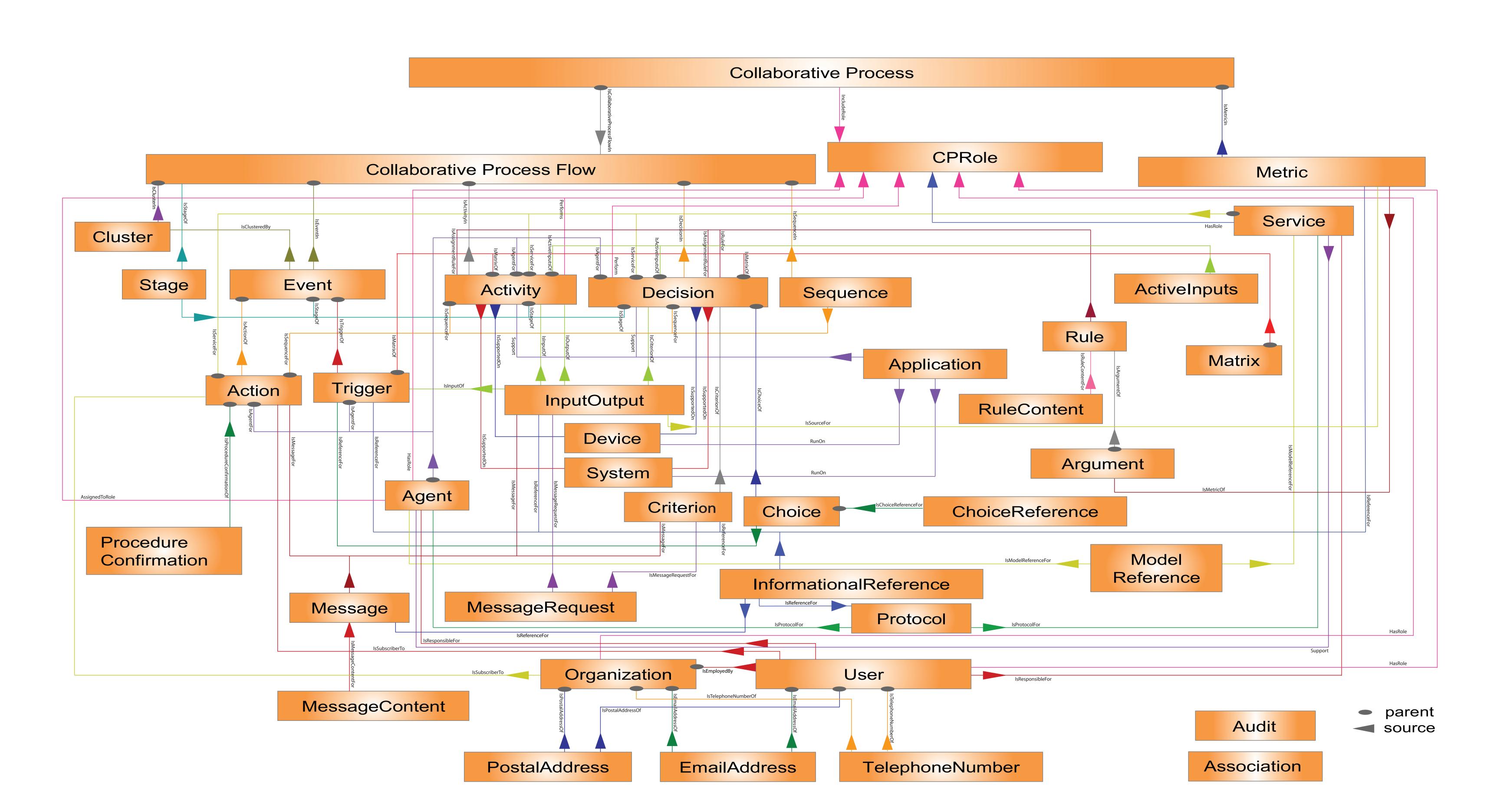


SOA Information Model



| ction | | | | | |
|------------------------|--------------------|---|--|--|--|
| a consequence of an ex | vent taking place. | | | | |
| Attribute | Туре | Description | | | |
| id | String256 | Unique ID | | | |
| name | String256 | Action's name | | | |
| description | String4000 | Detailed description | | | |
| event | String256 | Event which this action relates to | | | |
| referenceList | Set | A set of collaborative entity ids (references). The Set data type is a collection that does not contain duplicate elements. | | | |
| type | String256 | The type of the Action (Alert/Compensation/Information/Insertion/Link/Termi | | | |

ation/Trigger Flow/End)

ActiveInputs This entity represents a list of active inputs that belong to a single collaborative entity (an activity or a

A task or an operation performed by a federate or by a local SOA Federation agent.

| Attribute | Туре | Description | |
|-------------|------------|----------------------|--|
| id | String256 | Unique ID | |
| name | String256 | ActiveInputs' name | |
| description | String4000 | Detailed description | |

Attribute Description String256 Unique ID Activity's name String4000 Detailed description description collaborativeProcessFlow CollaborativeProcessFlow's ID Unique ID of the Stage entity associated with this The resourceAssignmentType values can be: Agent, User, Service, Rule or Admin. resourceAssignmentType An ID of the resource that will perform the activity or an resourceAssignment ID of a rule or an administrator that will select a resource that will perform the activity. Either the rule or the administrator is used when more than one resource can perform the activity. timeToComplete A period of time for which the activity must be

completed. If the value for this attribute is not provided the time to complete is unlimited. The value for this attribute is specified using the XSD duration format

(e.g., PT1H means one hour).

The Agent performs an activity or makes a decision or executes an event's action according to some predefined procedure or logic.

| Attribute | Туре | Description | | |
|---------------------|------------|---|--|--|
| id String256 | | Unique ID | | |
| name | String256 | Agent's name | | |
| description | String4000 | Detailed description | | |
| collaborativeEntity | String256 | The ID of an activity or a decision or an event's action | | |
| | | performed by the agent | | |
| activityStatus | String256 | Agent activity status (Active/Inactive/Dormant) | | |
| locationType | String256 | Agent location type (Fixed/Mobile) | | |
| processingType | String256 | Agent processing type (Instant/Queue) | | |
| activityType | String256 | Agent type (CART/Decision) | | |
| owner String256 | | The ID of the owner (administrator) that registered the agent | | |
| protocol | String256 | The ID of the protocol (WSDL, CPPA, etc.) used to | | |
| | | communicate with the agent. | | |
| modelReference | String256 | The reference for the document that contains agent logic in | | |
| | | the original agent modeling language format (UML, BPMN, | | |
| | | text or other). | | |
| rule | String256 | The ID of a Rule that the decision type agents will use in | | |
| | | making a decision. | | |
| version | String16 | Agent's version | | |

Application

| The Application is a program running on a System or Device. | | | |
|---|------------|------------------------------|--|
| Attribute | Type | Description | |
| id | String256 | Unique ID | |
| name | String256 | Application's name | |
| description | String4000 | Detailed description | |
| type | String256 | The type of the application. | |

An argument used in a business rule.

| description | String4000 | Detailed description | |
|--------------------------------|------------------------|---|--|
| | | Zoumen description | |
| Association | | | |
| Vacagiates two SC | A IM antition Again | anistian tamas and ha damaniaalla daffinad. Thomais a non-daffinad | |
| | | | |
| of association type | | ociation types can be dynamically defined. There is a pre-defined ypes used in this document. | |
| of association type | | | |
| | es that includes all t | ypes used in this document. | |
| of association type Attribute | Type | ypes used in this document. Description | |

String256 Source object in the association

String256 Target object in the association String256 Association type (any type)

Description

String256 Unique ID String256 Argument's name

sourceObject

| Attribute | Type | Description |
|-------------|-----------|---|
| source | String256 | The information about a source component (Security Provider, |
| | | Agent Interface Manager, Federation Registry, Flow Controller |
| | | Manager, Gateway, etc.) |
| destination | String256 | The information about a destination component (Security |
| | | Provider, Agent Interface Manager, Federation Registry, Flow |
| | | Controller Manager, Gateway, etc.) |
| messageType | String256 | A type of the message that was exchanged |
| requestType | String256 | A request type contained in the message |
| timestamp | String256 | The time when the communication happened |

A choice made by a decision.

| Attribute | Type | Description |
|---------------------|------------|---|
| id | String256 | Unique ID |
| name | String256 | Choice's name |
| description | String4000 | Detailed description |
| alias | String256 | The alias of the Choice. For example, if the alias is specified, it will be used as a parameter name for a service which the Choice is associated with. Otherwise the name attribute will be used without spaces between the words included in the name. The alias of the Choice. For example, if the alias is |
| unus | 50 mg250 | specified it will be used as a parameter name for a service which the Choice is associated with. Otherwise the name attribute will be used without spaces between the words included in the name. |
| collaborativeEntity | String256 | Collaborative entity which this choice relates to. It could be a decision, an activity or a trigger. |
| choiceReference | String256 | Unique ID of the reference |
| time | DateTime | Time when Choice is confirmed |

ChoiceReference

| Attribute | Type | Description |
|-------------|------------|--|
| id | String256 | Unique ID |
| name | String256 | ChoiceReference's name |
| description | String4000 | Detailed description |
| choice | String256 | Choice which ChoiceReference relates to. |
| documentId | String256 | XML document that contains choice value |
| type | String256 | Document type (any type) |
| value | String256 | Document's reference |
| time | DateTime | Time when ChoiceReference is confirmed |

| Cluster | | | | | |
|--|------------|---|--|--|--|
| The Cluster groups related events from one or more collaborative process flows which execution is corelated. | | | | | |
| Attribute | Туре | Description | | | |
| id | String256 | Unique ID | | | |
| name | String256 | Cluster's name | | | |
| description | String4000 | Detailed description | | | |
| correlation | String256 | Logical expression that enables stage transformation of "Slave" events. | | | |
| eventIdList | Set | A list of events' Ids | | | |
| stageList | Bag | A list of events' stages. The Bag data type is an unordered collection of elements that can contain duplicates. | | | |
| typeList | Bag | Type of the events in the cluster (Lead/Slave) | | | |

CollaborativeProcess A collaborative process is a set of roles, collaborative process flows and other collaborative elements that represent collaborations between (autonomous) business entities. The collaborative process can have one or more collaborative process flows depending on types and number of collaborations involved in it. Description

String256 CollaborativeProcess's name

String4000 Detailed description

String256 Unique ID

| CollaborativeProcessFlow A collaborative process flow is a set of correlated activities, events and decisions that represent a ollaboration between roles belonging to (autonomous) business entities. | | | | | |
|---|------------|---|--|--|--|
| | | | | | |
| id | String256 | Unique ID | | | |
| name | String256 | CollaborativeProcessFlow's name | | | |
| description | String4000 | Detailed description | | | |
| collaborativeProcess | String256 | CollaborativeProcess which this CollaborativeProcessFlow relates to | | | |
| stage | String256 | The stage of the CollaborativeProcessFlow | | | |

A period of time for which the collaborative process

not provided the time to complete is unlimited. The

value for this attribute is specified using the XSD duration format (e.g., PT1H means one hour).

flow must be completed. If the value for this attribute is

Unique ID of the Stage entity associated with this

The resourceAssignmentType values can be: Agent,

An ID of the resource that will make the decision or

an ID of a rule or an administrator that will select a resource that will make the decision. Either the rule

or the administrator is used when more than one

A period of time for which the decision must be

completed. If the value for this attribute is not provided the time to complete is unlimited. The

value for this attribute is specified using the XSD

duration format (e.g., PT1H means one hour).

User, Service, Rule or Admin.

resource can make the decision.

timeToComplete

description

| CPRole | | | | | |
|--|---|----------------------|--|--|--|
| CPRoles perform a | CPRoles perform activities and decisions. | | | | |
| Attribute | Type | Description | | | |
| id | String256 | Unique ID | | | |
| name | String256 | CPRole's name | | | |
| description | String4000 | Detailed description | | | |
| Criterion | | | | | |
| The Criterion is an input for a Decision. The Decision makes a choice based on one or more criterion provided. | | | | | |

Description

String256 Unique ID

| description | String4000 | Detailed description | |
|--|------------------|----------------------|--|
| type | String256 | The type of t | he Criterion (Information/MessageRequest) |
| Decision A specific activity in the | he collaborative | process flow t | hat makes choices. |
| Attribute | Тур | pe | Description |
| id | Str | ing256 | Unique ID |
| name | Str | ing256 | Decision's name |
| description | Str | ing4000 | Detailed description |
| choiceType | Stri | ing256 | The type of the decision's choices (Binary/Primary/Derivative) |
| collaborativeProcessl | Flow Stri | ing256 | CollaborativeProcessFlow's ID |

Criteron's name

timeToComplete

The EmailAddress defines attributes of an email address.

resourceAssignmentType

resourceAssignment

| Attribute | Type | Description | |
|-------------|------------|------------------------|--|
| id | String256 | Unique ID | |
| name | String256 | Device's name | |
| description | String4000 | Detailed description | |
| type | String256 | The type of the device | |
| mailAddress | | | |

An event is a collaborative element that represents a progression point in time in the collaborative process

String256 Email address

String256 User or Organization this address relates to.

String256 The type of the email address (Office/Home)

| | 1 | resent that something happens during the collaborative |
|--------------------------|------------|---|
| Attribute | Туре | Description |
| id | String256 | Unique ID |
| name | String256 | Event's name |
| description | String4000 | Detailed description |
| type | String256 | Event's type (Start/Flow/End) |
| collaborativeProcessFlow | String256 | CollaborativeProcessFlow's ID |
| stage | String256 | Unique ID of the Stage entity associated with this Event |
| timeToComplete | String256 | A period of time for which all event's actions must be completed. If the value for this attribute is not provided the time to complete is unlimited. The value for this attribute is specified using the XSD duration format (e.g., PT1H means one hour). |

InformationalReference

| Attribute | Type | Description |
|-------------|------------|--|
| id | String256 | Unique ID |
| name | String256 | InformationalReference's name |
| description | String4000 | Detailed description |
| documentId | String256 | ID of a document that relates to the |
| | | InformationalReference |
| type | String256 | Type of the referenced document (any document type |
| | | or ChoiceDoc) |
| value | String256 | Document's reference |
| version | String16 | Version of the document represented by this |
| | | InformationalReference |
| time | DateTime | Time when InformationalReference is confirmed |

InputOutput The InputOutput is informational (XML document or message) element that is registered to carry required data for the activity to be performed.

| ttribute | Type | Description |
|------------|------------|---|
| | String256 | Unique ID |
| ime | String256 | The name of the InputOutput. |
| escription | String4000 | Detailed description |
| ias | String256 | The alias of the InputOutput. For example, if the alias is specified it will be used as a parameter name for a service which the InputOutput is associated with. Otherwise the name attribute will be used without spaces between the words included in the name. |
| pe | String256 | The type of InputOutput (Input/Output/Both) |
| ne | DateTime | Time when InputOutput is confirmed |
| | · | |

The Matrix is assigned to each Activity's input and Decision's criterion and it controls the use of the

input/criterion during the execution of the Activity/Decision.

| Attribute | Type | Description |
|---------------------|------------|---|
| id | String256 | Unique ID |
| name | String256 | Matrix's name |
| description | String4000 | Detailed description |
| collaborativeEntity | String256 | Activity or Decision or Trigger which this Matrix relates to |
| inputcriterion | String256 | Input or criterion which this Matrix relates to |
| uponInputs | Set | A list of inputs related to the input of type Upon. The input of type Upon combined with uponInputs will trigger the execution of the related Activity. |
| сТуре | String256 | Defines input coordination character (Latest/Configured) |
| iType | String256 | Defines if single or more than one input/criterion instance is expected (Single/Multiple) |
| sType | String256 | Defines the sequence of the input processing (All/Select) |
| tType | String256 | Defines time character of the input (ASAP/AsAvailable/Upon) |

Message

| Attribute | Type | Description |
|-------------|------------|--------------------------|
| id | String256 | Unique ID |
| name | String256 | Message's name |
| description | String4000 | Detailed description |
| documentId | String256 | MessageContent ID |
| value | String256 | MessageContent reference |

The MessageContent is the content of the Message.

| Type | Description |
|------------|--------------------------------------|
| String256 | Unique ID |
| String256 | MessageContent's name |
| String4000 | Detailed description |
| st | |
| | String256 String256 String4000 |

description

argument

frequency

| Attribute | Type | Description |
|---|------------------|---|
| d | String256 | Unique ID |
| name | String256 | MessageRequest's name |
| lescription | String4000 | Detailed description |
| ype | String256 | The type of the MessageRequest (any type) |
| Metric The Metric contains quantitate during the collaborate. | poration process | |
| Attribute | Type | Description |
| id | String25 | Unique ID |
| name | String25 | Metric's name |

String4000

String256

Detailed description

(AtChange/AtSchedule)

the source of the metric

Metric's value

The name of the argument representing the

Specifies how frequently is metric calculated

Metric's source (document, message, system,

The name of the XML element that is the source

The name of the XML element's attribute that is

(C ycleTime/SumInst/QtyInst/QtyAgg/QtyMin/Q

The ID of the CollaborativeProcess which this

collaborativeProcess

ModelReference

| Attribute | Type | Description |
|---------------------|------------|--|
| id | String256 | Unique ID |
| name | String256 | ModelReference's name |
| description | String4000 | Detailed description |
| collaborativeEntity | String256 | Agent or Service which this ModelReference relates to |
| documentId | String256 | ID of a document that relates to the ModelReference |
| value | String256 | Document's reference |
| version | String16 | Version of the document represented by this InformationalReference |

| Organization | | | |
|--|------------|--|--|
| Provides information on organizations. | | | |
| Attribute | Type | Description | |
| id | String256 | Unique ID | |
| name | String256 | Organization's name | |
| description | String4000 | Detailed description | |
| parent | String256 | Parent organization (if applicable) | |
| primaryContact | String256 | Unique ID of the person (User) who is the primary contact for the organization | |
| PostalAddress | | | |

The Postal Address defines attributes of a postal address. String256 User or Organization this address relates to. userOrOrganization String256 Street number streetNumber street String256 Street name String256 City name stateOrProvince State or province name String256 Postal (ZIP) code
String256 Country name postalCode country

The ProcedureConfirmation is a run-time entity that specifies the current confirmation status of procedure type SAO IM collaborative entities. Description

| id | String256 | Unique ID | | |
|--|------------|--|--|--|
| name | String256 | ProcedureConfirmation's name | | |
| description | String4000 | Detailed description | | |
| collaborativeEntity | String256 | A unique ID of a collaborative entity (Action) which this ProcedureConfirmation relates to | | |
| value | String256 | The value of the ProcedureConfirmation (Start/End) | | |
| rotocol rovides information about a protocol (i.e., ebXML CPA, WSDL, etc.) used for a collaboration with a | | | | |
| rvice or an agent or a user. | | | | |

ProcedureConfirmation

| Attribute | Туре | Description |
|-----------------------------------|---------------------|--|
| id | String256 | Unique ID |
| name | String256 | Organization's name |
| description | String4000 | Detailed description |
| collaborativeEntity | String256 | Service or Agent which this Protocol relates to. |
| type | String256 | Protocol's type (i.e., CPA, WSDL, etc.) |
| Rule The Rule represents a busin | ness rule that will | be submitted to the rule engine. |

String256 Unique ID String4000 Detailed description conditionList A list of unique IDs of the RuleContents that represent the rules. valueList A list of values that will be used if applied Rule gives Boolean The type of the values RuleContent

String256 Rule's name String4000 Detailed description

Description

The RuleContent represents the content of the Rule.

| Sequence The Sequence defines an order in which activities, decisions and events are executed. | | | |
|--|------------|---|--|
| | | | |
| id | String256 | Unique ID | |
| name | String256 | Sequence's name | |
| description | String4000 | Detailed description | |
| entityIdList | Bag | A list of IDs of the collaborative entities which execution is controlled by the Sequence | |
| predecessorList | Bag | A list of the collaborative entity's predecessor | |
| successorList | Bag | The collaborative entity's successor list | |

The Service performs an activity or makes a decision or executes an event's action according to some

| predefined procedure or logic. | | |
|--------------------------------|------------|---|
| Attribute | Type | Description |
| id | String256 | Unique ID |
| name | String256 | Service's name |
| description | String4000 | Detailed description |
| collaborativeEntity | String256 | The ID of an activity or a decision or an event's action performed by the service |
| protocol | String256 | The ID of the protocol used to communicate with the service (WSDL, CPPA, etc.). |
| modelReference | String256 | The reference for the document that contains service logic in the original service modeling language format (UML, BPMN, text or other). |
| rule | String256 | The ID of a Rule that the decision type services will use in making a decision. |
| version | String16 | Service's version |

versio The Stage is a run-time entity that specifies the current stage of process type collaborative entities:

| Attribute | Type | Description |
|---------------------|------------|---|
| d | String256 | Unique ID |
| name | String256 | Stage's name |
| description | String4000 | Detailed description |
| collaborativeEntity | String256 | A unique ID of an Event, CollaboartiveProcessFlow, Activity or Decision which this Stage relates to |
| startTime | String256 | Stage's start time |
| value | String256 | The value of the Stage (Start/Confirmed/Escalated/End for events or Start/Progress/Escalated/End for collaborative process flows and activities/decisions) |
| endCause | String256 | Specifies what caused an activity or a decision to get into the End stage, The possible values are: Regular when the activity or the decision are regularly ended or Compensation when multi- |

decision instance be stopped.

instance inputs or multi-versioned inputs require that the currently running activity instance or the currently running

| Attribute | on-mobile computir | Description | |
|-------------|--------------------|-------------------------|--|
| id | String256 | Unique ID | |
| name | String256 | System's name | |
| description | String4000 | Detailed description | |
| type | String256 | The type of the system. | |

TelephoneNumber

| Attribute | Type | Description |
|--------------------|-----------|--|
| userOrOrganization | String256 | User or Organization this telephone number relates to. |
| type | String256 | Telephone number type (Office/Home/Mobile/Beeper/Fax) |
| countryCode | String256 | Country code |
| areaCode | String256 | Area code |
| number | String256 | Telephone number |
| extension | String256 | Extension (if provided) |

The TelephoneNumber defines telephone number attributes. Different types of numbers can be defined:

The Trigger is a condition that creates an event.

office, home, mobile, beeper, and fax.

| Attribute | Type | Description |
|-------------|------------|---|
| id | String256 | Unique ID |
| name | String256 | Trigger's name |
| description | String4000 | Detailed description |
| type | String256 | The type of the trigger (Information/Flow/Message/MessageRequest/Rule/ Administrator) |
| event | String256 | Unique ID of the event that is created by this trigger |

The user defines a person who can be a federate or a person responsible for execution of an agent or a service. Attri

| Attribute | Туре | Description |
|--------------|------------|-----------------------------------|
| id | String256 | Unique ID |
| name | String256 | User's name |
| description | String4000 | Detailed description |
| organization | String256 | Organization that user works for. |
| firstName | String256 | User's First name |
| middleName | String256 | User's middle name |
| lastName | String256 | User's last name |