Enterprise Payment Platform

an IBM solution facilitating the exchange of financial messages

SEPA not only means format transformation, but also renovation and consolidation of the current complex payment silos

IBMs vision is to facilitate this change applying the SOA architecture to the payments domain. This means:

- Manage the integration of existing and new payment applications and services through ‘payments-aware’ integration platform, based on a service bus infrastructure
- Insert a layer of integration ‘underneath’ monolithic software to service-enable these functions contained in existing systems
- Provide the ability to ‘thin out’ current monolithic systems exposing payments services that can be re-used across many payments silos
- Enable process view/control as well as monitoring, using business-state engines to manage reporting of the state of complex payments processes
- Enable all payment operations to act on a common representation of payments data through the use of an internal standard format
- Deliver a documented payments data model, based on widely accepted standards and deployable payment processes
EPP is an offering which accelerates the transition to SEPA, implementing an SOA based payments platform.

Enterprise Payments Platform

Pre-built Monitoring Tool

WAS

Execution feedback

Service Interfaces for Common Payment Functions

Web services

Options

WSphere Partner Gateway

DataPower

Swift, WBI FN

Gateway Services

Payment Processes

Payment Execution

IFW BPEL

Delivering additional mediation assets

Content delivered by EPP

- Internal Standard Format (ISF)
  - Based on ISO 20022
  - Comprehensive set of business objects for payments (XML schema)
  - Full set of entity relationship diagrams
  - Data dictionary document
  - DDL for DB2 (with scripts for AIX and Windows)

- Process choreography accelerators:
  - Sample business state machine (BPEL) processes
  - Predefined service interfaces for: reception, mapping, acknowledgement, business activity monitoring, liquidity, least cost routing, interdiction, recall processing and SWIFT interaction.

- Monitoring and configuration tool (WAS V5 EAR file)

- SCA component for persistence service

- Sample WebSphere TX maps (NACHA to ISF, SEPA …)

- Best practices / methodology / programming guide
EPP Enables Management of the Entire Payment Lifecycle

- Allows Monitoring of the Business State Across Components
  - A transition occurs when control passes from one component to another
  - Events are recorded as transitions occur in the system
  - Timers can report if events occur / don’t occur as planned
  - Monitoring & reporting derived from payment events

EPP’s database contains all payment data facilitating monitoring, audit and reporting

Data Model Based on ISO20022

Extract of the EPP data model
Monitoring the payments is provided based on a customizable WAS application

Payments implementations include products and partners depending on the business issues to be solved

- **EPP accelerator Pack**
- **IBM Middleware Products:**
  - Process Mediation Options
    - WebSphere Process Server or WebSphere Message Broker
    - Mediation / Transformation Support
      - WebSphere TX DataPower
  - External Network / Gateway Support
    - WebSphere Partner Gateway
    - WebSphere Business Integration for Financial Networks
  - User Interface Container
    - WebSphere Application Server
    - WebSphere Portal Server
  - Tooling
    - WebSphere Process Modeler
    - WebSphere Integration Developer
- **IBM Services Offerings:**
  - GBS/GTS
    - Consulting
    - Integration
- **EPP Partner Application Service Providers:**
  - And growing!
  - Clear2Pay (Payment Applications)
  - Dovetail (Liquidity Management)
  - Inteurope (RMA)
  - Lighthouse (OFAC)
  - Pega Systems (Exceptions & Investigations)
  - Systar (Business Dashboard Monitor)
  - …
WebSphere TX
Provides Comprehensive Solutions for Transforming Payment Messages

It Takes Payment Messages from Native Forms ...

ANY Data including:
- hierarchical, binary, packed, tabular, relational,
- nested structures, mixed-type, and on and on...

Processes Them With NO CODE ...

Many-to-many Integration

And Outputs Them Into Internal Standard Format

Data mapping is available for many formats in WebSphere TX
- Mapping in/out of in-house formats
- Mapping in/out of country clearinghouse standards
- SEPA, NACHA, many others!

Websphere TX conversion example
EPP Extends the IBM Information Framework (IFW)
IFW Defines and Organizes Payment Processes, Integration, and Data

IFW Payment Foundation Models
- Financial Services Data Model
- Financial Services Function Model

Banking Data Warehouse
- Business Solution Templates
- Banking Data Warehouse Model

IFW Payment Models
- Financial Services Business Object Model
- Financial Services Interface Design Model
- Generators

IFW Process Models

IFW Offers Extensive Best Practices, Frameworks, and Templates that Speed Development of Payments Projects
Payment Services are Built as Extensions to IFW and Execute on the WebSphere Process Server Runtime

Add Gateway Services to Extend Beyond the Enterprise
Gateways for SWIFT, EDI, EDIINT and Managed File Transfer

Options:
- WebSphere Partner Gateway
- WBI for Financial Networks
- DataPower
- PM4Data
DataPower Can be Added for XML Acceleration

An SOA Appliance...

.....An XML Accelerator

- Simplifies SOA with specialized devices
- Accelerates SOA with faster XML throughput
- Helps protect SOA XML implementations
- Converts XML payment messages to internal formats at wire speeds

IBM DataPower redefines the boundaries of middleware extending the SOA foundation with specialized, consumable, dedicated appliances that combine superior performance and hardened security for SOA implementations.

XML payment message conversion at wire speeds.

WBI for Financial Networks

Gateway Edge Manager for SWIFTNet Protocols

Integration Messaging
- Provides shared edge services
- Consistent interface access components
- Allow for transparency of transaction and system status

Interface Services
- Protocol handling
- Session handling
- Authentication
- Operating & control
- Gateway management

Gateway Management Services
- Financial network connectivity logic
- Encryption
Customers and Partners Can Extend the Architecture
Using Predefined Interfaces Based on ISO20022

- Expose application components as services
- Predefined interface semantics
- Common Internal Standard Format (ISF)

At the official EPP announcement at SIBOS 2006 we demonstrated a payments solution based on EPP with selected partners

- **SIBOS demo partners:**
  - Clear2Pay (Corporate Initiations and Acknowledgement, Least Cost Routing)
  - Dovetail (Liquidity, Gateway Connectivity – Chips, FedWire)
  - Intercope (FAX to SWIFT, Relationship Validation, SWIFT Message Validation)
  - Lighthouse System (Interdiction, OFAC)
  - PegaSystems (Exception Handling & Investigation)
  - Systar (Business Activity Monitoring)

- **New partners aligning their offering to EPP:**
  - ACI
  - Fundtech
  - MetaStorm
  - SWIFT

- **additional IBM assets:**
  - Liquidity Manager, Target2 Participant System
  - Cash Reporting, Nostro Cash Management
WACHOVIA

Fourth largest bank holding company in the United States
$512 billion in assets, third largest U.S. full-service brokerage firm based on client assets
93,000 employees who service 13 million households and businesses
9.3 million online product and service enrollments and 3 million active online customers

Requirements
Wachovia wanted to build an SOA infrastructure for handling payments. This infrastructure would provide the basis for adding new payments services in the future which could be sourced from third-party vendors or built in-house. It would also eliminate duplication of service implementations and would provide cost savings by ensuring payments are cleared in an efficient manner.

Solution
The Wachovia installation of IBM’s Enterprise Payments Platform delivers payment mediation, monitoring and management across the Wachovia Treasury Services business. The Enterprise Payments Platform is designed to support industry open standards of abstracted functional services based on SOA. By using open architectures and the IBM Information Framework Banking models, The Enterprise Payments Platform provides a common definition of data, processes and services, allowing for phased and component based development while encouraging re-use and consistency across the enterprise.

Benefits
EPP has accelerated Wachovia’s payments initiative and greatly enhanced the level of monitoring delivered. Wachovia’s back-end payment applications can now be shielded from changes that regularly take place at payment network and gateway product levels. Payment processes implemented in the Enterprise Payments Platform are now described using best of breed modeling tools so that business users have a thorough visibility of the deployed business processes.

$1.4B processed in first production day

Wires Use Case in Wachovia

WebSphere Application Server

In house Wire System
Swift
Fed
Chips
Intranet MTS

WebSphere Message Broker

enterprise payment platform

* deployable payment processes and models
* internal standardized format and * deployable data models

data access:
warehouse audit reporting
Information Management

* user interface monitor samples
* business state machine

EPP

workflows choreography

* Part of the enterprise payment platform mediation assets
SWIFT Use Case in Sweden

Enterprise payment platform

For more information and next steps

- General Information manual
- EPP demos
- PoC results
- Payments conference end april 2007 in LaGaude
  Partner integration demo

Contact: your IBM representative
Mr Wright supervises the payment operations handling – identifies the problems the system communicates to him. He corrects the erroneous payment and if required, asks a specific authorisation to the security officer.

The internal auditor edits his spreadsheet and comments it before communicating it to the Board.

Mrs Taggart verifies on a dash board the volume of the payments by currency. She also gets a forecast summary for the day which rises an alert in case of a potential liquidity problem.
Filtering of payment operations by status

Transaction Details for payment request 5162
Warning event details of transaction 5162

XML data of the warning event