Agenda

• Workflow reference model
• Process Definition
• Interoperation
• Collaboration
• Meta data
• Application execution
• Process documents
Process Automation Overview

**Business Process Analysis, Modelling & Definition Tools**

**Process Design & Definition**

**Process Changes**

**Workflow Execution Environment**

**Distributed Infrastructure Environment**

**Resource Interaction**

**Applications & IT Tools**

**Users**

**Administrator / Supervisor**

**Process Designer**
The Workflow Reference Model

**Interface 1**  Process Definition Import/Export

**Process Definition Tools**

**Interface 2**

**Workflow Enactment Service**

**Interface 3**

**Workflow Engine(s)**

**Interface 4**  - Interoperability

**Other Workflow Enactment Service(s)**

**Interface 5**

**Administration & Monitoring Tools**

**Interface 1**

**Workflow Enactment Service**

**Interface 2**  Client Apps

**Interface 3**  Worklist Handler

**Interface 4**

**Tool Agent**

**Invoked Applications**

**Legacy, Desktop, etc**
XML for Process Definition

- WfMC Workflow Process Definition Language (WPDL)
- OMG UML Extensions for Workflow Process Definition (RFP)
- XMI (XML Model Interchange) from UML
XML for Interoperation

- Loose coupling
- HTTP over internet
- Heterogeneous systems
- Outsourcing and business partners
Wf-XML Specification

• Interactions between workflow requesters and service providers
  – A structured and well-formed XML message encoding
  – Synchronous or asynchronous message-handling capability
  – Independence from transport mechanism

• XML message set representing interaction requests and responses
  – Message Header: Indicates message type and target resource
  – Message Body: Operation, operation-specific parameters and error codes

• Based on existing Workflow Interoperability Standards initiatives
Example: CreateProcessInstance

```xml
<?xml version="1.0"?>
  <WfMessage Version="1.0">
    <WfTransport/>
    <WfMessageHeader>
      <Request ResponseRequired ="Yes"/>
      <Key>http://www.complInc.com/WfSrv?id=1199827</Key>
    </WfMessageHeader>
    <WfMessageBody>
      <CreateProcessInstance.Request StartImmediately ="true">
        <ObserverKey>http://www.Acme.com/wfx456</ObserverKey>
        <ContextData>
          <Computer>
            <Type>thinkpad</Type>
            <Series>600X</Series>
            <Option>DVD</Option>
          </Computer>
        </ContextData>
      </CreateProcessInstance.Request>
    </WfMessageBody>
  </WfMessage>
```

- Identifies process definition
- Request to create process instance
- Observer to be notified of process updates
- Context data for this process instance
XML for Collaboration

Notification/EAI messages

- Business events
- State changes
- Exceptions
- Negotiation
- Synchronization

Initiate, alter, synchronize workflow process
XML for Meta Data

• Data about data
  - File type
  - Source application
  - Date, time created
  - Context
  - Ownership

• Management of files, e.g., product design
• Incorporate in business documents
• Application inputs and outputs
XML for Application Execution

• Execution request
  – Inputs
  – Parameters
  – Schedule considerations
  – Default templates

• Execution results
  – Outputs
  – Date, time
XML for Process Documents

- Internal business documents
- B2B & B2C agreements
- Digital signatures
- Audit and history records
- Document views and internationalization
Signed Documents
Summary: Why XML

- Flexible, extensible documents
- Technology independent form
- HTTP exchange compatibility
- Ease of browser display
- Signature support
- XSL filtering and internationalization