Business Collaborations
Binary and Multi-Party Collaborations

Business Process is a set of activities that are accomplished in operating business practices to achieve a business goal. A Business Process might be either an intra-organizational process or a collaborative business process conducted by two or more parties.   A collaborative process can occur across domains of control.

A Business Collaboration is a special type of business process or activity that is conducted by two or more parties to achieve a commonly defined goal or outcome. Accordingly, a business collaboration is a synonym for collaborative business process. At a high level a business collaboration consists of a set of roles collaborating through a set of choreographed transactions by exchanging business documents: A business collaboration typically occurs across domains of control. When a business collaboration occurs between business partners, each plays one or more roles in the collaboration.[1]

The current version of the BPSS technical specification addresses collaborations between two parties (Binary Collaborations). A collaboration consists of a set of roles collaborating through a set of choreographed business transactions by exchanging business documents. Binary Collaborations are between two roles only. Multiparty Collaborations are between more than two roles, but such Multiparty Collaborations are always synthesized from two or more Binary Collaborations.

Binary Collaborations are expressed as a set of Business Activities between the two roles. The Business Activity can be a Business Transaction Activity, i.e. the activity of conducting a single Business Transaction, or a Collaboration Activity, i.e. the activity of conducting another Binary Collaboration. A Collaboration Activity is the performance of a Binary Collaboration, within another Binary Collaboration. Binary Collaboration definitions are re-useable relative to Collaboration Activity.

Like a Binary Collaboration, a Business Transaction is a re-useable protocol between two roles. In a Business Transaction Activity the roles of the Binary Collaboration are assigned to the execution of the Business Transaction.

Unlike a Business Transaction that is atomic, a binary collaboration can be decomposed into multiple business transactions, such as a CPA negotiation or negotiation of a contract.

The Business Collaboration Choreography describes the ordering and transitions between business transactions or sub collaborations within a binary collaboration.

A Binary Collaboration consists of one or more Business Activities. These Business Activities are always conducted between the two Roles of the Binary Collaboration. For each activity one of two roles is assigned to be the initiatingRole (from) and the other to be the respondingRole (to). This is irrespective who initiated the binary collaboration.

In a binary collaboration, there is an initiating role that sends the request (the first message of the first Business Transaction Activity). Implicitly there is a requesting role performing the Requesting Business Activity and a responding role performing the Responding Business Activity. These roles become explicit when the transaction is used within a Business Transaction Activity within a Binary Collaboration.

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[1] UMM, R10 and User Guide to UMM, released 2003.
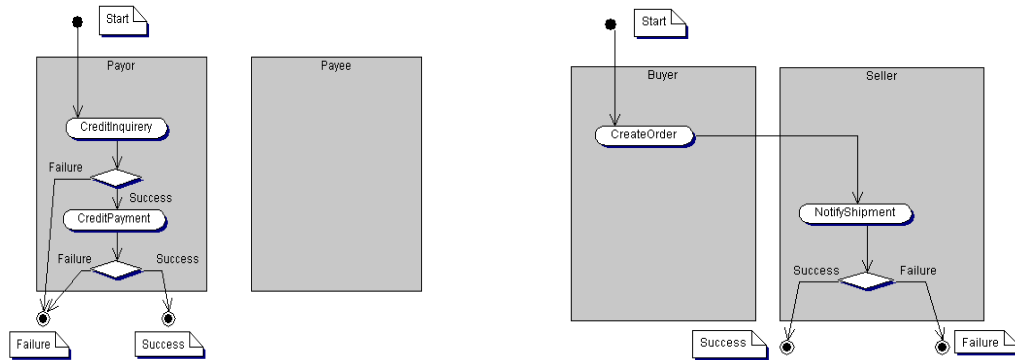
The choreography equates to and transitions between Business States. When a State is a Business Activity, a transition happens between the Business Activity completion state and the start state of the following Business Activity. This means that the Business Activity is "enabled" and the initiating party may send the request whenever appropriate, provided that it remains within the timeToPerform of the binary collaboration. A Business Activity is an abstract kind of Business State.

A timeToPerform is the period of time, starting upon initiation of the first activity, within which this entire collaboration must conclude from the requester's perspective. The timeToPerform must be greater than the sum of timeAcknowledgeReceipt and timeToAcknowledge Acceptance and the request.
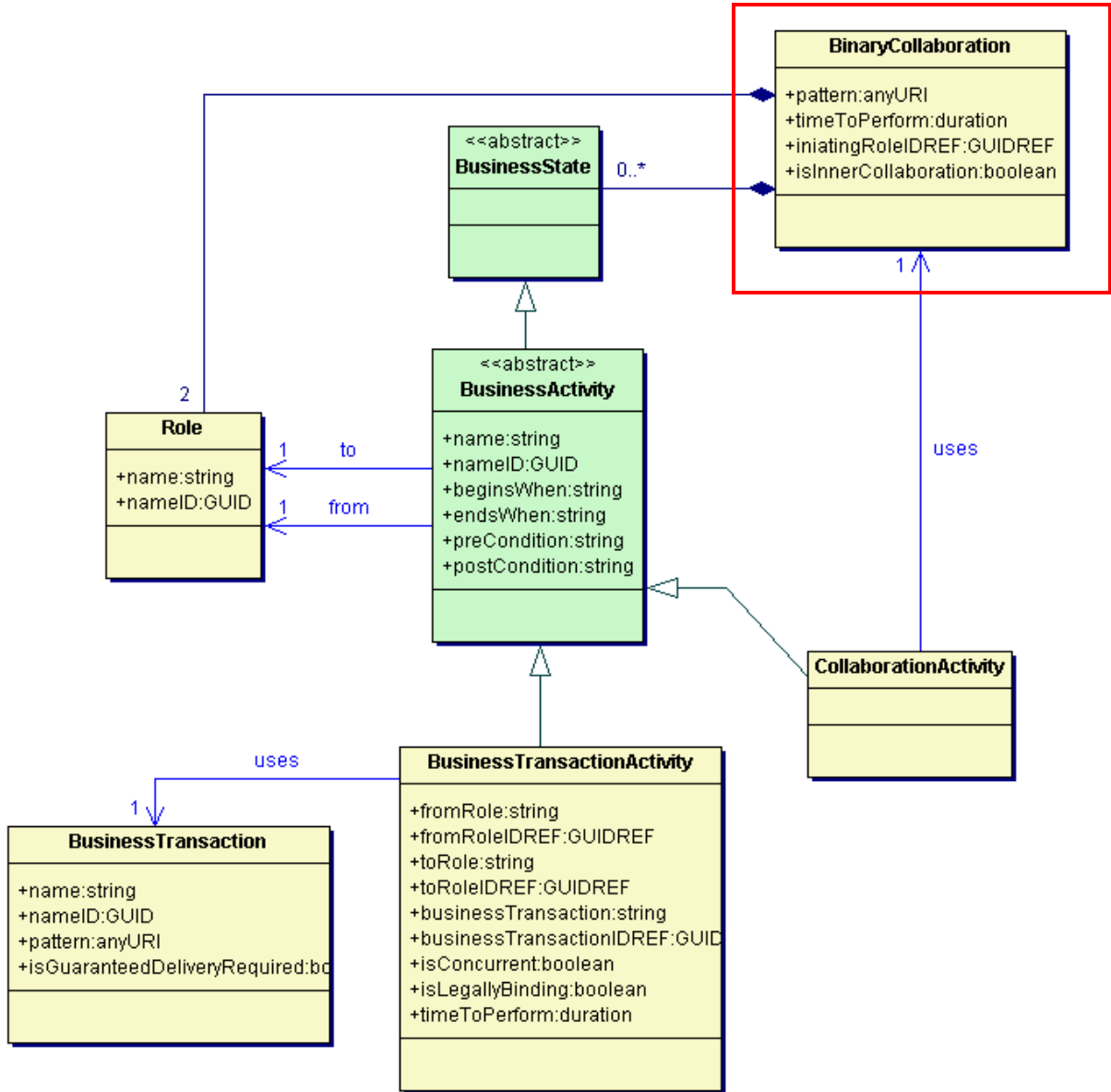
Today, the initiating role of the outer collaboration is bound to that of the inner collaboration. With new requirements from CPA negotiation, this is being re-evaluated. It is critical that the Role nameID be unique with respect to a Binary Collaboration definition even if role names are identical for two Binary Collaboration definitions[2]. This means that two binary collaborations may never have the same physical role, but share a "logical" role. The team is currently evaluating the role reversal issues associated with compound binary collaborations.

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[2] This maps to our Work Item associated with the GUID and GUIDREF under consideration.

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MultiParyCollaboration
+nameID:GUID
+name1:string
+attribute1:String

BusinessPartnerRole
+name:string
+nameID:GUID
+attribute1:String

Performs
+nameID:GUID
+role:string
+roleIDREF:GUIDREF
+attribute1:String

Role
+name:string
+nameID:GUID
+attribute1:String

Transition
+nameID:GUID
+onInitiation:boolean
+fromBusinessStateIDREF:GUIDR
+fromBusinessState:string
+toBusinessState:string
+toBusinessStateIDREF:GUIDREF
+conditionGuard:NMTOKEN
+attribute1:String

<>
BusinessState
+attribute1:String

entering

exiting

BinaryCollaboration
+pattern:anyURI
+timeToPerform:duration
+iniatingRoleIDREF:GUIDREF
+isInnerCollaboration:boolean
+attribute1:String

to from

uses

Start
+toBusinessState:string
+toBusinessStateIDREF:GUIDREF
+attribute1:String

CompletionState
+conditionGuard:NMTOKEN
+fromBusinessState:string
+fromBusinessStateIDREF:GUIDREF
+attribute1:String

Fork
+name:string
+nameID:GUID
+type:NMTOKEN
+timeToPerform:duration
+attribute1:String

Join
+name:string
+nameID:GUID
+waitForAll:boolean
+attribute1:String

Decision
+name:string
+nameID:GUID
+attribute1:String

<>
BusinessActivity
+name:string
+nameID:GUID
+beginsWhen:string
+endsWhen:string
+preCondition:string
+postCondition:string
+attribute1:String

Success
+attribute1:String

Failure
+attribute1:String

BusinessTransactionActivity
+fromRole:string
+fromRoleIDREF:GUIDREF
+toRole:string
+toRoleIDREF:GUIDREF
+businessTransaction:string
+businessTransactionIDREF:GUID
+isConcurrent:boolean
+isLegallyBinding:boolean
+timeToPerform:duration
+attribute1:String

CollaborationActivity
+attribute1:String

uses

BusinessTransaction
+name:string
+nameID:GUID
+pattern:anyURI
+isGuaranteedDeliveryRequired:bo
+attribute1:String

BusinessAction
+name:String
+nameID:GUID
+isAuthorizationRequired:boolean
+isIntelligibleCheckRequired:boole
+isNonRepudiationRequired:boole
+isNonRepudiationReceiptRequire
+timeToAcknowledgeReceipt:durat
+timeToAcknowledgeAcceptance:d
+attribute1:String

RequestingBusinessActivity
+retryCount:int
+attribute1:String

RespondingBusinessActivity

DocumentSecurity
+isAuthenticated:boolean
+isConfidential:boolean
+isTamperDetectable:boolean
+attribute1:String

DocumentEnvelope
+name:string
+nameID:GUID
+businessDocument:string
+businessDocumentIDREF:GUIDR
+isPositiveResponse:boolean
+attribute1:String

Attachment
+name:string
+nameID:GUID
+businessDocument:string
+businessDocumentIDREF:GUIDR
+specification:anyURI
+mimeType:string
+attribute1:String

BusinessDocument
+name:string
+nameID:GUID
+specificationLocation:anyURI
+specificationID:anyURI
+namespacePrefixes:NMTOKENS
+attribute1:String