

# HealthCare eCommerce: Claims and Payment/ERA

Pen Chiang, Ph.D.  
Randall King

Redix

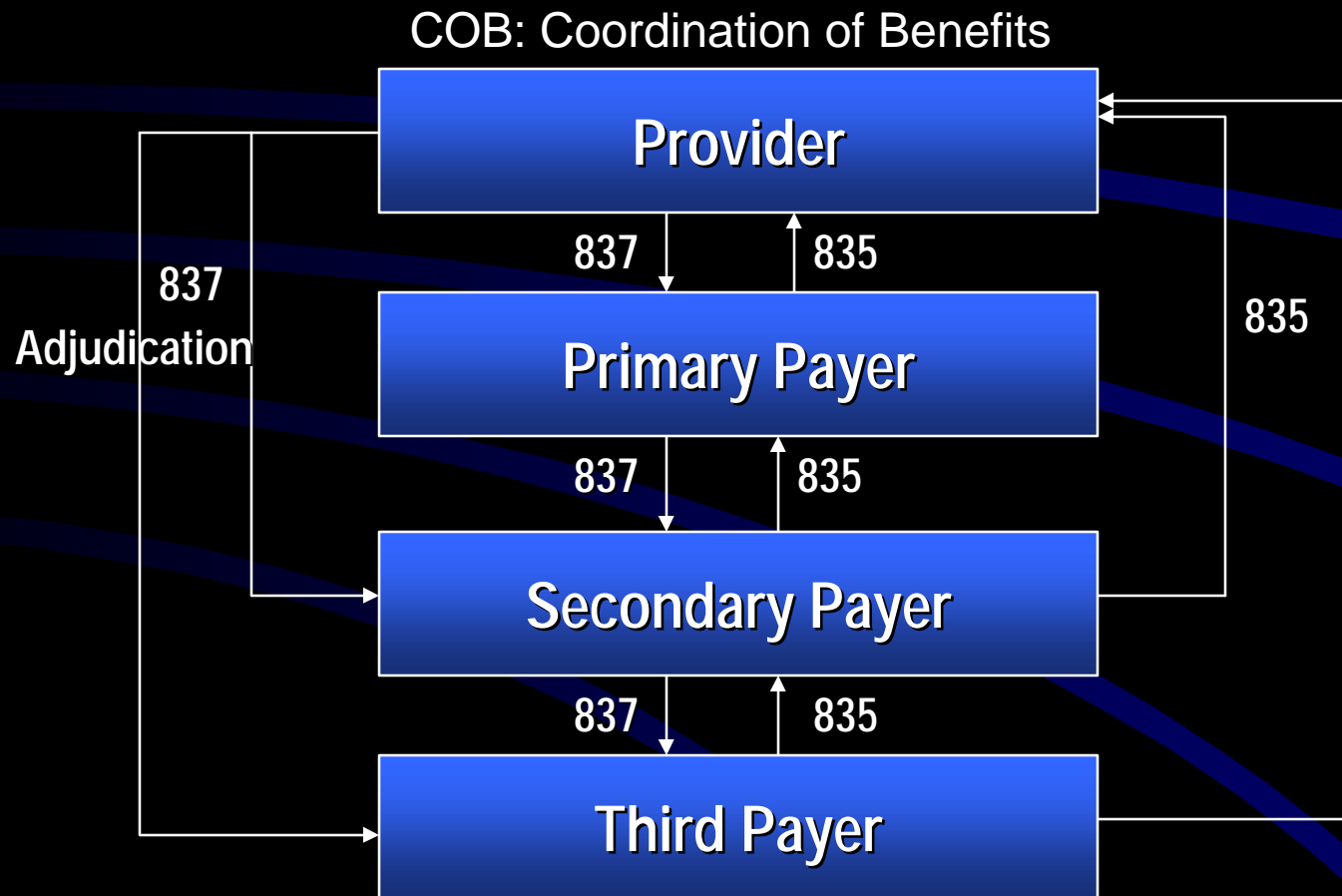
# Agenda

- HealthCare eCommerce
- HealthCare eCommerce Architecture
- HealthCare Pipeline Components
- Demonstration

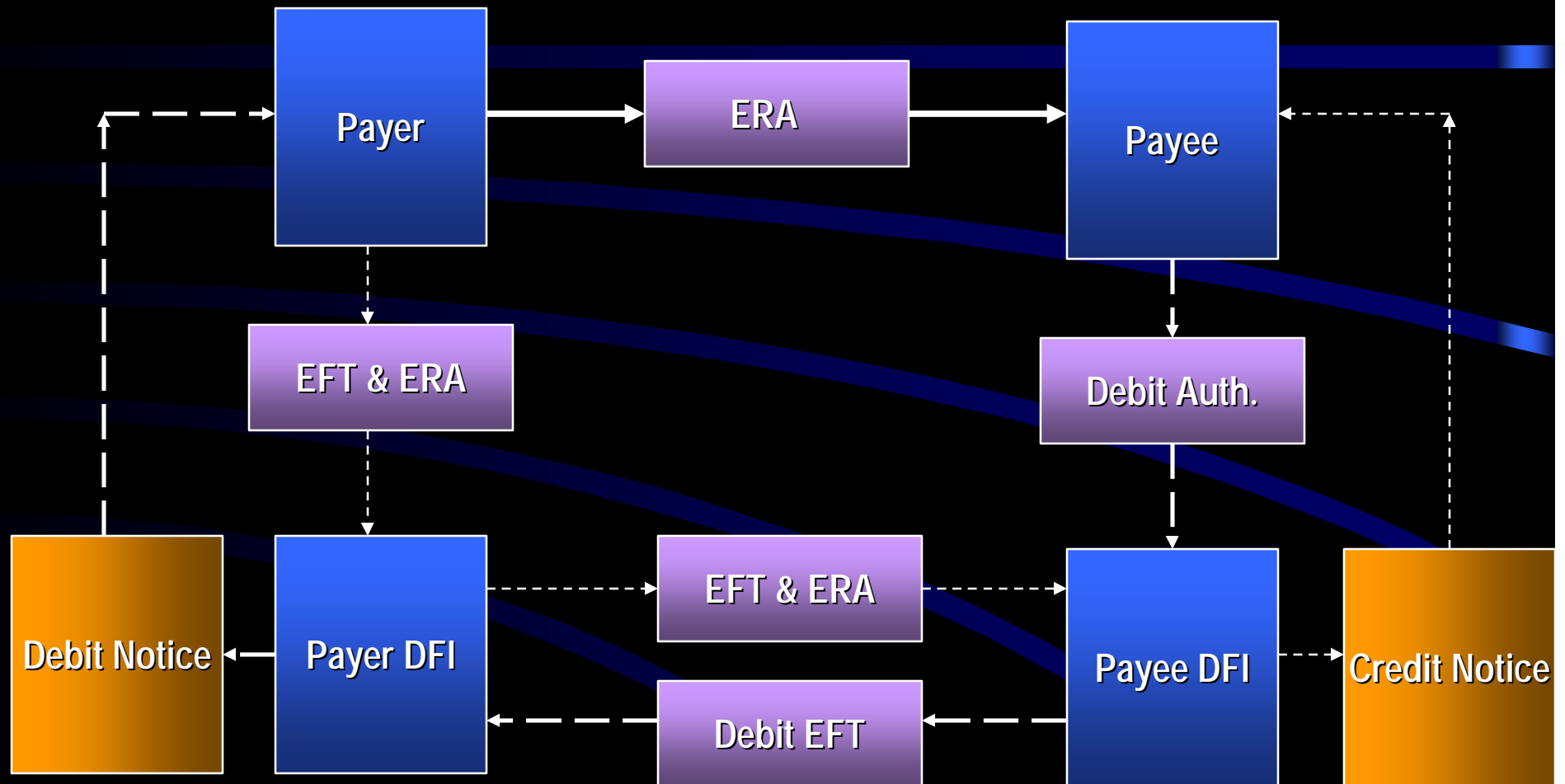
# Why Is Medical Billing Different From Commercial Billing?

- Claims are NOT invoices
- Third party payers
- Secondary, third, ... multiple payers
- Third party payees

# Healthcare Claims/Payment/COB



# HealthCare Payment/ERA (835) Information Flows



DFI: Depository Financial Institution  
ERA: Electronic Remittance Advice

Payer: Actual payer and any third party agents  
Payee: Actual providers and/or their agents

**Redix**

# HealthCare Payment (835) Claim Balancing

- Transaction Balancing
  - the sum of all claim payments minus the sum of all provider level adjustments equals the total payment amount
  - BPR02 = CLP04 - ? PLB/04/06/08/10/12/14
- Claim Balancing
  - submitted changes for the claim minus the sum of all monetary adjustments equals the claim paid amount
  - CLP04 = CLP03 - ? CAS03/06/09/12/15
- Service Line Balancing
  - related to specific line items from the original submitted claim
  - SVC03 = SVC02 - ? CAS03/06/09/12/15

# HealthCare eCommerce Architecture

HealthCare Applications

## eCommerce Components Storage

Dictionary	Format Conversion
SimpleList	Cryption
OrderForm	Digital Signature
DBStorage	
Promotion	Audit/Tracking

## HealthCare Processing Pipelines

Claims Pipeline

ERA Pipeline

Enrollment Pipeline

## Order Processing Pipelines

Product Pipeline

Plan Pipeline

OBI Pipeline

## Commerce Interchange Pipeline

Transmit Pipeline

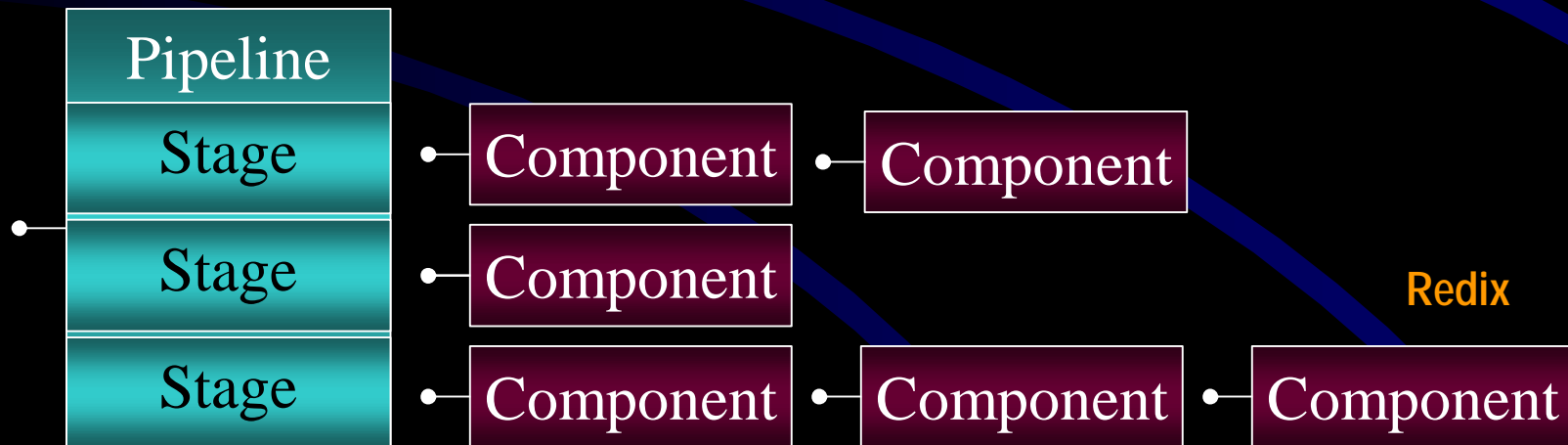
Receive Pipeline

Oracle, SQL Server, Legacy, ERP, Access, or ODBC/OLE-DB databases

Redis

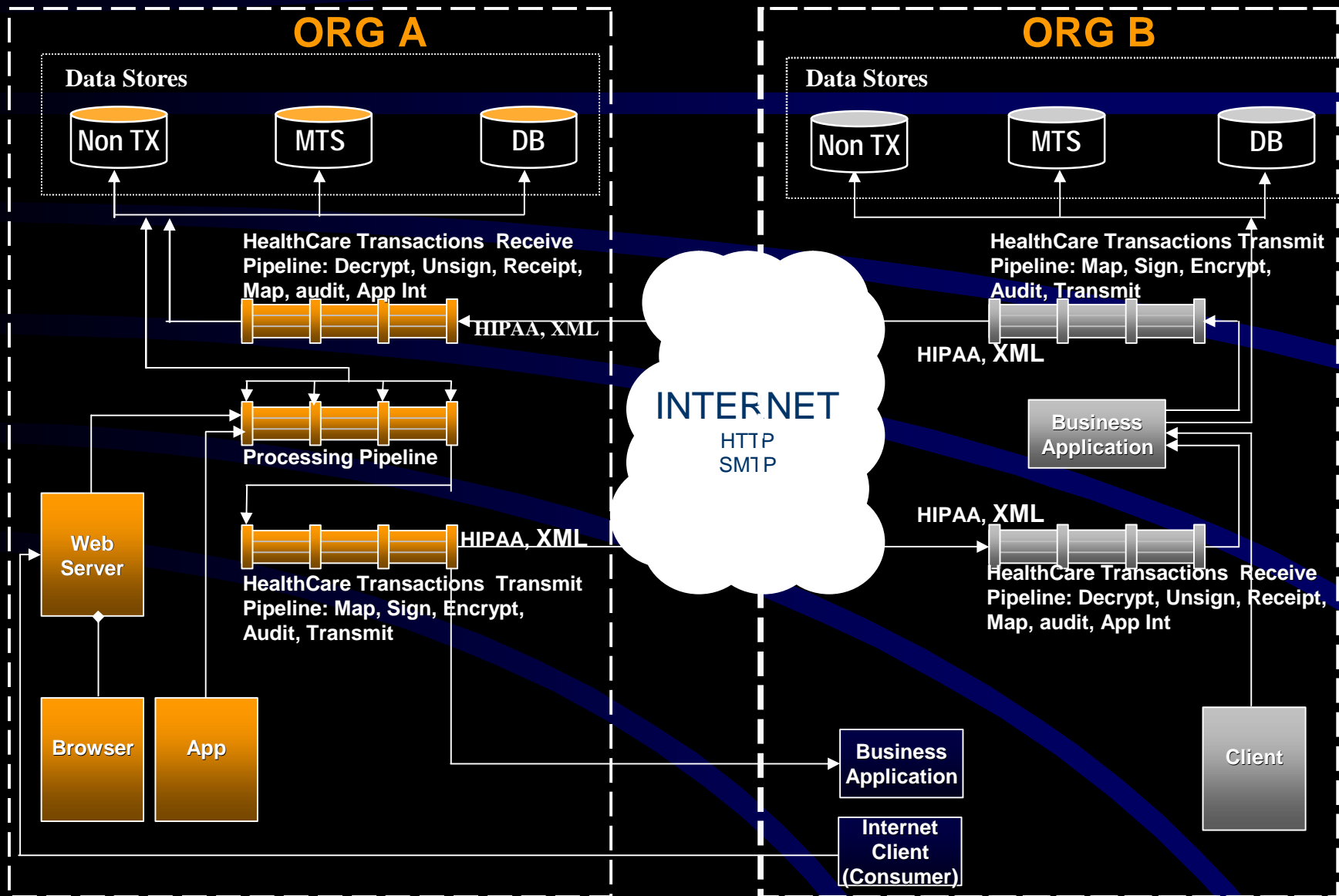
# HealthCare eCommerce - Why Pipeline?

- A framework for modeling business processes
  - that can be broken into steps or stages
  - where at each stage component(s) can be plugged in to do work
- Dynamically define InterProcess Communications
- Easily configured
  - one business process/one pipeline
  - one transaction/one pipeline



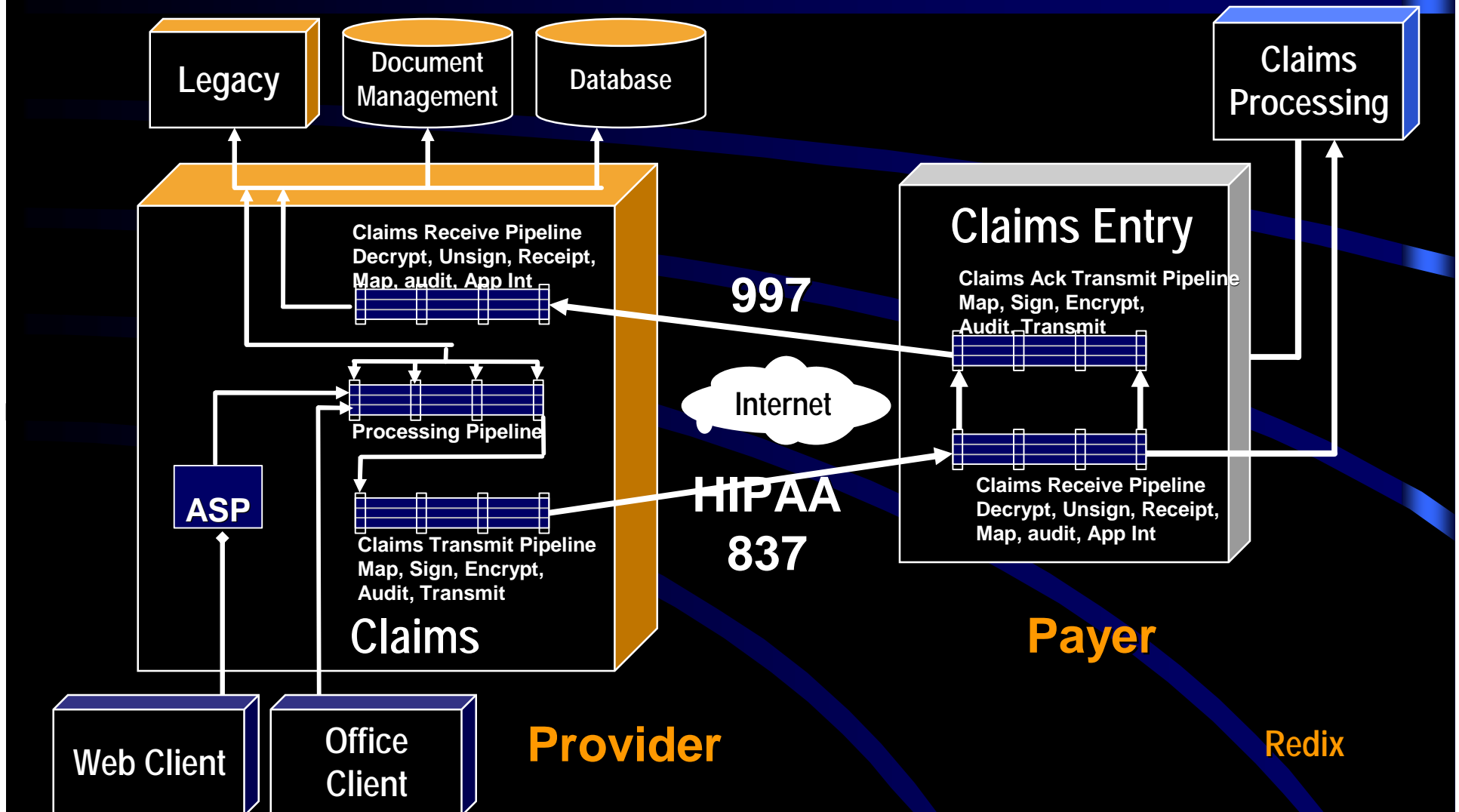


# HealthCare eCommerce

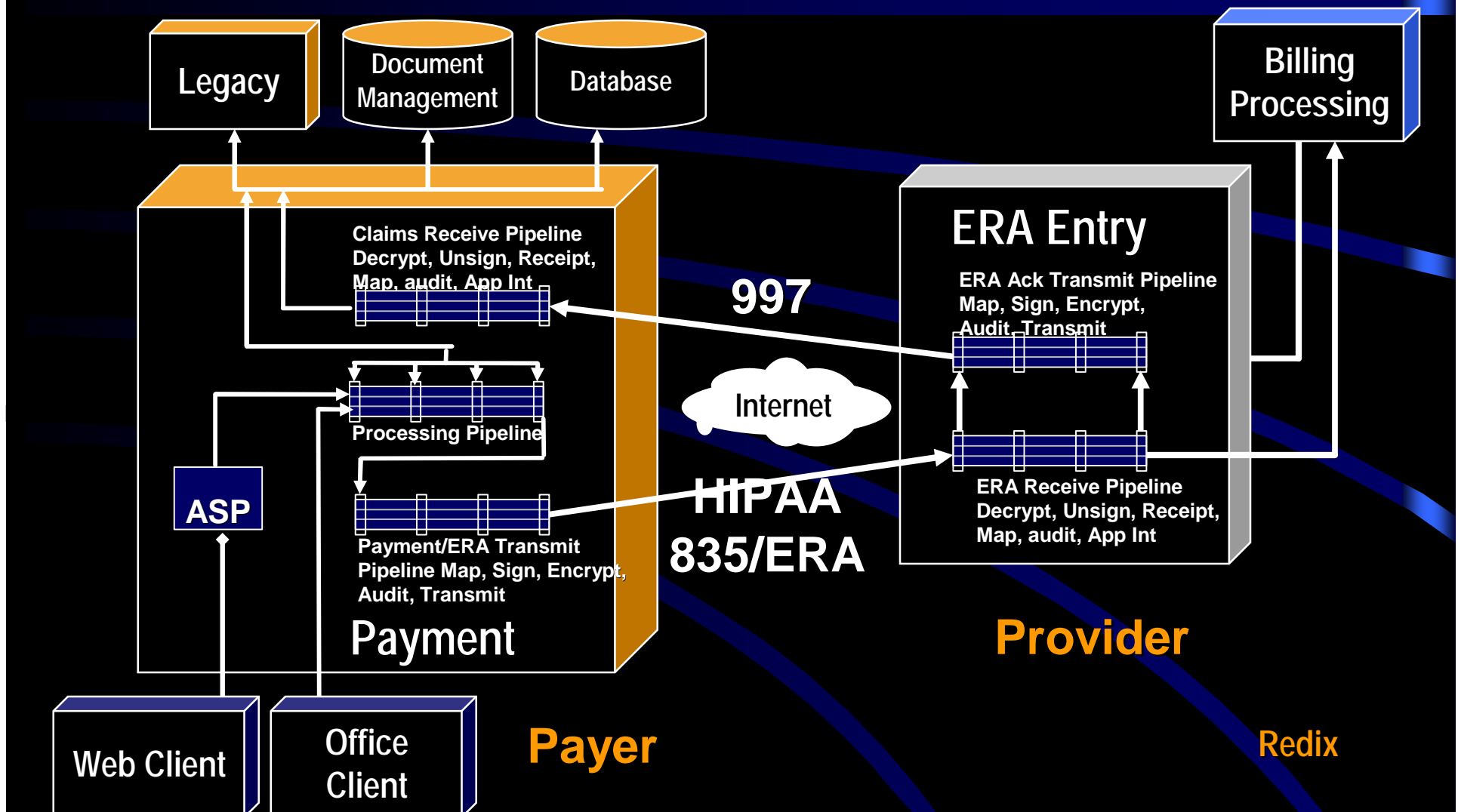


Redis

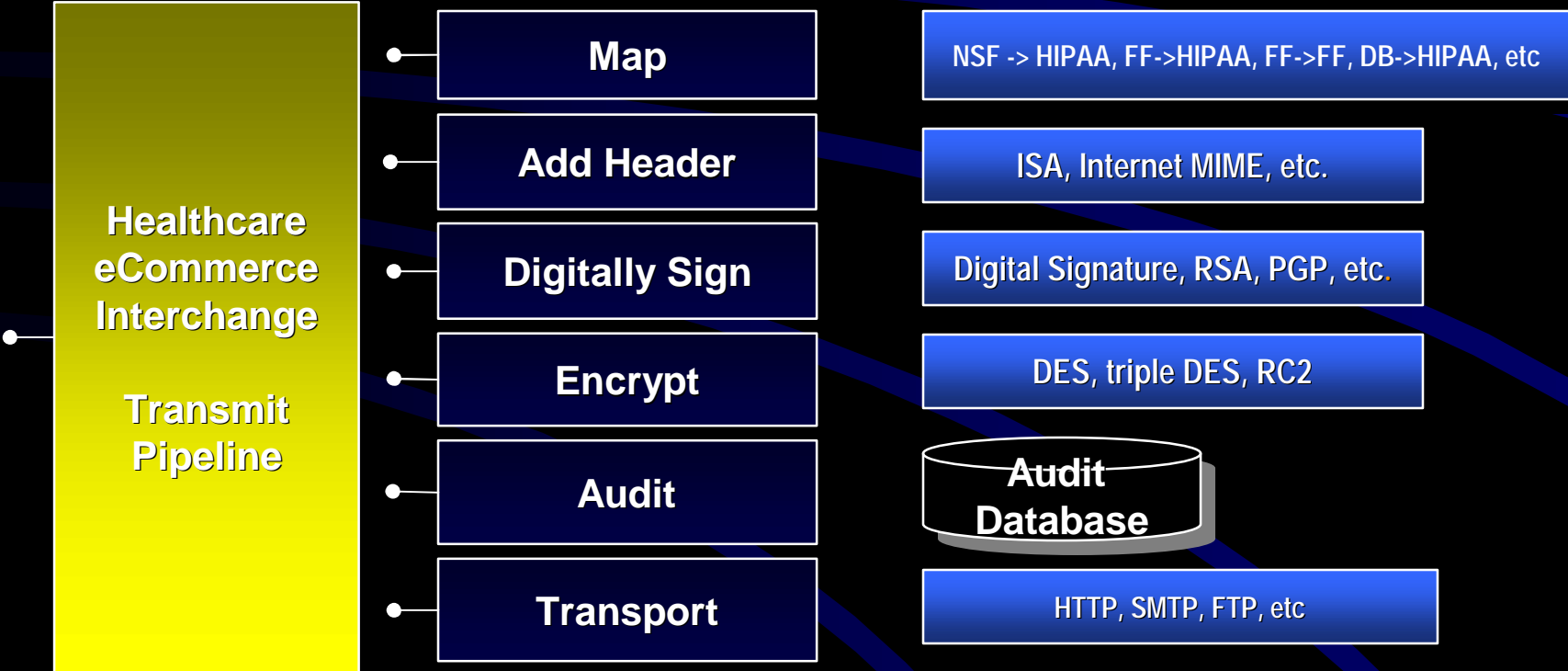
# HealthCare Claims eCommerce Processing - Example



# HealthCare Payment eCommerce Processing - Example

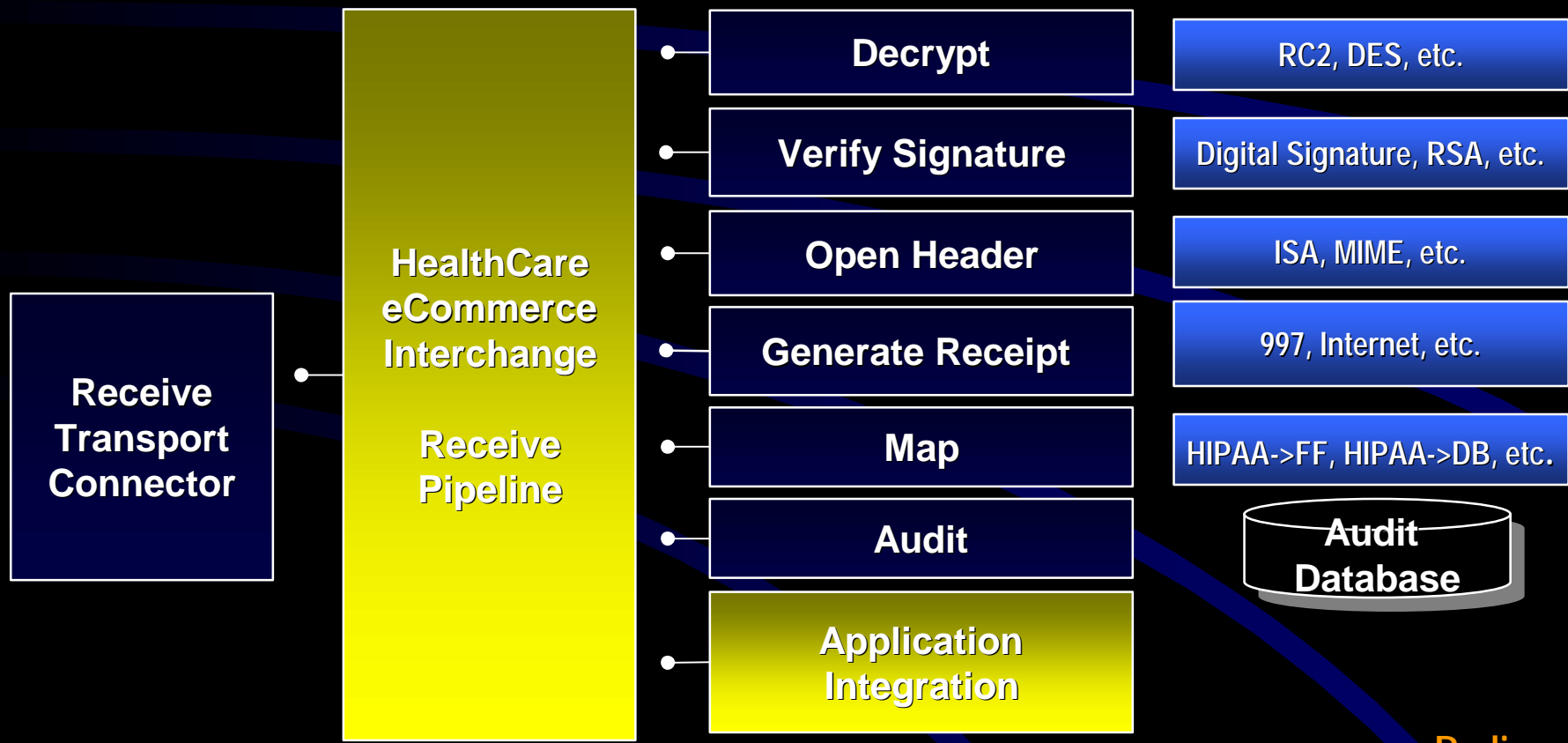


# HealthCare eCommerce Transmit Architecture



Redix

# HealthCare eCommerce Receive Architecture

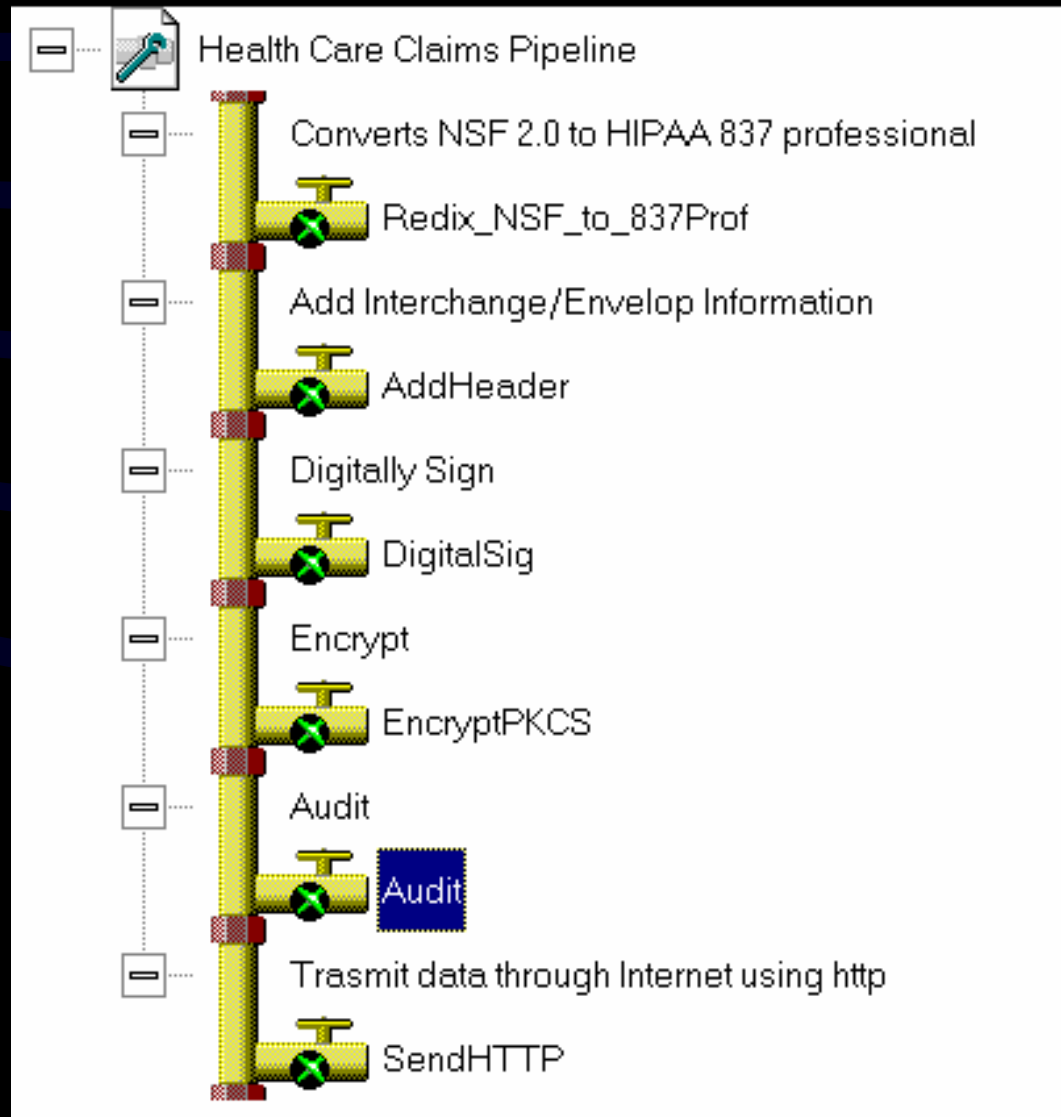


Redix

# HealthCare eCommerce Pipeline Components

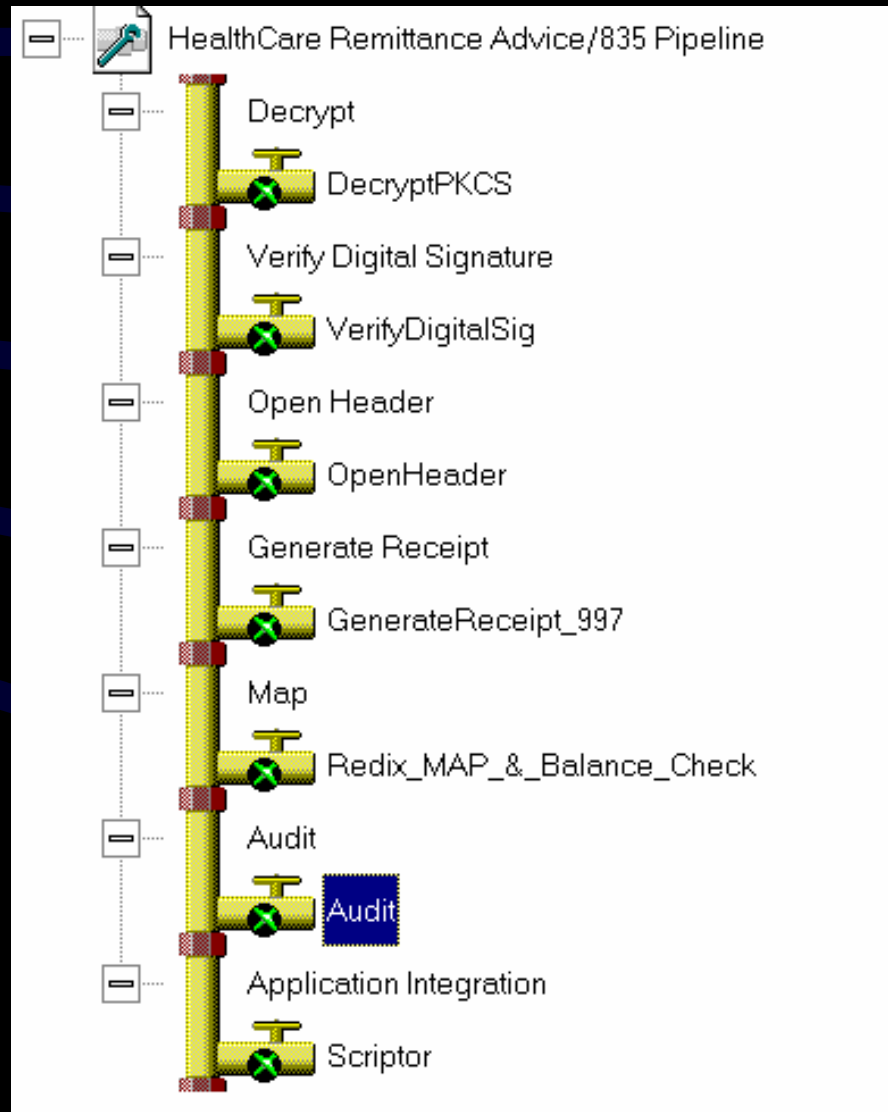
- Format Conversion (NSF, UB, HIPAA, X12, DB, Flat Files, XML, etc)
- PKCS7 and SMIME
  - Digital Signature, Verify Digital Signature, EncryptPKCS
  - DecryptPKCS, EncryptSMIME, DecryptSMIME
- Tracking and Audit Trails
- Credit Card Payment (Verisign, Cybercash)
- Application Integration
  - LOB (Line of Business), ERP
  - DB
  - Legacy

# HealthCare Claims Pipeline (NSF->HIPAA->Payer)



Redix

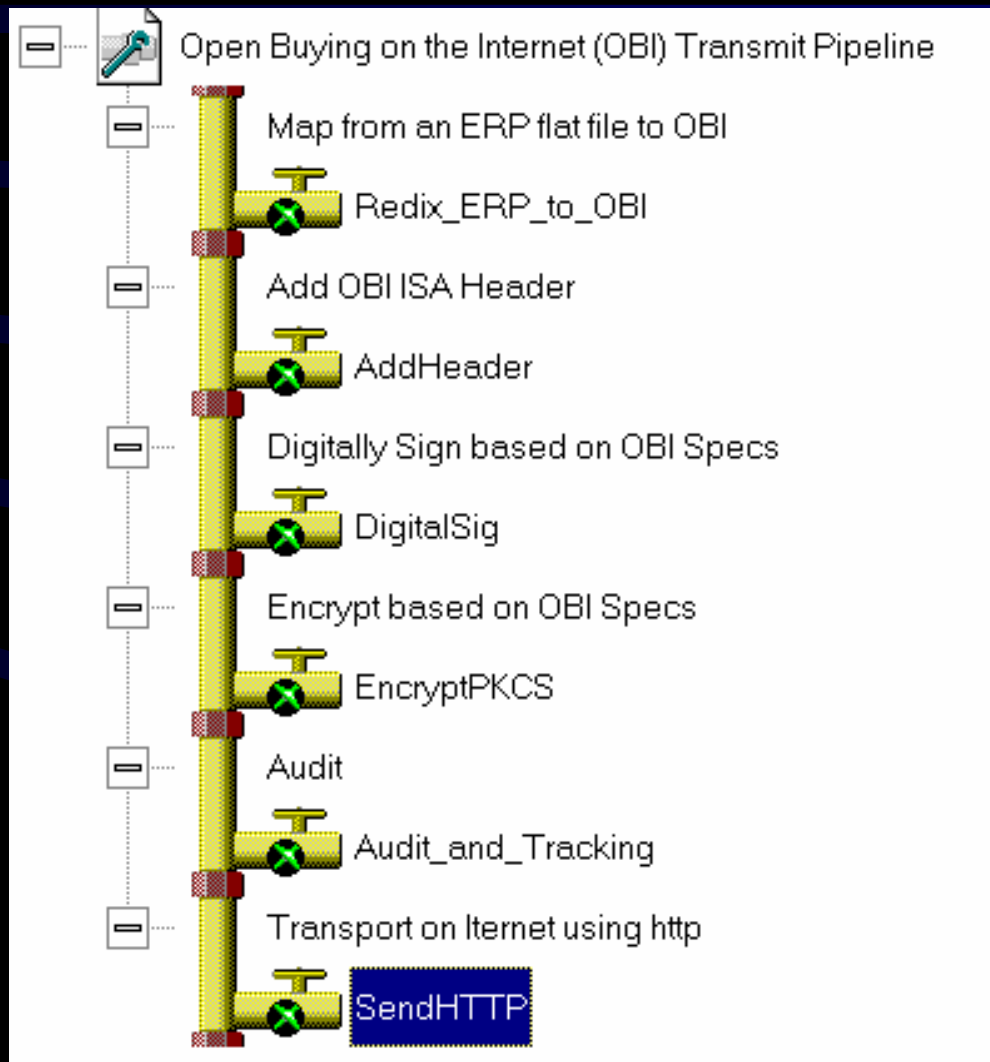
# HealthCare ERA/835 Pipeline (HIPAA->AP)



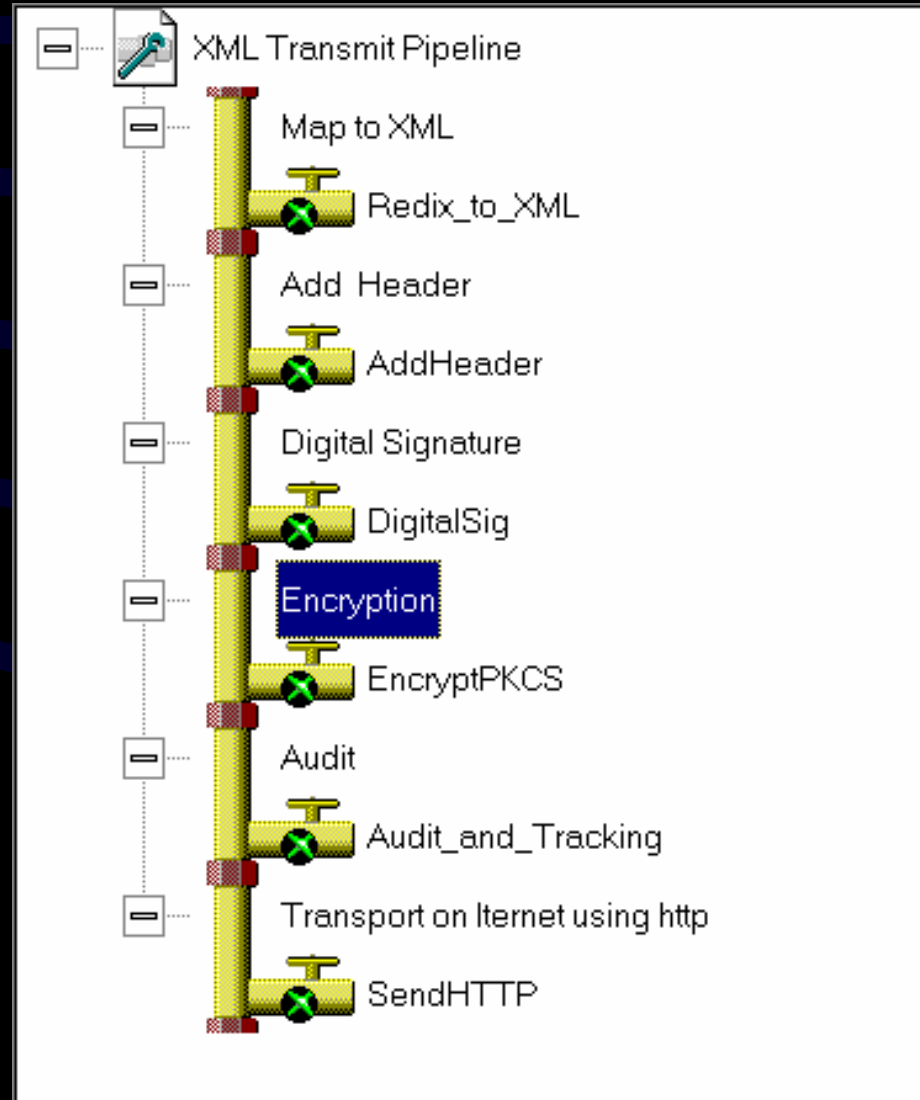
Redix



# HealthCare Open Buying on the Internet (OBI) Pipeline



# Internet Transmit Pipeline using XML



Redix

# Demonstrations

- **HIPAA Transaction Sets**
- **Generic Maps of UB92 <--> HIPAA 837 Institutional**
- **Generic Maps of NSF <--> HIPAA 837 Professional**
- **HIPAA 835 and Balance Checking**
- **Oracle ERP's POO (Purchase Order Outbound) to OBI**

# Generic Map: NSF 2.0 to HIPAA 837 Professional

TBL	POS	SEGM	ELEM	ERE	SRE	DESCRIPTION	MAP	REC	SEC	FIELDMAP	SEGMENTMAP
02	060	N4	01	O	M	City Name	MAP	BA101	15	Other: BA101015_09;	
02	060	N4	02	O	M	State or Province Code	MAP	BA101	16	Other: BA101015_10;	
02	060	N4	03	O	M	Postal Code	MAP	BA101	17	Other: BA101015_11;	
02	060	N4	04	O	M	Country Code	NA				
02	060	N4	05	C	M	Location Qualifier	NA				
02	060	N4	06	O	M	Location Identifier	NA				
02	065	REF	00		O	Pay-to Provider Secondary Information					Conditional;
02	065	REF	01	M	O	Reference Number Qualifier	Const "SY"				
02	065	REF	02	C	O	Reference Number	MAP	BA001	09		
02	065	REF	03	C	O	Description	NA				
03	001	HL	00		M	Subscriber Hierarchical Level					
03	001	HL	01	M	M	Hierarchical ID Number	Const "2"				
03	001	HL	02	O	M	Hierarchical Parent ID Number	NA				
03	001	HL	03	M	M	Hierarchical Level Code	Const "22"				
03	001	HL	04	O	M	Hierarchical Child Code	Const "1"				
03	005	SBR	00		M	Subscriber Information					
03	005	SBR	01	M	M	Payer Responsibility Sequence Number Code	Const "P"				

# Generic Map: UB92 Version 4.1 to HIPAA 837 Institutional

REC	SEQ	BGN	END	LEN	LR	REQ	DESCRIPTION	HIPAA	TBL	POS	SEGM	ELEM	ER	SR	FIELDMAP	SEGTMAP
01	01	1	2	2	L	M	Record Type "01"	Const "01"								Counter: Total
01	02	3	12	10	R	M	Submitter EIN	MAP	01	02	NM1	09	M	M	Condition: if (NM101020_01 = "85");	
01	03	13	13	1		M	Multiple Provider Billing File Indicator	Const "1"								
01	04	14	30	17	L	O	Filler (National Use)	NA								
01	05	31	31	1		O	Receiver Type Code	NA								
01	06	32	36	5	R	O	Receiver Identification	NA								
01	07	37	40	4	L	O	Receiver Sub-identification	NA								
01	08	41	46	6	R	M	Processing Date ("Date Bill Submitted" on HCFA-1450)	MAP	01	01	BHT	04	M	M	Condition: if (BHT01010_01 = "0019");	
01	09	47	67	21	L	O	Submitter Name	MAP	01	02	NM1	03	M	M	Condition: if (NM101020_01 = "85");	
01	10	68	85	18	L	O	Address	NA								
01	11	86	100	15	L	O	City	NA								
01	12	101	102	2	L	O	State	NA								
01	13	103	111	9	L	O	ZIP Code	NA								
01	14	112	121	10	R	O	Submitter FAX Number	MAP	01	04	PER	06	M	C	Condition: if (PER01045_03 = "FX");	
01	15	122	125	4	L	O	Country Code	NA								
01	16	126	125	10	R	O	Country Code	MAP	01	04	PER	06	M	C	Condition: if (PER01045_03 = "FX");	