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WebSphere Data Interchange *for* Multi-Platforms and z/OS v3.2 *Technical Overview*

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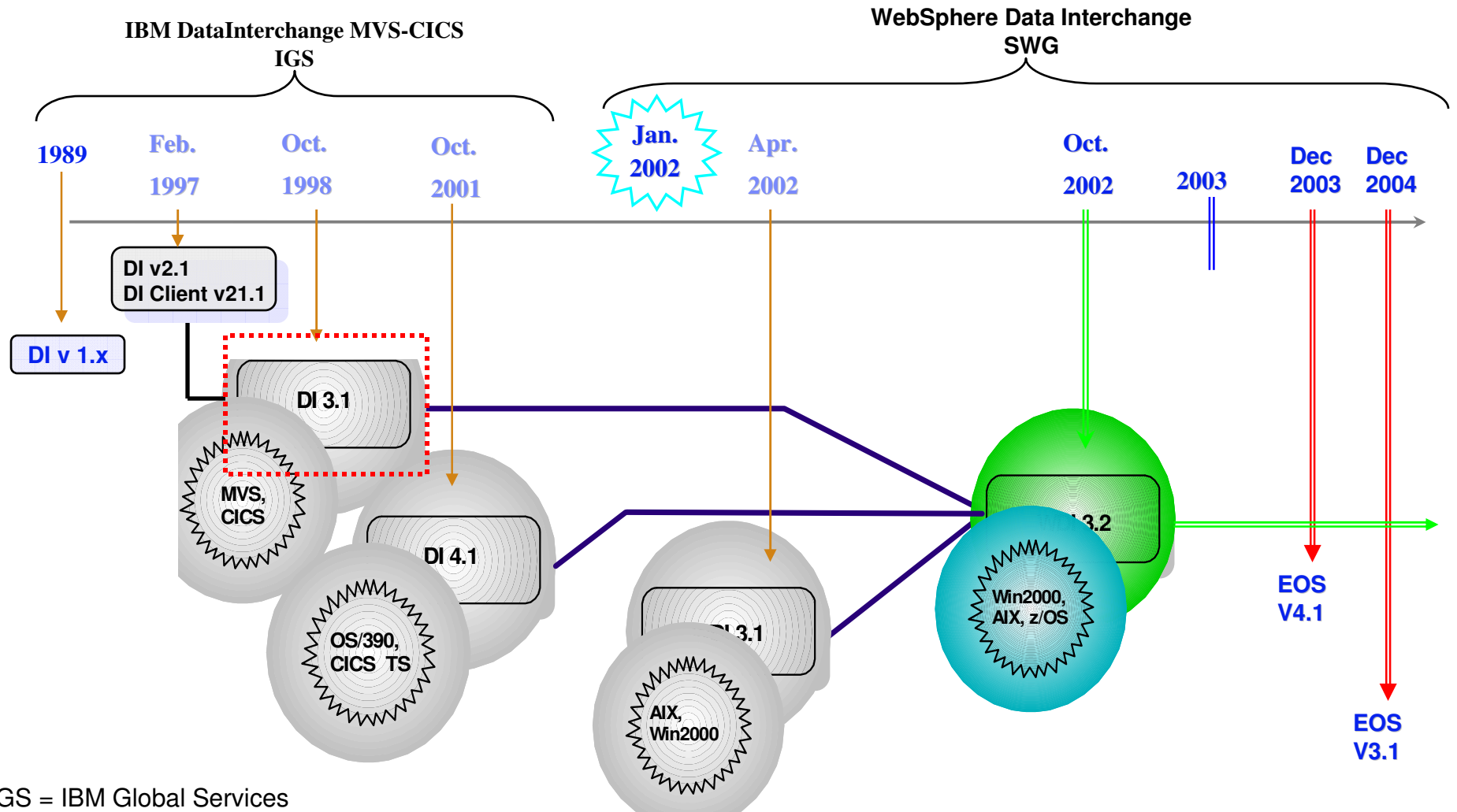
The logo for e-business software, featuring a stylized '@' symbol followed by the text 'business software'.

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Topics

- WebSphere Data Interchange Overview
 - System Architecture Overview
 - Support Pack for HIPAA
- Education & Consulting
- 3.1 to 3.2 Migration
- Q&A

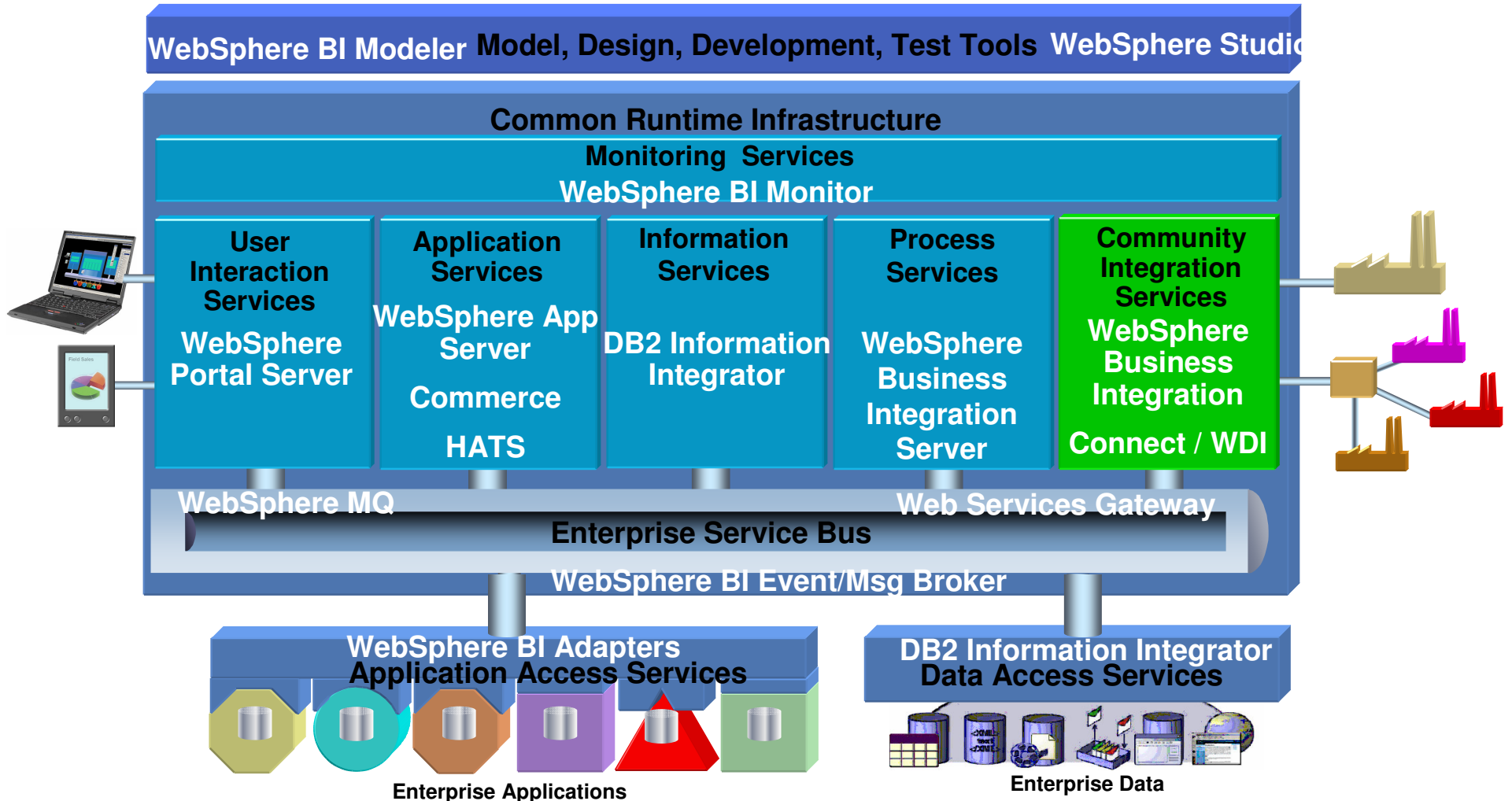
DI-WDI Product Announcements: Chronology



IGS = IBM Global Services
 SWG = IBM Software Group (WebSphere)

Business Integration Reference Architecture

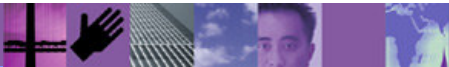
Well Architected Offerings



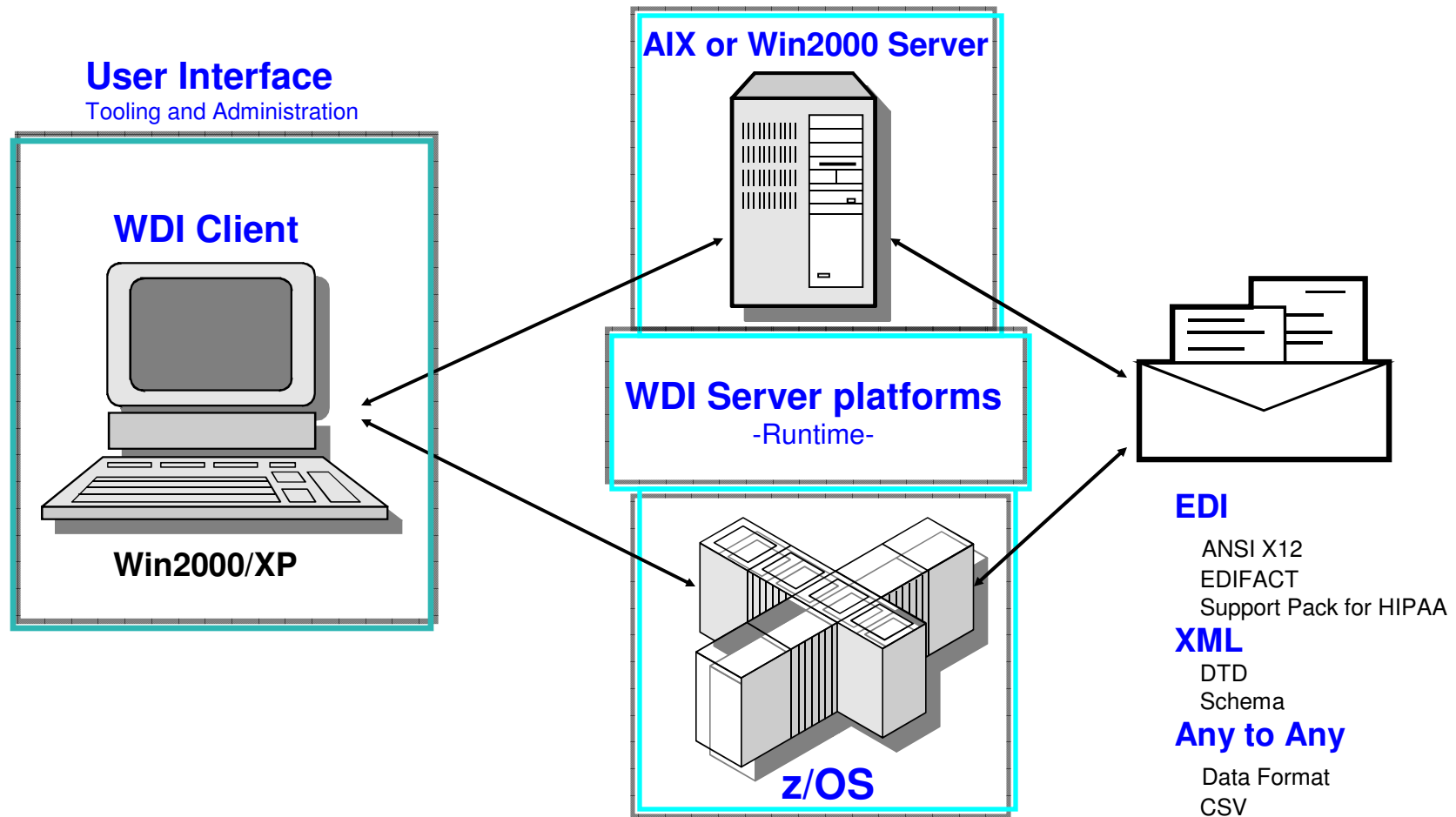
WebSphere Data Interchange v3.2: Overview

- WDI is a Data Transformation application
 - Allows for integration of EDI (electronic data interchange) into the
 - business process and
 - Internet-based B2B capabilities provided by the WebSphere family, for a seamless, integrated EDI Solution.

- WDI also transforms record oriented data into XML and vice-versa as part of an application integration strategy



WebSphere Data Interchange v3.2: Components



WebSphere Data Interchange v3.2: Overview

Main Components:

➤ Data Mapping Tool

WDI Client

common user interface for Multiplatforms and z/OS servers
create and deploy maps, add Trading Partners

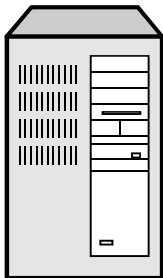


➤ Data Translation application

WDI v3.2 Server (W2K, AIX and z/OS)

Provides translation of data from one format to another i.e. EDI (X12, EDIFACT), XML or
Application Data Formats (User Data)

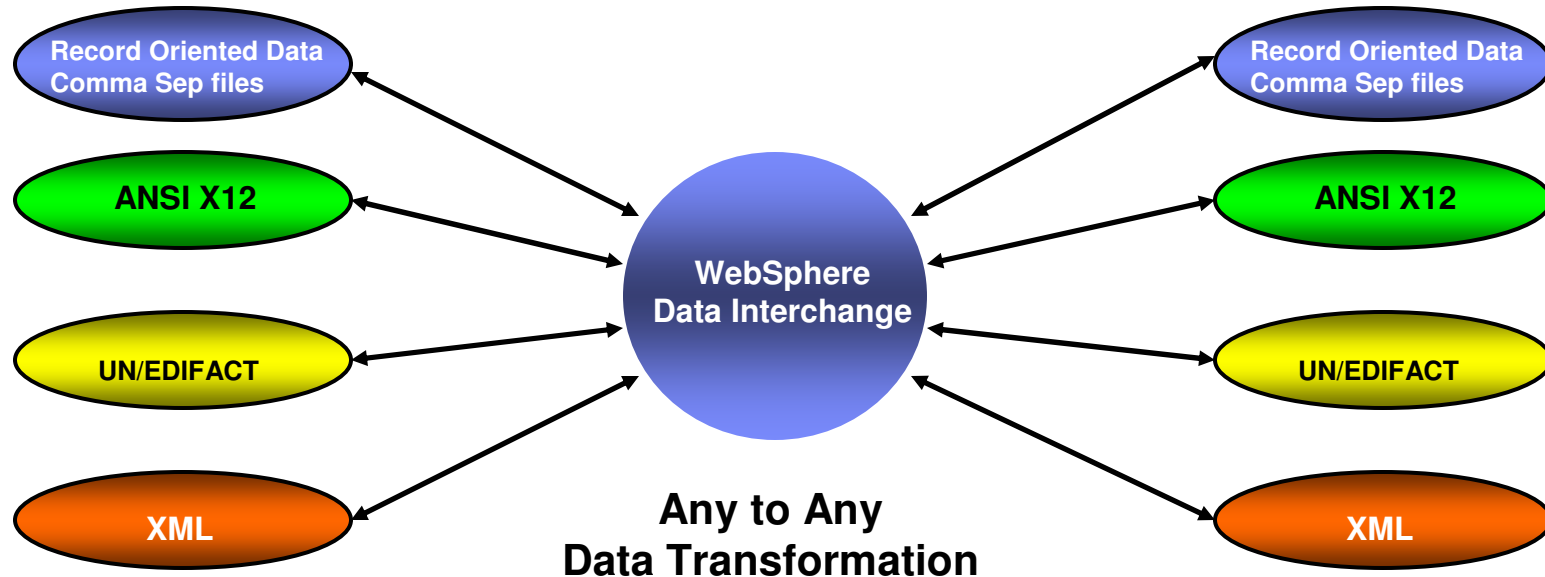
Native application formats can be mapped directly to a standard, without intermediate
formatting or programming steps



WDI Server

- Customize data standards to fit business needs
- Manage transactions securely and efficiently
- Utilize WebSphere MQ message queuing and other communications methods
- Integrate with existing applications i.e. WebSphere MQ Integrator

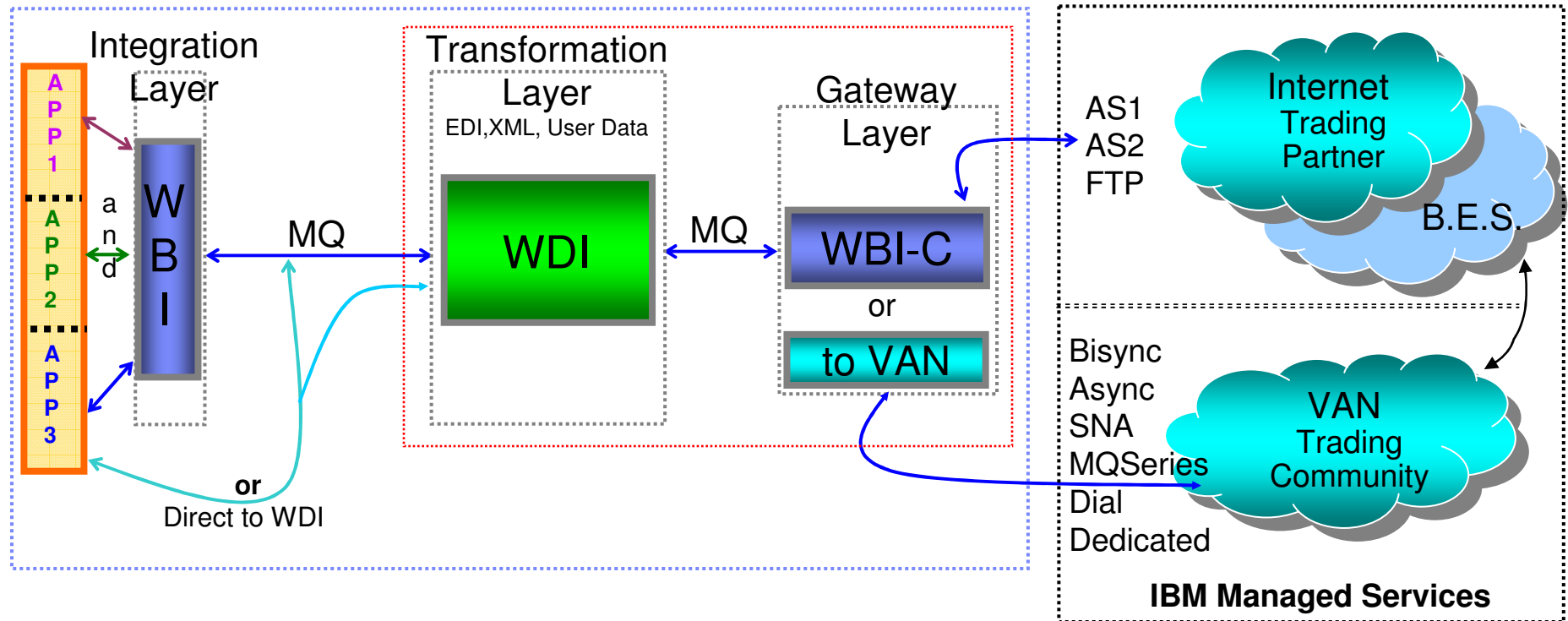
WebSphere Data Interchange v3.2: Translation Support



Standard	X12	UN/EDIFACT	Subsets	XML	ODETTE	UNTDI	Support Pack For HIPAA
WDI Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Deployment Options

Your Enterprise on WebSphere BI



WBI = WebSphere Business Integrator
 WDI = WebSphere Data Interchange
 WBI-C = WebSphere Business Integration-Connect
 VAN = Value Added Network (I.e. IBM EDI Services)
 BES = IBM Business Exchange Service



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WebSphere Data Interchange for Multiplatforms *and* z/OS v3.2

(Features and Functionality)



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Functionality Highlights

- **Multi-process** capable
 - Support for concurrent users and applications
- **Compiled maps**
 - Byte-code representation
 - Reduces I/O operations, improves performance
- **One-Pass Inbound translation**
 - adds mapping flexibility
- **Execute from command line or API**
 - Application program interface (API) to integrate directly with your application
- **Event driven**
 - WMQ trigger program included with WDI MP version
 - CICS (z/OS version)
- **Continuous throughput API**
 - High performance option, start and forget

- **Mapping support includes:**
 - Any-to-any mapping
 - XML Schema/DTD import
 - Literals/constants
 - Accumulators, arithmetic and logical operations
 - Qualified loop and element mapping
 - Hierarchical loop mapping
 - Envelope field mapping
 - User exits at the field level
 - User-defined translation and validation tables
 - Boolean logic
 - Deferred Mapping, Special Logic (DIMAPSWITCH, DIMAPCHAIN)
- **Trading Partner Maps**
 - Specific; One to many (shared); Multiple versions
 - Migration – Between Standards & Systems
- **EDI Reporting and Auditing**
 - Trading partner relationships including
 - transaction sets used
 - last communication exchange
 - Envelope and transaction status Exception information
 - SAP status for online and batch processing
 - Management (statistical) reporting



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WebSphere Data Interchange for Multiplatforms *and* z/OS v3.2

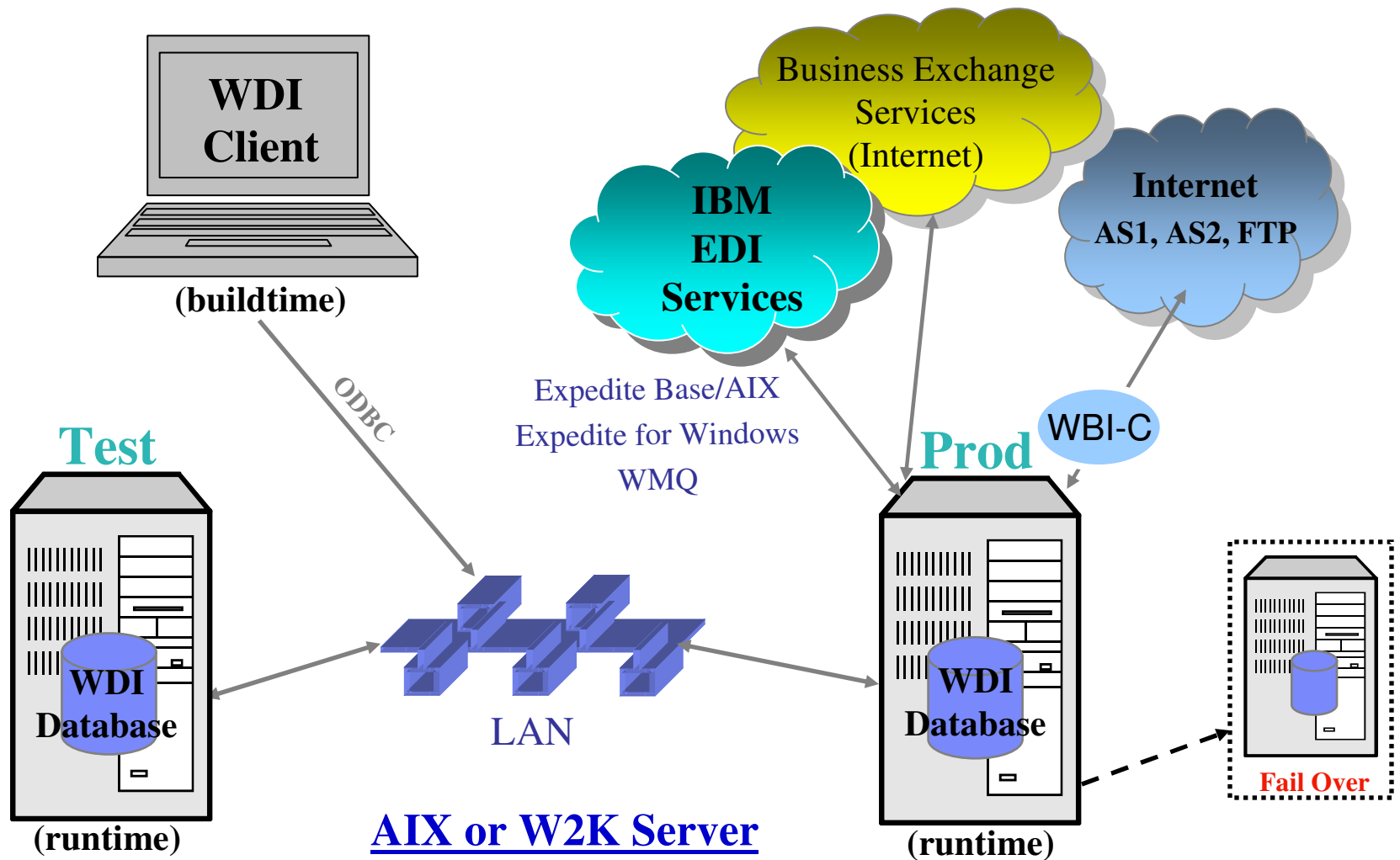
Components
runtime server



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WebSphere Data Interchange for Multiplatforms v3.2

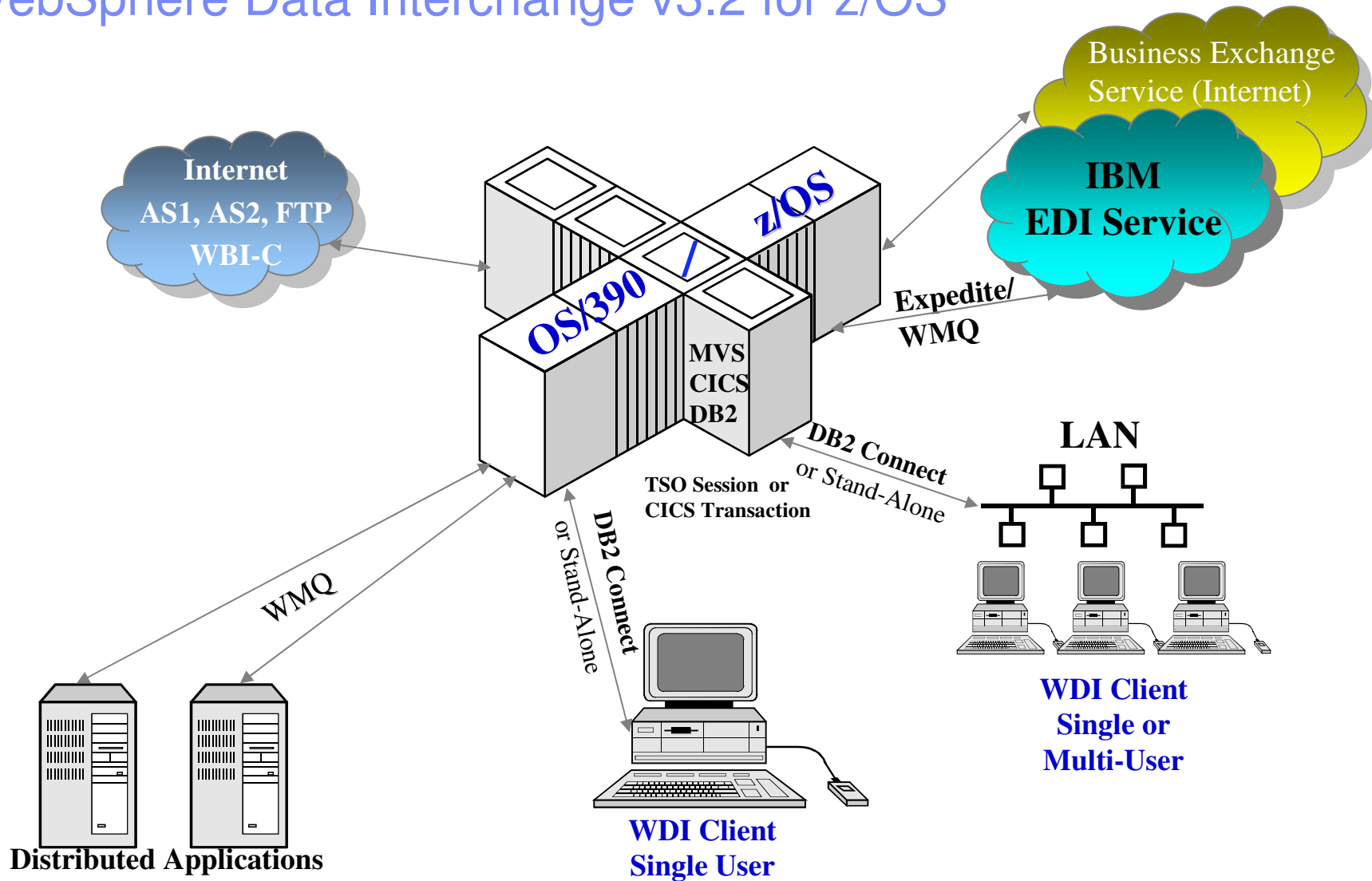


WDI v3.2 for Multiplatforms (AIX and W2K) includes...

- WDI Client
- WDI Server

- WebSphere MQ v5.3 for Windows2000 and AIX
provides communications with WMQI via WMQ queues.
- DB2 v7.2 Universal Database Workgroup Edition
 - ✓ uses DB2 Enterprise if on same server as WMQI
 - ✓ DB2 v8.1 is also supported
 - ✓ DB2 Connect Personal Edition 7.2 included
- Interface to WMQI
support for the `mqrh2` header for routing and formatting (also z/OS)
trigger program
- Selected EDI standards
also available on WDI web site
- Softcopy publications

WebSphere Data Interchange v3.2 for z/OS



WebSphere Data Interchange v3.2 for OS/390 & z/OS

- **System Requirements:**

- OS/390 v2r8 (5647-A01) or later

- z/OS v1 (ESA/390 mode) (5694-A01) or later

- CICS Transaction Server for OS/390 Version 1.3 or later (5655-147)

- CICS Transaction Server for z/OS Version 2.2 (5697-E93)

- DB2 v7 and higher for z/OS and OS/390

- DB2 Connect Personal Edition v7.2+ *required* for client/server mode

- **XML Toolkit for z/OS & OS/390**

- v1.4 (batch); v1.2 for CICS TS 1.3; v1.4 for CICS TS 2.2

- (V1.5 AVAILABLE; RUN IN V1.4 MODE)

download at

<http://www.ibm.com/servers/eserver/zseries/software/xml/>



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Components

Development



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WebSphere Data Interchange: WDI Client

- Common user interface to WDI

- Windows 2000 or XP based, GUI application
- Supports
 - Single user or multi-user environment
 - Stand-alone or client/server mode
 - many clients can be connected concurrently to the same server
- Features
 - Source and Target based mapping
 - Extensive Mapping Vocabulary
 - Drag 'n Drop Mapping



WDI Client: Tooling and Administration

- Used to develop and manage your

 - Data formats (application data definitions)

 - Standards

 - XML Schemas and DTDs

 - Maps

 - Profiles

 - Rules

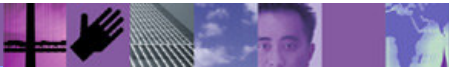
- Map wizard used to create new maps

 - Choose data transformation source/target

 - a map is set of instructions to translate data from one format to another

 - allows the description of meta-data format definitions i.e.,

- Maps are compiled for performance



WDI Client: Reporting

Client and **Transaction Store (TS)**

WebSphere Data Interchange Client provides the ability to view the transaction store, which is created and maintained by WebSphere Data Interchange server.

Application defaults

Code list detail

Constant detail

Data element detail

Data format detail

Data format dictionary detail

Data format record detail

Data format structure detail

EDI standard detail

EDI standard segment detail

EDI translation detail (TS)

Envelope detail (TS)

Interchange detail (TS)

Interchange status summary (TS)

Interchange list (TS)

List of transactions in Store (TS)

Mailbox profile detail

Map variable detail

MQ Series queue detail

Network commands detail

Network security detail

Pending Functional Acknowledgements (TS)

Services profile detail

Trading partner detail

Transaction Status Summary (TS)

Transaction detail (TS)

Translation table detail

User exit detail

User interface log report

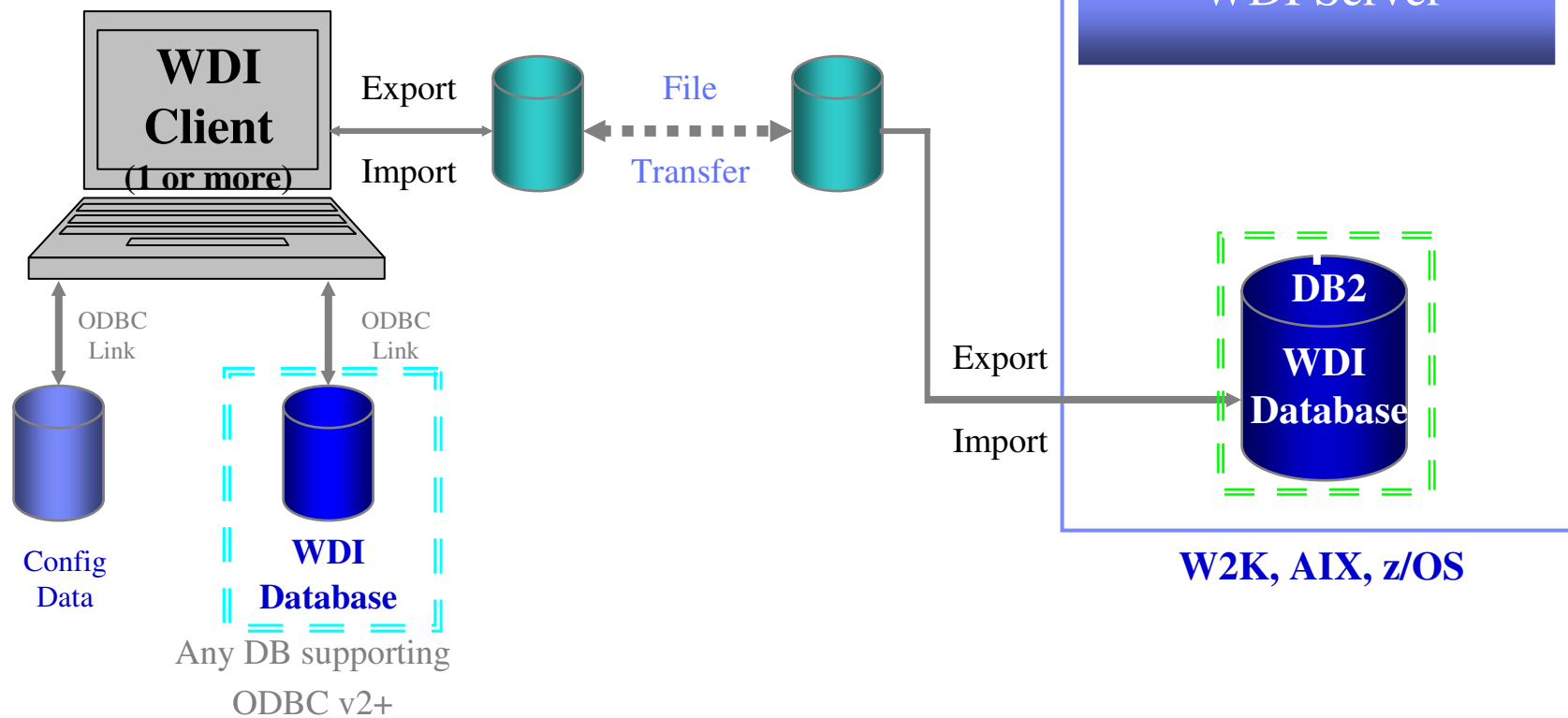
XML dictionary

XML DTD detail

WebSphere Data Interchange: WDI Client

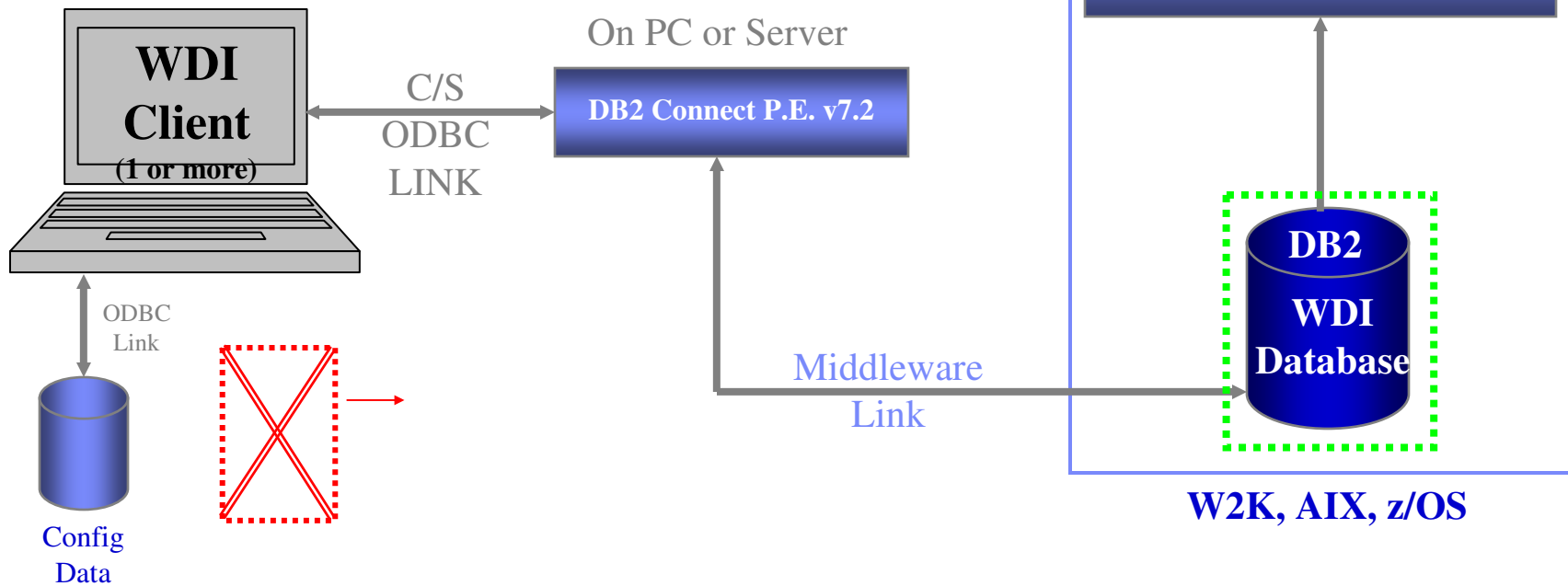
Test / Production

Stand-Alone mode



WebSphere Data Interchange: WDI Client

Client / Server mode

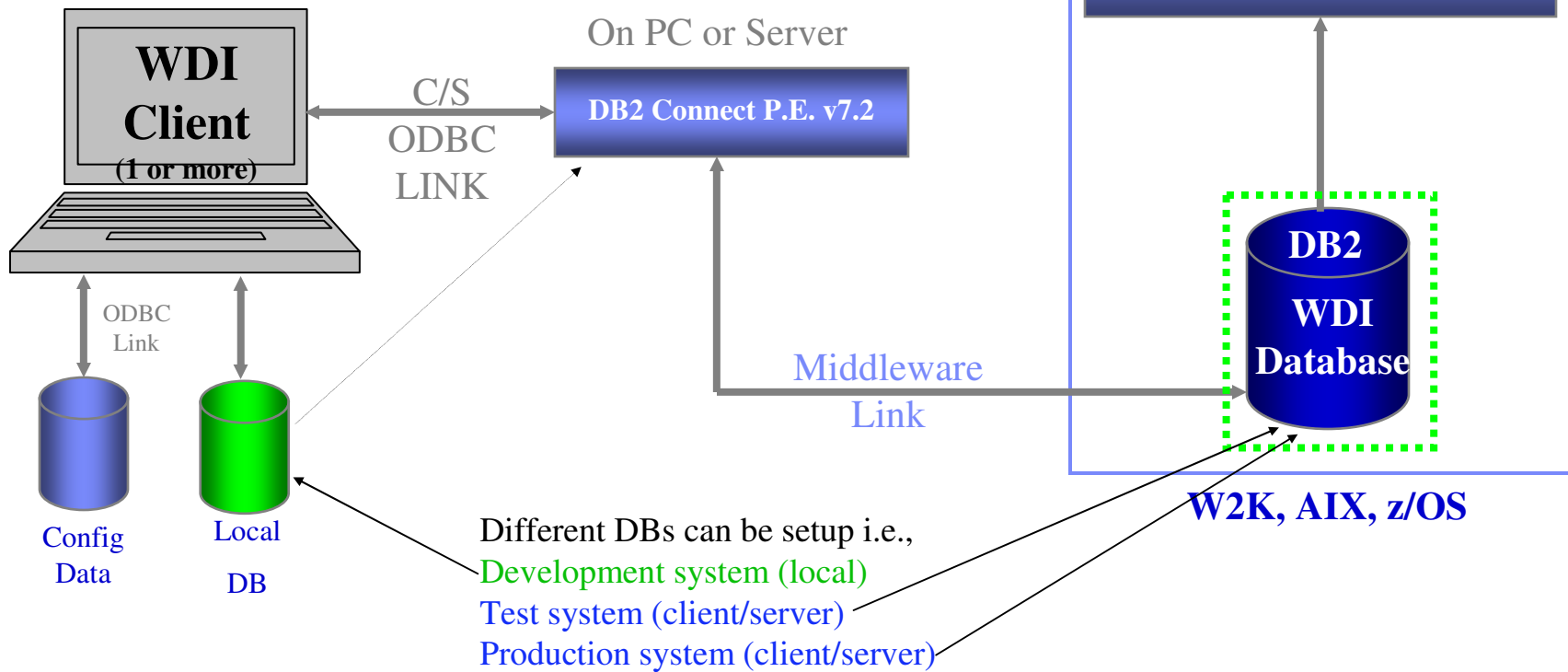


WebSphere Data Interchange: WDI Client

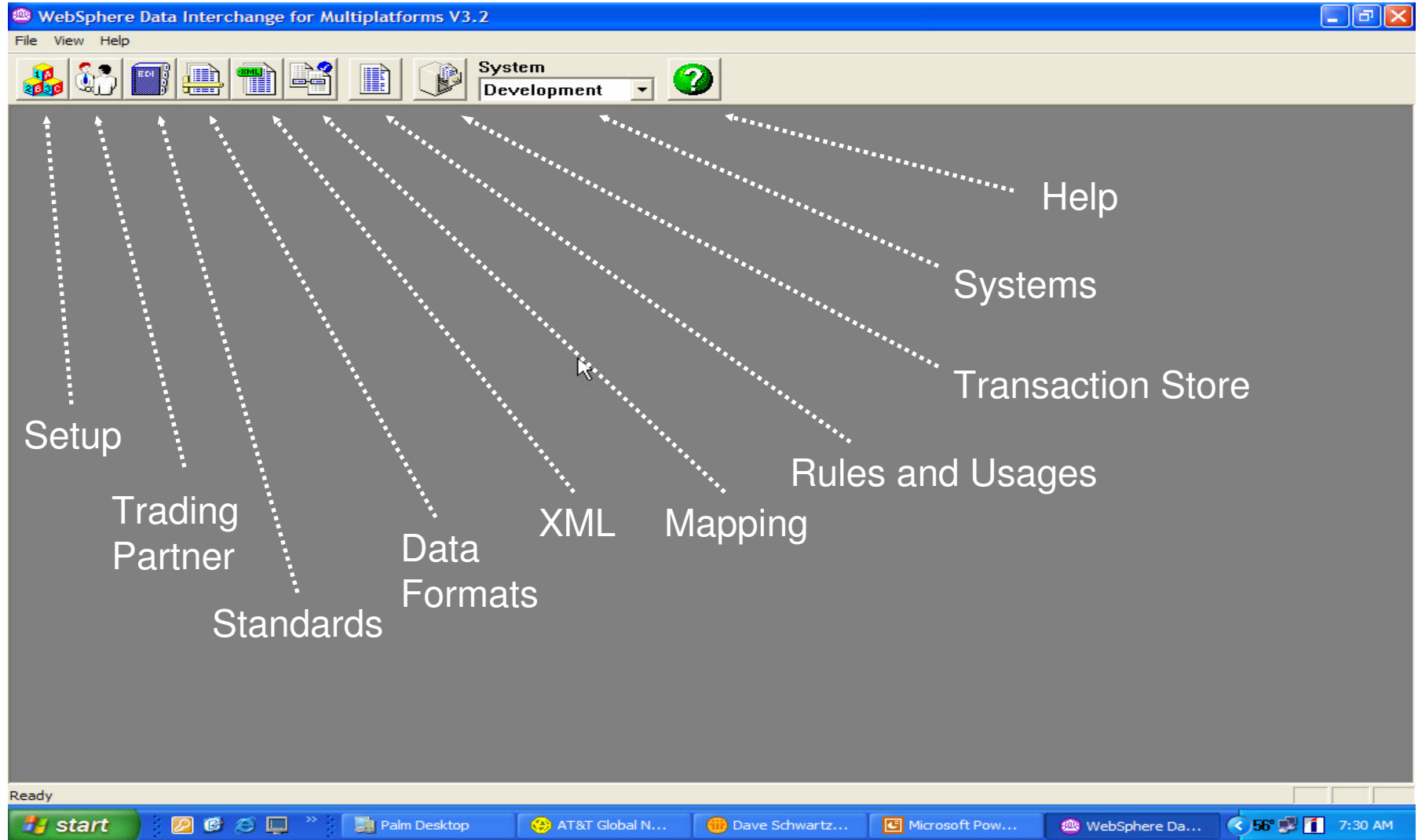
Client / Server mode

& Local DB

Test / Production



WDI Client Main Screen



WDI Client Mapping Screen: Send/Receive Mapping (S/R)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 interface. The window title is "WebSphere Data Interchange for Multiplatforms V3.2 - [Development - Send Map - MMTHL1DS]". The interface is divided into two main panes. On the left, under the "General" tab, is a tree view of the "Application Data Format" (DAVES) with fields like MMTHL1RECID, TRADINGPART, ACFIELD, FILLER, ELIGBEGDATE, ELIGENDDATE, SUBSCRIBER, DEPFIRSTNAME, DEPLASTNAME, and DEPDOB. The "ACFIELD" field is circled in red. On the right, under the "Details" tab, is the "EDI Standard" structure. It shows a hierarchy of nodes, including "Application Control Fields" and "271 [Health Care Eligibility/Benefit Information]". A specific node is circled in red and labeled "ACFIELD in MMTHL1REC". A blue dashed arrow points from the "ACFIELD" field in the left pane to the "ACFIELD in MMTHL1REC" node in the right pane. The Windows taskbar at the bottom shows the "start" button, several open applications (Palm Desktop, AT&T Global N..., Dave Schwartz..., Microsoft Pow..., WebSphere Da...), and the system tray with a temperature of 56° and the time 7:47 AM.

Application Data Format

EDI Standard

WDI Client Mapping Screen: S/R w/ Logic Menus

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.2 interface. The main window shows a tree view on the left with 'MMTHL1REC' expanded, and a list of 'Application Control Fields' on the right. A red circle highlights the entry 'ACFIELD in MMTHL1REC' in the list. Two dialog boxes are overlaid on the main window:

- Mapping Data Element Editor - 127**: This dialog has 'MMTHL1REC' in the 'Data Format Path' field and 'ACFIELD' in the 'Field' dropdown. It includes sections for 'Literal or Mapping Command', 'Accumulators / Actions', and 'Comments'. Buttons for 'Special Handling...', 'Element Attributes...', and 'Field Attributes...' are visible.
- Data Element Special Handling**: This dialog allows selecting a handling method from a 'Select One' list (with 'None' selected) and setting 'Concatenation' parameters for 'Position' and 'Length' (both set to 0). It includes 'OK' and 'Cancel' buttons.

A red dashed line outlines the area containing the 'ACFIELD in MMTHL1REC' entry and both dialog boxes. The Windows taskbar at the bottom shows the 'start' button and several open applications, with the system clock indicating 11:12 AM.

WDI Client Mapping Screen: Data Transformation (DT)

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.2 interface for a Data Transformation Map. The window title is "WebSphere Data Interchange for Multiplatforms V3.2 - [Development - Data Transformation Map - POXML5SR-EDI]". The interface is divided into several panes:

- Source:** A tree view showing the source data structure. The selected element is "Header.ATTLIST" with the attribute "typecode".
- Target:** A tree view showing the target data structure. The selected element is "20 M BEG [Beginning Segment for Purchase Order]".
- Mapping Commands:** A tree view showing the mapping commands. The selected element is "Header.ATTLIST" with the command "\Table 1\20 M BEG\2 M 92\ = 'NE'".
- Global Variable Name, Local Variable Name, Special Variable Name, Scope, Data Type:** A table listing variables used in the mapping.

Red annotations highlight the "Source", "Target", and "Mapping Commands" panes. A blue dashed arrow points from the "Source" pane to the "Target" pane. A green dashed arrow points from the "Mapping Commands" pane to the "Target" pane. A purple dashed arrow points from the "Variables" table to the "Mapping Commands" pane.

Global Variable Name	Local Variable Name	Special Variable Name	Scope	Data Type
	ItemCoi	DIOutType	Do...	Character
		DIOutFile	Do...	Character
		DICUserData	Do...	Character

WDI Client Mapping Screen: DT w/ Logic Menus (Commands)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 interface. The main window displays a Data Transformation Map (DT) for POXML5SR-EDI. The source is DTD\TESTS\POXML5SR and the target is EDI Standard Transaction\X12V4R1\850. The mapping tree shows the following structure:

- OrderSR [(Header,DetailLoop*,Trailer)]
 - Header [(PONum,PODate,Sender,Receiver)]
 - Header.ATTLIST
 - PONum [(#PCDATA)]
 - PODate [(#PCDATA)]
 - Sender [(Id,Qualifier)]
 - Receiver [(Id,Qualifier)]
 - DetailLoop [(ItemNumber,SubDetail+)]
 - Trailer [(ItemCount,TotalBucks)]

The target structure is Table 1, which includes various EDI segments such as 20 M BEG [Beginning Segment for Purchase Order], 40 O CUR [Currency], 50 O REF [Reference Identification], 60 O PER [Administrative Communications Contact], 70 O TAX [Tax Reference], 80 O FOB [F.O.B. Related Instructions], 90 O CTP [Pricing Information], 95 O PAM [Period Amount], 110 O CSH [Sales Requirements], 115 O TC2 [Commodity], 120 O SAC Loop [Service, Promotion, Allowance, or Charge Informati], 130 O ITD [Terms of Sale/Deferred Terms of Sale], and 140 O DTC [Discount Detail].

The logic menu is open, showing the following options:

- Open...
- Insert Before
- Insert After
- Delete
- Command
 - Assignment...
 - CloseOccurrence...
 - Create...
 - Error...
 - If...
 - MapTo...
 - MapChain...
 - MapCall...
 - MapSwitch...
 - SetProperty...
- Command Group...
- Comment...
- Comment Group...

The 'SetProperty...' option is highlighted with a red circle. The Global Variable Name, Local Variable Name, and Special Variable Name columns are also visible in the table below the mapping tree.

Global Variable Name	Local Variable Name	Special Variable Name	Name	Scope	Data Type
	ItemCo	DIOutType	Do...	Character	
		DIOutFile	Do...	Character	
		DIUserData	Do...	Character	

WDI Client Mapping Screen: DT w/ Logic Menus (Set Property - Functions)

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.2 interface. The main window shows a tree view of a DTD (Source: DTD\TESTS\POXML5SR) with elements like OrderSR, Header, and DetailLoop. A 'Mapping Command Editor' dialog is open, showing the command 'SetProperty (propertyName, propertyValue)' circled in red. A context menu is open over the editor, listing various functions such as SetProperty, Concat, Date, and others. The background also shows a table of data elements with columns for Special Variable Name, Scope, and Data Type.

WDI Client Mapping Screen: DT (Compile)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 interface. The main window displays a table of Data Transformation Maps. An 'Execution Status Window' is open in the foreground, showing the progress of a compile operation for the POXML5SR-EDI map. The status window text is as follows:

```

Execution Status Window
Compiling...
POXML5SR-EDI
Reading map database tables
Compiling Map Control String for POXML5SR-EDI
Compiling EDI Standard Control String for X12V4R1/850
Compile completed successfully.
    
```

The table below is a representation of the 'Data Transformation Maps' section from the screenshot:

Map Name	Compile Required	Description	Source or Target Based	Lock	Updated Date and Time	Updated User ID	
1	DAVEMAP	Yes		Source	No	9/15/2003 10:16:44 AM	admin
2	POXML5SR-E	No	POXML5SR to EDI	Source	No	6/30/2004 10:13:35 AM	admin

WDI Client Mapping Screen: DT (Deploy – Export to Other System)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 interface. The 'Actions' menu is open, and 'Export To Other System...' is selected. A 'Select a System' dialog box is displayed, showing 'Production' and 'Test' as available systems. The dialog box is circled in red.

Export Selected Documents to a Different System

Description	Source or Target Based	Lock	Updated Date and Time	Updated User ID
1	Source	No	9/15/2003 10:16:44 AM	admin
2	KMLSSR to EDI Source	No	3/20/2004 10:13:35 AM	admin

WDI Client Mapping Screen: DT (Deploy – Export to Other System)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 - [Development (Mapping) - Query: All] window. The 'Export With Control String' dialog box is open, with its title bar circled in red. The dialog contains several sections for selecting types to export:

- Referenced Types:**
 - Global Variables
 - Translation Tables
 - Imbedded Maps
 - Data Transformation Map User Exits
 - Field Exits
 - Code Lists
- Associated Types:**
 - Map Rules/Usages: None, All, Select
 - Map Rules/Usages Referenced Types:
 - Translation Exits
 - Trading Partner Profiles
 - Envelope Profiles
 - Trading Partner Referenced Types:
 - Trading Partner Contacts
 - Network: Profile
 - Network: Security Profiles
 - Network: Profile Associated Type
 - Network: Security Profile Referenced Type
 - Network: Commands
 - Network: Security Exits
 - Trading Partner Associated Types:
 - Control Numbers

Buttons on the right side of the dialog include OK, Cancel, Select All, and Deselect All. The background window shows a table of Data Transformation Maps:

	Map Name	Generation
1	DEMO850CLR	6/21/2002
2	POXMLSSR-E	6/30/2004

WDI Client Mapping Screen: DT (Deploy – Export to Other System)

The screenshot shows the WebSphere Data Interchange for Multiplatforms V3.2 interface. The main window displays a table of Data Transformation Maps (DTs) with the following data:

Map Name	Generation Date	Generation Time
1 DEMO850CLR	6/21/2002	2:49 PM
2 POXML5SR-E	6/30/2004	6:48 AM

An 'Execution Status Window' dialog box is open, displaying the following text:

```

Exporting...
POXML5SR-EDI
Mapping Control String Detail
Standard Control String Detail
Export completed successfully.
    
```

The text 'Export completed successfully.' is circled in red. The dialog box also features 'Cancel' and 'Close' buttons.



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Support Pack for HIPAA

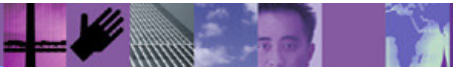


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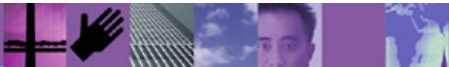
Support Pack for HIPAA

- **HIPAA** (Health Insurance Portability and Accountability Act of 1996)
 - ✓ *Implementation of X12 Standards*
- **Support Pack for HIPAA** enables customers to send and receive HIPAA transactions
- **Support Pack** **'assists'** in making you compliant
- **Validates** the inbound or outbound transmission and then transforms the transaction from X12 to XML (inbound)
- **Includes** collaborations for HIPAA transactions that enable integration with existing back end data processing systems using the *IBM WebSphere InterChange Server V4.2.2* and the *IBM WebSphere Business Integration Collaborations for HIPAA Transactions V1.1.1*
- *Support Pack for HIPAA is supported on Microsoft Windows systems and AIX operating systems*

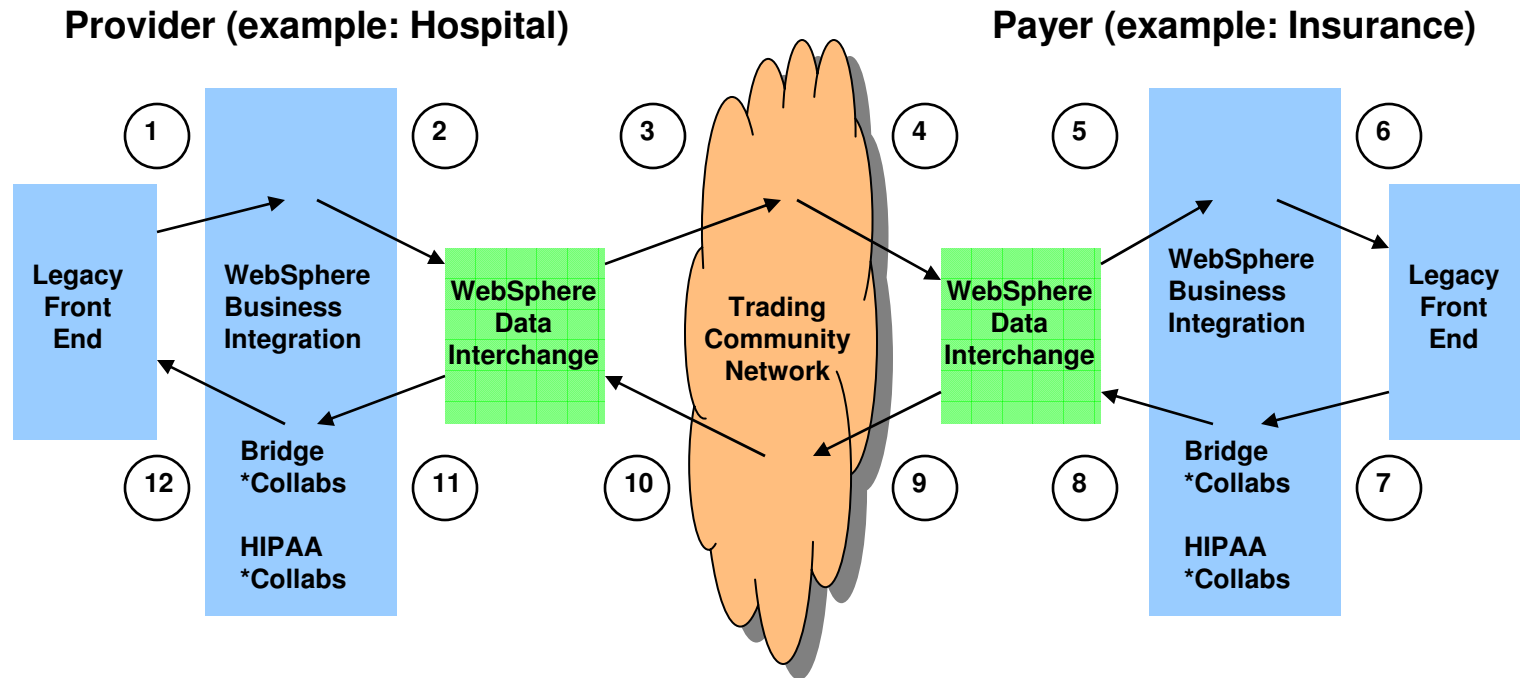


Support Pack for HIPAA includes

- **Standards** - a subset of the loops, segments, and code lists in the X12 4010A1 standards
- **Code Lists** - The tables that provide the acceptable values for a HIPAA data element. ANSI Code Lists are provided for all elements *except* Snip Type 5 and 6 which must be obtained from an external source
- **Validation Maps** - The Validation Maps validate outbound and inbound X12 HIPAA transactions. 997s FAs can be issued to sender for non-compliance
- **Transformation Maps** - The Transformation Maps are a set of mapping instructions that describe how to translate the outbound and inbound X12
- **DTDs** - The XML definitions for the X12 HIPAA transactions
- **Configuration Files** - The files to configure the Support Pack for HIPAA on WebSphere Data Interchange and the WebSphere InterChange Server
- **Bridge Collaborations** - The custom collaborations that connect the WebSphere Interchange server with WDI
- **Code Set Handler Utility** - A utility that converts externally-obtained code sets for SNIP level 5 and 6 validation from comma separated value (CSV) file format to the EIF file format supported by WDI



Overview of the HIPAA collaboration environment



***Collabs = Collaborations**

Support Pack for HIPAA

- **'no charge'** download from

➤ http://www-306.ibm.com/software/integration/wdi/hipaa_downloads.shtml



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Education and Consulting



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Education

- WebSphere Data Interchange

- >>>

Code	Course Name
SW334	IBM WebSphere Data Interchange Implementation with ANSI X12 Examples and Exercises
SW335	IBM WebSphere Data Interchange Implementation with UN/EDIFACT Examples and Exercises
SW700	Introduction to EDI Concepts and Standards

- On Web >

<http://www.ibm.com/websphere/datainterchange>

Click on Training and Certification

2004 Conferences Education

Transaction and Messaging Conference

June 14-18

The Las Vegas Hilton

Las Vegas, NV



WDI/B2B Customer Conference

November 8-10

Sirata Beach Resort and Conference Center

St. Pete Beach, FL

IBM Consulting Services

- Expertise in:
 - Installation and Configuration
 - * Implementation
 - Migration
 - EDI business process
 - Applications
 - System environments





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Migration from DI v3.1 to WDI v3.2 for z/OS



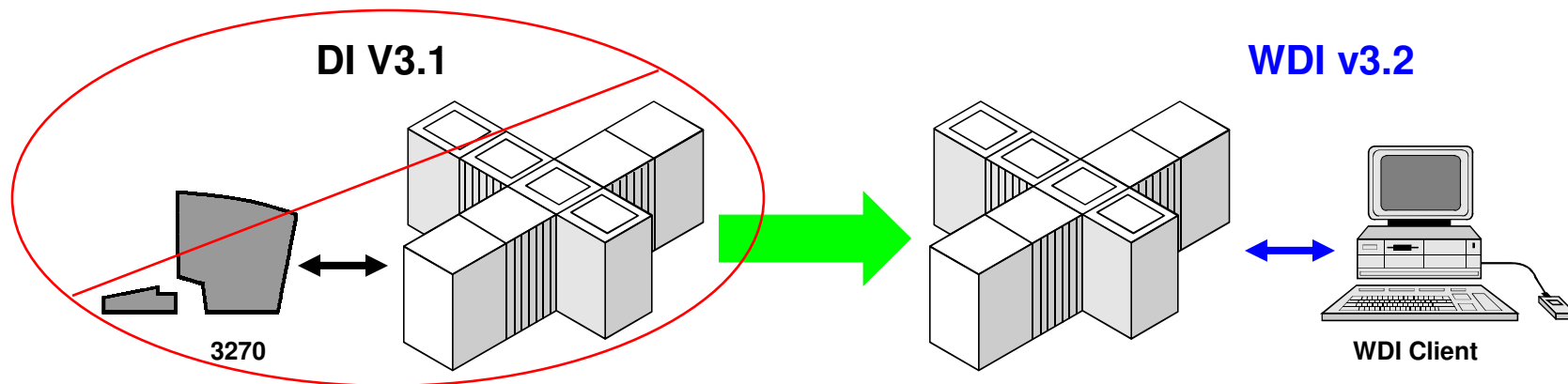
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Migration: DI v3.1 to WDI v3.2 for z/OS

■ Migration Maintenance

- Migration of data occurs during the installation of the WDI 3.2 product. The **PERFORM IMPORT** converts 3.1 metadata objects from the DI 3.1 Host format to the WDI 3.2 common database format. DI 3.1 Client objects don't require conversion, but are imported natively. *It is important that the latest maintenance be applied to achieve the best results.*
- ibm.com/websphere/datainterchange
 - ✓ Click on *Standards, host, client & Fix Pack downloads*





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Summary

WebSphere Data Interchange

Windows 2000, AIX, z/OS

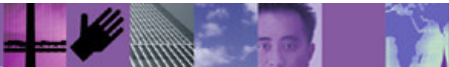


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WebSphere Data Interchange - Summary

- Data Transformation application supporting:
 - Windows 2000 Server, AIX and z/OS platforms
- WDI uses a graphical user-interface as the development tooling
- As part of an application integration strategy, WDI provides any-to-any data transformation for:
 - Application data files (incl. CSV)
 - EDI
 - ANSI X12, EDIFact and Published Industry Subsets
 - XML
 - Supporting DTDs and Schemas
- WDI utilizes an extensive mapping vocabulary
- WDI is a complementary toolset within WebSphere
 - Using MQ as a transport between other WS applications



Platform Features Comparison

<i>Platform / Feature(s)</i>	<i>WDI v3.2 Win 2000</i>	<i>WDI v3.2 AIX</i>	<i>WDI v3.2 Z/OS</i>
Uses Multi-System DI Client	X	X	X
Supports U.S. and International Stds.	X	X	X
Supports XML Schemas	X	X	X
Supports Any-to-Any Data Transformation	X	X	X
Support Pack for HIPAA	X	X	X
Fixed Format Translation	X	X	X
Multi-process Capability	X	X	X
Extensive Mapping Vocabulary	X	X	X
Reporting	X	X	X
MQ Communication Interface	X	X	X
WMQI Adapter	X	X	NA
Database Used Provided Y / N	DB2 Y	DB2 Y	DB2 N

Finally: Where to get Information?

On the Web:

- **WDI web site:** www.ibm.com/websphere/datainterchange
 - *Product Information*
 - *Education: Class Schedules*
 - *Downloads* <http://www-306.ibm.com/software/integration/wdi/downloads/>
 - ✓ *Manuals*
 - ✓ *Standards*
 - ✓ *Maintenance/Fixpaks*
 - ✓ **WDI Client Demo:** <https://www6.software.ibm.com/reg/wsdatademo/wsdatademo-i>
- **WBI-Connect web site:** <http://www-306.ibm.com/software/integration/wbiconnect/>
- **Contact**
 - Dave Schwartz, WW Sales*
 - 818-539-3506*
 - dschwart@us.ibm.com*

Thank You

??? Questions ???

WDI web site:

<http://ibm.com/websphere/datainterchange>