



# Latest on IMS Enterprise Suite To Ease Access and Development For the zEnterprise

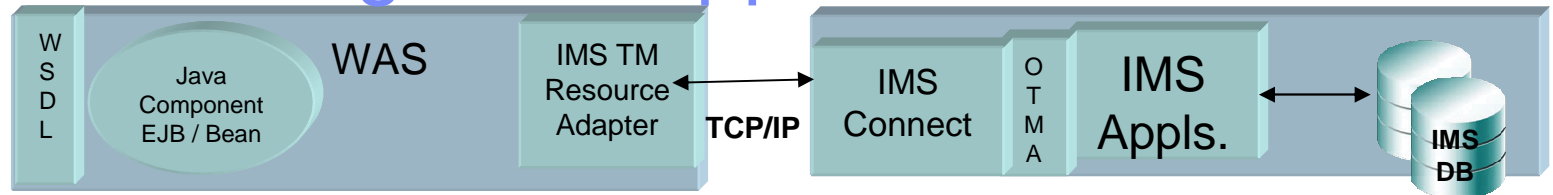
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IBM Silicon Valley Laboratory  
San Jose, California,  
bk@us.ibm.com*

# IMS is SOA Enabled with Solutions for Distributed, Integrated Access

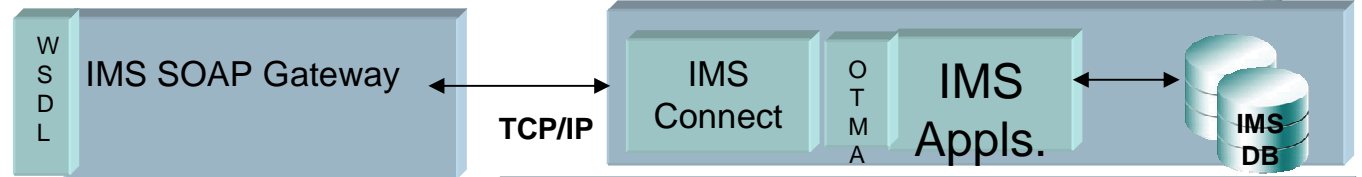
- **Protecting customer investments by enabling access to IMS transactions and data**
  - Designed to support open integration technologies
  - Modernize IMS transactions and data
- **Fully integrating with WebSphere and Tools** and utilizing a common programming model for a service-oriented architecture (SOA) based on standards
- **Encouraging new application development by supporting standards**
  - Java for rapid application development
  - XML for clean/structured documents with powerful views/search
  - SOAP for structured info exchange in loosely-coupled distributed environment
  - ...

# IMS Web Services Integration Approaches

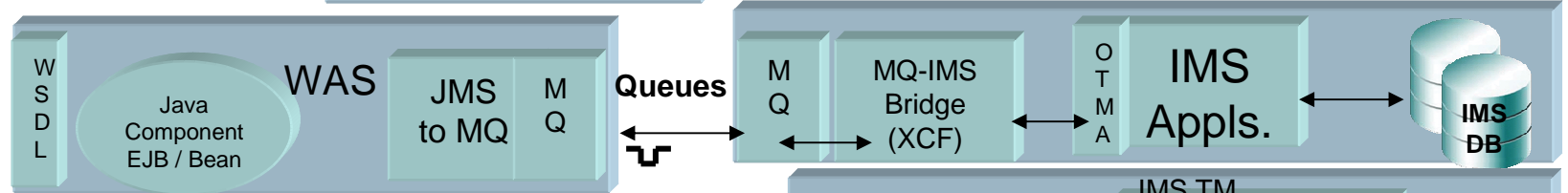
**IMS Connect /  
IMS Connect Java Client**



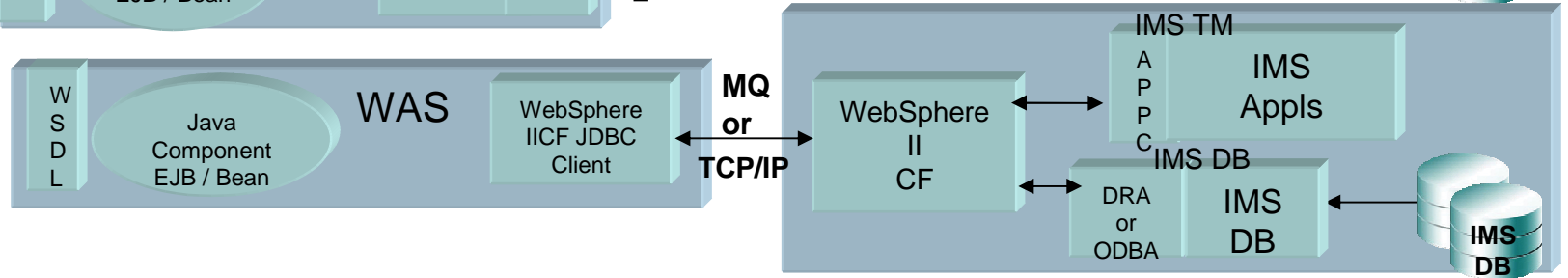
**IMS SOAP Gateway**



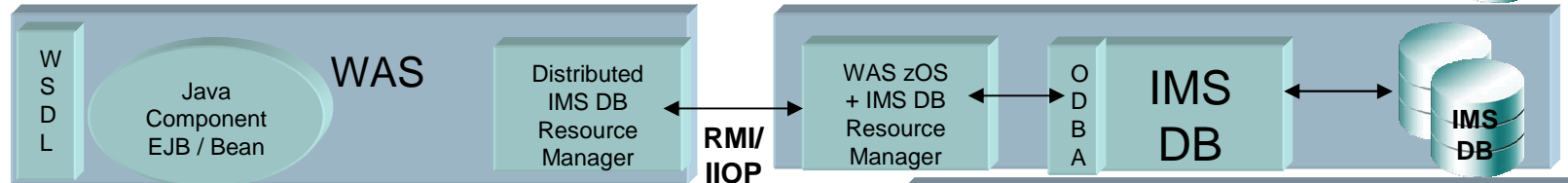
**WebSphere MQ/  
MQ/IMS Bridge**



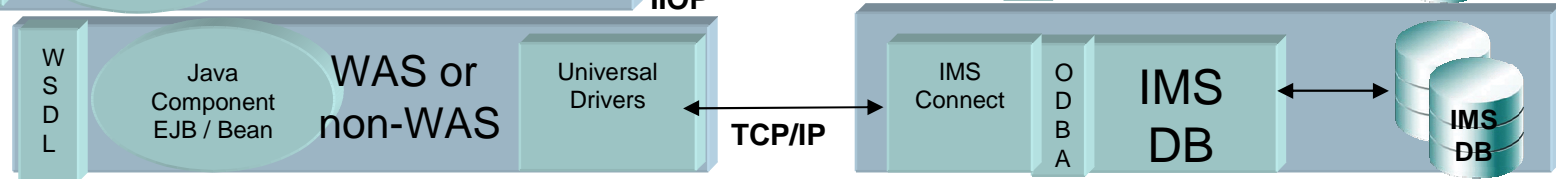
**WebSphere II CF**



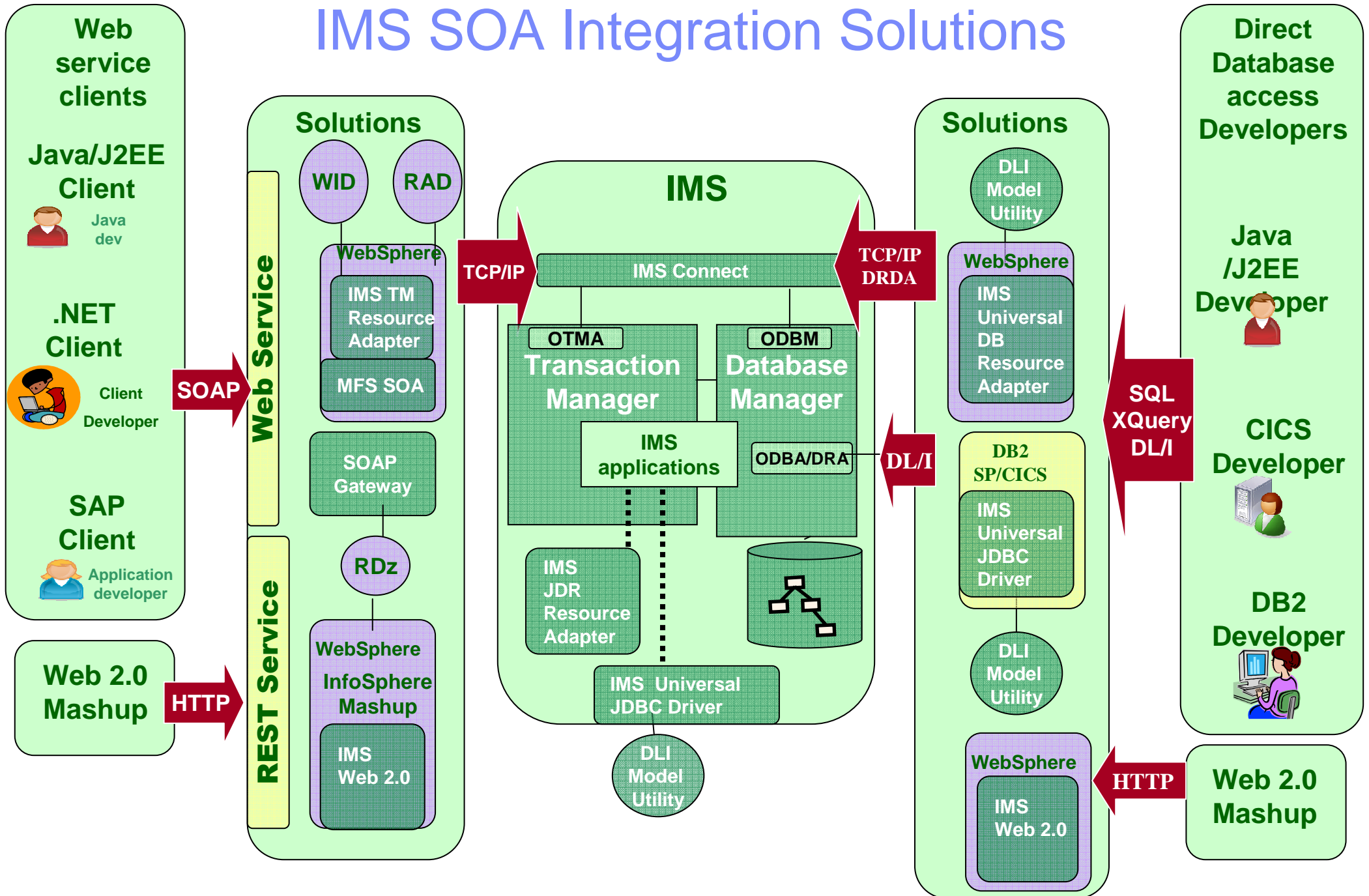
**IMS Distributed JDBC  
through WAS zOS**



**Universal Drivers thru  
IMS Connect/Open DB**



# IMS SOA Integration Solutions

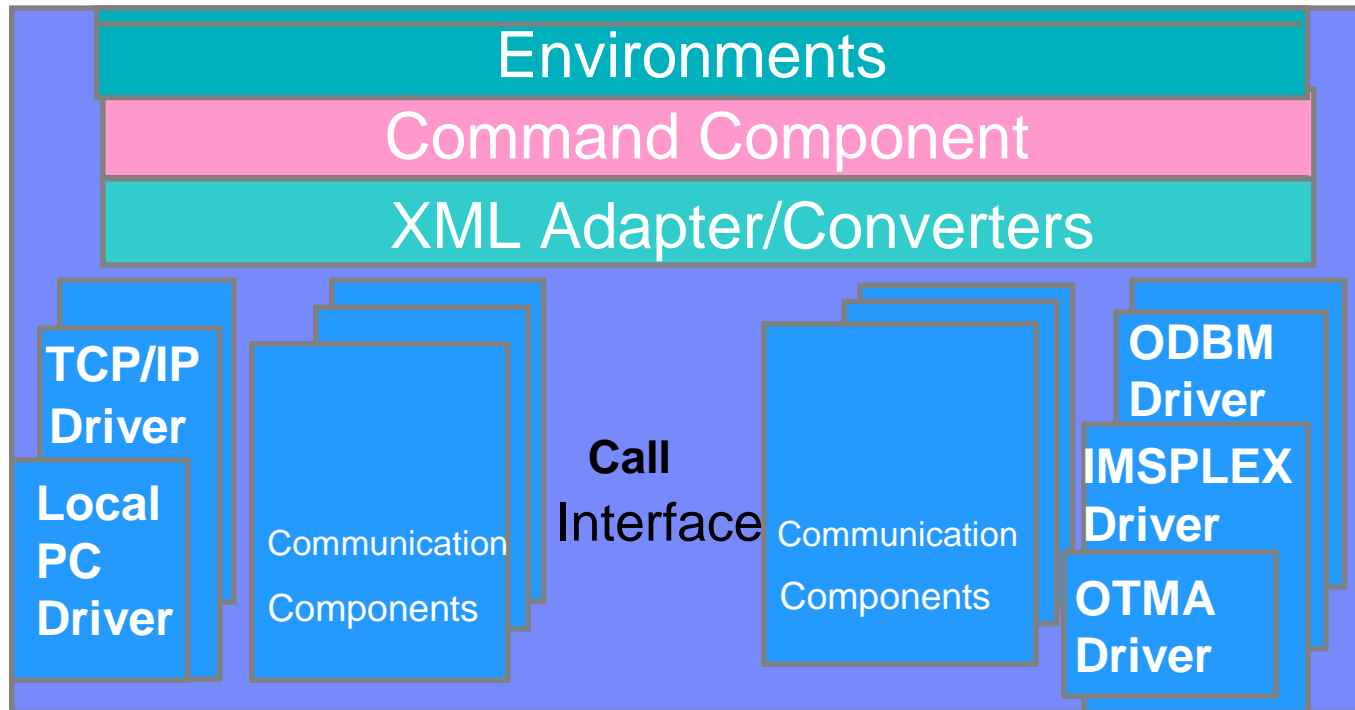
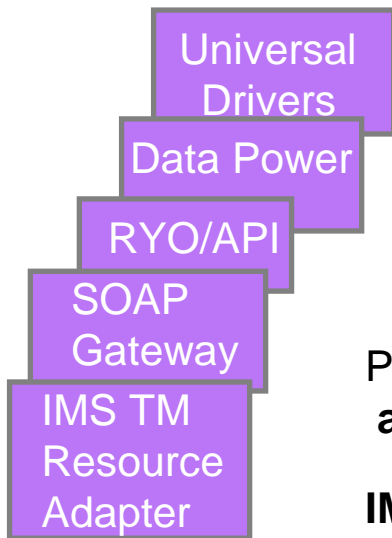


# IMS 11 Connect Structure

with Supporting IMS Connectors

- Expands IMS as the Enterprise Integration Focal Point
- Provides a Connectivity Base for the Future

Connecting with other Application and Data Servers, **using advanced technology for client and server connectivity**



Connecting IMS Transactions, Operations, and Data

Providing High Availability, Resilience, Performance, and Operations Ease, **advanced commands/messages, error checking/trace/diagnostics.**

**IMS Connect Extensions** can help improve availability/reliability/performance/auditability of TCP/IP transactions, automate message routing/failover, simplify TCP/IP application development

# Expanding IMS with Emerging Technologies...

- Extend access to IMS applications/data
- Enhance IMS application development/deployment
- Provide easier to use interfaces, APIs
- Continue to enrich functionality in SOAP, XML, and IMS WS\*
- Provide additional support with WebSphere/Rational tools
- Simplify Installation
  - Integrating and Supporting Open Source
  - Using Standard Installation Tools

# IMS Enterprise Suite Version 1 Release 1

Announce Oct 27, 2009 for General Availability Nov 6, 2009

Product ID 5655-T60 (\$0), S&S 5655-T61(\$0)

Also downloadable from the [www.ibm.com/IMS](http://www.ibm.com/IMS) website

## Base Content

### Lowering Costs, Opening Up IMS Applications and Data with innovation through:

#### **Business Flexibility.**

- Ease access with Connect API for Java and for C
- Expand Java Application Development with Java Callout
- Extended Standards/Tools for SOA with SOAP Gateway
  - WS-Security
  - Business Event support for WebSphere Business Events and WebSphere Business Monitoring tools
- Ease Application Development and Data Administration with DLIModel Utility plug-in Expanded Graphical Data Functionality

#### **Simplification:**

- Ease Installation with SMPe and Installation Manager
- Simplify Interface with GUI Eclipse PlugIn
- Streamline open source access

## Migration

### **Upgrade/Coexistence for IMS Enterprise Suite from**

*IMS 10 DLIModel Utility plug in  
IMS SOAP Gateway 10*

## Publications

### Announce Letters:

- 209-350 (US)
- A09-1196 (Canada)
- ZP09-0409 (EMEA)
- AP09-0339 (AP)

IMS Enterprise Suite Program Directory  
(GI10-8816-00)

IMS Enterprise Suite License Information  
(GC19-2807-00)

# IMS Enterprise Suite Version 1 Release 1

## Hardware Requirements

## Software Requirements

Any 64-bit IBM processors capable of running z/OS V1.9 for functions running on z/OS.

Workstations capable of running Linux, AIX, or Windows XP for functions running on these operating systems

- z/OS V1.9 (5694-A01) or later is required, for those functions running on z Servers.
- Connect API for Java runs on Windows and z/OS, with IMS 10 or later, and requires JDK/JRE V5 or later
- Connect API for C runs on Windows, with IMS 10 or later
  - o Delivered through the service process
- JMS API open source runs on z/OS with IMS 10 or later
- SOAP Gateway runs on z/OS, zLinux, AIX, or Windows and with RDz 7.6 or later.
  - o Base function runs with IMS 10 or later
  - o WS-Security runs with IMS 11 or later
  - o Business Events runs with IMS 11 or later and with WebSphere Business Events 6.2 or WebSphere Business Monitor 6.2
- DLIModel utility plug-in runs on Windows XP and Red Hat Linux, with IMS 10 or later.

Additional line item requirement information in the IMS Enterprise Suite Program Directory



# IMS Enterprise Suite Connect APIs

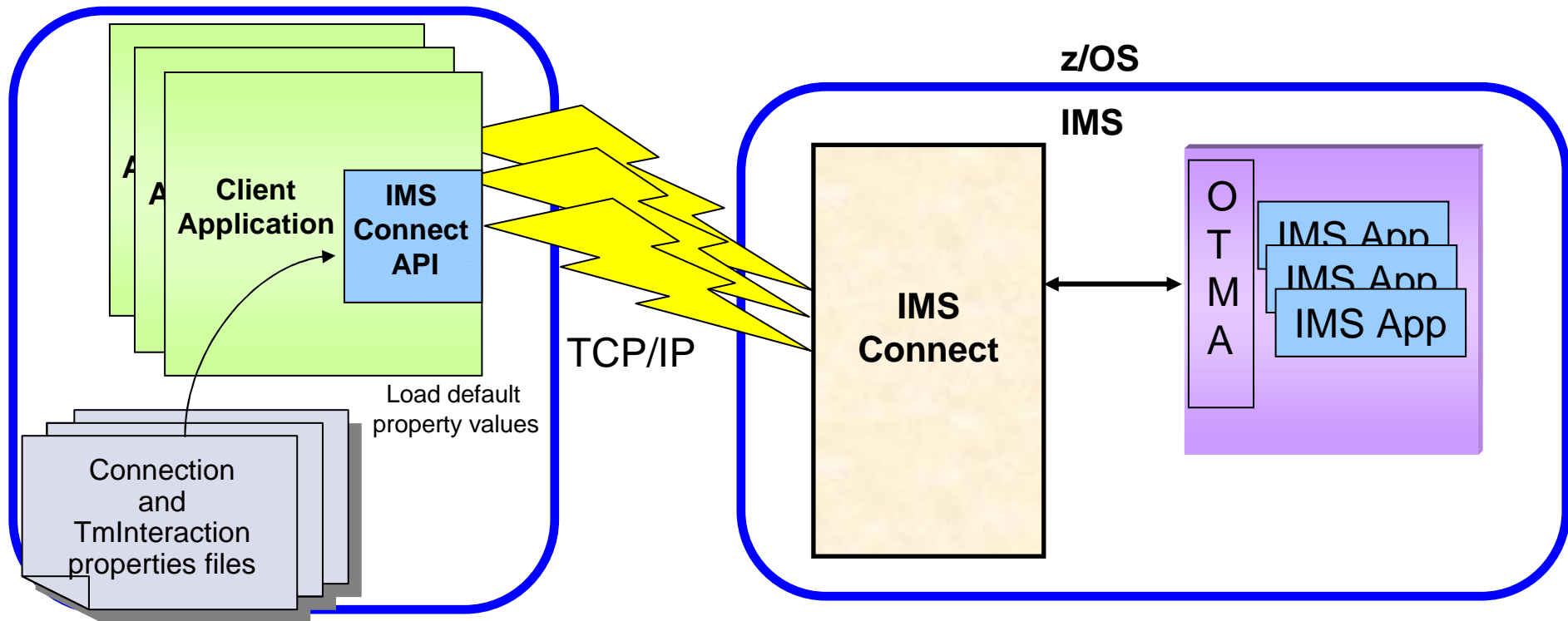
# IMS Enterprise Suite Connect API

- Target Market
  - The IMS Connect API is intended for all customers who write client applications that interact directly with IMS Connect (without using the IMS TM Resource Adapter or SOAP Gateway) to access IMS TM through OTMA
- Challenge Addressed
  - Simplifies interactions with IMS Connect by handling:
    - IMS Connect message header
    - IMS Connect interaction protocols
    - TCP/IP socket connections
- Solution Statement
  - Provides set of extensible profiles to configure interactions to be performed and set of high-level and low-level methods for performing those interactions with IMS through IMS Connect and OTMA
- Business Value
  - Simplifies design, development and test of IMS Connect client applications

# IMS Enterprise Suite V1R1 Connect API Environment

- Allows quick and easily development of IMS Connect client applications
- Supports IMS Connect functions
- Supports reusable profiles to set property values
- Dynamically opens connection execute an interaction
- Manages the TCP/IP communications with IMS Connect
- Wraps data provided by client application in IMS Connect request

## Windows or z/OS



# IMS Enterprise Suite V1R1 Connect API

- Provides simplified way to interact with IMS Connect and IMS
  - APIs for Java and for C (also for C++ applications)
  - Internally creates IRM header for request messages and interprets non-data information in responses
  - Automatically opens socket connections to target IMS Connect as needed
  - Allows client applications to provide data in a variety of ways
    - Byte array for single- or multi-segment data
    - Two-dimensional byte array for multi-segment data
    - String for single-segment data
    - Array of Strings for multi-segment data
  - Re-usable profiles provide easy way for applications to specify target IMS Connect and IMS as well as describe interaction to be performed
  - Lower-level calls provided
    - Connect, send, receive
    - Lose benefit of API creating/interpreting message, managing IMS Connect message protocol
  - High-level execute call provided which opens connection if needed and performs interaction on behalf of client
  - Applications must call disconnect() on all connections before termination
  - Supports IMS Connect PING and RACF password change commands
  - Supports all OTMA-supported IMS commands

# IMS Enterprise Suite 1.1 Connect API Enhancements

Being provided through the Service Stream for IMS 10/11 users

## Solution (PM05893)

- Connect API for Java
  - Transaction Expiration
  - Additional ways to specify location of SSL keystore and truststore
  - Support return of MFS Modname
  - Eliminate the need to manually create a logs directory
  - Rename samples.jar to ImsESConnectApiForJavaV1R1Samples.jar
  
- Connect API for C (PM09135)
  - Support for C language
  - Large Message Data Lengths

## Value

- Simplifies usability
- Enhances IMS availability

# IMS Enterprise Suite 1.1 Connect API Transaction Expiration Support

## Solution

- IMS Transaction Expiration support extended to transactions coming through IMS Connect API
- Transaction expiration time can be set
  - Message not processed if expiration time has expired
- Expiration time can be set at message or transaction level
- When IMS Connect IRM flag set IMS Connect sets expiration time for message, based on message specified or IMS connect default values

## Value

- Distributed applications timeout transactions under IMS's control
- Reduces transaction output that would not be used
- Reduces unnecessary use of resources
  - Network resources
  - CPU cycles
  - Dependent region time



# IMS Enterprise Suite 1.1 Connect APIs

## Prerequisites

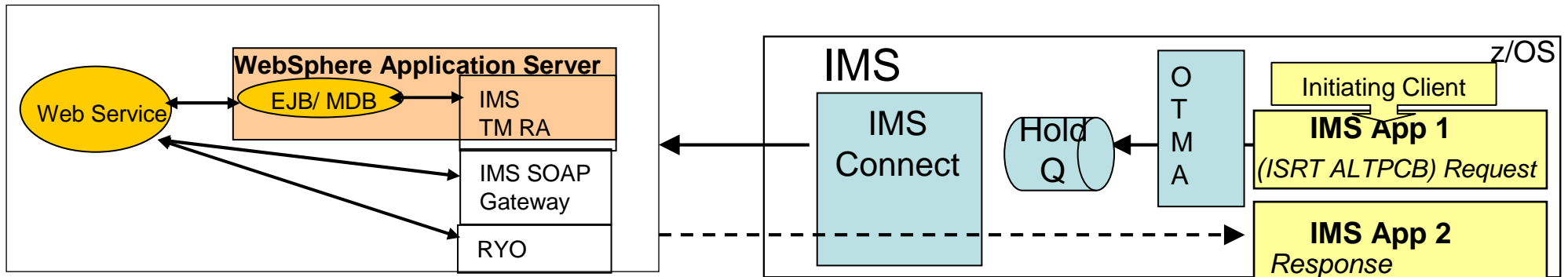
- IMS 10 or higher and its Connect function
- JDK/JRE 1.5 or higher (for Java only)
- Microsoft Visual Studio 2005/.NET Framework 2.0 or higher (for C/C++ only)

# IMS Enterprise Suite Java Message Server APIs

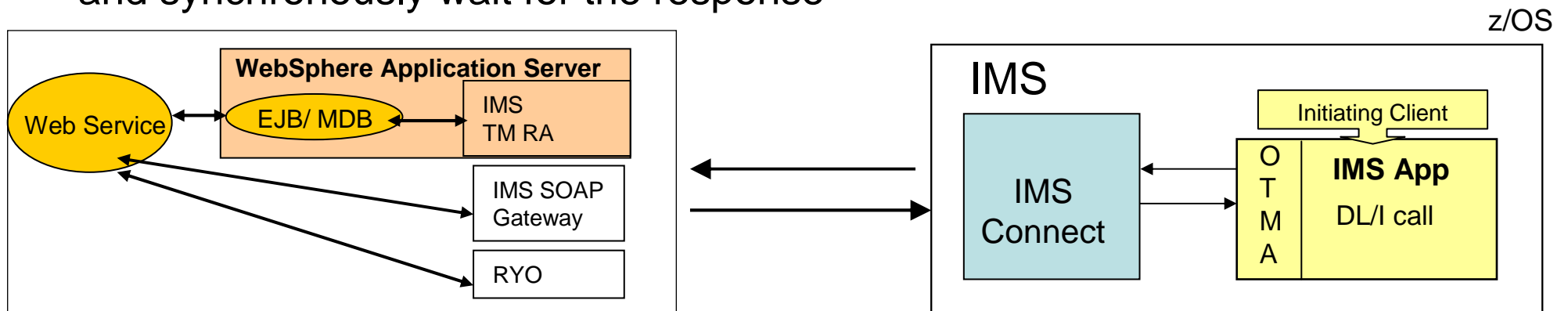


# IMS as Integration Focal Point - Callout Support

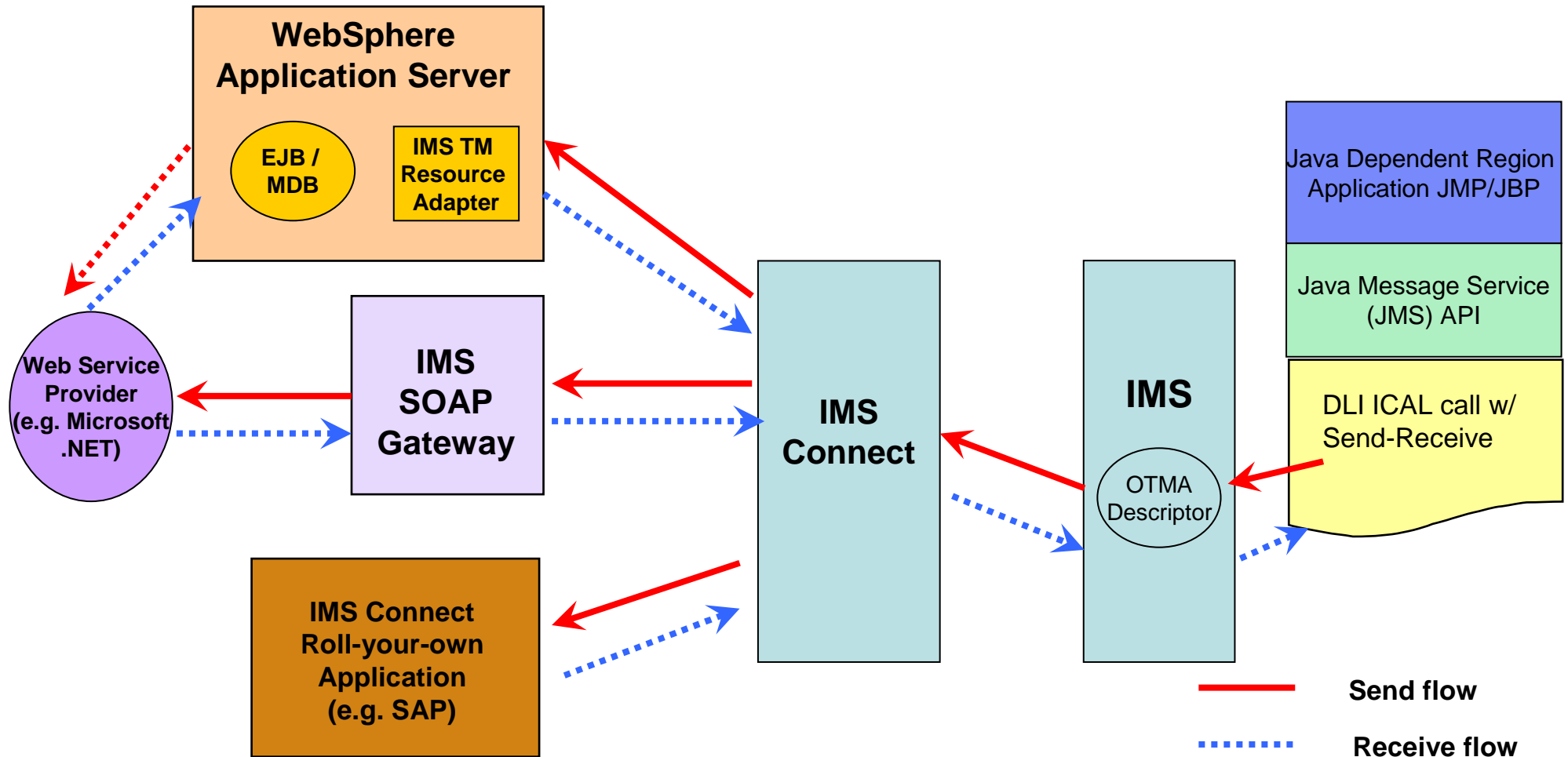
- **IMS 10 Asynchronous Callout**
  - Enable IMS applications to act as a client to asynchronously invoke Java EE applications and Web Services
  - Receiving output from external application is possible



- **IMS 10 Synchronous Callout Support**
  - Enable IMS applications to invoke Java EE applications and Web Services, and synchronously wait for the response



# IMS 10 Synchronous Callout Solution Highlights



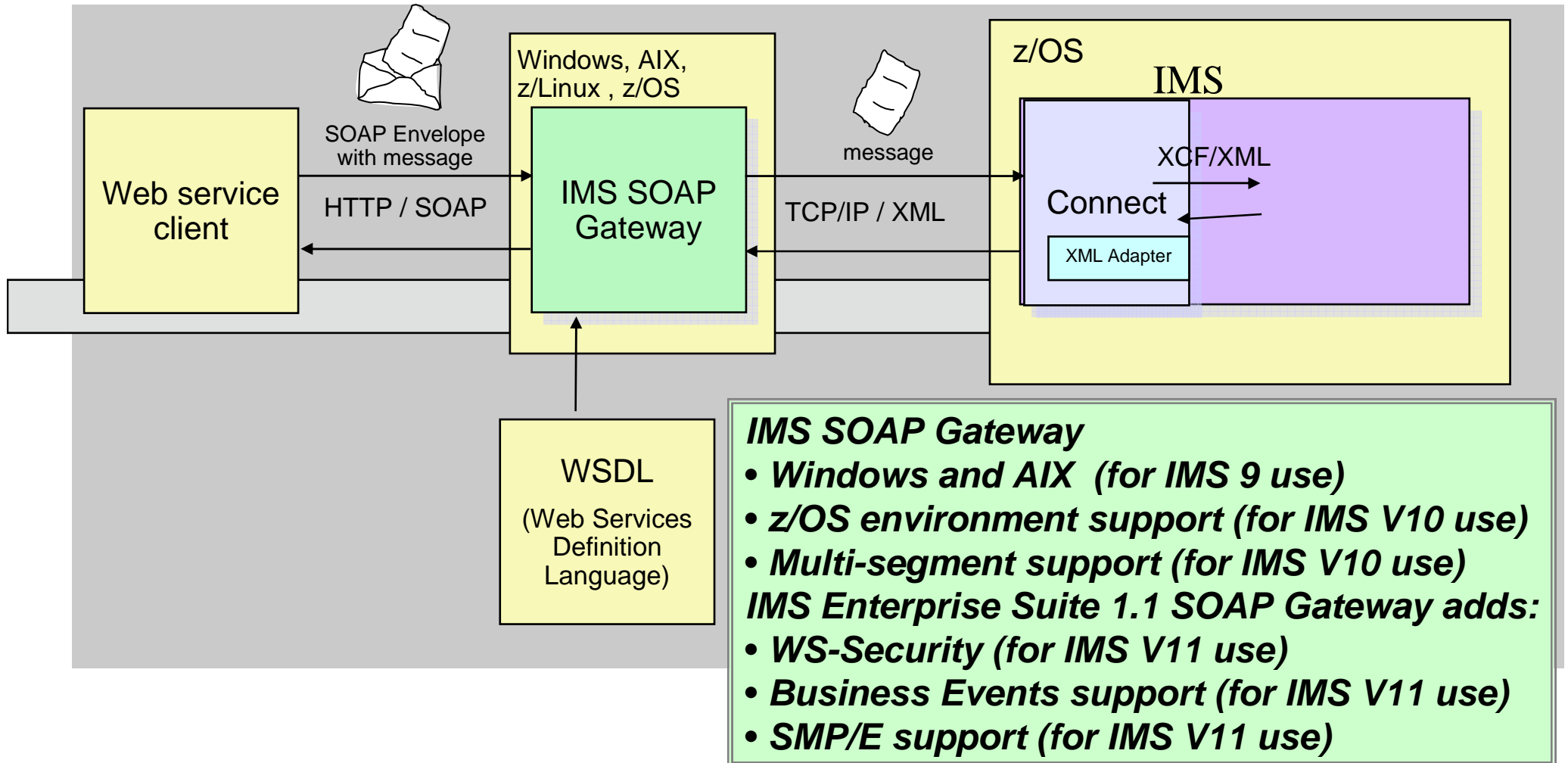
# IMS Enterprise Suite 1.1 JMS API Support for Synchronous Callout

- Provides Java Message Server (JMS) API for accessing IMS Synchronous Callout function.
  - Jar file containing the open source JMS API code required for sync callout functionality
  - Enables business growth -- Allows more flexibility in accessing cross enterprise data and functionality from within IMS applications to meet growth challenges.
  - Exposes core IMS functionality through a Java standard interface - Makes IMS function more accessible to application developers with modern skill sets.
  - Offers standards-based approach - Exposes IMS industry leading transaction management capability through a Java standard interface, JMS
  - Enables new application design frameworks and patterns
  - Synchronous callout support is the first IMS function to fully embrace the JMS standard in IMS application development.

# IMS Enterprise Suite SOAP Gateway

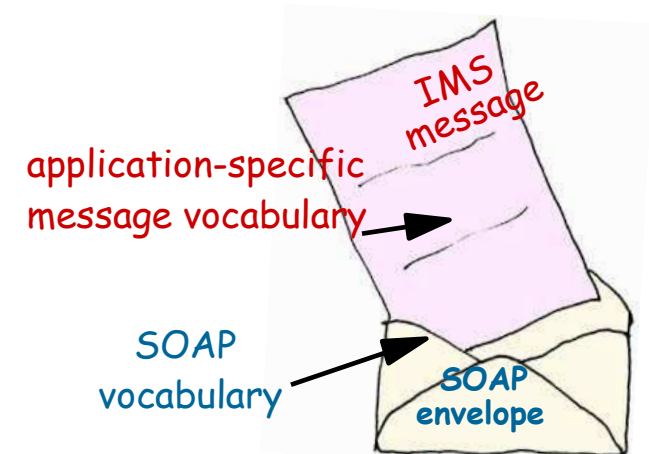
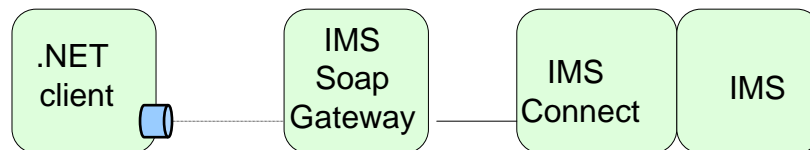
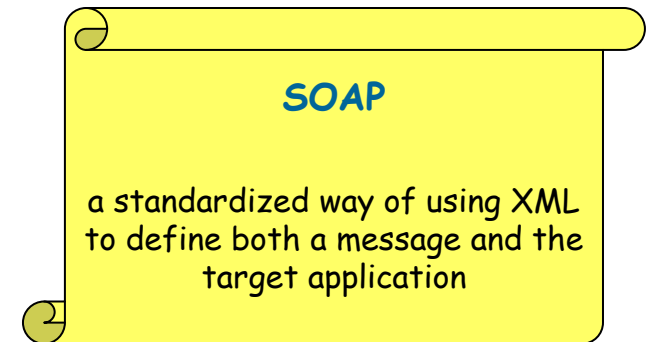
# IMS Enterprise Suite 1.1 SOAP Gateway

## -- Enhancing Integration



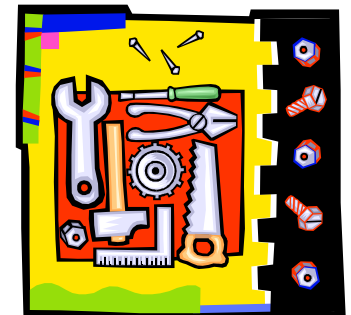
# IMS Enterprise Suite 1.1 SOAP Gateway

- Uses SOAP messages to support end-to-end integration between IMS transactions and
  - Microsoft .Net & Java applications
  - Any third party applications, e.g. SAP XI
  - RYO applications
- Provides HTTP/SOAP transport and processing
  - *SOAP envelope and headers handled by the gateway*
- Utilizes Rational Developer for System z tooling to create converters for transforming XML messages to IMS messages and vice versa
  - No need to change existing IMS application code

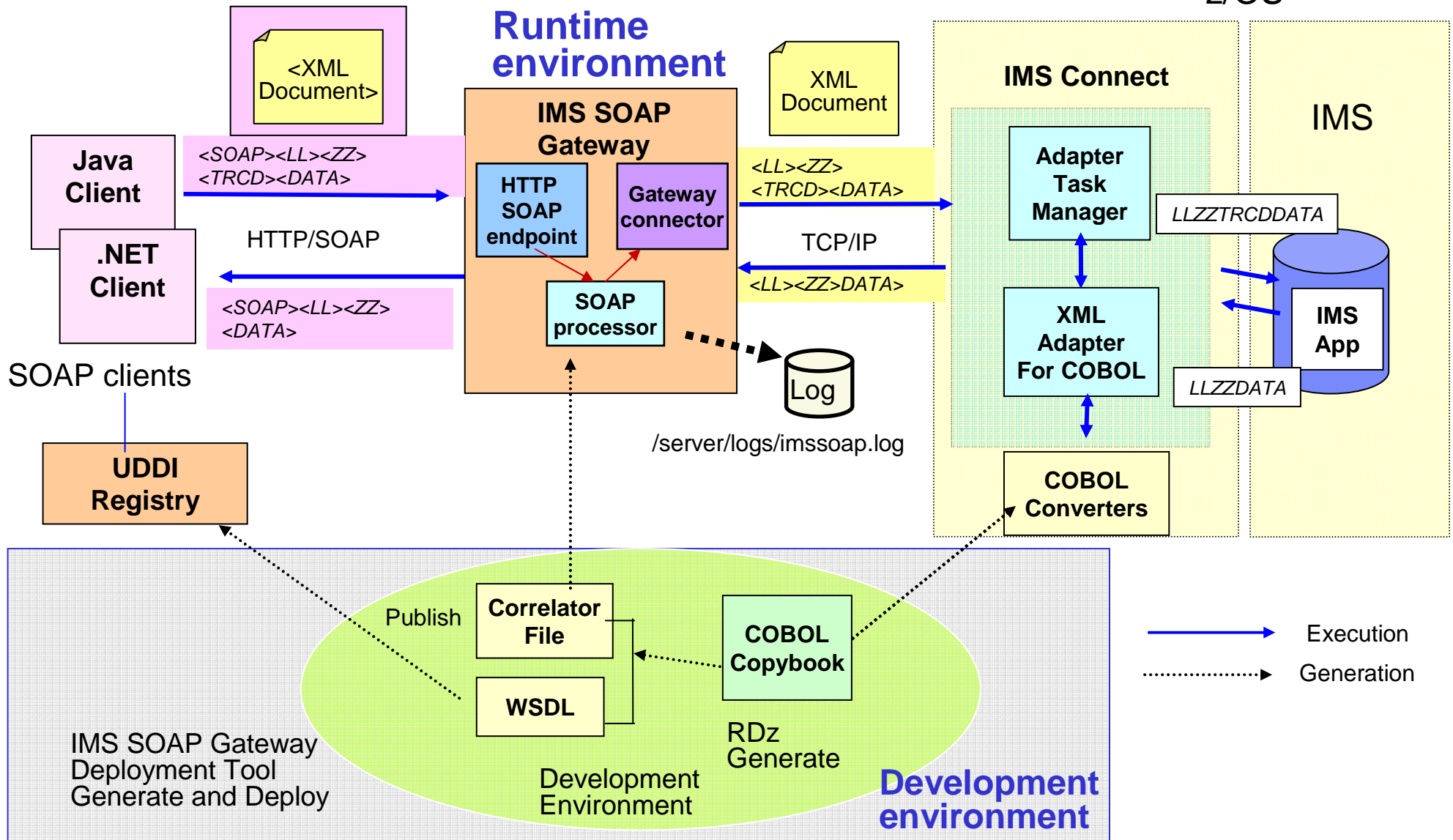


# IMS Enterprise Suite 1.1 SOAP Gateway Overview

- A light-weight Web Service solution for IMS TM access without a Java EE server
- Integrates IMS assets into a Service-Oriented Architecture
- Provides end-to-end interactions between IMS transactions and web services clients in an On Demand environment
- Enables IMS as Provider and Consumer of Web Services
- Secure
- Utilizes Advanced Tooling
  - Utilizes Rational Developer for System z tooling to create converters for transforming XML messages to IMS messages and vice versa
  - No need to change existing IMS application code



# IMS Enterprise Suite 1.1 SOAP Gateway ... z/OS



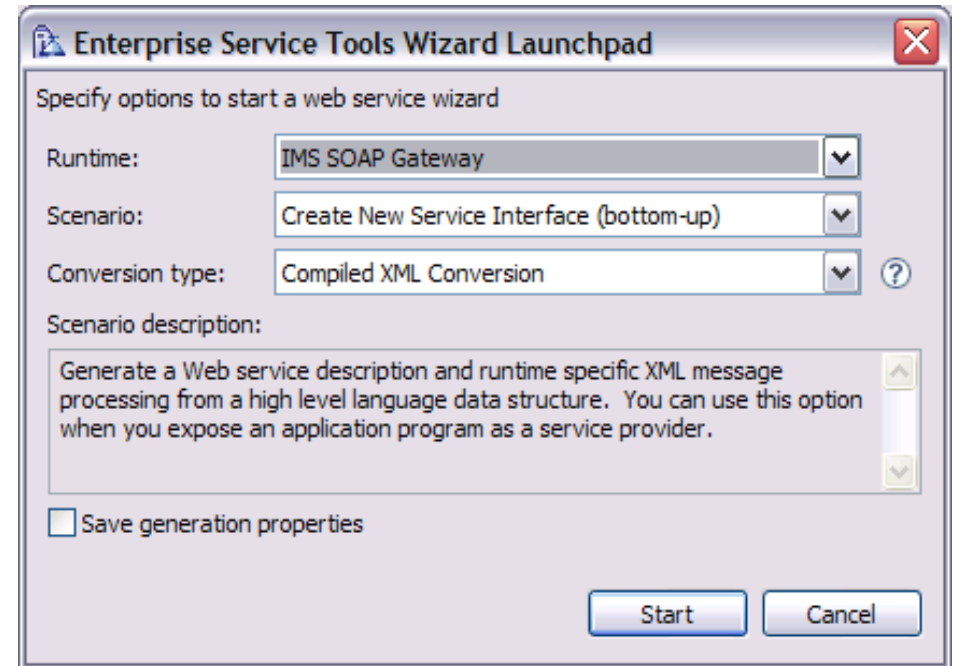


# IMS Enterprise Suite 1.1 SOAP Gateway At a glance

- Platform
  - z/OS (1.6 or higher), zLinux, Windows, AIX 5.3
- Web Services standards
  - HTTP 1.1, SOAP 1.1, WSDL 1.0, UTF-8 encoding, WS-I BP 1.0, WS-Security 1.1
  - Web Service Provider and Consumer
- IMS Application Interaction Modes
  - Web Service Provider
    - Non-Conversational COBOL applications
    - Commit mode 1 with Synclevel none
    - Multi-segment messages
    - Execution timeouts
  - Web Service Consumer
    - Process async and sync callout request from IMS COBOL applications
- Connection Management
  - Connection pooling with persistent sockets
- Security
  - RACF userid/passwd authentication and authorization via Connect and OTMA
  - SSL, HTTPS
- XML Transformation and Tooling
  - Rational Developer for System z
    - 7.0 for IMS SOAP Gateway 9
    - 7.1.1/7.5 for IMS SOAP Gateway 10
    - 7.6 for IMS Enterprise Suite 1.1 SOAP Gateway
  - Creates WSDL for IMS transactions as providers
  - Generates converters to handle XML transformation in IMS Connect

## Rational Developer for System z (RDz)

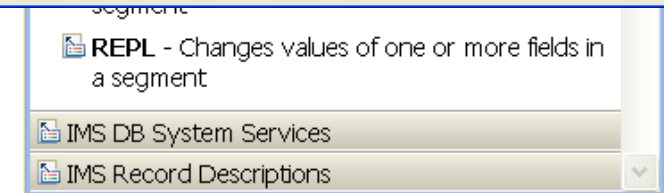
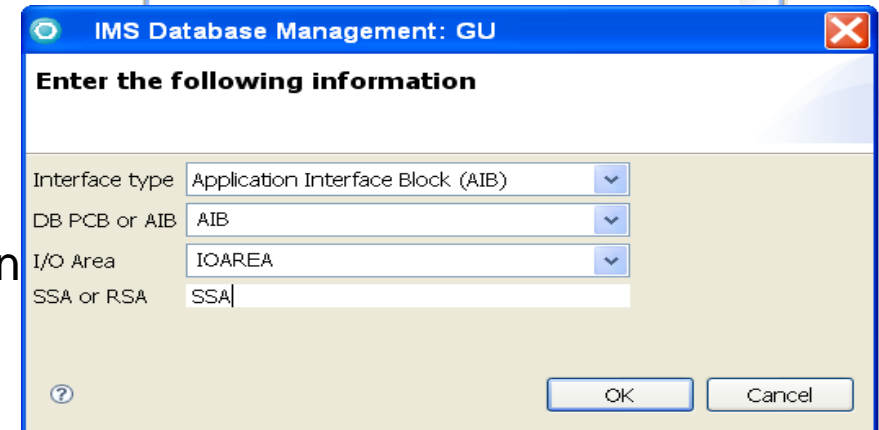
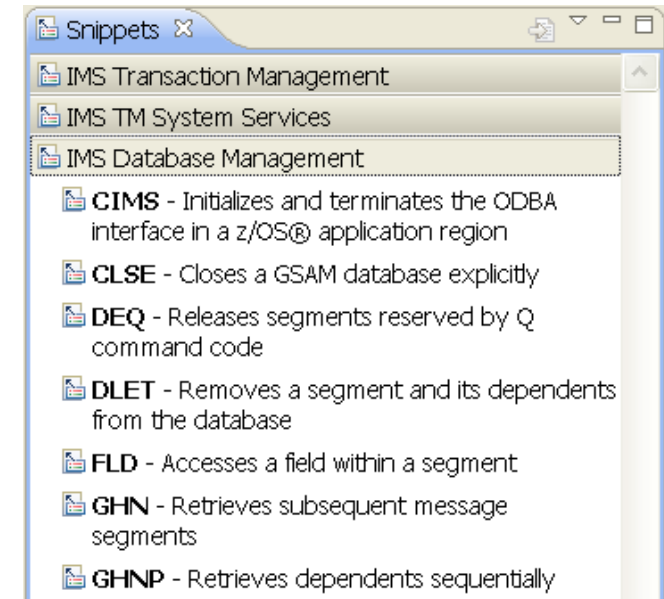
- Application development tool for modernizing and developing System z application
- Support for IMS application development
  - Code Snippet for IMS DLI calls
- Support for SOAP Gateway
  - Web Service Provider
    - Generate WSDL, XML converters and correlator files from COBOL/PLI source files
  - Web Service Consumer
    - Generate XML converters, correlator files from COBOL source and Web Service WSDL files



2 unwarranted complimentary copies are downloadable for IMS 10 and later users:  
RDz 7.1.1 at IMS SOAP Gateway 10 webpage or RDz 7.6 at IMS Enterprise Suite webpage  
through the IMS SOA Integration Suite link at <http://www.ibm.com/ims>

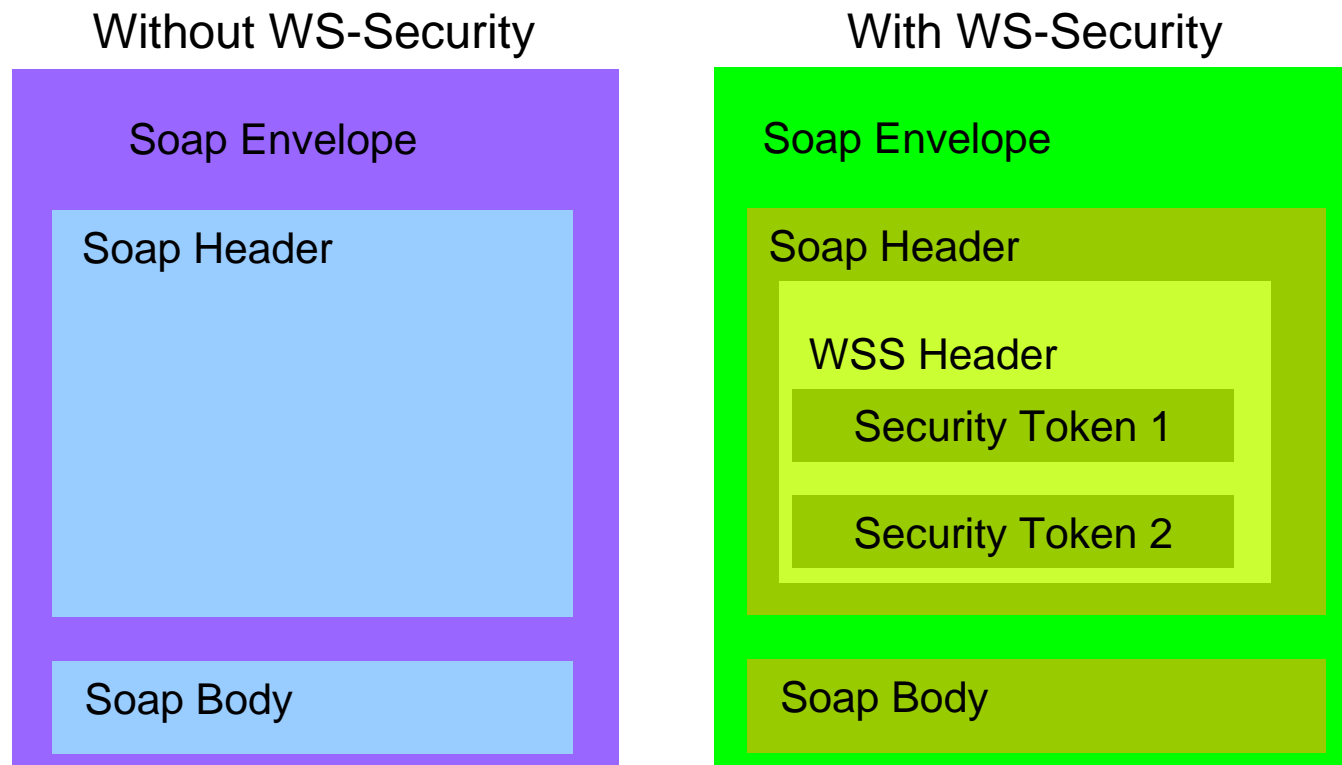
# Rational Developer for System z V7.6

- IMS V11 support
  - IMS code generation and snippet insertion (over 70 wizards to help create new IMS code)
  - Updated SOAP gateway code generation
    - Multi-segment messages
    - XMLSS statement generation for offloading
  - IMS Business Event support
- Multi-runtime enhancements
  - PL/I real-time syntax checking support
  - Expanded COBOL real-time syntax check support
  - COBOL data item tooltips
  - Content assist performance improvement (Some lab tests up to 80% faster!!!)
  - Improved project and build property usability
  - Rational Team Concert and Endeavor Integration
  - Integration with Rational Asset Analyzer



# WS-Security

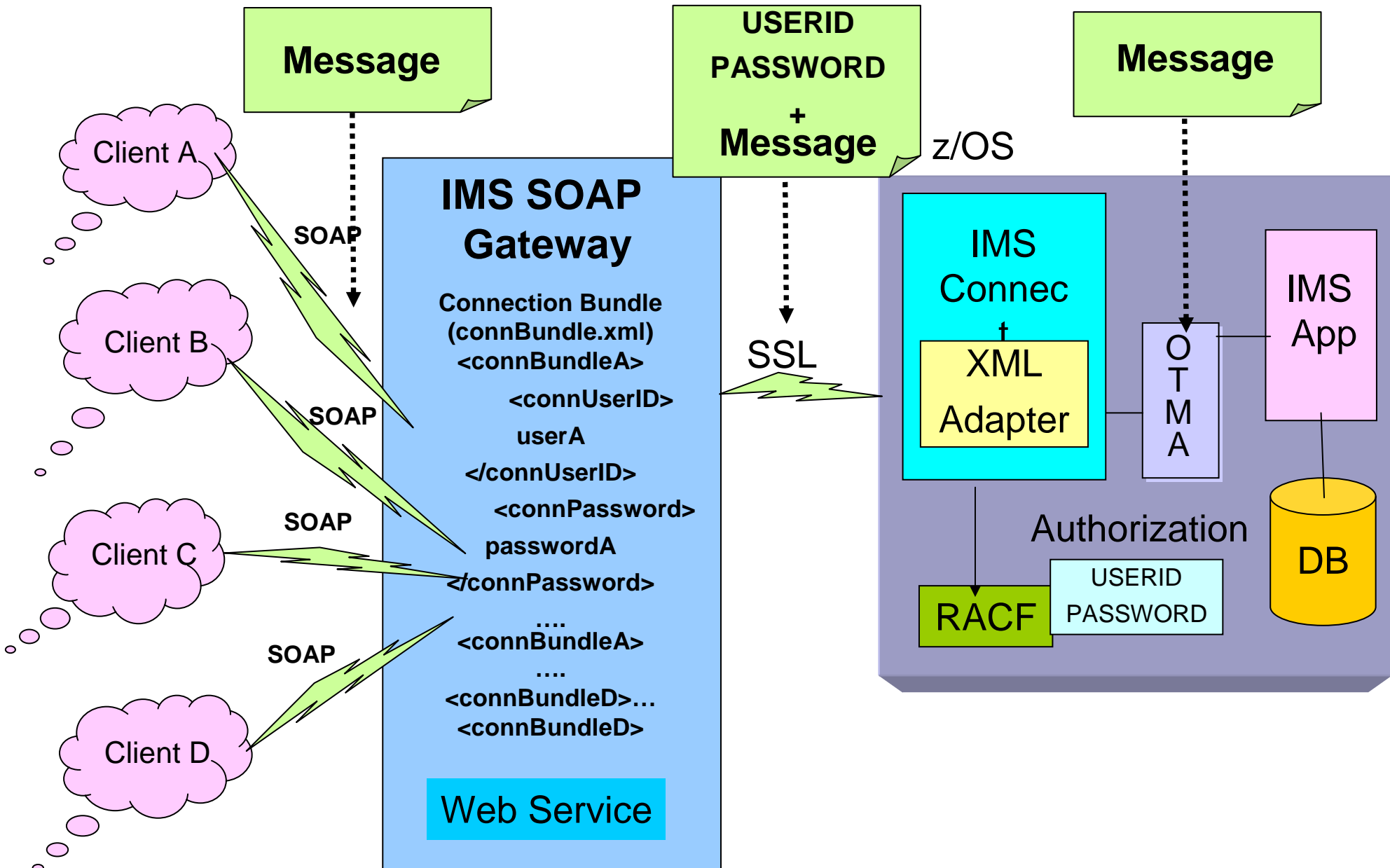
- WS-Security (Web Services Security) is a communications protocol providing a means for applying security to Web services.
- WS-Security incorporates security features in the header of a SOAP message, working in the application layer. Thus it ensures end-to-end security.



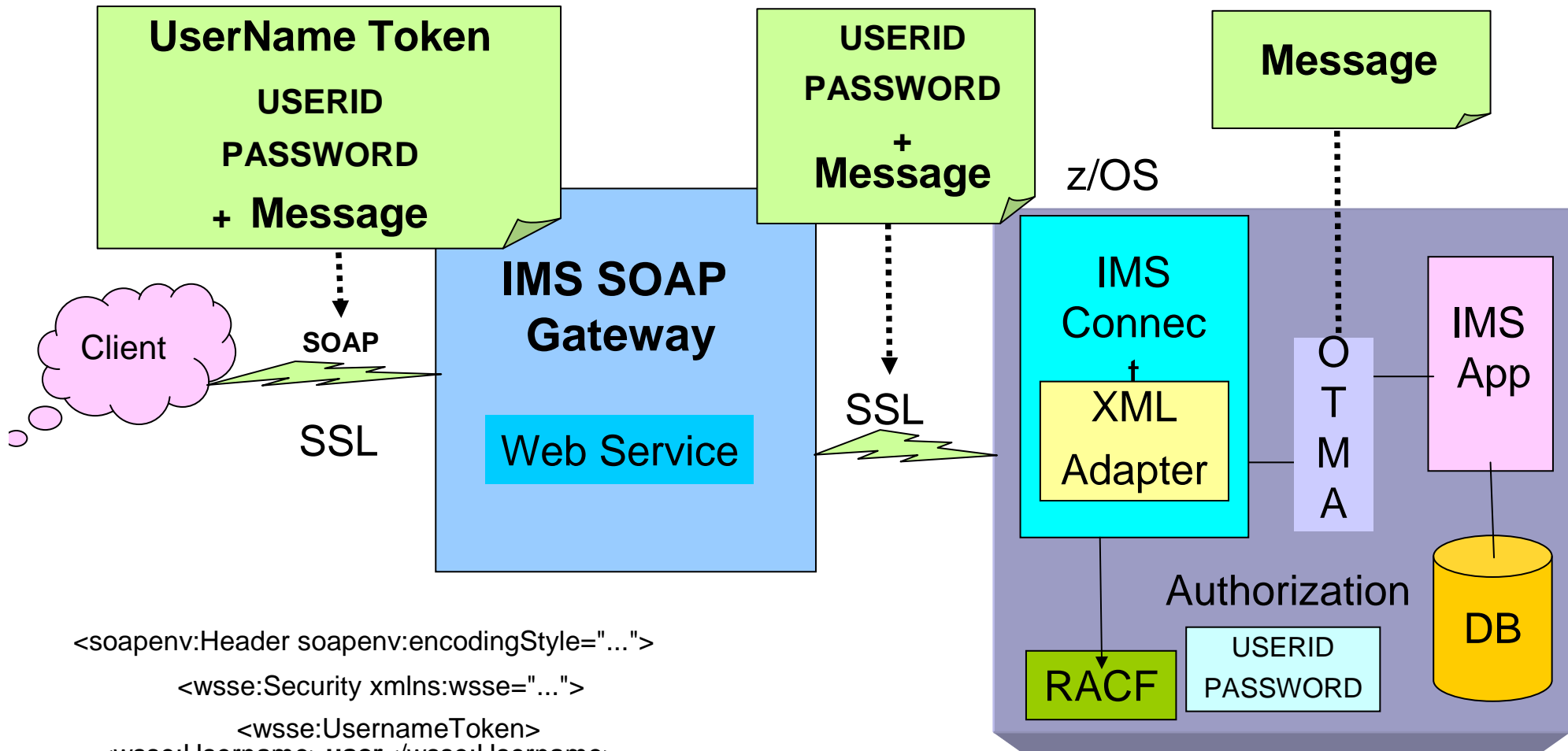
# IMS Enterprise Suite 1.1 SOAP Gateway WS-Security Support for Web Service Provider

- Solution Highlights
  - Allows dynamic security information (userid and password) to be provided on a per message basis as a UsernameToken
  - Security information would be used by IMS Connect and OTMA for authentication and authorization when invoking the IMS transactions
  - Need to combine with SSL to protect the user id and password in the SOAP Header
- Business Value
  - Enhanced security with each request (and response)

# IMS SOAP Gateway 10 Security Implementation



# IMS Enterprise Suite 1.1 SOAP Gateway WS-Security



```
<soapenv:Header soapenv:encodingStyle="...">
  <wsse:Security xmlns:wsse="...">
    <wsse:UsernameToken>
      <wsse:Username>user</wsse:Username>
      <wsse:Password Type="...#PasswordText" >
        password</wsse:Password>
    </wsse:UsernameToken>
  </wsse:Security>
</soapenv:Header>
```

**Per message**  
**At runtime**  
**End-to-end**  
**More granular**

# IMS Enterprise Suite 1.1 SOAP Gateway WS-Security

- Applies security to Web services via the communications protocol
- Incorporates security features in the header of a SOAP message
  - Working in the application layer
- Ensures end-to-end security
- Need to build WS-Security compatible messages
- Supports
  - “provider” (inbound), not “consumer” (callout)
  - userNameToken
  - Required transportation level support (SSL) to protect user id and password

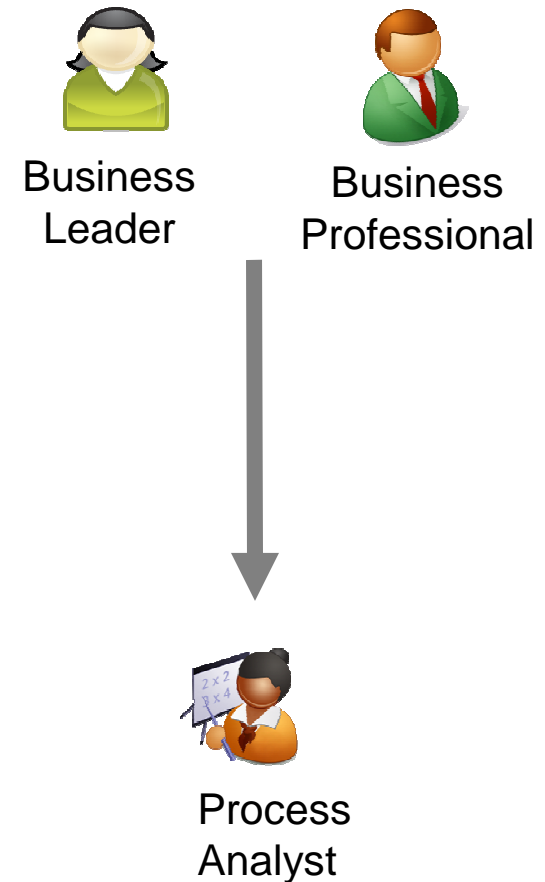




# Business Events

## *Fraud Scenario*

- **Business leader:** “There is still too much fraud”
- **Business Professional:** “We need to add extra fraud detection capability to our systems”
- **Process Analyst determines ...**
  - “Level 1 suspicious” when a customer:
    - Has 3 or more failed login attempts at the online banking site
    - Large withdrawal from an ATM within 24 hours of a PIN change
  - Three “Level 1 Suspicious” events trigger a “Level 2 Suspicious” event (no matter what original pattern caused it)
  - Three “Level 2 suspicious” events means there is a good chance that a fraud has occurred
  - Action: Initiate Fraud Investigation through alert to Business Professional



# IMS and Business Events

- Business Event
  - A notable thing happens inside or outside your business. It may signify a problem, an opportunity, a threshold, or a deviation.
- Business Event Monitoring and Processing
  - Monitoring: Provides near real-time view of business performance through business metrics and key performance indicators
  - Event Processing: Provides the ability to sense when an event or event pattern to allow information to be quickly disseminated to others for both awareness and to take appropriate action
- Why IMS Business Events
  - Leverage existing IMS assets to explore Business Event processing capability
  - Empower business users to define and proactively manage business events with easy-to-use graphical tools
  - Accelerate application development and growth, as well as ease the maintenance and change of business rules
- Business Value
  - Provides greater business agility for proven and trusted traditional System z applications
  - Deliver new value and insight from IMS transaction and data processing
  - Enables the initiation of follow-on processing based on actionable patterns of transactions
  - Provides means for coordinating information sharing across operational systems
  - Increases efficiency and effectiveness providing faster time to value

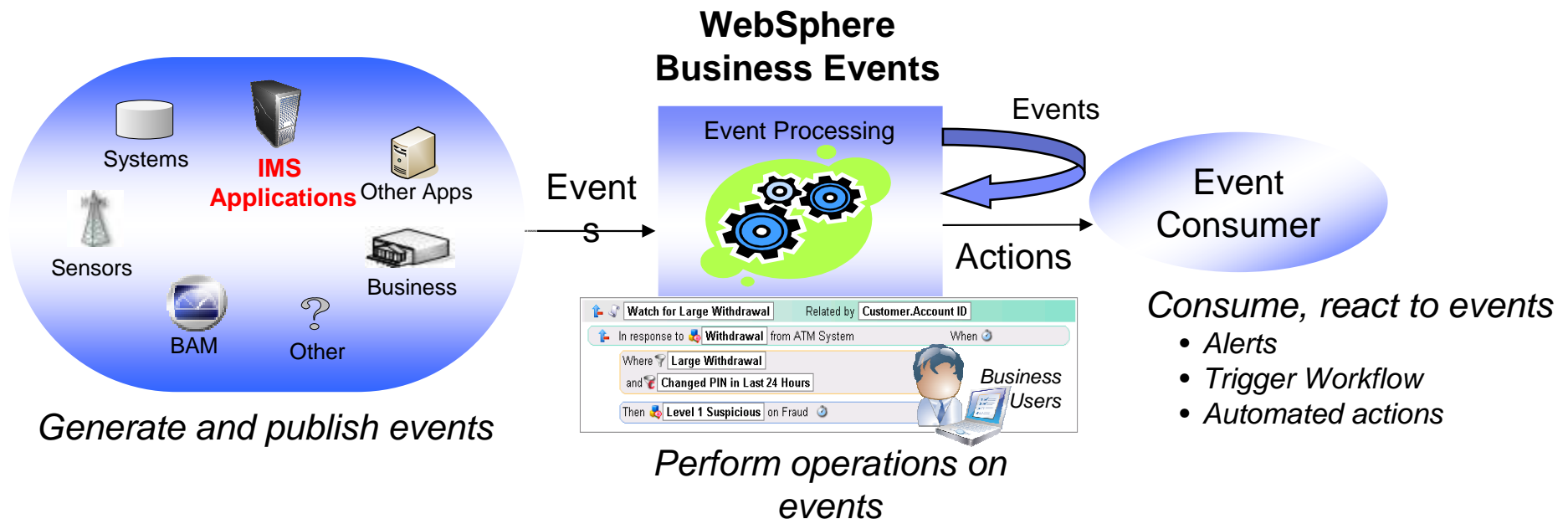
# IMS Enterprise Suite 1.1 SOAP Gateway Business Events

## Application-based Business Events

- Leverage existing IMS assets
  - Explores Business Event processing and monitoring capability
- Enable IMS application to emit business event data
  - To WebSphere Business Monitor (WBM)
  - To WebSphere Business Events (WBE)
  - Provide near real-time view of business performance and process business events and execution
- Empower business users
  - Define and proactively manage business events with easy-to-use graphical tools
- Accelerate application development and growth
  - Ease the maintenance and change of business rules

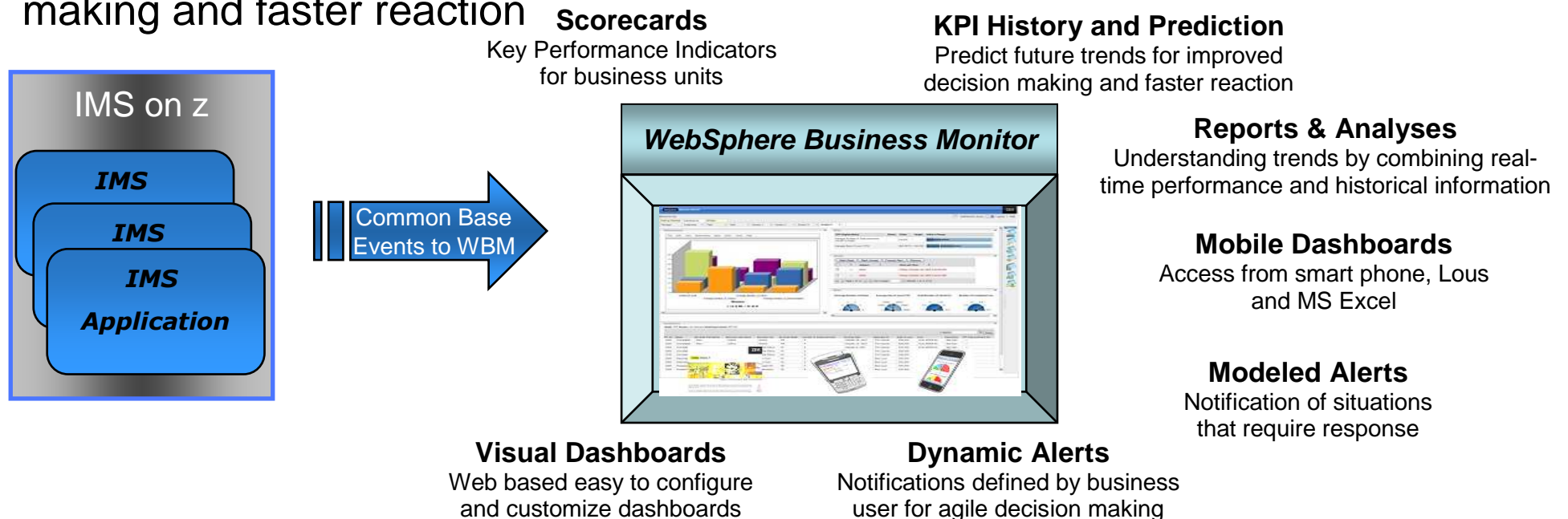
# IMS Enterprise Suite 1.1 SOAP Gateway Business Events WebSphere Business Events (WBE) Support

- Enables WebSphere Business Events (WBE) to receive business event data from IMS applications for business events processing and execution
- WebSphere Business Events
  - Empower business users to define and proactively manage business events with easy-to-use graphical tools
  - Provide the ability to detect, decide and dynamically react to both simple and complex relationships among people, events and information



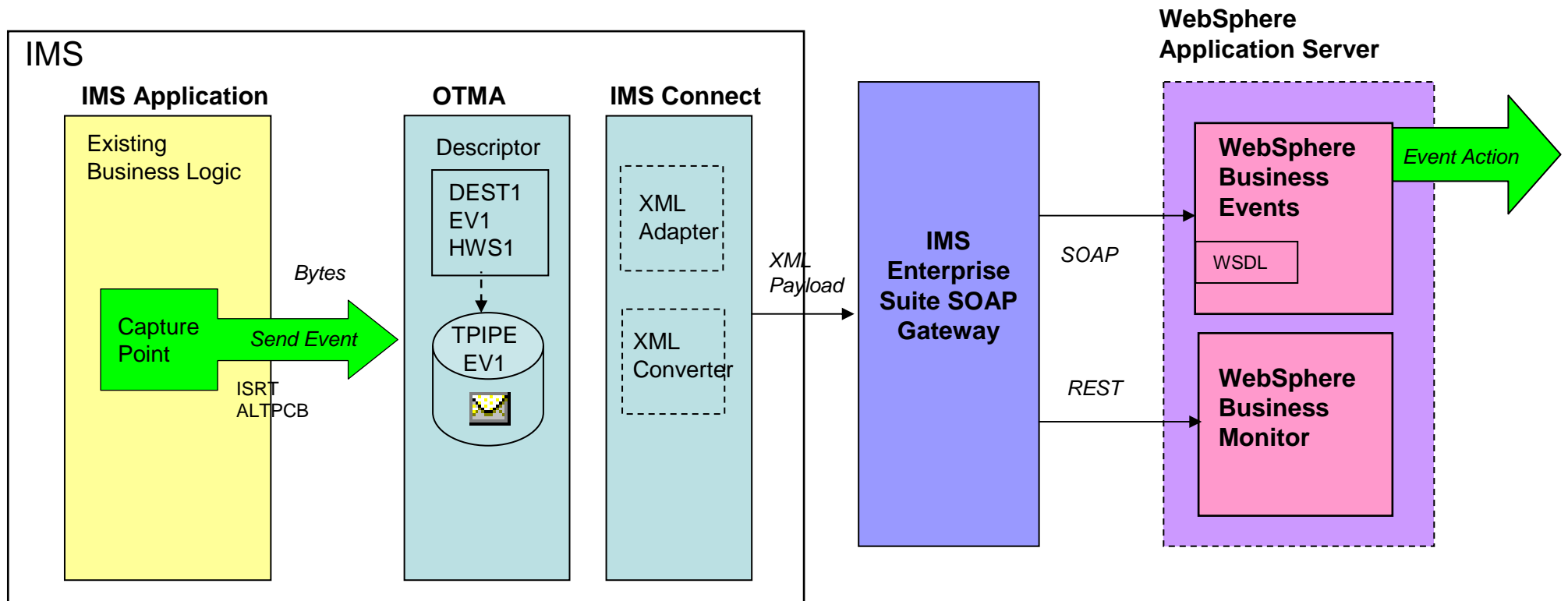
# IMS Enterprise Suite 1.1 SOAP Gateway Business Events WebSphere Business Monitor (WBM) Support

- Enables WebSphere Business Monitor (WBM) to receive business event data from IMS applications to provide business users visibility into business activities
- WebSphere Business Monitor
  - Calculates business metrics and presents key performance indicators through visual business dashboards for a near real-time view of business performance
  - Helps if something goes wrong. Alerts can be delivered to make organization or administrators aware of potential problems and proactively take directed action.
  - Can identify business problems, and predict future trends for improved decision making and faster reaction



# IMS Enterprise Suite 1.1 SOAP Gateway Business Events

- Small change to IMS application to send out business event data using ISRT ALTPCB call
  - RDz 7.6 drag-and-drop code snippet function allows user to easily make changes to IMS application
- RDz generates artifacts to convert IMS business events data to WBE/WBM formats
  - Takes IMS application source and generates XSD for WBE/WBM tooling
  - Generates converters to handle COBOL/mainframe data to WBE/WBM format (XML). IMS customer does not need to worry about data format requires by WBE/WBM
- SOAP Gateway emits business events data asynchronously to WBM and WBE
  - Emit events to WBE via SOAP or emit events to WBM via REST



# IMS Enterprise Suite 1.1 SOAP Gateway Business Events

## Prerequisites

- IMS 11
- For WebSphere Business Events:
  - WebSphere Business Events Development Toolkit Version 6.2 or later installed in Rational Application Developer
  - WebSphere Business Events Server Version 6.2 or later
- For WebSphere Business Monitor:
  - WebSphere Business Monitor Development Toolkit Version 6.2 or later installed in Rational Application Developer
  - WebSphere Business Monitor Server Version 6.2 or later
  - Rational® Developer for System z® Version 7.6 or later for generating the required artifacts.

## IMS Enterprise Suite 1.1 SOAP Gateway Business Events

- Target Market
  - IMS TM customers wanting to exploit Business Activity Monitoring (BAM), Business Process Management (BPM) and Business Event Processing
- Challenge Addressed
  - Enable IBM business event, rules and monitoring engines to receive business event data from IMS applications
- Solution Statement
  - By making small code changes, IMS applications can emit business event data asynchronously to IBM WebSphere Business Monitor (WBM) and WebSphere Business Events (WBE) through IMS SOAP Gateway and IMS Connect
- Business Value
  - Leverage existing IMS assets to explore Business Event processing capability
  - Empower business users to define and proactively manage business events with easy-to-use graphical tools
  - Accelerate application development and growth, as well as ease the maintenance and change of business rules
  - Provide business users visibility into business activities, to perform real-time business events processing and execution




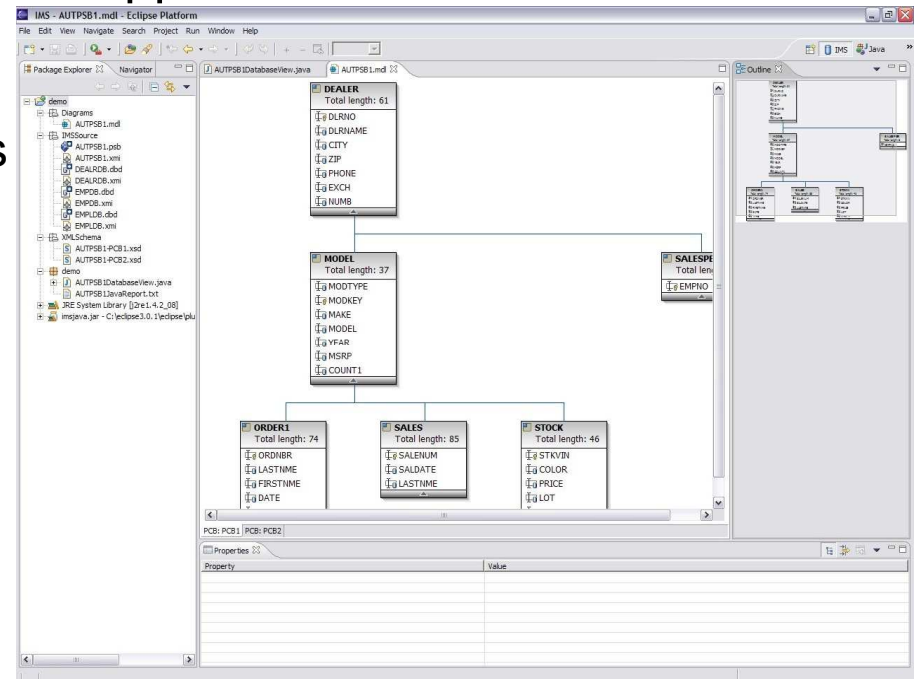
# IMS Enterprise Suite DLIModel Utility Plug-in

# IMS Enterprise Suite 1.1 DLIModel Utility Plug-in

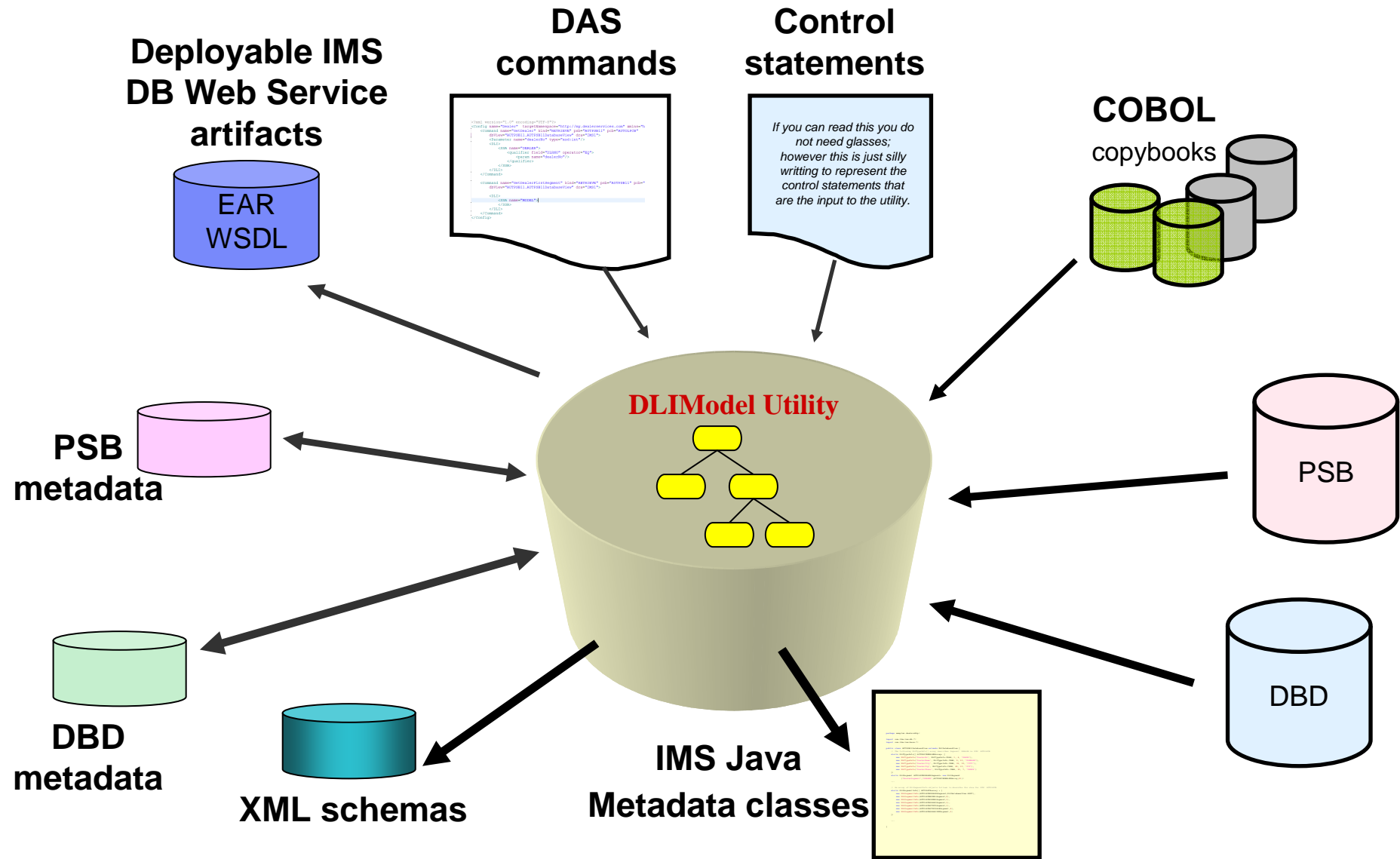
- Target Market
  - Customers migrating to new IMS DB technologies to modernize existing IMS applications, enable Web access to IMS data, and visualize IMS database and program definitions.
  - Customers currently using IMS DLIModel utility Plug-in.
- Challenge Addressed
  - Customers struggling with how to generate data, setup and write new applications using the new IMS DB technologies.
  - Customers needing to obtain the appropriate version of Open Source code on their own before they can use the DLIModel Utility Plug-in.
  - Customers being unable to generate the IMS metadata using existing PL/I data structures to redefine field layout in each segment.
- Solution Statement
  - Enhance current functionalities with simplified installation process, PL/I include import, and enhanced IMS metadata generation and view in a consumable package ready to use upon download.
- Value
  - Ease data transformation, data integration, and tooling installation for IMS DBA, System or Application programmer.
  - Assist DLIModel utility to seamlessly shell-share with other IBM Eclipse-based products

# IMS 10 DLIModel Utility Plug-in

- IMS database visualization tool
  - Visualize an entire IMS PSB
    - Can view and print each PCB individually
      - Hierarchy, segments, fields, types, etc
- IMS database metadata generation tool
  - Generates the necessary metadata that is consumed at runtime by IMS JDBC driver and XML-DB support
    - Database metadata
    - XML schema
    - EAR and WSDL for IMS DB Web Services
- Bottom-up tooling approach
  - Parses PSB and DBD source
    - Optionally handles COBOL copybook definitions of segments
- An Eclipse 3.x plug-in 



# IMS 10 DLIModel Utility Plug-in Overview



# IMS Enterprise Suite 1.1 DLIModel Utility Plug-in

- **Graphical User Interface (GUI)**
  - Leverage Eclipse, Eclipse Modeling Framework (EMF) and Graphical Editor Framework (GEF)
  - Can be installed as a stand-alone function or on top of other Eclipse based products (i.e. RAD 7.5, RDz 7.5, Data Studio) **using IBM Installation Manager**.
- **IMS Database Visualization Tool**
  - User can visualize an entire IMS PSB and DBD in a multi-page graphical editor.
    - Each PCB can be viewed, saved and **printed** individually. Each PCB editor shows the IMS DB hierarchy with the segments, fields, field types, etc.
  - User can also **search** an entire IMS PSB for a specific PCB, segment, or field.
- **IMS Database Metadata Generation Tool**
  - It has been used to generate the necessary metadata that is consumed at runtime by the IMS Universal driver, XML-DB, XQuery and IMS DB Web services.
    - **DLIDatabaseView for IMS Universal driver**
    - XML schema for XML DB and XQuery
    - Deployable artifacts (EAR and WSDL files) for IMS DB Web services via the DAS commands in a syntax assist and syntax highlight editor.
  - This tooling currently uses a bottom-up approach, parsing PSB and DBD source using either Control statements or Wizard panels. User can optionally import COBOL copybook and **PL/I Include** definitions to define field layouts for each segment.

**IMS Enterprise Suite 1.1 DLIModel Utility Plug-in additions**

## IMS Enterprise Suite 1.1 DLIModel Utility Plug-in enhancements Provided through the Service Stream for IMS 10/11 users

### Solution (PM05637)

- Support is added to the DLIModel Utility for Double Byte Character Support (DBCS)
- Support COBOL DBCS PIC G(n)
- Support CCSID for national language processing and interchange
- Remove OVFL error message for HISAM DBD
  - root segment only DBD and no OVFL statement

### Value

- Improve usability and simplify installation

# IMS Enterprise Suite 1.1 DLIModel Utility Plug-in

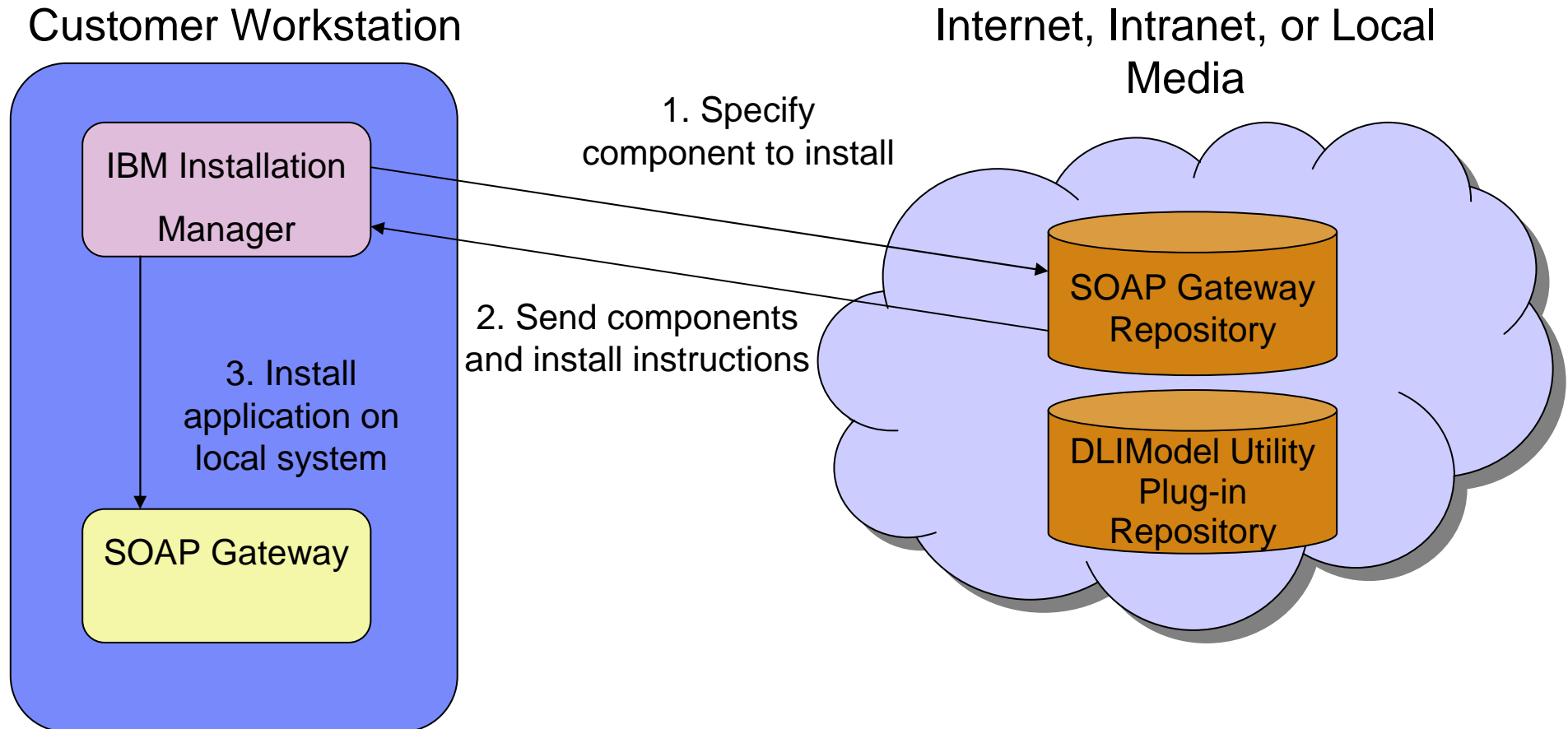
## Prerequisites

- IMS Version 10 or later
- IBM SDK for z/OS, Java 2 Technology Edition, v6.0 or later
- PSB and DBD sources have been GEN and validated.
- COBOL copybooks and PL/I includes have been validated.
- (*Optionally*) Customers can use Rational Application Developer (RAD) or Rational Developer for System z (RDz) to import COBOL or PL/I data structures.

# IMS Enterprise Suite Installation



# IMS Enterprise Suite 1.1 IBM Installation Manager



# IMS Enterprise Suite 1.1 Ordering and Migration Considerations

## Obtaining the IMS Enterprise Suite 1.1

- Through the standard order process
  - Maintenance is delivered via Shop zSeries
    - Includes RSU levels
  - As with all orderable products, registration is required
    - Via official product order and licensing
- Through the IMS SOA Integration Suite link at <http://www.ibm.com/IMS>
  - Full replace maintenance supplied from the IMS SOA Integration Suite
    - RSU level maintenance is not applicable to Web download version
  - SMP Maintenance requires individual PTFs be pulled from DLL

## Migration Considerations

- End of service for predecessor products/components would occur along with their associated IMS versions:
  - IMS Soap Gateway for IMS 9/10
  - IMS 9/10 z/OS Batch Utility
  - IMS 10 DL/I Model Utility Plug-in

# IMS Enterprise Suite 1.1 Installation/Maintenance

## ■ Solution Statement

- For z/OS installations the product can be managed and ordered using standard ordering and installation processes (Shop z and SMPE), including for any required open source
- Use of IBM Installation Manager for installations on the distributed platforms

## ■ Business Value

- Reduces errors during installation due to invalid maintenance application by converting to SMP/e packaging
- Reduces cost to customers by conforming to a standard installation process

# IMS Enterprise Suite for the zEnterprise

# IMS Enterprise Suite for the zEnterprise

zEnterprise System enhancements can benefit IMS TM and IMS DB users:

- Running WebSphere Servers with the IMS Resource Adapters, Universal Drivers, the IMS Enterprise Suite SOAP Gateway, or IMS Enterprise Suite Connect API for Java or for C on zBX to and from IMS through local high-speed communication channels could improve performance, simplify management, and eliminate the need for additional security for that connection.

## IMS and zEnterprise Scalability

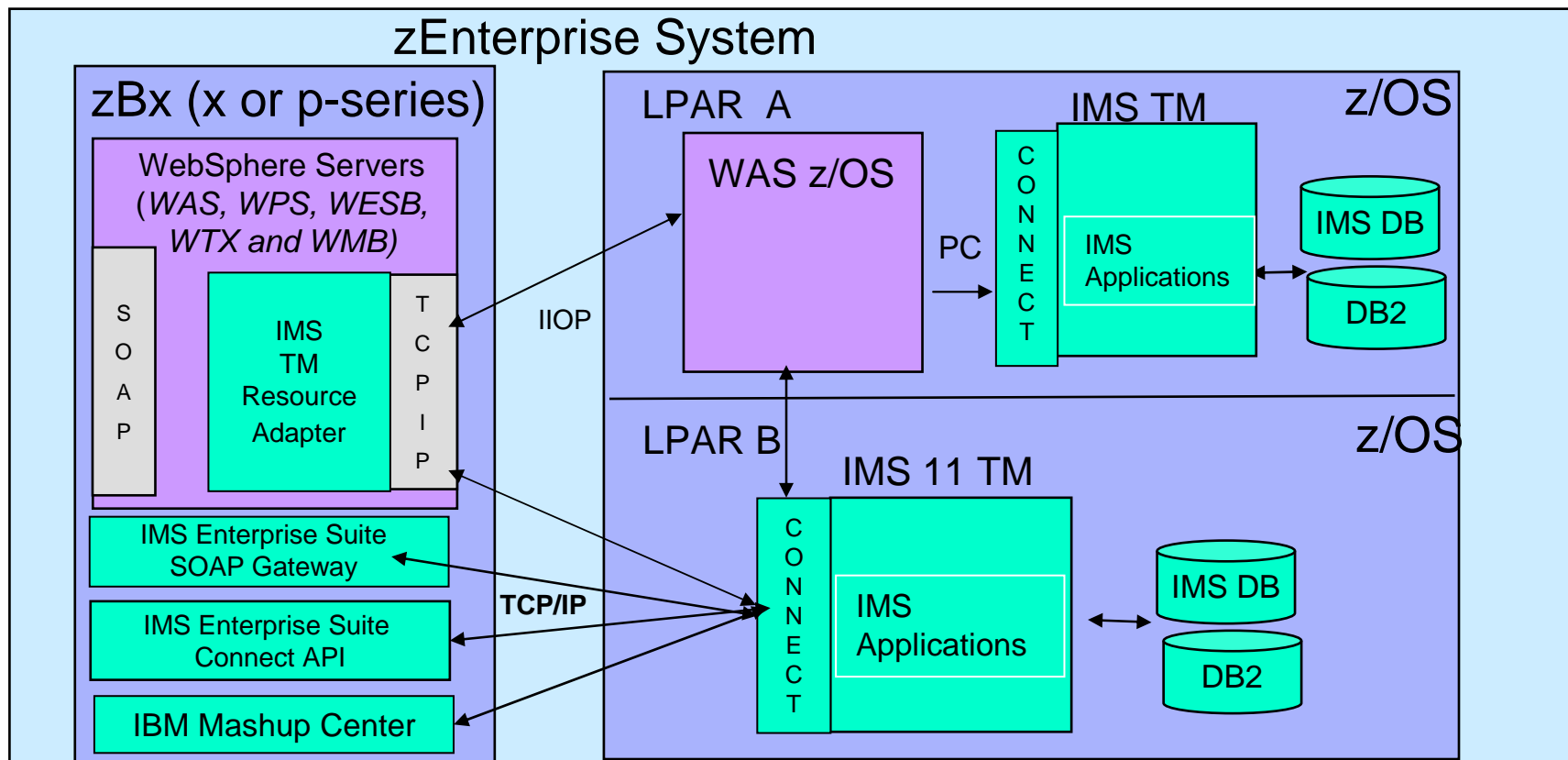
- Current performance information suggest IMS users should be looking for a performance boast as a result of zEnterprise performance improvements over z10
  - Where performance testing on zEnterprise Systems find bottlenecks, additional IMS improvements would be implemented.
- IMS MIPS reduction items would also be implemented

# Best of All Worlds: Application Integration with IMS 11

Business Flexibility: Extending Application Access and Use with Standard Tools/Interfaces to Modernize, Speed, Enrich and Ease Use

Addressing businesses that rely on applications in IMS that want:

- Local and Distributed access to and from IMS TM applications with industry standard interfaces
- Broad Integration and Application Development, using standard, state of the art tooling
- Cost efficiencies, Application Growth, Ultra-high Availability, Security and Resilience with the Power of z
- WAS on zBX to and from IMS applications through local high-speed communication channels could improve performance, simplify management, and eliminate need for additional security.

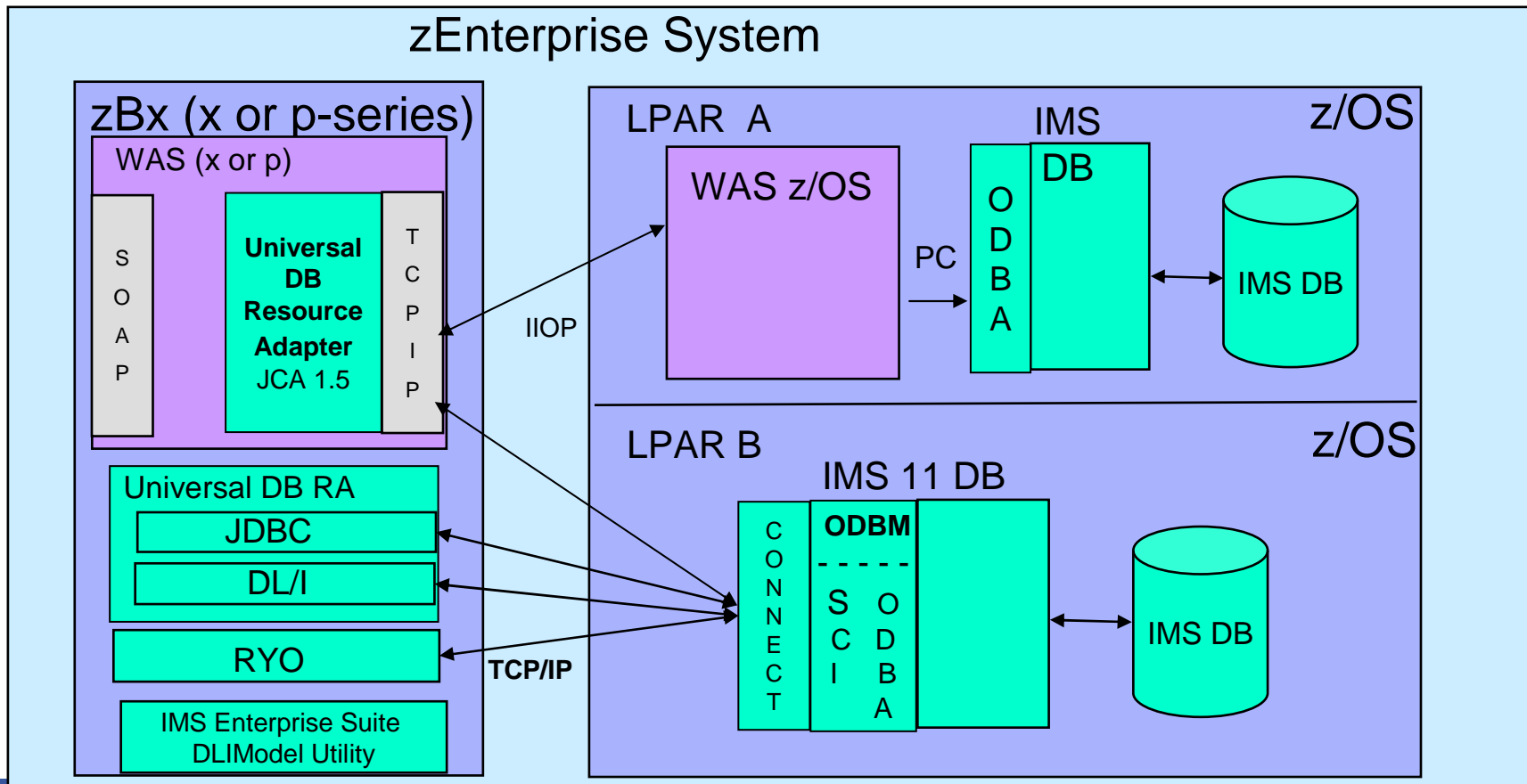


# Best of All Worlds for Data Access with IMS 11:

Business Flexibility, Enabling Cost Efficient Growth, Resilience, and Direct Data Access

Addressing businesses that rely on data stored in IMS that want:

- Direct, distributed access to IMS DB with language independent interfaces
- Broad Integration and Application Development, using standard, state of the art tooling
- Cost efficiencies, Application Growth, Ultra-high Availability, Security and Resilience with the Power of z
- WAS on zBX to IMS data through local high-speed communication channels could improve performance, simplify management, and eliminate additional security for that connection



# IMS Enterprise Suite Continuing...



## IMS Enterprise Suite Continuing...

- Extend access to IMS applications/data
  - SOAP Gateway enhancements PM22798
- Enhance IMS application development/deployment
  - Explorer Technology Preview
- Provide easier to use interfaces, APIs
  - Connect API requirements
- Continue to enrich functionality
- Provide additional support with WebSphere/Rational tools

# IMS Enterprise Suite 1.1 SOAP Gateway Enhancements

## Being provided through the Service Stream for IMS 10/11 users

### Solution

- Add Top-Down support to enable creating of IMS artifacts/code templates from WSDL
- Enhance security to support SAML 1.1, ACF2, CS PKI, Custom authorization API, Mutual Authentication
- Support multiple operations per service
- Relieve performance bottlenecks and provide performance enhancements for both provider and consumer
- Deployment Utility (API, Batch)/Admin Console enhancements
- AT-TLS support

### Value

- Enhanced security
- Enhanced performance (provider and consumer)
- Offers more flexibility with Top-Down providing another option for building web services
- Single consistent Deployment Utility mode provides enhanced convenience and automation support

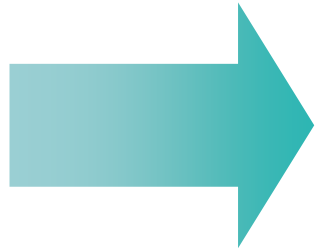
# IMS Enterprise Suite SOAP Gateway Using Rational Developer for z (RDz)

## Requirements

- Top-down consumer and runtime enhancements
- Security enhancements for consumer
- Hostname verification/SAF userid check for provider scenario using AT-TLS
- Enhance multi-operations for WS-Security and WSDL
- Enhanced transaction tracking, performance monitoring and auditing

## IMS Enterprise Suite Explorer...

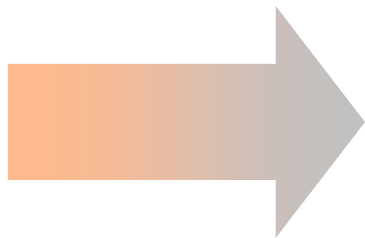
### Simplifying IMS Application Development/Deployment



Provides an easy-to-use interface to simplify common IMS application development tasks



Offers graphically-driven editors to display and update IMS program and database definitions, including logical relationships and secondary indexes



Provides Graphical interface to easily access and manipulate IMS data using standard SQL



Initially available as a Technology Preview at <http://www.ibm.com/ims>

# IMS Enterprise Suite Explorer...

## Simplifying IMS Application Development/Deployment

The screenshot displays the IMS Enterprise Suite Explorer interface. At the top, there are tabs for SQL scripts: \*Script1.sql, \*Script2.sql, \*Script3.sql, and \*Script5.sql. The main window is divided into several panes:

- SQL Query Pane:** Contains the query: `SELECT HOSPNAME, HOSPCODE, HOSPLL FROM PCB01.HOSPITAL`.
- Database Schema Diagram:** Shows a hierarchical view of database objects. The 'DEALERDB' database contains tables like DEALER, MODEL, SALES, STOCK, and SALESINF. The 'EMPODB' database contains tables like EMPL, SALESEMP, and EMPLINFO. Relationships are indicated by lines and arrows.
- Table Properties Pane:** Shows the 'HOSPITAL' table with columns HOSPCODE, HOSPLL, and HOSPNAME. It includes options for DISTINCT, Columns, Conditions, Groups, and Group Conditions.
- SQL Results Pane:** Shows the execution results of the query. It includes a table with columns: Status, Operation, Date, HOSPLL, HOSPCODE, and HOSPNAME. The results show four rows of data.
- Table Detail Pane:** Shows a detailed view of the 'DEALER' table, listing its fields: DLRNO, DLR-NAME, CITY, ZIP, and PHONE. It also shows other tables like MODEL, SALES, STOCK, and SALESINF with their respective fields.

Annotations and arrows highlight key features:

- An arrow points from the SQL Results pane to the text: "Generate SQL to access IMS data".
- An arrow points from the Table Detail pane to the text: "Edit PSB sensitive segments and attributes".
- An arrow points from the Database Schema Diagram to the text: "See database relationships change DBD field attributes".



# IMS Enterprise Suite Connect API

## Requirements

- Callout
- Additional language support (eg. C#)
- SSL support

# IMS Enterprise Suite Additional Information

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

- Presentations, Papers, Newsletters, Fact Sheets, Announce Letters, Technical Support Information, Information Roadmap, Training and Certification, Events, and Additional Documentation, plus
  - **IMS SOA Integration Suite** -- presentations/demos/download code  
Includes IMS Enterprise Suite 1.1
  - **Information Center** - enables search across IMS, DB2 and Tools documentation
  - **Examples Exchange**
  - **DeveloperWorks**
- Redbooks/Redpieced - Release Guides, Sysplex Guides, Java Guides, etc
  - **IMS Connectivity In an On Demand Environment** 
  - **IMS 11 Technical Overview SG24-7807** - Includes IMS Enterprise Suite 1.1
  - **IMS Version 11 Open Database SG24-7856**
  - **An Introduction to IMS** book 
- WW IMS Conferences and Seminars
  - **IMS Seminars coming to a city near you**
  - **IMS User Groups**
  - **IMS Teleconferences, with replays available**
- Additional technical support info at [www.ibm.com/support/techdocs](http://www.ibm.com/support/techdocs) (search on IMS)
- Migration, skills transfer, customized offerings at [ibmdds@us.ibm.com](mailto:ibmdds@us.ibm.com)



# IMS COBOL/PL/I/Java Application Development Workshop Overview

## **Unique Offering**

- Free lecture and hands-on lab exercises using latest application development tools for System z.

## **Workshop Description:**

- Learn how to more easily modify, enhance and extend your current COBOL/PL/I/Java applications for IMS using the latest application development tools for System z including Rational Asset Analyzer, Rational Developer for System z, IMS Enterprise Suite DLI Model Utility and IMS MFS Web enablement.

## **Target Audience:**

- Application Architects and Application Developers who are responsible for maintaining and enhancing COBOL/PL/I/Java applications for IMS.

Contact: [thinkims@us.ibm.com](mailto:thinkims@us.ibm.com)

# The Message

- IMS continues to be a premier server with architected standard interfaces
  - New products/tools from a variety of vendors provide access to IMS transactions/data

- **SOA is revolutionizing the way businesses are being designed and run. For it to make sense:**
  - *All assets must be easily accessible in a standard way*
  - *All data must be represented and manipulated in a standard way*
- **Our goal is to leverage IMS as an integral part of the enterprise in the evolving business world through**
  - *Addition of support for complimentary standards surrounding IMS connectivity, data representation, and application development*
- **And to allow you to realize the promises of building a Service Oriented Architecture:**
  - *Simplify the business environment*
  - *Respond to market changes more quickly and cheaply*



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