing with reuse of existing investments, and Web servers providing user interaction and distributed integration capabilities.

Customers are looking to

- Create new business value from existing IT systems
  - Transform business-critical existing processes into reusable, shareable business components
  - Integrate traditional zSeries and other application environments and new Java applications into an efficient mixed workload environment
  - Leverage existing enterprise skills and improve developer productivity
- To do this, requires a consistent set of tools.

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## Enhanced IMS Application Integration with IMS MFS Web Enablement

- Web-enables MFS-based IMS transactions in B2C environment
- Dynamic generated Web pages with customizable look and feel
  - Downloadable at <http://www.ibm.com/ims>
  - Provided for use with IMS V9 at no additional charge

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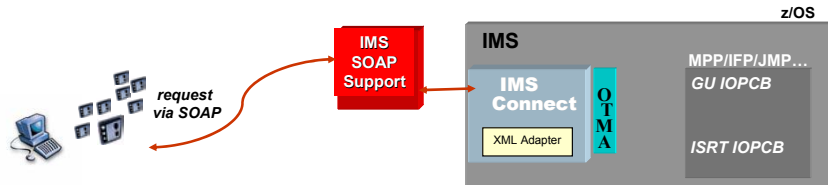
### Key Message: IBM has just made available IMS MFS Web Enablement for integration and transformation

As the latest offering in the IMS Integration Solutions Suite, IMS MFS Web Enablement is available at no additional charge, downloadable for use with IMS Version 9 and WebSphere Application Server Version 6. This support eliminates the dependency on traditional 3270 emulators and VTAM. IMS MFS Web Enablement offers industry-standard techniques to modernize existing MFS-based IMS transactional application programs, allowing end users to interact with and customize the look and feel of the dynamically generated Web pages.



## Broadened IMS Application Integration with IMS SOAP support

- **Enables Reuse of IMS Applications as Web Services**
  - Support WebService specifications
  - Leverages open standards and utilizes flexible tooling support
- **Provides IMS Transaction Interoperation with Client Applications**
  - Independent of location, programming language, and platform
  - SOAP Clients can be Microsoft .Net, SAP, Java, etc.




- **SOAP for IMS Technology Preview at <http://www.ibm.com/ims>**
- **SOAP for IMS Beta now available**

**Follow-on**

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**Key Message: The IMS Soap support takes advantage of existing IMS Interfaces and enhanced adapters to broaden and ease access.**

IMS is now providing direct SOAP support, to enable customers to reuse IMS applications as Web Services. The WebSphere Developer for z/Series can be used with this IMS SOAP support. A technology preview of this is currently available at [www.ibm.com/ims](http://www.ibm.com/ims). We are currently running a Beta for this and expect to GA shortly.



**Enhanced IMS Data Access with XQuery**  
**Providing a standard XML Query language**

- **An SQL-like Query Language for Hierarchically-Structured Data**
- **Utilizes emerging W3C Standard**
  - Created by IBM, Oracle, Microsoft, and others
- **Technology Preview now available**
  - Downloadable through <http://www.ibm.com/ims> on alphaWorks -- an early adopter website for emerging IBM technologies in early stages of R&D.
  - Includes DBD, PSB, load job, sample applications and step by step instructions

  
<http://www.alphaworks.ibm.com>

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**Key Message: IBM is working on XQuery support for open standards and integrated access**

IMS V9 introduced a way to view your IMS data as collections of XML documents -- aligning the stored IMS records with the valid XML documents for retrieval and automated conversion between these. The emerging XQuery standard is a powerful query language to search, aggregate, evaluate, pick and choose parts of the XML collection and then convert the resulting data into XML. IBM development and research have teamed up to build a fully functional, performance-oriented XQuery implementation atop IMS. An IMS XQuery Technology Preview is now available on alphaworks through the IMS website.

Information On Demand

## Enhanced Application Tooling Strengthens the SOA Foundation for Transformation and Integration of Existing Applications and Data

**Model**

- WebSphere Business Modeler
- Rational Software Architect

**Assemble**

- Rational Application Developer
- WebSphere Developer for zSeries
- WebSphere Integration Developer
- Debug Tool and Debug Tool Utilities

**Manage**

- WebSphere Application Monitor
- Tivoli Composite Application File Manager
- Fault Analyzer

**Deploy**

- WebSphere Application Server
- WebSphere Process Server
- WebSphere Message Broker
- WebSphere MQ
- WebSphere MQ Workflow
- WebSphere Information Integrator (II)
- WebSphere II Classic Federation
- WebSphere II Event Publisher

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### **Key message: And IBM is providing tooling to help with IMS transformation and Integration**

IBM continues its commitment to provide tooling to help customers test, debug, and deploy IMS applications cost effectively.

A number of new and enhanced Application Tools have just been made available for IMS. New versions of Rational Application Developer, WebSphere Integration Developer, along with Websphere Application Servers, can be used with the IMS Resource Adapters in application development and deployment for IMS application access. Support includes Wizards to quickly and simply expose IMS programs as enterprise services, including the ability to import definitions from COBOL, C structures, and IMS Message Format Service (MFS) definitions.


WebSphere MQ can also be used for IMS application access, and now includes new commands support.

WebSphere Application Servers can also be used in conjunction with IMS V9 for distributed IMS database access.

The WebSphere Developer for z/Series can now be used with IMS SOAP support.

WebSphere Application Monitor offers in-depth problem determination and performance analysis of composite J2EE applications with IMS components.

New versions of File Manager, Fault Analyzer, Debug Tool and Debug Tool Utilities and Advanced Functions were all announced with function requested by customers and which continue the integration of the products with each other, and the other Problem Determination Tools (Application Performance Analyzer and Workload Simulator) to help IMS customers with their application development/deployment.



## Continuing Enhancements for IMS V9

<b>Increased ease of integration</b>	<ul style="list-style-type: none"> <li>▪ <b>IMS Connectivity enhancements</b> <ul style="list-style-type: none"> <li>– Sysplex Distributor - reroute persistent socket messages</li> <li>– RAS enhancements</li> <li>– RACF Key ring support</li> <li>– JCA 1.5., WAS V6, WID/WBI V6</li> </ul> </li> <li>▪ <b>ESAF/DB2SAF simultaneous access to same DB2</b></li> <li>▪ <b>IMS Java enhancements</b> <ul style="list-style-type: none"> <li>– JDBC Deferred Program Switch support</li> <li>– GSAM database support in JBP regions</li> <li>– SQL enhancements – adds use of non-DBD-defined fields in WHERE clause</li> <li>– Serviceability enhancements</li> </ul> </li> </ul>
<b>Improved system management</b>	<ul style="list-style-type: none"> <li>▪ <b>Sysplex Unresolved CQSPUT during CQS Resynch new message</b></li> <li>▪ <b>Operations Manager enhanced to pass FID for AOI conversion</b></li> <li>▪ <b>Log Edit User Exit to allow editing of trans msg record in the IMS log data for additional security</b></li> </ul>
<b>Scalability</b>	<ul style="list-style-type: none"> <li>▪ <b>Fast Path Shared VSO Dual Structure diagnostic log records</b></li> <li>▪ <b>DBRC Retain position high key</b></li> <li>▪ <b>Syncplex Option helps synchronize failed Sysplex IMSs restart</b></li> <li>▪ <b>HALDB Release Call</b></li> </ul>

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**Key Message: IMS Continues to roll out new enhancements for Integration, Manageability and Scalability.**

A number of new enhancements have been rolling out for IMS V9. They include:

- IMS Connectivity enhancements for security and better integration with WebSphere and Sysplex environments
- Enhanced integration with DB2
- IMS Java enhancements for integration, open standards, and ease of use.  
(CLICK)
- Sysplex, Operations, and User exit enhancements for eased manageability, and  
(CLICK)
- Fast Path, HALDB, and DBRC enhancements for enhanced scalability

## ***Easing IMS V9 Installation***

### **IMS V9 Service Upgrade (SUP) 4Q05 Availability**

- Rebuild of IMS V9 base, incorporating all service into base
- Additional testing to ensure higher quality prior to availability
- New IMS V9 installs need not use SMP/E process --  
Service already in base FMIDs
- Existing users not required to re-install –  
Service provided in maintenance stream



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### **Key Message: IMS V9 and its service is being rolled into a SUP to ease installability**


In a continuing effort to make IMS easier to install and maintain and ensure continuing high quality, we are providing an IMS V9 Service Upgrade (SUP). This rebuilds the base of IMS V9, incorporates all the service and enhancements up to this point, provides additional testing, and makes it easier for new migrations to IMS V9.

John Butterweck is presenting Installation considerations and Maintenance Recommendations here this week

Information On Demand

## Enhanced IMS Management Tooling for Infrastructure Simplification

- IMS Problem Investigator V1R2
- IMS High Performance Sysgen Tools V2R1
- IMS High Performance Image Copy V4R1
- IMS Connect Extensions V1R2
- IMS Database Control Suite V3R2
- IMS High Performance Fast Path Utilities V2R1
- IBM Tivoli OMEGAMON XE for IMS on z/OS V3R1



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**Key message: IBM is also providing tooling for simplifying the management infrastructure for IMS**

IBM has also enhanced its rich set of IMS and Tivoli tools to enable database administrators and system programmers to manage their environment, easing and automating manageability.

In 2005 these tools were enhanced with new options, functions, performance, usability and hardware copy support.

IBM Tivoli OMEGAMON XE V3, for example, now helps you optimize performance and availability of your IMS systems. It provides a single point of control over IMS in Sysplex environments and reports on the performance of a number of key IMS attributes that help you stay ahead of potential delays or outages.

Tools enhancements are being provided in new versions/releases with some enhancements being made available for existing versions/releases as well.


Dan Wardman is presenting the IMS Tools this week

Information On Demand


## Easing IMS V9 Installation and Management

### IMS V9 Installation Workshop (U3759)

- Perform actual installation and run IMS IVP in environment of choice
- Hints and tips for successful IMS system implementation and maintenance
- 3 day lecture lab
  - October 25-27, 2005, 1Q06, 4Q06 IBM Silicon Valley Laboratory
  - November 8-11, 2005 Mainz
  - April 3-6, 2006 in Leonberg




### New "Introduction to IMS" book available



**Additional IMS Education** also being made available through classes, seminars, webcasts, teleconferences at <http://www.ibm.com/ims>

### Migration and skills transfer and customized offerings available at [ibmdds@us.ibm.com](mailto:ibmdds@us.ibm.com)



*And Still More to come ...*

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### **Key Message: IMS V9 Installation Workshops and other educational vehicles provide help with installation**

To ease installation and migration to IMS V9, we are also providing a 3-day IMS V9 Installation workshop taught by John Butterweck. This consists of lecture and lab where you can perform the actual installation and run the IVP in the environment of your choice.





(CLICK) A new book on IMS is now available for you, provided free at this conference. And the author, Dean Meltz, is here to sign it for you. And you can grab his coauthors, Rick Long and Geoff Nicholls to also sign it.

(CLICK) Additional IMS Education through classes, seminars, webcasts, teleconferences and consulting services are also available to help ease installation and migration. Find out more at the IMS website.

Information On Demand

## Enhancing Skills for IBM Mainframes

- **Today**
  - Training your "in-house" skills
  - Road shows and workshops
  - Skills Vitality and certifications
- **Building 20,000 Skilled Mainframe Professionals by 2010**
  - IBM Academic Initiative for zSeries
  - Educating university/college students worldwide
  - New and updated courses
- **Simplifying Software Management for Next Generation**
  - Basics Information
  - Easy to Use/Learn Portal
  - Automated Tasks
  - Integrated Software

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### Key Message: IBM continues to invest in skills for the IBM mainframe and IMS

In IBM we're focusing on making IMS and the IBM mainframe environment easier to understand, use, and manage. We continue to invest heavily to build platform skills both internally and externally.

One initiative focuses on providing training and education for customer "In-house" skills, via classes, workshops, and educational materials accessible through a new education web portal.

Another initiative is the Roadshows and Workshops for building understanding of mainframe value, helping customers make design decision, or leveraging core technologies, such as GDPS and the Sysplex for greater value.

(CLICK)

We set a goal of bringing 20,000 mainframe trained resources into the marketplace by 2010, and we've made significant advancement toward that goal. One indicator is the exponential growth in IBM Academic Initiative for zSeries, up from 20 in 2004 to over 150 colleges and universities today

(CLICK)

In addition to building skills, we are simplifying z/OS interfaces, so skills requirements to manage the environment are reduced. Tasks are being automated, eliminated, or streamlined from operations to problem determination to configuration.

### Additional Info:

Today we provide a comprehensive set of customer education programs available world wide and in a variety of formats, accessible through the portal. Our goal is to evolve the portal with new materials which leverage university courses and internal IBM education, new learning tools and classes with roadmaps and classifications ( beginner, advanced etc ) to enable greater learning. As it evolves, our customers will have access to an array of deliverables, some of which IBM uses internally, accessible from one place, there to address requirements by skill level and job assignment.





## **IMS: The Continuing Journey ...**

### **Providing High Performance, Scalable, Available, Reliable and Secure Solutions**

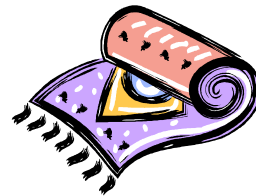
- Providing More Parallelism in DB Recovery Control
- Widening Bandwidth for Multiple Systems Coupling
- Enhancing Security

### **Easing Integration with New Technology for a Service Oriented Architecture**

- Enhancing IMS XML and Web Services Connectivity
- Integrating Operations across Subsystems/Platforms

### **Simplifying Installation and Management**

- Defining Resources Dynamically
- Easing Operations Management
- Easing Systems Management



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### **Key Message: IBM continues to enhance IMS, addressing customer requirements**

IMS continues in the future to address customer requirements. We are planning to provide enhancements that address your requirements for high performance, scalable, reliable, and secure solutions -- focusing on Database Recovery Control parallelism, Multiple Systems Coupling bandwidth, and Security enhancements.

(CLICK) We are also planning to provide solutions that ease integration with new technology for a service oriented architecture -- focusing on IMS XML and Web Services Connectivity And we are providing for integrated Operations across the platforms with integrated systems console support

(CLICK) And we are planning to provide solutions that help simplify installation and management -- focusing on Dynamic Resource Definitions, Operations management, and Systems management Enhancements.

Information On Demand

## IMS: Providing Information On Demand

- ✓ Providing high performance, scalable, available, reliable and secure solutions
- ✓ Easing Integration with New Technology for a Service Oriented Architecture
- ✓ Simplifying Installation and Management



**IMS V7**

- Large DB
- High Avail. DB
- IMS Java
- Rapid Restart
- IMS Connect V1
- New IMS Tools

**IMS V8**

- Extend DB Connectivity
- Enhance Sysplex Operations
- Simplify Install Process
- IMS Connect V2
- Enhance IMS Tools

**IMS V9**

- On-Line Reorg
- Enh Commands
- Reduced Sysgen Efforts
- Fast Path Enh
- DBRC Enh
- XML DB
- Integ IMS Connect
- Enh IMS Tools

**IMS X**

- Systems Enh
- Operations Enh
- DBRC Parallelism
- MSC Bandwidth
- Incremental Application Dynamic Resource Definition
- Enh Connectivity
- XQUERY
- Enh IMS SOAP

**IMS Y**

- Sysplex Enh
- Config Mgmt
- Enhanced Dynamic Resource Definition
- HALDB/OLR extensions
- Fast Path extensions
- XML DB enh
- Enh Connectivity

**IMS Z**

- Sysplex Availability Enhancements
- Autonomic Management Enhancements
- Enhanced Dynamic Resource Definition
- Config Mgmt Enh
- Enh Connectivity

Database Systems Database Systems Database Systems


Also delivering Service and Enhancements, with periodic Service Update (SUP) refreshed deliverables, and New/Enhanced Tooling.

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**Key Message: IBM is continuing to enhance IMS while easing manageability, providing this in regular, staged, deliverables, well into the future.**

As we roll out over time, we continue to provide enhancements to IMS, alternating our bigger requirements across the different areas of the product. IMS continues with each new deliverable to provide the utmost in scalability, easing integration, and simplifying management.

(CLICK) We provide this packaged in new IMS versions, as web downloads, or as service. In addition we continue providing new/enhanced application and management tools and products to enhance the IBM mainframe environment on which we run.



**Additional IMS Information at <http://www.ibm.com/ims>**

- Presentations/Papers, Newsletters, Fact Sheets, Announce Letters, additional documentation
- Redbooks/Redpieces
  - Release Guides, Sysplex Guides, Connectivity Guides, Java Guides, etc.
- Technical Support Info (search on IMS)
- Information Center enables search across DB2/IMS/Tools documentation and offers an integrated LookAT functions for quick search of messages and codes.
- Information Roadmap
  - Provides links to a wide variety of useful information resources
- Training and Certification
- WW IMS Technical Conferences/Symposiums
- Seminars/Roadshows coming to a city near you

**IMS Consulting Services for Migration, Skills Transfer, and customized offerings at [ibmdds @us.ibm.com](mailto:ibmdds@us.ibm.com)**

**“An Introduction to IMS” book now available**

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**Key Message: IMS continues to provide information and services for our clients**

A wide range of IMS Information is available

The IMS solutions are generally available along with other IBM products in support of IMS. Additional documentation and information is available from the IMS home page at <http://www.ibm.com/ims>.

The IBM International Technical Support Organization has been producing redbooks and redpieces with additional information, available at <http://www.redbooks.ibm.com>. A number of IMS Technical Conferences are also being provided on an ongoing basis.

Examples Exchange is a Web site dedicated to IMS samples and examples. You can view examples and submit your own examples for others to use e.g. How to build a Java application that uses the J2EE Connector Architecture Common Client Interface

The newest piece of IMS literature and the one we're all excited about is a new comprehensive textbook created at SVL by the team lead for IMS Information Development, which should hit the bookstores in December, hopefully in time for you to include it in your holiday shopping. It is much more technically comprehensive than the modest title suggest. It really ought to be: “everything You Wanted to Know About IMS But Were Afraid to Ask”

Information On Demand

## IMS: For Your Information On Demand Business Transformation



Powering On Demand Solutions

**IMS**

*the world depends on it*

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Through nearly 40 years we've been traveling together on a Magic Carpet ride with proven IBM Mainframe and IMS product solutions. We are committed to continue to provide solutions in the future to address your needs. You can trust the reliability, availability and performance that only IBM Mainframes and IMS can provide. So come along with us into the world of Information On Demand with IMS. Go out and enjoy the conference.