

Service Inventory Management

Business Service Specification

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SERVICE INVENTORY MANAGEMENT



Figure 1. Service Inventory Management

SERVICE INVENTORY MANAGEMENT BUSINESS ENTITIES

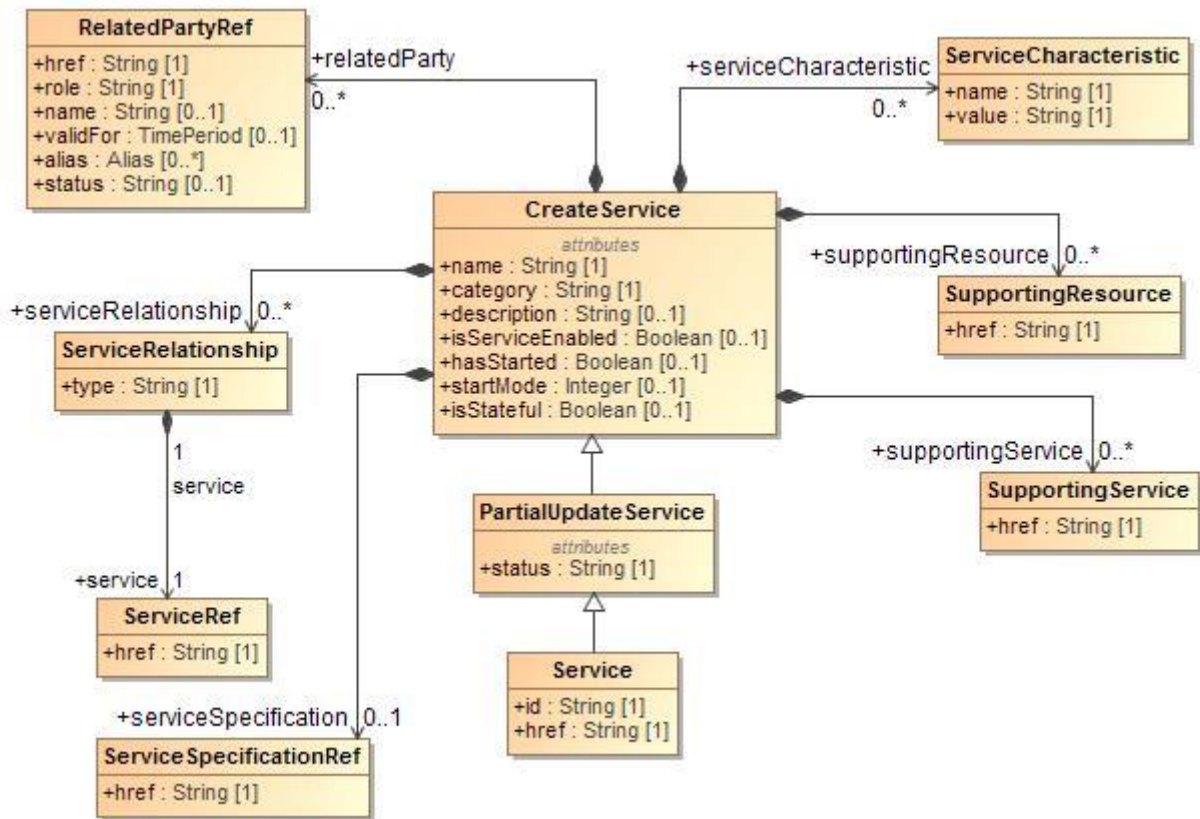


Figure 2. Service

BUSINESS ENTITY – CREATESERVICE

Represents both customer-facing and resource-facing types of services.

Attributes

Name	Type	Multiplicity	Description
category	String	1	Is it a customer facing or resource facing service.
description	String	0..1	Description of the service.
hasStarted	Boolean	0..1	Signifies that this service has been started.
isEnabled	Boolean	0..1	Signifies if service is enabled for use.
isStateful	Boolean	0..1	Means that this service can be changed without affecting any other services.
name	String	1	Name of the service.
relatedParty	RelatedPartyRef	0..*	A link to collection of parties. Each party will contain a role and a link.
serviceCharacteristic	ServiceCharacteristic	0..*	List of name value pairs that define the service characteristics.
serviceRelationship	ServiceRelationship	0..*	Describes links with services of the same category (useful for bundled services).
serviceSpecification	ServiceSpecification Ref	0..1	Link to the service specification.
startMode	Integer	0..1	Copy from SID

supportingResource	SupportingResource	0..*	A collection of resources that support this service (links between RFS -> Resources).
supportingService	SupportingService	0..*	A collection of services that support this service (links between CFS -> RFS).

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[name serviceCharacteristic.name serviceCharacteristic.value relatedParty.role relatedParty.ref relatedParty.validFor.startDateTime (not mandatory is set to sysdate by default)]	

BUSINESS ENTITY – PARTIALUPDATESERVICE

Represents both customer-facing and resource-facing types of services.

Attributes

Name	Type	Multiplicity	Description
category	String	1	Is it a customer facing or resource facing service.
description	String	0..1	Description of the service.
hasStarted	Boolean	0..1	Signifies that this service has been started.
isServiceEnabled	Boolean	0..1	Signifies if service is enabled for use.
isStateful	Boolean	0..1	Means that this service can be changed without affecting any other services.
name	String	1	Name of the service.
relatedParty	RelatedPartyRef	0..*	A link to collection of parties. Each party will contain a role and a link.
serviceCharacteristic	ServiceCharacteristic	0..*	List of name value pairs that define the service characteristics.
serviceRelationship	ServiceRelationship	0..*	Describes links with services of the same category (useful for bundled services).
serviceSpecification	ServiceSpecification Ref	0..1	Link to the service specification.
startMode	Integer	0..1	Copy from SID
status	String	1	Lifecycle status of the service - created, pending active, aborted, cancelled, active, suspended, pending terminate, terminated.
supportingResource	SupportingResource	0..*	A collection of resources that support this service (links between RFS -> Resources).
supportingService	SupportingService	0..*	A collection of services that support this service (links between CFS -> RFS).

Business Rules

Name	Severity	Specification	Message
can be updated		[description hasStarted status - created, pending active, aborted, cancelled, active, suspended, pending terminate, terminated]	
mandatory attributes		[characteristic Patching]	

		Mandatory Values - Name and value relatedParty Patching Mandatory Values - Role and party relatedParty Patching Default Values - startDateTime is not mandatory is set to sysdate by default]	
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BUSINESS ENTITY – SERVICE

Represents both customer-facing and resource-facing types of services.

Attributes

Name	Type	Multiplicity	Description
category	String	1	Is it a customer facing or resource facing service.
description	String	0..1	Description of the service.
hasStarted	Boolean	0..1	Signifies that this service has been started.
href	String	1	Reference to the service.
id	String	1	ID created for the service.
isServiceEnabled	Boolean	0..1	Signifies if service is enabled for use.
isStateful	Boolean	0..1	Means that this service can be changed without affecting any other services.
name	String	1	Name of the service.
relatedParty	RelatedPartyRef	0..*	A link to collection of parties. Each party will contain a role and a link.
serviceCharacteristic	ServiceCharacteristic	0..*	List of name value pairs that define the service characteristics.
serviceRelationship	ServiceRelationship	0..*	Describes links with services of the same category (useful for bundled services).
serviceSpecification	ServiceSpecification Ref	0..1	Link to the service specification.
startMode	Integer	0..1	Copy from SID
status	String	1	Lifecycle status of the service - created, pending active, aborted, cancelled, active, suspended, pending terminate, terminated.
supportingResource	SupportingResource	0..*	A collection of resources that support this service (links between RFS -> Resources).
supportingService	SupportingService	0..*	A collection of services that support this service (links between CFS -> RFS).

BUSINESS ENTITY – SERVICECHARACTERISTIC

List of name value pairs that define the service characteristics.

Attributes

Name	Type	Multiplicity	Description
name	String	1	Name of the service characteristic.
value	String	1	Value of the service characteristic.

BUSINESS ENTITY – SERVICEREF

Reference to the service.

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference to the service.

BUSINESS ENTITY – SERVICERELATIONSHIP

Collection of a number of types of relationships between the service e.g bundle. The value of the type attribute should describe the direction of the relationship. E.g. isContainedIn.

Attributes

Name	Type	Multiplicity	Description
service	ServiceRef	1	Service that is part of the collection of a number of types of relationships between the service e.g bundle.
type	String	1	Describes the direction of the relationship. E.g. isContainedIn.

BUSINESS ENTITY – SERVICESPECIFICATIONREF

Link to the service specification.

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference to the service specification.

BUSINESS ENTITY – SUPPORTINGRESOURCE

A collection of resources that support this service (links between RFS -> Resources).

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference to a collection of resources that support this service (links between RFS -> Resources).

BUSINESS ENTITY – SUPPORTINGSERVICE

A collection of services that support this service (links between CFS -> RFS).

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference to a collection of services that support this service (links between CFS -> RFS).

COMMON BUSINESS ENTITIES

BUSINESS ENTITY – ALIAS

Attributes

Name	Type	Multiplicity	Description
type	String		
value	String		

BUSINESS ENTITY – ARRAYUPDATE

Used to partially update an array

Attributes

Name	Type	Multiplicity	Description
op	String		Operation to be performed on the array - test, remove, add, replace, move, copy
path	String		The reference to the array to be modified
value	String		

BUSINESS ENTITY – BILLINGACCOUNTREF

BillingAccount to use to bill the ordered products.

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference of the billing account.

BUSINESS ENTITY – CHARACTERISTIC

Describes the characteristics of the individual or the organization such as individual hobbies, center of interests.

Attributes

Name	Type	Multiplicity	Description
name	String	1	Name of the characteristic.
value	String	0..1	Value of the characteristic.

BUSINESS ENTITY – CONTACTMEDIUM

Describes the contact mediums that could be used to contact the customer (Email, TelephoneNumber, PostalAddress).

Attributes

Name	Type	Multiplicity	Description
isPreferred	Boolean	0..1	If true, indicates that is the preferred contact medium.
medium	Medium	0..1	Describes the contact medium that can be

			used to contact the customer.
type	String	1	Email address, telephone number, postal address, etc.
validFor	TimePeriod	0..1	The time period that the contact medium is valid for.

BUSINESS ENTITY – CREATELISTENER

Attributes

Name	Type	Multiplicity	Description
callback	String		Callback address of the listener
query	String		

BUSINESS ENTITY – CREDENTIAL

Attributes

Name	Type	Multiplicity	Description
login	String		
password	String		
updateType	String		

BUSINESS ENTITY – HEADER

Attributes

Name	Type	Multiplicity	Description
key	String		URL Parameter Key e.g., Content-Type
value	String		Value e.g., application/json, application/xml

BUSINESS ENTITY – LISTENER

Attributes

Name	Type	Multiplicity	Description
callback	String		Callback address of the listener
href	String	1	Reference to the listener
id	String	1	
query	String		

BUSINESS ENTITY – MEDIUM

Describes the contact medium that can be used to contact the customer.

Attributes

Name	Type	Multiplicity	Description
city	String	0..1	
country	String	0..1	
emailAddress	String	0..1	Full e-mail address in standard format (e.g., fred.bloggs@thing.com)

number	String	0..1	Phone number
postcode	String	0..1	Postcode
stateOrProvince	String	0..1	State or province
street1	String	0..1	Describes the street
street2	String	0..1	Complementary street description
type	String	0..1	Type of medium (fax, mobile phone...)

BUSINESS ENTITY – MONEY

A base / value business entity used to represent money

Attributes

Name	Type	Multiplicity	Description
amount	Float	1	A positive floating point number.
currencyCode	String	1	Currency. Notes: refer to [ISO 4217]
digits	Integer	0..1	Number of digits to the right of the decimal point

BUSINESS ENTITY – NOTE

Extra-information about an entity (e.g. useful to add extra delivery information that could be useful for a human process : a digicode access to a building, ...).

Attributes

Name	Type	Multiplicity	Description
author	String	0..1	Author of the note
date	DateTime	0..1	Date of the note
text	String	1	Text of the note

BUSINESS ENTITY – PAYMENTMEANREF

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference of the payment means
name	String	0..1	Name of the payment means

BUSINESS ENTITY – PERIOD

defines the period of a recurring charge

Attributes

Name	Type	Multiplicity	Description
endPeriod	DateTime	0..1	End date of the period
startPeriod	DateTime	1	Start date of the period

Business Rules

Name	Severity	Specification	Message
StartPeriod Before EndPeriod	error	[startPeriod.before(endPeriod) or startPeriod = endPeriod]	The start period must be on or before the end period.

BUSINESS ENTITY – PLACEREF

Used to defined a place useful for the entity (for example a delivery geographical place).

Attributes

Name	Type	Multiplicity	Description
href	String	1	Reference of a place (for instance in Google map).
role	String	1	Role of the place (for instance delivery geographical place).

BUSINESS ENTITY – RELATEDPARTYREF

Defines party or partyRole linked to a specific entity. Used to represent an association between a resource and a party or role object playing a role regarding that object.

Attributes

Name	Type	Multiplicity	Description
alias	Alias	0..*	
href	String	1	Reference to the related party.
name	String	0..1	Name of the related party.
role	String	1	Role of the related party.
status	String	0..1	The status of the relationship between the party and the related entity.
validFor	TimePeriod	0..1	The period for which the related party is valid.

BUSINESS ENTITY – TIMEPERIOD

Attributes

Name	Type	Multiplicity	Description
endDateTime	DateTime	0..1	
startDateTime	DateTime	1	

Business Rules

Name	Severity	Specification	Message
Start DateTime Before End DateTime	error	[startDateTime.before(endDateTi me) or startDateTime = endDateTime]	The start period must be on or before the end period.

NOTIFICATION EVENT

Refer to Common Management Spec for details on how to Register and Unregister a Listener.

The notification events supported by Service Inventory Management are:

- o Service create
- o Service state change
- o Service value change
- o Service delete

The Event is published to the registered listener

REST Example:

POST client/listener

SERVICEINVENTORY

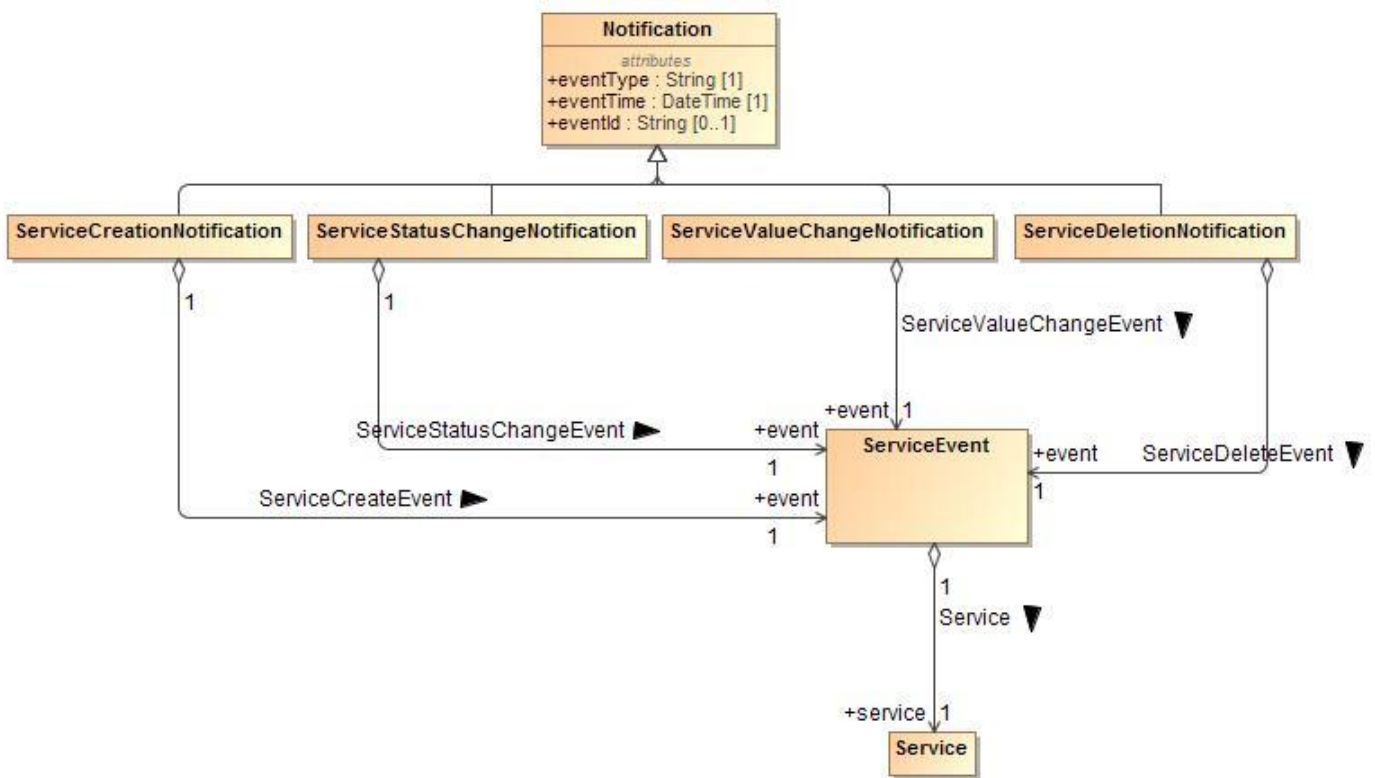


Figure 3. Service Notification

BUSINESS ENTITY – SERVICECREATIONNOTIFICATION

Attributes

Name	Type	Multiplicity	Description
event	ServiceEvent	1	
eventId	String	0..1	Unique identifier of the event
eventTime	DateTime	1	
eventType	String	1	

BUSINESS ENTITY – SERVICEDELETIONNOTIFICATION

Attributes

Name	Type	Multiplicity	Description
event	ServiceEvent	1	
eventId	String	0..1	Unique identifier of the event
eventTime	DateTime	1	
eventType	String	1	

BUSINESS ENTITY – SERVICEEVENT

Attributes

Name	Type	Multiplicity	Description
service	Service	1	

BUSINESS ENTITY – SERVICESTATUSCHANGENOTIFICATION

Attributes

Name	Type	Multiplicity	Description
event	ServiceEvent	1	
eventId	String	0..1	Unique identifier of the event
eventTime	DateTime	1	
eventType	String	1	

BUSINESS ENTITY – SERVICEVALUECHANGENOTIFICATION

Attributes

Name	Type	Multiplicity	Description
event	ServiceEvent	1	
eventId	String	0..1	Unique identifier of the event
eventTime	DateTime	1	
eventType	String	1	

NOTIFICATION COMMON**BUSINESS ENTITY – NOTIFICATION**

Attributes

Name	Type	Multiplicity	Description
eventId	String	0..1	Unique identifier of the event
eventTime	DateTime	1	
eventType	String	1	

STATE MACHINE

ServiceSM

Represents both customer-facing and resource-facing types of services.

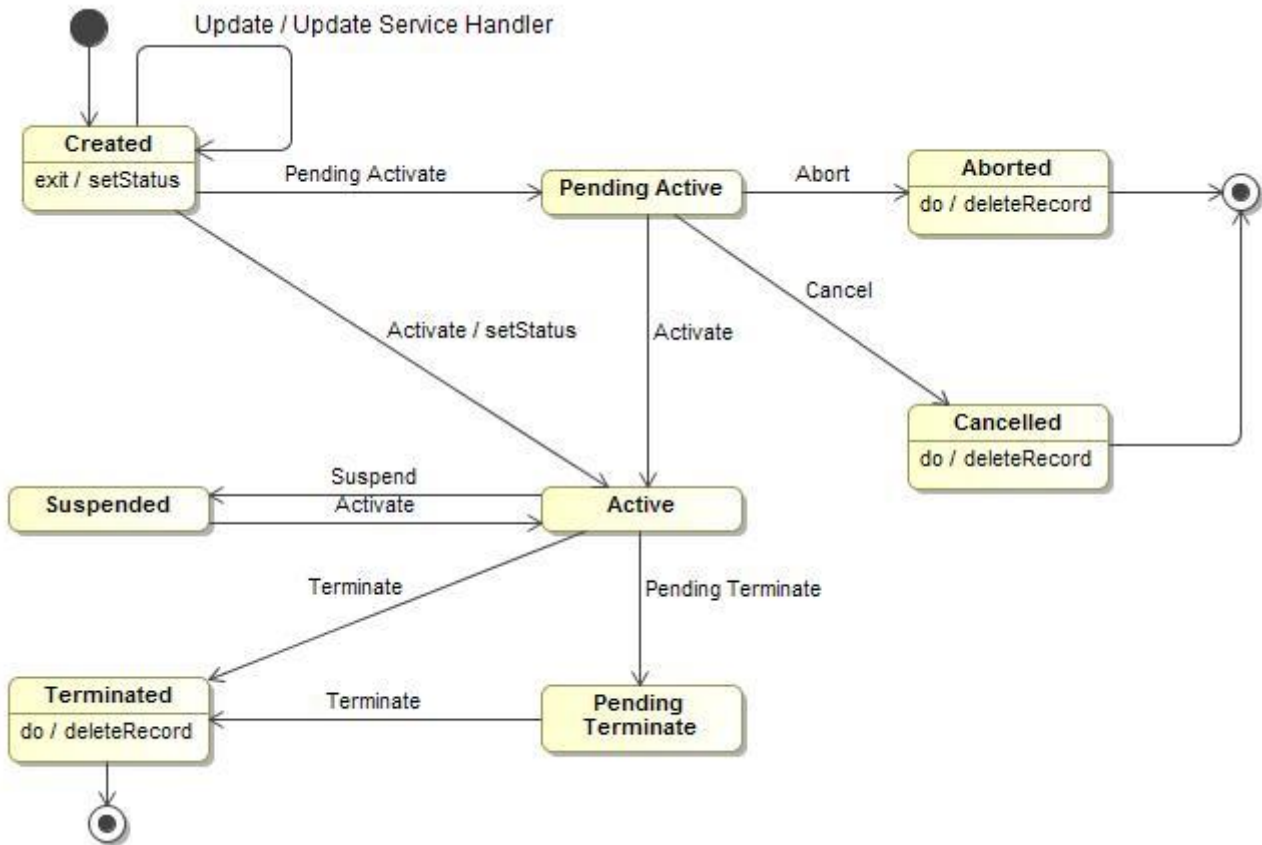


Figure 4. ServiceSM

Name	Description
Aborted	Activation aborted for technical / internal reasons
Active	Active for customer use of Service
Cancelled	Activation aborted by customer / legal request
Created	No identified status yet - newly injected into the target system
Pending Active	Prepared, but not active for customer yet
Pending Terminate	To be terminated, but still in use
Suspended	Temporary suspension, not usable for customer, typically because of barring caused by payment / dunning issues or customer request.
Terminated	No longer active for customer. From this status on, the ratedServiceUsage collection will have a values

SERVICE INVENTORY MANAGEMENT BUSINESS SERVICES

BUSINESS SERVICE – SERVICE INVENTORY REST SERVICE



Figure 5. Service Inventory Business Service

OPERATION – POSTSERVICE

Description

This operation is used to create a service.

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[name serviceCharacteristic.name serviceCharacteristic.value relatedParty.role relatedParty.ref relatedParty.validFor.startDateTime (not mandatory is set to sysdate by default)]	

OPERATION – GETSERVICE

Description

This operation retrieves a service.

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[id]	

OPERATION – GETSERVICES

Description

This operation retrieves a collection of services.

OPERATION – PUTSERVICE

Description

This operation is used to completely update the representation of a service.

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[id]	

OPERATION – PATCHSERVICE

Description

This operation is used to partially update the representation of a service.

Business Rules

Name	Severity	Specification	Message
can be updated		[description hasStarted status - created, pending active, aborted, cancelled, active, suspended, pending terminate, terminated]	
mandatory attributes		[characteristic Patching Mandatory Values - Name and value relatedParty Patching Mandatory Values - Role and party relatedParty Patching Default Values - startDateTime is not mandatory is set to sysdate by default]	

HUB BUSINESS SERVICE

The notification events supported by Service Inventory Management are:

- o Service create
- o Service state change
- o Service value change
- o Service delete

The Event is published to the registered listener

REST Example:

POST client/listener

BUSINESS SERVICE – SERVICEINVENTORY HUB REST SERVICE

OPERATION – REGISTERSERVICEINVENTORYLISTENER

Description

This operation is used to register a ServiceInventory listener to be notified of the following events: ServiceInventory create, ServiceInventory update, ServiceInventory delete.

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[description severity type]	

OPERATION – UNREGISTERSERVICEINVENTORYLISTENER

Description

This operation is used to unregister a ServiceInventory listener.

Business Rules

Name	Severity	Specification	Message
mandatory attributes		[description severity type]	