



IBM Software Group

WebSphere Transformation Extender

Healthcare Industry Packs Overview

WebSphere software

A decorative horizontal bar with a purple background, featuring a series of colorful squares (cyan, green, yellow, red) and various icons (a globe, a person's face, a cross, a grid of dots) on the left side.

ON DEMAND BUSINESS™

Agenda

- WTX Overview
- Business Value of WTX HC Packs
- Technical Details of WTX HC Packs
- Q&A



What Does IBM WebSphere TX Do?

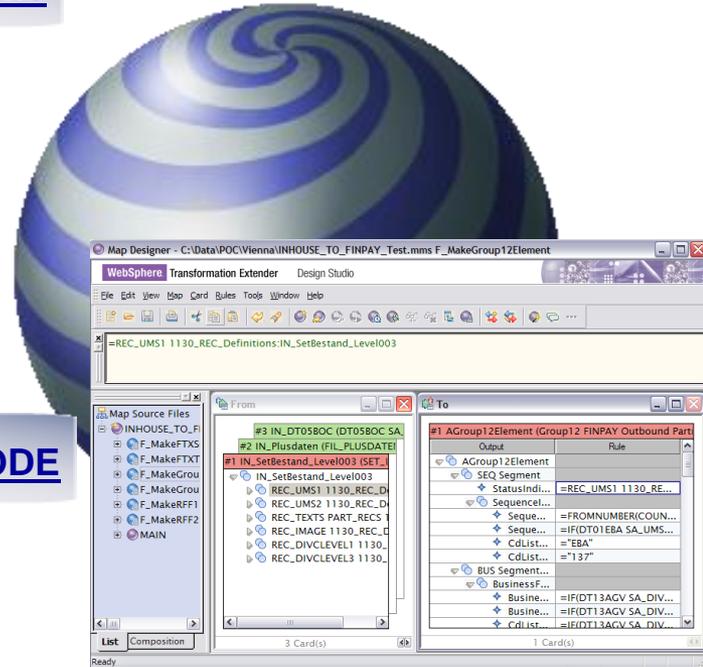
It takes any kinds of data from their native forms

ANY Data



Processes them together, natively, with NO CODE

Many-to-many Integration



And outputs them into their native target formats



ANY Data

Ex. - Hierarchical Data , Binary Data, Packed Data, Tabular Data, Relational Data, Nested Structures, Mixed-Type Data, and on and on...



Delivering Mission Critical Solutions

- On average, over U.S. \$1.6T* in transactions flows through WebSphere TX on a daily basis
 - ▶ Major Stock exchanges
 - ▶ 9 of 10 Major U.S. Financial Firms
 - ▶ 75% of BC/BS claims
 - ▶ 6 of 10 Major Insurance Firms
 - ▶ 3 of 3 Top U.S. Pharmacy Benefits Providers
 - ▶ 6 of 6 Top Global Banks
 - ▶ 6 of 10 Top U.S. Banks, 4 of 5 UK Top UK Banks
 - ▶ Major Global and National Telecoms
 - ▶ and on and on and on....

* \$1.6T is based on available, tangible measurements. Actual estimates are in excess of this amount.

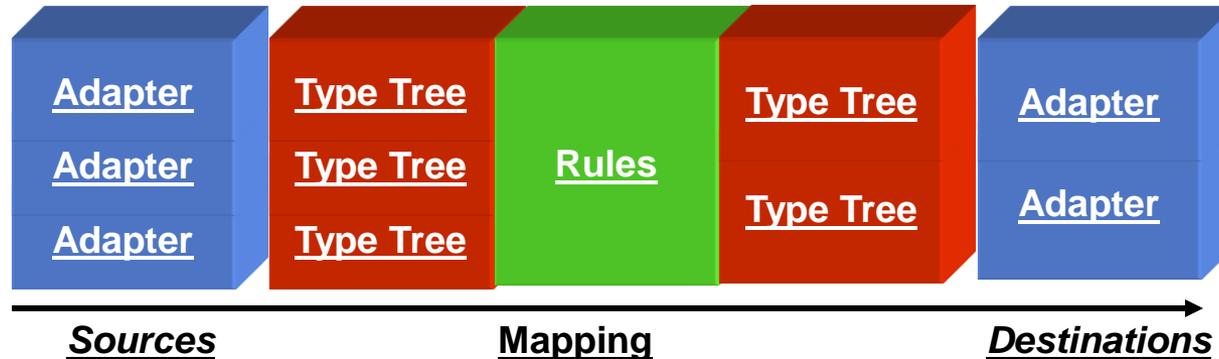


Examples of Complex Transformation Challenges Addressed by WebSphere TX

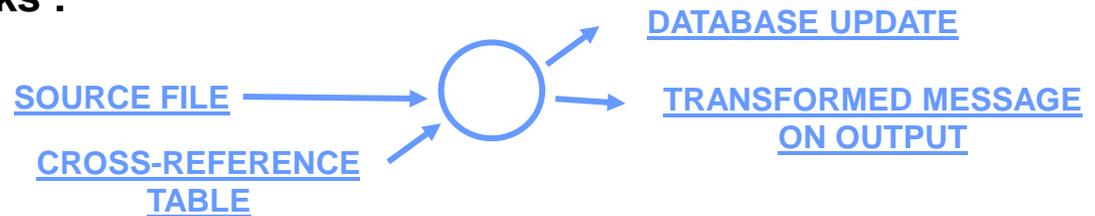
- Data Enhancement
 - ▶ Lookups
 - ▶ Data Logic and Routing
 - ▶ Data Validation
 - ▶ Context Based Data and Usage Rules
- Many to Many Transformation
 - ▶ Single-Transaction, interdependent data sets, conversions and logic
 - ▶ Mixed Data and Source/Target Types
 - ▶ Dependent Result Sets, Nested Structure Dependencies
- Complex Data Transformation
 - ▶ Nested, Semi-structured And Hierarchical Data Types
 - ▶ Dependent Inputs And Outputs
 - ▶ Binary, Packed, EBCDIC, ASCII, Mixed Character Data



The Components of a WebSphere TX Solution



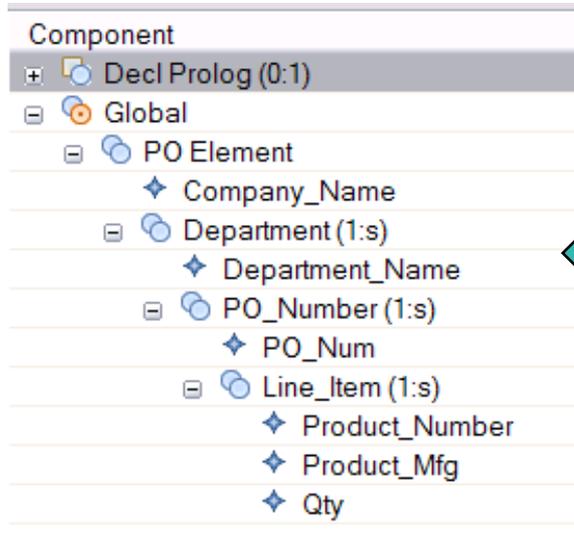
- ▶ An adapter is a technical connector which can be “plugged” into a source or destination - without parsing!
- ▶ A Type Tree is a graphical representation of meta-data
- ▶ Map rules define how a Source structure is transformed to a Destination structure
- ▶ A Map can perform many tasks :
 - ▶ Validation
 - ▶ Enrichment,
 - ▶ Content Based Routing
 - ▶ etc.



Describe the Data...

■ IBM WebSphere TX Type Trees

- ▶ The Type Trees defines the structure of the data to be handled in IBM WebSphere TX



```
- <PO xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <Company_Name>ABC Industries, Inc.</Company_Name>
  + <Department>
- <Department>
  <Department_Name>DEPT_002</Department_Name>
- <PO_Number>
  <PO_Num>1</PO_Num>
- <Line_Item>
  <Product_Number>30001</Product_Number>
  <Product_Mfg>Acme</Product_Mfg>
  <Qty>200</Qty>
</Line_Item>
```

■ Validation

- ▶ Item / Field Restrictions (Enumerations, Exclusions, Pattern, Range)
- ▶ Cross-field validation (Ex. HIPAA Date qualifier & date field....D8 / RD8)
- ▶ Cross-record validation (Ex. GS Count must equal # of transaction sets)
- ▶ Occurance restrictions (Ex. Mandatory / Optional / Situational)



Map Designer - Creating transformation rules

*Bugfest/Bugfest_WMB/PNMR.mms 814_03_to_XML X /Bugfest/PO_input.mtt

Rule:
Enter the rule for this output.
=TS Ref# Element..814_03

Map

From:

- 1# 814_03 (Partner X12 Inbound Interchange EDI)
 - 814_03
 - Partner Inbound ISA Segment Control ANSI
 - ISB Segment Control ANSI (0:1)
 - ISE Segment Control ANSI (0:1)
 - TA1 Segment Control ANSI (s)**
 - Inbound Partner Funct!Group ANSI (0:99999)
 - F4010
 - #814
 - GS Segment V4010
 - Transaction #814 Inbound Partner Set V4010 (s)
 - ST Segment
 - TSIDCd Element
 - TSCtrl# Element
 - BGN Segment
 - TSPurpCd Element
 - TS Ref# Element**
 - Date Element
 - Time Element (0:1)
 - TimeCd Element (0:1)
 - Previous Ref# Element (0:1)

To:

1# XML_814_03 (Doc XSD)

Output	Rule
XML_814_03	
Ded Prolog (0:1)	
Global	
Switch_Request Element	
Transaction_ID	=TS Ref# Element...814_03
Transaction_Date	=DATETOTEXT(ADDDAYS(CURRENTDATE(), 7))
N1 (1:s)	=F_Create_N1_814_03(LoopN1:Transaction #814 Inbound Partner Set ...
LIN (1:s)	=F_Create_LIN_814_03(LoopLIN:Transaction #814 Inbound Partner Se...

2# 814_04 (Partner X12 Inbound Interchange EDI)

Output	Rule
814_04	
Partner Inbound ISA Segment Control ANSI	
ISB Segment Control ANSI (0:1)	=TS Ref# Element:BGN Segment:Transaction #814 Inbound Partner Se...
GradeOfServiceCd Element	
ISE Segment Control ANSI (0:1)	=ISE Segment Control ANSI:Read_814_04
TA1 Segment Control ANSI (s)	=TA1 Segment Control ANSI:Read_814_04
Inbound Partner Funct!Group ANSI (0:99999)	=Inbound Partner Funct!Group ANSI:Read_814_04
IEA Segment Control ANSI	=IEA Segment Control ANSI:Read_814_04



Business Value of WTX Healthcare Packs



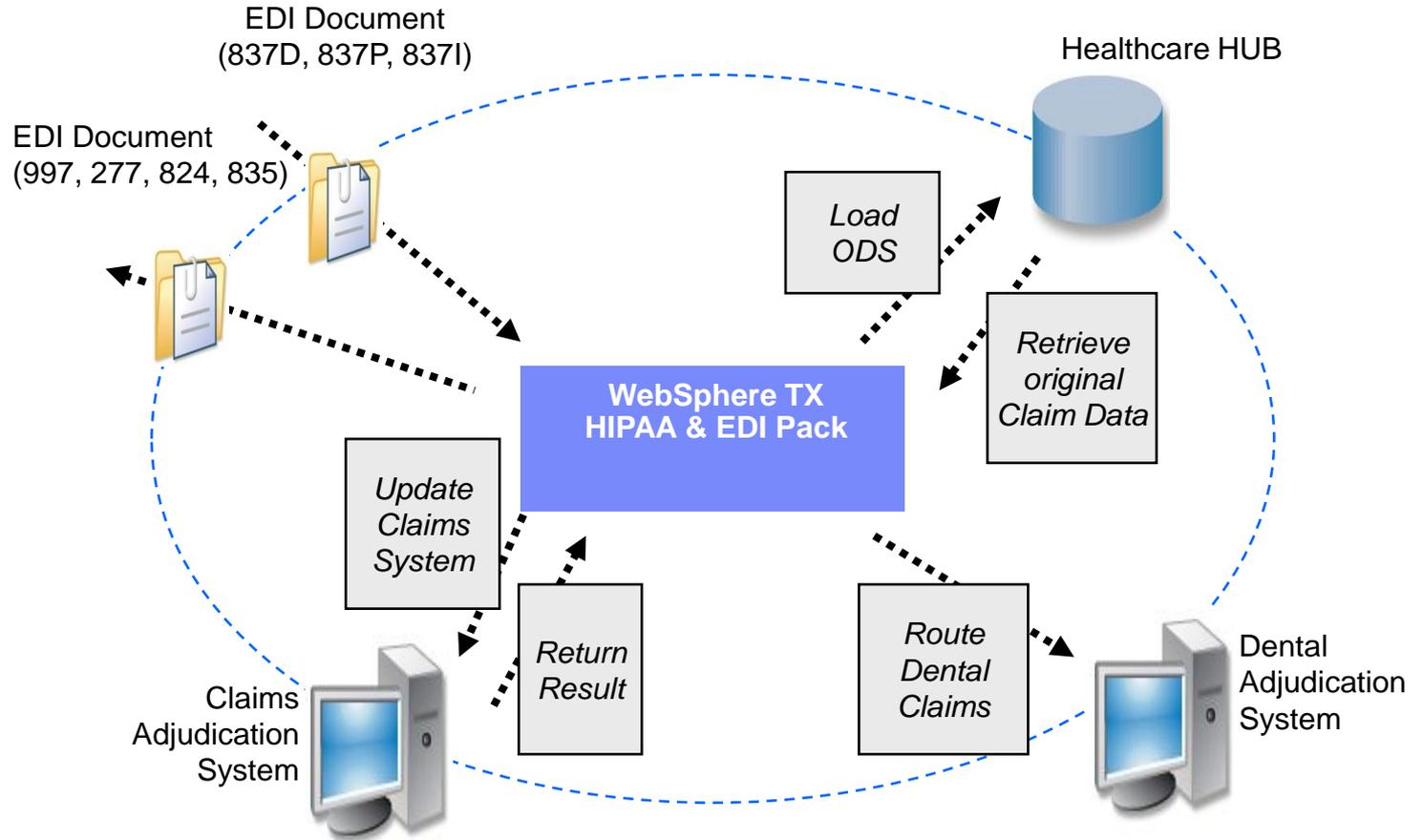
National proposals and Federal mandates impact IT Initiatives

- NPI – National Provider Identifier
- ICD-10- and ICD-10-PCS – International Classification of Diseases (Standard Diagnostics), Procedure Coding System
- New HIPAA 005010
- e-Prescribing /NCPDP & Scripts
- Medical Banking: 24-hr electronic fund transfer payments on claims
- HSA – Healthcare Savings Accounts
- Electronic Claims Attachments with CDA (Clinical Data Architecture) standard
- CMR (Computerized Medical Records), EHR (Electronic Health Records), PHR
- RHIO – Regional Healthcare Information Organization Infrastructure, Community Health Consortiums
- Consolidated Health Informatics – “CHI”
 - Adopted Standards: LOINC (Lab Result names), HL7(scheduling,medical record/image, observation report messaging), NCPDP (retail pharmacy transactions), DICOM (image information to workstation)



Claims processing requires robust EDI Gateway

**Integrate
Administration
& Financials**



IBM WebSphere Integration Solutions Blue Cross/Blue Shield customers

- Capitol Blue Cross
- Empire Blue Cross
- Premera Blue Cross Blue Shield
- Trigon Blue Cross Blue Shield
- Blue Cross Blue Shield of Kentucky
- Blue Cross Blue Shield of Montana
- Blue Cross Blue Shield of Tennessee
- Blue Cross Blue Shield of Kansas City
- Blue Cross Blue Shield of Georgia
- Blue Cross Blue Shield of NJ - Horizon
- Independence Blue Cross
- Regence
- WIIMark
- Anthem Blue Cross Blue Shield - Administar Federal
- Blue Cross Blue Shield of Alabama – Cahaba GBH
- Blue Cross and Blue Shield of NE PA - Veratus
- Blue Cross Blue Shield of Western PA - Highmark
- Blue Cross Blue Shield of Missouri - Alliance
- Blue Cross Blue Shield of Hawaii - HMSA
- Blue Cross Blue Shield of Florida - First Coast Service Options
- Blue Cross Blue Shield of Puerto Rico – Triple S
- Blue Cross Blue Shield of Rhode Island
- Blue Cross Blue Shield of Arkansas
- HCSC
 - ▶ BC/BS of Illinois
 - ▶ BC/BS of Texas
 - ▶ BC/BS of Oklahoma



Over 70% of all Blue Cross/Blue Shields have IBM Information Integration Software and over 40% use it for HIPAA compliance

Technical Details of WTX Healthcare Packs

HIPAA

HL7

NCPDP



HIPAA and Related Transactions Supported

<u>837</u>	<u>Health Care Claim: Professional, Institutional, Dental</u>
<u>277 / 275</u>	<u>Health Care Claim Request for addt'l info / Claim Attachment</u>
<u>270</u>	<u>Eligibility, Coverage or Benefit Inquiry</u>
<u>271</u>	<u>Eligibility, Coverage or Benefit Information</u>
<u>834</u>	<u>Benefit Enrollment and Maintenance</u>
<u>835</u>	<u>Health Care Claim Payment/Advice</u>
<u>276</u>	<u>Health Care Claim Status Request</u>
<u>277</u>	<u>Health Care Claim Status Notification</u>
<u>278</u>	<u>Health Care Services Review Information – Request for Review</u>
<u>278</u>	<u>Health Care Services Review Information – Response to Request</u>
<u>820</u>	<u>Payment Order/Remittance Advice</u>



WTX Pack for HIPAA EDI 4.3

- Validation And Acknowledgement
 - ▶ SNIP/WEDI Validation
 - Types 1-4 out-of-the-box
 - Examples of Types 5-7 (codeset) validation
 - ▶ Includes Validation of Embedded XML (CDA)
 - ▶ All Types of Functional Acknowledgments
 - Simple FA (997)
 - HIPAA FA (999)
 - Application Advice (824)
 - Undeliverable (TA1)
 - Simple English Acknowledgments (html) !!
 - ▶ Callable, Configurable Compliance Checking !!



HL7 (Health Level 7)

- The HL7 Business Problem
 - ▶ International Scope
 - ▶ Exchange of Information Related To Patient Care
 - Patient Administration (Admissions, Discharges, etc.)
 - Clinical Orders (Requests for Testing)
 - Scheduling (Appointments)
 - Observation Reporting (Care Notes)
 - Laboratory Results (Test Data)
 - ▶ **Designed to be Extended**
- Two Categories of Messages
 - ▶ Version 2.x (EDI-Style)
 - ▶ Version 3.x (XML)



WTX Pack for HL7 V4.3

- Type Trees
 - ▶ Versions 2.1 through 2.6
 - ▶ The validation rules check for the following:
 - valid segments
 - segment order
 - maximum segment and loop occurrences
 - element attributes (for example, size and data type)
 - adherence to HL7 syntax rules as defined in the HL7 standard
- HL7 Version 3.x Data Does Not Require Pack for HL7
 - ▶ Use the Built-In XML Importer or Map Directly to Schema (V8.2)



HL7 Pack Components

Message	NMR	QCK	SIU
ACK	OMB	QCN	SPQ
ADR	OMD	QRF	SQM
ADT	OMG	QRY	SQR
BAR	OMI	QSB	SRM
BPS	OML	QSX	SRR
BRP	OMN	QVR	SSR
BRT	OMP	RAR	SSU
BTS	OMS	RAS	SUR
CRM	ORB	RCI	TBR
CSU	ORD	RCL	TCR
DFT	ORF	RDE	TCU
DOC	ORG	RDR	UDM
DSR	ORI	RDS	VQQ
EAC	ORL	RDY	VXQ
EAN	ORM	REF	VXR
EAR	ORN	RER	VXU
EDR	ORP	RGR	VXX
EQQ	ORR	RGV	
ERP	ORS	ROR	
ESR	ORU	RPA	
ESU	OSQ	RPI	
INR	OSR	RPL	
INU	OUL	RPR	
LSR	PEX	RQA	
LSU	PGL	RQC	
MDM	PIN	RQI	
MFD	PMU	RQP	
MFK	PPG	RQQ	
MFN	PPP	RRA	
MFQ	PPR	RRD	
MFR	PPT	RRE	
NMD	PPV	RRG	
NMQ	PRR	RRI	
NMR	PTR	RSP	
	QBP	RTB	
	QCK	SIU	

Message types and their corresponding message events...

MSH Segment
SFT Segment (s)
EVN Segment
PID_LOOP A31 ADT Loop
PID Segment
PD1 Segment (0:1)
ROL Segment (s)
NK1 Segment (s)
PV1_LOOP A31 ADT Loop
DB1 Segment (s)
OBX Segment (s)
AL1 Segment (s)
DG1 Segment (s)
DRG Segment (0:1)
PR1_LOOP A31 ADT Loop (s)
PR1 Segment
SetID_PR1 SI Element Field
ProcedureCodingMethod IS Element Field (0:1)
ProcedureCode CE Composite Field
ProcedureDescription ST Element Field (0:1)
ProcedureDateTime TS Composite Field
ProcedureFunctionalType IS Element Field (0:1)
ProcedureMinutes NM Element Field (0:1)
Anesthesiologist XCN Repeat Field (0:1)
AnesthesiaCode IS Element Field (0:1)
AnesthesiaMinutes NM Element Field (0:1)
Surgeon XCN Repeat Field (0:1)
ProcedurePractitioner XCN Repeat Field (0:1)
ConsentCode CE Composite Field (0:1)
ProcedurePriority ID Element Field (0:1)
AssociatedDiagnosisCode CE Composite Field (0:1)
ProcedureCodeModifier CE Repeat Field (0:1)
ProcedureDRGType IS Element Field (0:1)
TissueTypeCode CE Repeat Field (0:1)
ProcedureIdentifier EI Composite Field (0:1)
ProcedureActionCode ID Element Field (0:1)
ROL Segment (s)
GT1 Segment (s)
IN1_LOOP A31 ADT Loop (s)
ACC Segment (0:1)
UB1 Segment (0:1)
UB2 Segment (0:1)



WTX Pack for NCPDP

- The NCPDP Business Problem
 - ▶ Submission of Pharmaceutical Claims
 - ▶ Specific to U.S.
 - ▶ Also Mandated By U.S. Government – Part of HIPAA
 - ▶ Limited to Retail Pharmacy
 - ▶ Designed for Request/Reply Architecture



NCPDP Data

00885351B1OKAT1 10590003931391 20000715
AM04 C2M628899 C302 C90
AM01 C52 CACLARA CBMATAL
AM07 EM1 D20775501 E103 D750458030006 D300
D5090 D80 E70000090000
AM11 DU0002191F BE0000000{
AM03 DB1117409 EZ05

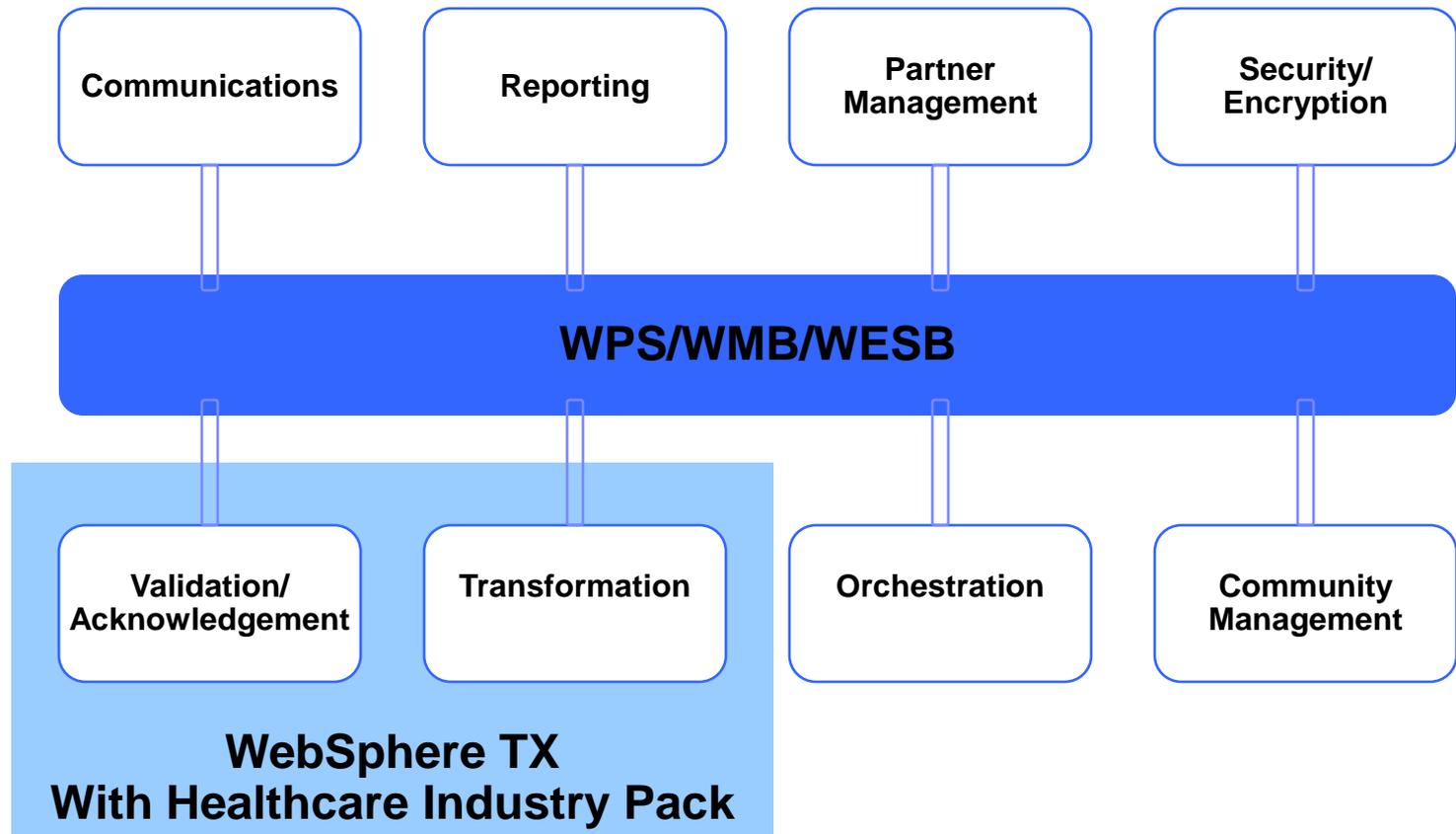


WTX Pack for NCPDP V4.2

- Type Trees
 - ▶ V3.2 and V5.1
 - ▶ Only Includes HIPAA Mandated Documents
- Maps
 - ▶ Sample Maps To Create Reports From Requests and Replies
- Sample Data
 - ▶ Eligibility Request/Response
 - ▶ Rebill Request/Response
 - ▶ Reversal Request/Response
 - ▶ Claim Request/Response



Position WTX Healthcare Pack In Any Architecture



Summary— What WebSphere TX Provides

Interoperability

- Connect applications, databases, processes within the enterprise
- Partners, processes across enterprises
- Powerful transformation and routing

Speed

- Easy design and implementation
- No re-training
- Fast maintenance without coding
- Rapid adaptation to change

Simplified Complexity

- Graphical integration views
- Consistent approach to multiple types of integration
- Reusable objects

Adaptability

- Leverage your proven IT infrastructure
- Fully support your choice of IT investments (i.e. messaging middleware...)
- Non-invasive integration
- “Snappable” modules



Q & A



धन्यवाद
Hindi

多謝
Traditional Chinese

Grazie
Italian

ขอบคุณ
Thai



Спасибо
Russian

Obrigado
Brazilian Portuguese

Merci
French

Gracias
Spanish

شكراً
Arabic

多谢
Simplified Chinese



Danke
German

நன்றி
Tamil

ありがとうございました
Japanese

감사합니다

WebSphere software

