GovDex Reference

UMM Transaction Patterns

Added by Caroline, last edited by Steve Capell on Mar 23, 2007 (view change)

Labels: patterns, transaction

UMM TRANSACTION PATTERNS

The UMM defines 6 transaction patterns that can be used to categorise any business transaction. Each pattern carries a set of default quality of service attributes that can be used as defaults for domain specific patterns. The pattern attributes are divided into three categories; timeouts, quality of service, and message security.

Definitions

Pattern/Criteria	Short Description	Other Comments	Example Use Case
Commercial Transaction	Formal obligation between parties	Can relate to use of NOF. This construct has historically and parocially known as a business transaction with the formal pattern being named Commercial Transaction.	A buyer requests a product or service in a specific time delivered to a pre-determined location from a Seller. Accepting the obligation, the Seller agrees and commits to delivery to complete a business transaction. The parties may have a pre-existing agreement to exchange goods and payment.
Notification	A formal information exchange between parties.	NOF can apply to timeout on responding party's document or an issue with the received responding party's document (signature missing or invalid, erroneous, not authorized - maps back to TPA). It is recommended this be sent over an alternate communication channel. How and when the NOF is used is TPA specific. Provides further flexibility given decisions between the parties.	A buyer sends a cancel order to a supplier. Typically after a business failure of a commercial transaction like a purchase order (perhaps becuase the supplier's response indicates that they cannot deliver within the requested timeframe). The notification pattern would be used for the cancel order.
Information Distribution	An informal information exchange between parties		A Seller notifies its Buyers of the relase of a new product line that become part of an product catalog. As each Buyer retains a copy of the product catalog, they may

			acknowledge receipt. Without non-repudiation, Information Distribution may be difficult to prove authorship and adherence.
Request-Response	A request and response where no residual obligation is created (for example, a request for price and availability). The request/response activity pattern shall be used for business contracts when an initiating partner requests information that a responding partner already has and when the request for business information requires a complex interdependent set of results.	Typically no residual obligation created. Requires some business processing before the results of a query are provided.	A Buyer asks a Seller in a request for the price and availability of a particular product. This request does not result in the responding party allocating product for future purchase. The Seller queries its inventory and other applications to provide a sufficient response by checking their Supply Chain Management and Inventory systems. The Seller has to calculate the current price based on availability, its Suppliers' details, etc. Most often, the Request-Response does not involve a simple Yes/No answer from the responding party.
Request-Confirm	Used for business contracts where an initiating partner requests confirmation about their status with respect to previous contracts or a responder's business rules.	Typically no residual obligation created.	A Buyer requests from a Seller if it is still authorized to sell certain product. The Buyer expects a confirmation response. A response does not equate to an obligation, although further action could subsequently occur. A previous contract may or may not have existed between the parties. The Seller confirms he is still authorized to sell the product. Typically, the Request-Confirm involves a simple Yes/No answer from the responding party.
Query Response	Used by a requester for an information query that responding partner already has.	This pattern should be used when the response meets the specified constraining criteria. If this involves a complex set of results, use request-response pattern. Use when no interdependency exists between the query results. Can use this pattern when querying business information and for specifying the structure of the response (without complex constraints).	A Buyer asks a Seller in a request for the price and availability of a particular product. This request does not result in the responding party allocating product for future purchase. The Seller maintains a online product catalog of products and can provide the Buyer a response without complex constraints or backend processing.

Pattern Attributes and Default Values

Pattern Type		Commercial Transaction	Request Confirm	Request Response	Query Response	Notification	Information Distribution

Description		Formal obligation between parties	Used for business contracts where an initiating partner requests confirmation about their status with respect to previous contracts.	A request and response where no residual obligation is created (for example, a request for price and availability.	Used by a requester for an information query that responding partner already has.	A formal information exchange between parties.	An informal information exchange between parties
Timeout Attributes		**Default Values**					
Time to ack receipt	Request	PT2H	PT2H	-	PT2H	PT2H	-
	Response	PT2H	PT2H	-	PT2H	-	-
Time to ack acceptance	Request	PT6H	-	-	-	PT6H	-
	Response	PT6H	-	-	-	-	-
Time to perform	Transaction	PT24H	PT24H	PT24H	-	PT24H	-
Quality of Service Attributes		**Default Values**					
non-repudation	Request	TRUE	TRUE	Optional	Optional	TRUE	FALSE
	Response	TRUE	TRUE	Optional	-	-	-
Non-repudiation of receipt	Request	TRUE	TRUE	Optional	Optional	TRUE	FALSE
	Response	TRUE	TRUE	Optional	-	-	-
Intelligible check	Request	TRUE	Optional	Optional	Optional	TRUE	FALSE
	Response	TRUE	Optional	Optional	-	-	-
Guaranteed delivery	Request	TRUE	Optional	Optional	Optional	TRUE	FALSE
	Response	TRUE	Optional	Optional	-	-	-
Security Attributes		**Default Values**					
Confidentiality	Request	persistent	transient	Optional	Optional	persistent	none

	Response	persistent	transient	Optional	-	-	-
Authentication	Request	persistent	transient	Optional	Optional	persistent	none
	Response	persistent	transient	Optional	-	-	-
Tamper detection	Request	persistent	transient	Optional	Optional	persistent	none
	Response	persistent	transient	Optional	-	-	-

Business Signals - Sample Schemas

Receipt Acknowledgement   **Acceptance Acknowledgement**   **Exception**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bpssignal:ReceiptAcknowledgment
xmlns:bpssignal="http://www.untmg.org/BusinessProcess/BPSS_SIGNALS"
xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns:xsd="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xlink="http://www.w3.org/1999/xlink"
xsd:schemaLocation="http://www.untmg.org/BusinessProcess/BPSS_SIGNALS BPSS_Signals.xsd">
<bpssignal:OriginalMessageIdentifier>MessageIdentifier-1</bpssignal:OriginalMessageIdentifier>
<bpssignal:FromPartyInfo bpssignal:type="DUNS.com">PartyA</bpssignal:FromPartyInfo>
<bpssignal:ToPartyInfo bpssignal:type="DUNS.com">PartyB</bpssignal:ToPartyInfo>
<bpssignal:FromRole bpssignal:name="Buyer" xlink:type="simple"
xlink:href="http://www.rosettanet.org/processes/3A4.xml#Buyer"/>
<bpssignal:ToRole bpssignal:name="Seller" xlink:type="simple"
xlink:href="http://www.rosettanet.org/processes/3A4.xml#Seller"/>
<bpssignal:OriginalMessageDateTime>2002-03-05T19:00:00</bpssignal:OriginalMessageDateTime>
<bpssignal:ThisMessageDateTime>2002-03-05T20:00:00</bpssignal:ThisMessageDateTime>
<bpssignal:ProcessSpecificationInfo bpssignal:version="2.0"
bpssignal:name="PIP3A4RequestPurchaseOrder" xlink:type="simple"
xlink:href="http://www.rosettanet.org/processes/3A4.xml"
bpssignal:nameID="urn:icann:rosettanet.org:bpid:3A4$2.0"/>
<bpssignal:NonRepudiationInformation>
<bpssignal:MessagePartNRInformation>
<ds:Reference ds:URI="cid://Message-Part-1">
<ds:DigestMethod ds:Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
<ds:DigestValue>R0lGODlhcgGSALMAAAQCAEMmCZtuMFQxDS8bd012</ds:DigestValue>
</ds:Reference>
</bpssignal:MessagePartNRInformation>
<bpssignal:MessagePartNRInformation>
<ds:Reference ds:URI="cid://Message-Part-2">
<ds:DigestMethod ds:Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
<ds:DigestValue>afde1AbcgGSALMAAAQCAEMmCZtuMFQxDS8be</ds:DigestValue>
</ds:Reference>
</bpssignal:MessagePartNRInformation>
<bpssignal:MessagePartNRInformation>
<bpssignal:MessagePartIdentifier>Message-Part-3</bpssignal:MessagePartIdentifier>
</bpssignal:MessagePartNRInformation>
</bpssignal:NonRepudiationInformation>
</bpssignal:ReceiptAcknowledgment>
```