



ASDC Action Library APIs

v1610.13

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1 Revision History

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06/30/2016	1610.1	Michael Meller (mm174u)	Review and corrections
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07/07/2016	1610.3	Avdhut Kholkar	Included Action versioning, Review comments
07/12/2016	1610.4	Avdhut Kholkar	Added undo-checkout, get ECOMP component operation and description of Action versioning
07/23/2016	1610.5	Avdhut Kholkar	Added additional attributes of Action, additional operations – get by Name, Vendor and Category. Added sequence diagram
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10/13/2016	1610.12	Michael Meller	Added exceptions codes, mapping exceptions to error codes for logging.

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2 Overview

The scope of this document is to define the REST API exposed by ASDC to execute the operations on the 'Action' library.

ASDC as an integral ECOMP component provides the platform for the design and the storage of 'Actions'. An 'Action' represents a public operation or function that is provided by any of the ECOMP components. An 'Action' is used to define a Workflow that is supported by any of the ECOMP component. Typically, an 'Action' will be shown in the palette of a workflow Designer where the can be used while defining the workflow.

The following business requirements will be addressed as part of this release:

2.1 Operations

- Create an Action
- Update an Action
- Delete an Action
- Versioning of an Action:
 - Checkout – create a candidate minor version
 - Undo-Checkout – discard a candidate minor version
 - Checkin – commit a minor version
 - Submit - Finalize a major version
- Upload artifact to the Action
- Update artifact
- Delete artifact

2.2 Queries

- Get a list of ECOMP components IDs to use as Action attributes.
- Get the metadata of the existing Action versions (all major, last minor and minor candidate) based on actionInvariantUUID – the unique Action identifier.
- Get a complete Action object based on its actionUUID – the unique version identifier.

2.2.1 Filtered queries

- Get a list of Actions with metadata, supported by a ECOMP component
- Get a list of Actions with metadata, supported by a Catalog Model. i.e. Product, Service or Resources
- Get a list of Actions with metadata , supported by a Vendor
- Get a list of Actions with metadata of specific Category
- Get list of deleted Actions with metadata – TBD next Release

In 1610, filtered query will be supported only on a single filter criteria.

Filtered queries will return the metadata of all existing major version and the last minor version.

3 Security

ECOMP Components must identify themselves to the ASDC.

ECOMP Component credentials should be passed using HTTP [Basic Authentication](#).

Credentials must be sent in an "Authorization" header as follows:

1. Username and password are combined into a string "username:password".
2. The resulting string is then encoded using the RFC2045-MIME variant of [Base64](#)
3. The authorization method and a space i.e. "Basic" is then putted before the encoded string.

The Authorization is provided by AAF and the users should be configured to have one of the following roles:

1. Editor Role: AAF role name 'com.att.amdocs.sdc.workflow.editor' allows the user to perform all operations on the Action.
2. Watcher Role: AAF role name 'com.att.amdocs.sdc.workflow.watcher' allows the user to perform only 'Read-only' operations. The user will not be able to create, update or delete Actions.

4 Interface

In order to use the defined interface the ECOMP component (e.g. Change Management (CM)) has to be pre-configured at least with the following parameters:

- HTTP Basic Authentication Username & Password: credentials to use for component authentication on ASDC side. All component instances (e.g. CM instances) can share the same Basic Authentication credentials or each one can have its own ones, but keep in mind that the same credentials should be provisioned also in ASDC (ASDC will store “password” as SHA-2 (256) hashed with dynamically generated salt value).
- ASDC TLS certificates: all ASDC APIs require the establishment of secure connection over TLS. TLS connection has to be established between ECOMP component and ASDC (downgrade dance to SSL 3.0 should be disabled).
- Global ASDC FQDN: Each API request (HTTP transaction) might be handled by different ASDC instance.

The ECOMP component will access AIC GSS (Global Site Selector) to resolve the Global ASDC FQDN to site specific FQDN.

5 Action lifecycle operations

5.1 Action Versioning

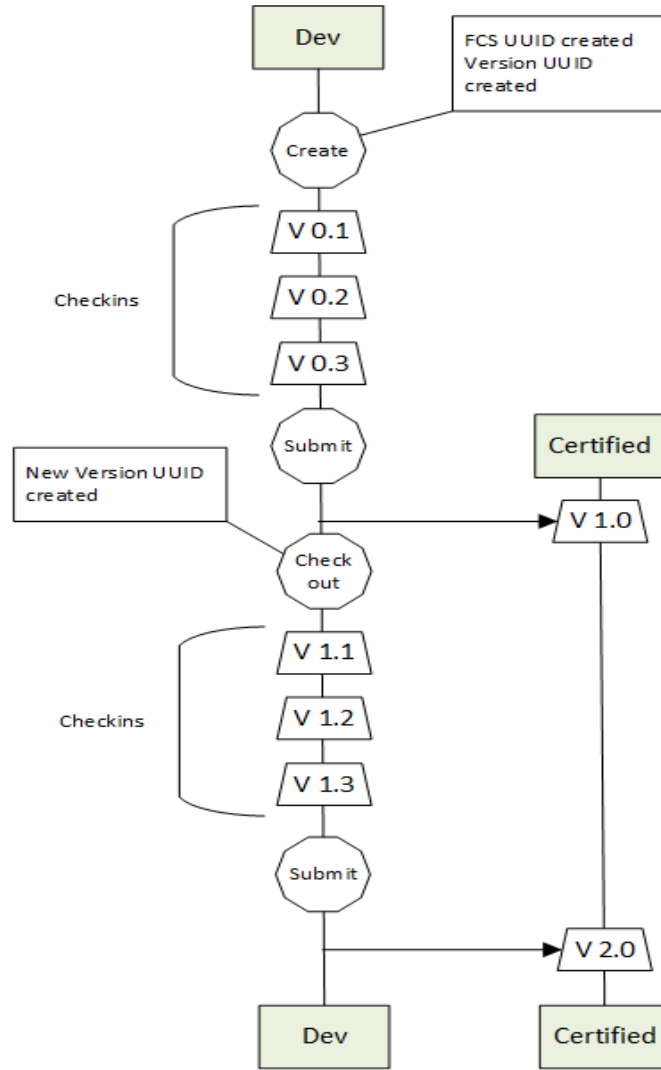
'Actions' are versionable. When an 'Action' is checkout by user, it is locked and cannot be edited by other users.

The Action can be updated /saved as many times as the user likes when it is checked out and all the saves are added to the same checkout Action object.

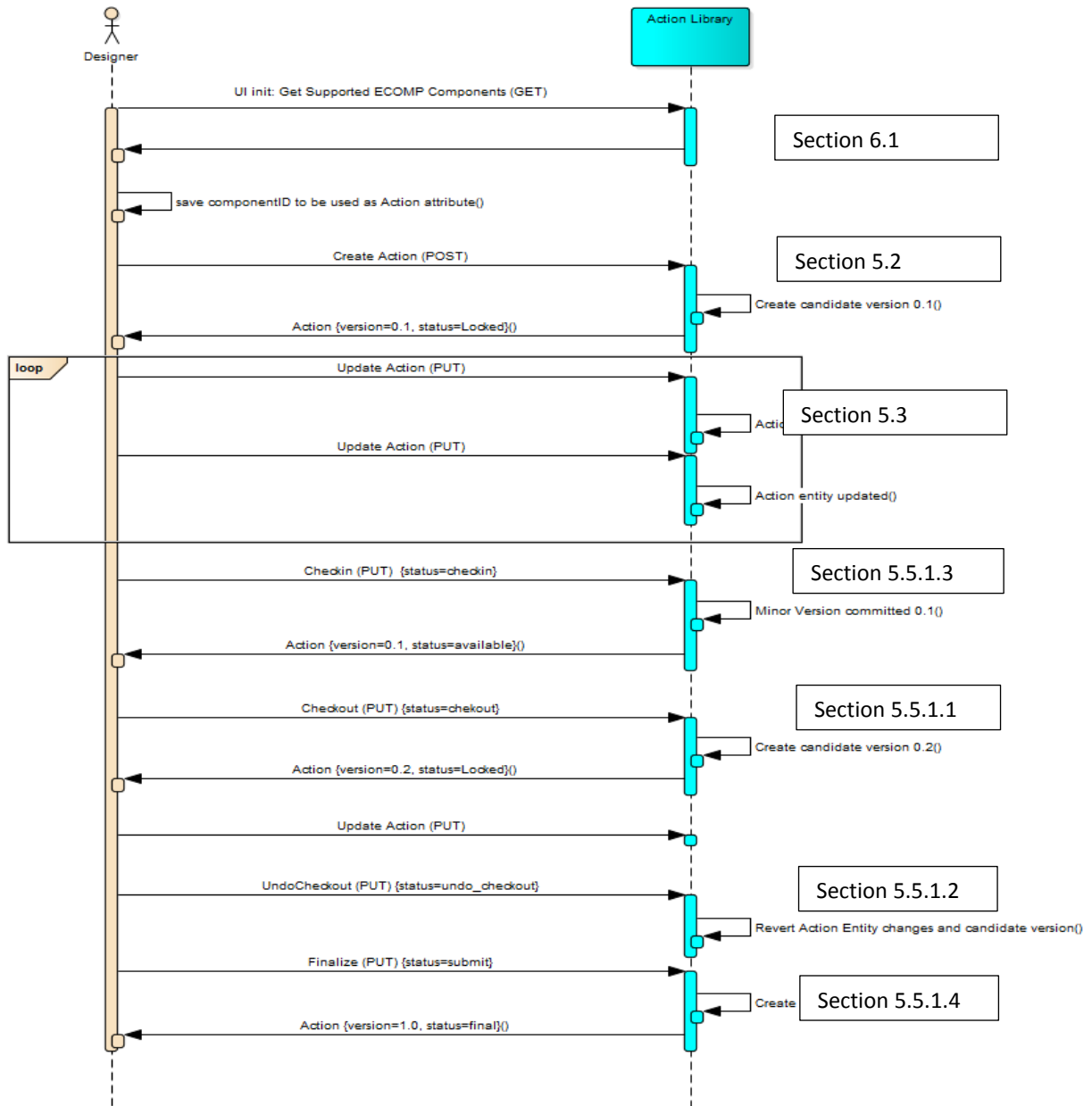
5.1.1 Versioning Operations

Operation	Version	Status of Action	Example
Create	V0.1 candidate is being created, item is locked	Locked	
Checkout	Item is locked and new minor version candidate is created with incremented minor version	Locked	1.13 was the last version, 1.14 candidate is created
Undo Checkout	The minor version candidate is deleted, lock is removed	Available	1.14 is deleted, 1.13 is now 'available'
Checkin	The minor version candidate is converted to a Minor version, lock is removed	Available	1.14 is the latest version
Submit	New major version is created, major is incremented, minor is set to 0	Final	2.0 is created based on 1.14

5.1.2 Versioning Timeline



5.1.3 Sequence Diagram for Versioning of Action



5.2 Create an Action

5.2.1 Functional Behavior

This operation will create an Action with a unique actionInvariantUUID, as an initial minor version candidate 0.1 with unique actionUUID and its Status will be 'locked' ('locked' to the username, who created it and can only be updated by the same user). When the user commits the minor version, the 'Lock' is released and the minor version is created. User can also discard the 'candidate' minor version using the checkoutUndo operation.

Refer par. 5.1 for the Versioning policy.

5.2.2 Request (POST)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB

5.2.2.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each component calling the ASDC API should identify itself by sending its identity (e.g. Instar name ...) in "X-ECOMP-InstanceID" header. If this header with non-null value is not supplied the HTTP Request will be rejected with '400 Bad Syntax' response code.
Accept	N	Determines the format of the body of the response. Valid value is: "application/json".
Authorization	Y	The username and password are formed into one string as "username: password". This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string "Authorization: Basic ". If the Authorization header is missing, then an HTTP "401 Unauthorized" with 'WWW-Authenticate' header specifying the type of required client authentication and realm token will be returned. "401" response should trigger the repeated HTTP request sending with "Authorization" header containing the client's credentials.

		<p>If “Authorization” header is received, but the client’s authentication fails (due to either unknown “username” or invalid “password”) the “403 Forbidden” response code will be returned.</p> <p>If the user has authenticated succesfully but unauthorized to access ASDC Action library, the “403 Forbidden” response code will be returned.</p>
--	--	---

5.2.2.2 Request Body

Request body is sent as JSON object (Content-Type: application/json) - The JSON example is shown in the request sample section.

The JSON specifies the following Action attributes:

5.2.2.2.1 Action Object Structure

Parameter Name	Parameter Type	Mandatory ?	Description
name	String, no blanks	Y	The name of the Action. The name should be unique. <i>e.g. “start_vSBC”</i>
displayName	String	N	A user friendly name. Usually used to display in a UI.
description	String	N	The Action description
vendorList	List(String)	N	A list of Vendor names of the Action <i>e.g. [“amdocs”, “juniper”]</i>
endpointURI	String	Y	Relative URI where the Action is exposed as a service. The full URL with the host name and port will have to be specified by the invoking system. The list of available Hosts is defined in the serverList table. <i>Ex : “/appc/execute”</i>
categoryList	List (String)	N	A list of categories that the Action belongs to. <i>E. g. [“workflow”, “bpmn”]</i>
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. The model object structure is explained in par. 5.2.2.2.3
supportedComponents	JSON	N	List of ECOMP component names that support this Action. Each component is specified using the following attributes:

Parameter Name	Parameter Type	Mandatory ?	Description
			<p>Id (Mandatory): A unique ID of the ECOMP system. Name(optional) : Name of the ECOMP component E. g. <pre>[[{"ID": "BB47B177-9383-4934-8543-0F91A7A06448", "name": "appc"}]]</pre> The ECOMP component structure is explained in par. 5.2.2.2.3</p>
inputParameters	JSON	N	<p>A JSON schema describing the input parameters. E. g. <pre>[[{"name": "car", "defaultValue": "ford", "type": "object", "desc": "some description", "validationRule": "some validation rule"}]]</pre></p>
outputParameters	JSON	N	<p>A JSON schema describing the output parameters. E. g. <pre>[[{"name": "status", "defaultValue": "", "type": "object", "desc": "some description"}]]</pre></p>
operationalData	JSON	N	<p>A JSON containing the operational characteristics that are relevant for the Action. E. g. <pre>{ "outageDuration": "120", "approxDuration": "240" }</pre></p>
serverList	JSON	N	<p>A list of servers where each server is defined with the following attributes:</p> <ul style="list-style-type: none"> - Name - Hostname - Port <p>E.g. <pre>[[{"name": "appcserver", "hostName": "appc1.att.com", "port": "8090"}, {"name": "msoserver", "hostName": "mso.att.com", "port": "7809"}]]</pre></p>

5.2.2.2.2 Catalog Model Object Structure

Parameter Name	Parameter Type	Mandatory ?	Description
uniqueID	String	Y	A UUID that uniquely identifies a specific version of the Catalog model i.e. a Product, Service or a Resource.
invariantUUID	String	N	A UUID that identifies the Catalog model, i.e. a Product, Service or a Resource
name	String	N	Name of the Model e. g. "vSBC"
version	String	N	Version of the model.
Vendor	String	N	Vendor of the model.

5.2.2.2.3 ECOMP component Object Structure

Parameter Name	Parameter Type	Mandatory ?	Description
componentID	String	Y	A UUID that uniquely identifies the ECOMP component. The Action library maintains a list of ECOMP components, supported by Actions. The consumer is expected to get the details of the supported components using the REST GET operation explained in par. 6.1.
componentName	String	N	Name of the ECOMP component. e. g. APPC, MSO, CMO, DCAE, AAI, SDNC, Portal, PO (AIC)

5.2.2.3 Request Sample

```
POST /onboarding-api/workflow/v1.0/actions HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHhlc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
Content-Type: application/json
Content-Length: ...
{
"name": "start_vSBC",
```

```
"displayName": "Start vSBC",
"description": "command to start a vSBC vnf",
"vendorList": ["amdocs","juniper"],
"endpointURI": "/app/execute",
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "ID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
"inputParameters": [{
    "name": "car",
    "defaultValue": "ford",
    "type": "object",
    "desc": "some description",
    "validationRule": "some validation rule"
}],
"outputParameters": [{
    "name": "status",
    "defaultValue": "",
    "type": "object",
    "desc": "some description"
}],
"operationalData": [{
    "outageDuration": "120",
    "approxDuration": "240"
}],
```

```
"serverList": [{
    "name": "appcserver",
    "hostName": "appc.att.com",
    "port": "8090"
}],
}
```

5.2.3 Response

5.2.3.1 Special Response Headers

Header Name	Mandatory?	Description
Content-Type	Y	Determines the format of the response body. Valid value is: "application/json"

5.2.3.2 Response Body

Response body is sent as JSON object (Content-Type: application/json).

Parameter Name	Parameter Type	Mandatory?	Description
actionUUID	String	Y	Global Action Version Identifier: UUID generated by ASDC per each <u>version</u> of the Action.
actionInvariantUUID	String	Y	Global Action Identifier: UUID generated by ASDC per each Action. This UUID stays <u>constant</u> along all the Action's versions
version	String	Y	The Action version in ASDC library. Two dot (".") separated digit blocks.
status	String	y	Action status = Locked

5.2.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully created and the actionUUID and actionInvariantUUID are returned.
Error codes	Please refer to par. 8	

5.2.3.4 Response Sample

```
HTTP/1.1 200 OK
```

```
Content-Type : application/json
```

```
Content-Length : ...
```

```
{  
  "actionUUID":"AA97B177-9383-4934-8543-0F91A7A02836",  
  "actionInvariantUUID":"CC97B177-9383-4934-8543-0F91A7A02493",  
  "version":"0.1",  
  "status":"locked"  
}
```

5.3 Update an Action

5.3.1 Functional Behavior

The Action can be updated only by the same user, who has 'Locked' the Action i.e. the user, who has created the candidate version by 'checking-out' the Action. An error will be returned if different user tries to update a minor version candidate of the Action.

This operation will not change the version of the Action. It will only update the Action object that has the last version with a status of 'locked', otherwise the operation will be rejected with error.

In order to update an Action, the entire Action object needs to be sent in a request. In case, the Action exist, it will update the entire Action object. Any missing attribute will be updated with a 'null' value.

Note:

The Action JSON should not contain the Artifact attributes. Artifacts attributes are only updated with the Update Artifact command, as specified in section 7.2. An error will be returned if the Action JSON contains the artifact attribute.

5.3.2 Request (PUT)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant UUID of the Action.

5.3.2.1 Special Request Headers

Refer to par. 5.2.2.1.

5.3.2.2 Request Body

The request body contains the same Action object structure as "create Action" operation, explained in section 5.2.2.2.

5.3.2.3 Request Sample

```
PUT /onboarding-api/workflow/v1.0/actions/CC97B177-9383-4934-8543-0F91A7A02768
Host: asdc.att.com
Accept: application/json
Authorization: Basic QWxhZGRpbjpvGVuIHh2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
Content-Type: application/json
Content-Length: ...
```

```
{
  "name": "start_vSBC",
  "displayName": "Start vSBC",
  "description": "command to start a vSBC vnf",
  "vendorList": ["amdocs", "juniper"],
  "endpointURI": "/appc/execute",
  "categoryList": ["workflow", "bpmn"],
  "supportedModels": [{
    "uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
  }],
  "supportedComponents": [{
    "componentID": "BB47B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
  }],
  "inputParameters": [{
    "name": "car",
    "defaultValue": "ford",
    "type": "object",
    "desc": "some description",
    "validationRule": "some validation rule"
  }],
  "outputParameters": [{
    "name": "status",
    "defaultValue": "",
    "type": "object",
    "desc": "some description"
  }],
  "operationalData": {
    "outageDuration": "120",
  }
}
```

```

        "approxDuration": "240"
    },
    "serverList": [
        {
            "name": "appcserver",
            "hostName": "appc.att.com",
            "port": "8090"
        }
    ]
}
    
```

5.3.3 Response

5.3.3.1 Special Response Headers

Header Name	Mandatory?	Description
Content-Type	Y	Determines the format of the response body. Valid value is : "application/json"

5.3.3.2 Response Body

Response body is sent as JSON object (Content-Type: application/json).

Parameter Name	Parameter Type	Mandatory?	Description
actionUUID	String	Y	Global Action Version Identifier: UUID generated by ASDC per each <u>version</u> of the Action. Is not changing by the Update operation.
actionInvariantUUID	String	Y	Global Action Identifier: UUID generated by ASDC per each Action. This UUID stays <u>constant</u> along all the Action's versions
version	String	Y	The Action version in ASDC library. Two dot (".") separated digit blocks. Is not changing by the Update operation.
status	String	y	Action status = Locked

5.3.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
---------------	--------------------------	---------------------

200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	Please refer to par. 8	

5.3.3.4 Response Sample after updating an Action

```

HTTP/1.1 200 OK
Content-Type : application/json
Content-Length : ...
{
  "actionUUID":"AA97B177-9383-4934-8543-0F91A7A02836",
  "actionInvariantUUID":"CC97B177-9383-4934-8543-0F91A7A02493",
  "version":"1.3",
  "status":"locked"
}

```

5.4 Delete Action

This operation enables the client to mark a specified Action as Deleted, while the Action object is preserved in the Action library. There is no option to undelete an Action, marked as “Deleted”.

Th only Actions with “available” status are allowed to be deleted.

The following operation results will be affected:

- No updates (POST) will be permitted.
- No status changes will be permitted.
- GET (actionInvariantUUID) will return a normal response, while the status of all versions will appear as “deleted”
- GET (actionUUID) will return a normal response, while the status of the version will appear as “deleted”
- Queries will not return deleted Actions
- Associated artifacts are allowed for download in a normal way.

5.4.1 Request (DELETE)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant UUID of the Action.

5.4.1.1 Special Request Headers

Refer to par. 5.2.2.1.

5.4.1.2 Request Body

Non

5.4.2 Request Sample

```
DELETE /onboarding-api/workflow/v1.0/actions/CC97B177-9383-4934-8543-0F91A7A02768
Host: asdc.att.com
Accept: application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
Content-Type: application/json
Content-Length: ...
```

5.4.3 Responce

5.4.3.1 Special Response Headers

Header Name	Description
Content-Type	Determines the format of the response body. Valid value is: "application/json"

5.4.3.2 Response Body

N/A

5.4.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action is succesfully marked as "deleted".
Error codes	Please refer to par. 8	

5.4.3.4 Response Sample

```
HTTP/1.1 200 OK
```

5.5 Action Versioning

Action versioning operations enable to manage the complete Action lifecycle as defined in par. 5.1.

5.5.1 Versioning Operations

5.5.1.1 'Checkout' and creating a minor version candidate

If an Action object is required to be updated, it has to be first 'checked-out' and a candidate minor version created. Once the 'candidate' minor version is created, the Action object is 'locked' and only the user, who created it can do the changes and release the lock.

The candidate minor version can only be created if the last version of the Action has the status of 'available' or 'final'. An error will be returned if the status of the Action is 'locked'.

5.5.1.2 Discard the Candidate Minor Version (Undo Checkout)

This operation discards a minor version candidate. A subsequent 'checkout' will create a minor candidate with the same version number as discarded.

An error will be returned if the status of the Action is 'available' or 'final'.

5.5.1.3 'Checkin' and committing the minor version

Once the Action content has been finalized, it can be committed by the user by "Checkin" operation. This operation will generate the next minor version, available for any user to work with i.e. the 'candidate' version will be 'committed'.

The minor version can be committed only by the same user who has 'Locked' the Action i.e. the user who had created the candidate version by 'checkingout' the Action. An error will be returned if another user tries to update a candidate version of the Action.

If the Action doesn't have a candidate version, an error will be returned.

5.5.1.4 Finalizing a major version

Once a minor version of the Action object is approved, it can be finalized into a major version. The new major version number will be x.00 e.g. 1.34 ->2.00

If the status of the Action is 'locked', an error would be returned.

5.5.2 Request (POST)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant UUID of the Action.

5.5.2.1 Special Request Headers

Refer to par. 5.2.2.1.

5.5.2.2 Request Body

The request body only contains the 'Status' attribute.

Parameter Name	Parameter Type	Mandatory?	Value	Description
Status	String	Y	"Checkout"	To create minor version candidate.
			"undoCheckout"	To discard minor version candidate.
			"Checkin"	to create minor version from a candidate
			"Submit"	to create next major version

5.5.2.3 Request Sample

```
POST /onboarding-api/workflow/v1.0/actions/CC97B177-9383-4934-8543-0F91A7A02768
```

```
Host: asdc.att.com
```

```
Accept: application/json
```

```
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
```

```
X-ECOMP-InstanceID: mso.12345
```

```
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

```
Content-Type: application/json
```

```
Content-Length: ...
```

```
{
  "status": "checkin"
}
```

5.5.3 Response

5.5.3.1 Special Response Headers

Header Name	Mandatory?	Description
Content-Type	Y	Determines the format of the response body. Valid value is : "application/json"

5.5.3.2 Response Body

The response body is sent as JSON object (Content-Type: application/json).

Parameter Name	Parameter Type	Mandatory?	Description
actionUUID	String	Y	Global Action Version Identifier: UUID generated by ASDC per each <u>version</u> of the Action.
actionInvariantUUID	String	Y	Global Action Identifier: UUID generated by ASDC per each Action. This UUID stays <u>constant</u> along all the Action's versions.
version	String	Y	The Action version in ASDC library. Two dot (".") separated digit blocks.
status	String	y	Action status = available for Checkin, locked for checkout, final for submit, available or final for undoCheckout.

5.5.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	Please refer to par. 8	

5.5.3.4 Response Sample after successful 'Checkin'

```

HTTP/1.1 200 OK
Content-Type : application/json
Content-Length : ...
{
  "actionUUID":"AA97B177-9383-4934-8543-0F91A7A02836",
  "actionInvariantUUID":"CC97B177-9383-4934-8543-0F91A7A02493",
  "version":"1.3",
  "status":"available"
}

```

6 Queries

6.1 Get list of ECOMP Components

6.1.1 Functional Behavior

This list shall be used to refer ECOMP components within the Actions by their unique IDs, stored in the Action library.

6.1.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/components>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB

6.1.2.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each ECOMP component calling the ASDC API should identify itself by sending its identity (e.g. Instar name...) in "X-ECOMP-InstanceID" header. If this header with non-null value is not supplied the HTTP Request will be rejected with "400 Bad Syntax" response code.
Accept	N	Determines the format of the body of the response. Valid values are: "application/json"
Authorization	Y	The username and password are formed into one string as "username: password". This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string "Authorization: Basic ". If the Authorization header is missing, then an HTTP "401 Unauthorized" with 'WWW-Authenticate' header specifying the type of required client authentication and realm token will be returned. "401" response should trigger the repeated HTTP request sending with "Authorization" header containing the client's credentials. If "Authorization" header is received but the client's authentication fails (due to either unknown "username" or invalid "password") the "403 Forbidden" response code will be returned. If the user has authenticated successfully but unauthorized to access ASDC Action library, the "403 Forbidden" response code will be returned.

Header Name	Mandatory?	Description
		IF the user was successfully authenticated but isn't authorized by for particular operation the "403 Forbidden" response code will be returned.

6.1.2.2 Request Body

Not applicable.

6.1.2.3 Request Sample

GET /onboarding-api/workflow/v1.0/actions/components HTTP/1.1

Host : asdc.att.com

Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==

X-ECOMP-InstanceID: mso.12345

X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836

6.1.3 Response

6.1.3.1 Special Response Headers

Header Name	Description
Content-Type	Determines the format of the response body. Valid value is: "application/json"

6.1.3.2 Response Body

The response body is sent as a JSON object of a list of available components IDs and associated names.

Parameter Name	Parameter Type	Description
componentList		Contains the list of ECOMP components where each component contains
componentID	String	A UUID that uniquely identifies the ECOMP component.
componentName	String	Name of the ECOMP component e.g. "APPC", "MSO", "CMO" etc.

6.1.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	Please refer to par. 8	

6.1.3.4 Response Sample

HTTP/1.1 200 Ok

Content-Type : application/json

Content-Length : ...

```
{
  "componentList":
    [{
      "componentID":"DD51B177-5384-7932-9556-0F91A7A06193",
      "componentName": "APPC",
    },
    {
      "ID":"CA61B177-7384-3932-7556-0F91A7A05413",
      "name": "MSO",
    },
    /**another component**/
  ]
}
```

6.2 Get all Action versions

6.2.1 Functional Behavior

This REST GET operation returns the metadata of all existing major versions, the last minor version and the minor version candidate of an Action, specified by its actionInvariantUUID.

6.2.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path

	Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant UUID of the Action.

6.2.2.1 Special Request Headers

Same as in par. 6.1.2.1.

6.2.2.2 Request Body

Not applicable.

6.2.2.3 Request Sample

```
GET /onboarding-api/workflow/v1.0/actions/AA97B177-9383-4934-8543-0F91A7A02836 HTTP/1.1
```

```
Host : asdc.att.com
```

```
Accept : application/json
```

```
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
```

```
X-ECOMP-InstanceID: mso.12345
```

```
X-ECOMP-RequestID: FF53B177-9383-4934-8543-0F91A7A06197-8543-0F91A7A02836
```

6.2.3 Response

6.2.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.2.3.2 Response Body

The response body will contain the metadata for the last minor version, any candidate minor version and all the major versions of an Action object as explained below:

Parameter Name	Parameter Type	Mandatory?	Description
versions	JSON	Y	A list of versions of the specified Action. For each version the list includes the following attributes:
<i>Attributes of 'versions':</i>	For each existing major version, the existing minor version and minor version candidate.		
actionUUID	String	Y	The actionUUID, i.e. UUID of the specific version of that Action
actionInvariantUUID	String	Y	The actionInvariantUUID specified in the request

Parameter Name	Parameter Type	Mandatory?	Description
name	String	Y	The name of the Action. Ex. "start_vSBC"
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	The version of the Action.
description	String	N	The description of the Action
status	String	Y	Status of the Action. Only the following values of the Action will be returned: Final Available Locked
timestamp	Datetime	Y	Timestamp (UTC) when the version was last modified.
updatedBy	String	Y	The ATTUID of the user who had last updated the version
vendorList	List(String)	N	A list of Vendor names of the Action E. g. ["amdocs","juniper"]
categoryList	List (String)	N	A list of categories that the Action belongs to. E. g. ["workflow","bpmn"]
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none">– uniqueID (Mandatory): A unique model version identifier– invariantUUID (optional): A unique model identifier– Name (optional)– Version (optional)– Vendor(optional) E. g. [{"uniqueUUID": "AA56B177-9383-4934-8543-0F91A7A04971",

Parameter Name	Parameter Type	Mandatory?	Description
			<pre>"invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC", version="2.1", "vendor": "cisco"}}</pre> <p>The model object structure is explained in section 6.1.2.2.3</p>
supportedComponents	JSON	N	<p>List of ECOMP component names that support this Action. Each component is specified using the following attributes:</p> <p>componentId (Mandatory): A unique ID of the ECOMP component</p> <p>componentName(optional): Name of the ECOMP component</p> <p><i>E. g. [{"componentID": "BB47B177-9383-4934-8543-0F91A7A06448", "componentName": "appc"}]</i></p>

6.2.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	Please refer to par. 8	

6.2.3.4 Response sample

HTTP/1.1 200 Ok

Content-Type : application/json

Content-Length : ...

```
{
"versions": [{
  "actionUUID": "CC97B177-9383-4934-8543-0F91A7A02493",
  "actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
  "name": "start_vSBC",
  "displayName": "Start vSBC",
  "version": "1.0",
```

```
"description": "start the vSBC",
"status": "final" ,
"timestamp": "2016-05-21 15:00",
"updatedBy": "sd345k"
"vendorList": ["amdocs","juniper"],
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
},
{
    "actionUUID": "BB42B177-3373-5964-4573-0F91A7A02810",
    "actionInvariantUUID": " AA97B177-9383-4934-8543-0F91A7A02836",
    "name": "start_vSBC",
    "displayName": "Start vSBC",
    "version": "1.1",
    "description": "start the vSBC",
    "status": "available" ,
    "timestamp": "2016-06-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
```

```
        "version": "2.1",
        "vendor": "cisco"
    },
    "supportedComponents": [{
        "ID": " BB57B177-9383-4934-8543-0F91A7A06448",
        "name": "app"
    }],
},
{
    "actionUUID": "ED42B177-3373-5964-4573-0F91A7A03893",
    "actionInvariantUUID": " DD97B177-9383-4934-8543-0F91A7A07397",
    "name": "start_vSBC",
    "displayName": "Start vSBC",
    "version": "1.2",
    "description": "start the vSBC",
    "status": "locked" ,
    "timestamp": "2016-07-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
        "version": "2.1",
        "vendor": "cisco"
    }],
    "supportedComponents": [{
        "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
        "componentName": "app"
    }],
},
}
```

6.3 Get the specific version of an Action object

6.3.1 Functional Behavior

This REST GET operation returns the complete object of the specific Action version.

6.3.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}?version={actionUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant UUID of the Action.
actionUUID	UUID generated by ASDC per each version of the Action.

6.3.2.1 Special Request Headers

Refer to par. 6.1.2.1.

6.3.2.2 Request Body

Not applicable.

6.3.2.3 Request Sample

```
GET /onboarding-api/workflow/v1.0/actions/AA97B177-9383-4934-8543-0F91A7A02836?version=CC97B177-9383-4934-8543-0F91A7A02493 HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: FF53B177-9383-4934-8543-0F91A7A06197-8543-0F91A7A02836
```

6.3.3 Response

6.3.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.3.3.2 Response Body

The response body will contain the complete Action object as explained below:

Parameter Name	Parameter Type	Mandatory?	Description
actionUUID	String	Y	<p>Global Action Version Identifier: UUID generated by ASDC per each <u>version</u> of the Action.</p> <p>Generated UUID is compliant with RFC 4122. It is a 128-bit value formatted into blocks of hexadecimal digits separated by a hyphen ("-").</p> <p>The ActionUUID can later be used to receive more detailed information about the specific resource.</p> <p>Ex.: AA97B177-9383-4934-8543-0F91A7A02836</p>
actionInvariantUUID	String	Y	<p>Global Action Identifier: UUID generated by ASDC per each Action. This UUID stays <u>constant</u> along all the model's versions</p> <p>Generated UUID is compliant with RFC 4122. It is a 128-bit value formatted into blocks of hexadecimal digits separated by a hyphen ("-").</p> <p>Ex.: AA97B177-9383-4934-8543-0F91A7A02836</p>
name	String	Y	The unique name of the Action <i>e.g. "start_vSBC"</i>
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	<p>The Action version generated by ASDC library. Two dot (".") separated digit blocks.</p> <p><i>E.g. : "2.0"</i>.</p>
description	String	N	The Action description
status	String	Y	<p>Status of the Action.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> - Locked - Available - Final
vendorList	List (String)	N	<p>A list of Vendor names of the Action</p> <p>E. g. ["amdocs","juniper"]</p>
timestamp	Datetime	Y	<p>Timestamp (UTC) when the version was last modified. Format of the timestamp is "YYYY-MM-DD hh:mm"</p> <p>E. g. "2016-05-21 15:00"</p>

Parameter Name	Parameter Type	Mandatory?	Description
updatedBy	String	Y	The ATTUID of the user who had last updated the version
categoryList	List (String)	N	A list of categories that the Action belongs to. E. g. ["workflow","bpmn"]
endpointURI	String	Y	Relative URI where the action is exposed as a service. The full URL with the host name and port will have to be specified by the invoking system. The Action only specifies the relative URI. <i>Ex : "/appc/execute"</i>
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none"> – uniqueID (Mandatory) : A unique model version identifier – invariantUUID (optional): A unique model identifier – Name (optional) – Version (optional) – Vendor(optional) E. g. <pre> [{"uniqueID":"AA56B177-9383-4934-8543-0F91A7A04971", "invariantUUID":"CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC",version="2.1",vendor:"cisco"}] </pre> The model object structure is explained in
supportedComponents	JSON	N	List of ECOMP component names that support this Action. Each component is specified using the following attributes: <ul style="list-style-type: none"> componentID (Mandatory): A unique ID of the ECOMP system. componentName(optional) : Name of the ECOMP component E. g. <pre> [{"componentID":"BB47B177-9383-4934-8543-0F91A7A06448", "componentName":"appc"}] </pre>

Parameter Name	Parameter Type	Mandatory?	Description
inputParameters	JSON	NN	A JSON schema describing the input parameters. E. g. <pre>[[{"name": "car", "defaultValue": "ford", "type": "object", "desc": "some description", "validationRule": "some validation rule"}]]</pre>
outputParameters	JSON	N	A JSON schema describing the output parameters. E. g. <pre>[[{"name": "status", "defaultValue": "", "type": "object", "desc": "some description"}]]</pre>
artifacts	JSON	N	A list of workflow artifacts that are associated with this Action. Each artifact is specified using the following attributes: <ul style="list-style-type: none"> – artifactUUID (Mandatory): A unique artifact identifier – artifactName (Mandatory): file name – artifactProtection (Mandatory): Read or readWrite – artifactLabel (Optional): display name – artifactDescription (Optional) – artifactCategory (Optional) E. g. <pre>[[{"ID": "DD87B177-9383-4934-8543-0F91A7A04612", "name": "vSBC_DG", "artifactProtection": "Read", "description": "workflow to start vSBC", "bpmn_xml": "encoded xml"}]]</pre>
operationalData	JSON	N	A JSON containing the operational characteristics that are relevant for the Action. E. g. <pre>{"outageDuration": "120", "approxDuration": "240"}</pre>

Parameter Name	Parameter Type	Mandatory?	Description
serverList	JSON	N	<p>A list of servers where each server is defined with the following attributes:</p> <p>Name</p> <p>Hostname</p> <p>Port</p> <p>E. g.</p> <pre> [{"name": "appcserver", "hostName": "appc1.att.com", "port": "8090"}, {"name": "msoserver", "hostName": "mso.att.com", "port": "7809"}] </pre>

6.3.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	please refer to par. 8	

6.3.3.4 Sample response

```

HTTP/1.1 200 Ok
Content-Type : application/json
Content-Length : ...
{
  "actionUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
  "actionInvariantUUID": "CC97B177-9383-4934-8543-0F91A7A02493",
  "name": "start_vSBC",
  "displayName": "Start vSBC",
  "description": "command to start a vSBC vnf",
  "version": "1.3",
  "status": "available",
  "timestamp": "2016-05-21 15:00",
  "updatedBy": "sd345k",
  "vendorList": ["amdocs", "juniper"],

```

```
"categoryList": ["workflow","bpmn"],
"endpointURI": "/app/execute",
"supportedModels": [{
    "uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": "BB47B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
"inputParameters": [{
    "name": "car",
    "defaultValue": "ford",
    "type": "object",
    "desc": "some description",
    "validationRule": "some validation rule"
}],
"outputParameters": [{
    "name": "status",
    "defaultValue": "",
    "type": "object",
    "desc": "some description"
}]
"artifacts": [{
    "artifactUUID": "DD87B177-9383-4934-8543-0F91A7A04612",
    "artifactName": "vSBC_DG",
    "artifactProtection": "Read",
    "artifactDescription": "workflow to start vSBC"
}],
"operationalData": {
```

```

        "outageDuration": "120",
        "approxDuration": "240"
    },
    "serverList": [
        {
            "name": "appcserver",
            "hostName": "appc.att.com",
            "port": "8090"
        }
    ]
}

```

6.4 Get Actions supported by an ECOMP component

6.4.1 Functional Behavior

The REST GET operation returns a list of Actions that are supporting a specified ECOMP component.

The ECOMP componentID can be obtained by the GET ECOMP component operation in par. 6.1.

The list will contain the last major and the last minor version of each Action.

6.4.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions?componentId={componentId}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
componentID	Unique identifier of the ECOMP component. The Action library will maintain a list of ECOMP components that will be supported by Actions. This is a metadata table. The consumer is expected to get the details of the supported components using the REST GET operation explained in section 6.11.

6.4.2.1 Special Request Headers

Refer to par. 6.1.2.1.

6.4.2.2 Request Body

Not applicable

6.4.2.3 Request Sample

```

GET /onboarding-api/workflow/v1.0/actions?componentId=BB42B177-3373-5964-4573-0F91A7A02810 HTTP/1.1
Host : asdc.att.com

```

Accept : application/json

Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==

X-ECOMP-InstanceID: mso.12345

X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836

6.4.3 Response

6.4.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.4.3.2 Response Body

The response body will contain a list of Action objects

Parameter Name	Parameter Type	Mandatory?	Description
actionList			Contains the list of Action objects, where each Action has the structure as below
actionUUID	String	Y	The actionUUID, i.e UUID of the specific version of that Action
actionInvariantUUID	String	Y	The actionInvariantUUID specified in the request
name	String	Y	The name of the Action. <i>Ex. "start_vSBC"</i>
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	The version of the Action.
description	String	N	The description of the Action
status	String	Y	Status of the Action. Only the following values of the Action will be returned: Final Available Locked
timestamp	Datetime	Y	Timestamp (UTC) when the version was last modified.
updatedBy	String	Y	The ATTUID of the user who had last updated the version

Parameter Name	Parameter Type	Mandatory?	Description
vendorList	List (String)	N	A list of Vendor names of the Action E. g. ["amdocs", "juniper"]
categoryList	List (String)	N	A list of categories that the Action belongs to. E. g. ["workflow", "bpmn"]
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none"> uniqueID (Mandatory): model version unique identifier. invariantUUID (optional): model unique identifier. Name (optional) Version (optional) Vendor(optional) E. g. <pre> [{"uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971", "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC", version="2.1", "vendor": "cisco"}] </pre>
supportedComponents	JSON	N	List of ECOMP components that support this Action. Each component is specified using the following attributes: <ul style="list-style-type: none"> componentId (Mandatory): A unique ID of the ECOMP component componentName (optional): Name of the ECOMP component E. g. <pre> [{"componentID": "BB47B177-9383-4934-8543-0F91A7A06448", "componentName": "appc"}] </pre>

6.4.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.

Error codes	please refer to par. 8
-------------	------------------------

6.4.3.4 Response Sample

```
HTTP/1.1 200 Ok
```

```
Content-Type : application/json
```

```
Content-Length : ...
```

```
{
```

```
"actionList":
```

```
  [[
```

```
    "actionUUID": "CC97B177-9383-4934-8543-0F91A7A02493",
```

```
    "actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
```

```
    "name": "start_vSBC",
```

```
    "displayName": "Start vSBC",
```

```
    "version": "1.0",
```

```
    "description": "start the vSBC",
```

```
    "status": "final",
```

```
    "timestamp": "2016-05-21 15:00",
```

```
    "updatedBy": "sd345k"
```

```
    "vendorList": ["amdocs","juniper"],
```

```
    "categoryList": ["workflow","bpmn"],
```

```
    "supportedModels": [{
```

```
      "uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971",
```

```
      "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193",
```

```
      "name": "vSBC",
```

```
      "version": "2.1",
```

```
      "vendor": "cisco"
```

```
    }],
```

```
    "supportedComponents": [{
```

```
      "componentID": "BB57B177-9383-4934-8543-0F91A7A06448",
```

```
      "componentName": "appc"
```

```
    }],
```

```
  },
```

```
{
```

```
"actionUUID": "BB42B177-3373-5964-4573-0F91A7A02810",
"actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
"name": "start_vSBC",
"displayName": "Start vSBC",
"version": "1.1",
"description": "start the vSBC",
"status": "available",
"timestamp": "2016-05-21 15:00",
"updatedBy": "sd345k"
"vendorList": ["amdocs", "juniper"],
"categoryList": ["workflow", "bpmn"],
"supportedModels": [{
    "uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": "BB57B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
},
{
    "actionUUID": "EE62B156-7138-7962-3574-0F91A7A09576",
    "actionInvariantUUID": "FF497B175-6374-1931-2544-0F91A7A058826",
    "name": "healthcheck",
    "displayName": "Health check",
    "version": "2.0",
    "description": "check the health of the VNF",
    "status": "final"
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs", "juniper"],
```

```

    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
        "version": "2.1",
        "vendor": "cisco"
    }],
    "supportedComponents": [{
        "componentID": " DD57B177-9383-4934-8543-0F91A7A06557",
        "componentName": "mso"
    }],
  },
  /**another action object**/
}
}
}

```

6.5 Get Actions supported by a Model

6.5.1 Functional Behavior

This REST GET operation returns a list of Action objects that are supported by a specified model i.e a Resource, Service or a Product. e.g. VNF.

The list will contain the metadata of the last major and the last minor versions of each Action. Actions that support the specified Model but includes an initial minor version candidate = 0.1 only, will not be listed.

6.5.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions?modelId={modelId}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
modelID	Global model identifier in ASDC Catalog. When the Model's uniqueID is specified, all Actions supporting the specific Model version will be returned. When the Model's

	<p>invariantUUID is specified, all Actions supporting any version of the specific Model will be returned.</p> <p>The list of ASDC-supported models is available via ASDC Catalog API request e.g. per Model type.</p> <p>See AID “ASDC Catalog APIs” for details.</p>
--	---

6.5.2.1 Special Request Headers

Same as in par. 6.1.2.1

6.5.2.2 Request Body

Not applicable

6.5.2.3 Request Sample

```
GET /onboarding-api/workflow/v1.0/actions?modelId=BB42B177-3373-5964-4573-0F91A7A02810 HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

6.5.3 Response

6.5.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.5.3.2 Response Body

The response body will contain a list of Action objects

Parameter Name	Parameter Type	Mandatory?	Description
actionList	Contains a list of Action objects with the below structure		
actionUUID	String	Y	The actionUUID, i.e UUID of the specific version of that Action
actionInvariantUUID	String	Y	The actionInvariantUUID specified in the request
name	String	Y	The name of the Action. <i>E.g. "start_vSBC"</i>

Parameter Name	Parameter Type	Mandatory?	Description
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	The version of the Action.
description	String	N	The description of the Action
status	String	Y	Status of the Action. <ul style="list-style-type: none"> – Final – Available – Locked
timestamp	Datetime	Y	Timestamp (UTC) when the version was last modified.
updatedBy	String	Y	The ATTUID of the user who had last updated the version
vendorList	List(String)	N	A list of Vendor names of the Action E. g. ["amdocs","juniper"]
categoryList	List (String)	N	A list of cate. gories that the Action belongs to. E. g. ["workflow","bpmn"]
supportedModels	JSON	N	List of Catalog Models i.e. Products, Services or Resources that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none"> – modelUUID (Mandatory): A unique identifier of the model per each version. – modelInvariantUUID (optional): UUID per each model – Name (optional) – Version (optional) – Vendor(optional) E. g. <pre> [{"modelUUID": "AA56B177-9383-4934-8543-0F91A7A04971", "modelInvariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC", version="2.1", "vendor": "cisco"}] </pre>

Parameter Name	Parameter Type	Mandatory?	Description
			The model object structure is explained in section 6.1.2.2.3
supportedComponents	JSON	N	<p>List of ECOMP component names that support this Action. Each component is specified using the following attributes:</p> <p>componentId (Mandatory): the unique ID of the ECOMP component.</p> <p>componentName(optional): the name of the ECOMP component</p> <p><i>E. g.</i></p> <pre>[{"componentID":"BB47B177-9383-4934-8543-0F91A7A06448", "componentName":"appc"}]</pre>

6.5.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	please refer to par. 8	

6.5.3.4 Response Sample

HTTP/1.1 200 Ok

Content-Type : application/json

Content-Length : ...

{

"actionList":

[[

"actionUUID": "CC97B177-9383-4934-8543-0F91A7A02493",

"actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",

"name": "start_vSBC",

"displayName": "Start vSBC",

"version": "1.0",

"description": "start the vSBC",

```
"status": "final" ,
"timestamp": "2016-05-21 15:00",
"updatedBy": "sd345k"
"vendorList": ["amdocs","juniper"],
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
},
{
    "actionUUID": "BB42B177-3373-5964-4573-0F91A7A02810",
    "actionInvariantUUID": " AA97B177-9383-4934-8543-0F91A7A02836",
    "name": "start_vSBC",
    "displayName": "Start vSBC",
    "version": "1.1",
    "description": "start the vSBC",
    "status": "available" ,
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
```

```
        "version": "2.1",
        "vendor": "cisco"
    }},
    "supportedComponents": [{
        "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
        "componentName": "app"
    }],
},
{
    "actionUUID": "EE62B156-7138-7962-3574-0F91A7A09576",
    "actionInvariantUUID": "FF497B175-6374-1931-2544-0F91A7A058826",
    "name": "healthcheck",
    "displayName": "Health check",
    "version": "2.0",
    "description": "check the health of the VNF",
    "status": "final"
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
        "version": "2.1",
        "vendor": "cisco"
    }],

    "supportedComponents": [{
        "componentID": " DD57B177-9383-4934-8543-0F91A7A06557",
        "componentName": "mso"
    }],
},
{/**another action object**/
```

```

    }
}

```

6.6 Get Action by Name, Vendor or Category

6.6.1 Functional Behavior

The REST GET operation returns a list of Action objects based on the query parameter.

The list will contain the last major and last minor version of the Action.

6.6.2 Request (GET)

By name:

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions?name={actionName}>

By vendor:

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions?vendor={vendorName}>

By category:

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions?category={category}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
Query parameter	Specifies the filter attribute of the Action object. Release 1610 supports only a single query parameter i.e either the name, vendor or category can be used as a query parameter. Multiple query parameters and Wildcards are not supported.
name	Returns the metadata of the Action with the specified unique name
vendor	Returns the metadata of all Actions supporting the specified vendor, as appears in the vendorList attribute
category	Returns the metadata of all Actions supporting the specified category, as appears in the categoryList attribute.

6.6.2.1 Special Request Headers

Same as in par. 6.1.2.1

6.6.2.2 Request Body

Not applicable

6.6.2.3 Request Sample

6.6.2.3.1 Sample request for Get Action by Name

```
GET /onboarding-api/workflow/v1.0/actions?name=healthcheck HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

6.6.2.3.2 Sample request for Get Action by Vendor

```
GET /onboarding-api/workflow/v1.0/actions?vendor=cisco HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

6.6.2.3.3 Sample request for Get Action by Category

```
GET /onboarding-api/workflow/v1.0/actions?category=workflow HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

6.6.3 Response

6.6.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.6.3.2 Response Body

The response body will contain a list of Action objects

Parameter Name	Parameter Type	Mandatory?	Description
actionList	Contains a list of Action objects with the below structure		
actionUUID	String	Y	UUID of the specific version of that Action
actionInvariantUUID	String	Y	The actionInvariantUUID specified in the request
name	String	Y	The unique name of the Action. E.g. "start_vSBC"
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	The version of the Action.
description	String	N	The description of the Action
status	String	Y	Status of the Action. <ul style="list-style-type: none"> – Final – Available – Locked
timestamp	Datetime	Y	Timestamp (UTC) when the version was last modified.
updatedBy	String	Y	The ATTUID of the user who had last updated the version
vendorList	List(String)	N	A list of Vendor names of the Action E. g. ["amdocs","juniper"]
categoryList	List (String)	N	A list of categories that the Action belongs to. E. g. ["workflow","bpmn"]
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none"> – uniqueUUID (Mandatory): A unique model version identifier. – invariantUUID (optional): A unique model identifier. – Name (optional) – Version (optional) – Vendor(optional)

Parameter Name	Parameter Type	Mandatory?	Description
			E. g. <pre> [[{"uniqueUUID":"AA56B177-9383-4934-8543-0F91A7A04971", "invariantUUID":"CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC",version="2.1","vendor":"cisco"}]] </pre>
supportedComponents	JSON	N	List of ECOMP component names that support this Action. Each component is specified using the following attributes: componentId (Mandatory): the unique ID of the ECOMP component. componentName(optional): the Name of the ECOMP component E. g. <pre> [{"componentID":"BB47B177-9383-4934-8543-0F91A7A06448", "componentName":"appc"}] </pre>

6.6.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	please refer to par. 8	

6.6.3.4 Response Sample

```

HTTP/1.1 200 Ok
Content-Type : application/json
Content-Length : ...
{
"actionList":
  [
    {
      "actionUUID": "CC97B177-9383-4934-8543-0F91A7A02493",
      "actionInvariantUUID":"AA97B177-9383-4934-8543-0F91A7A02836",
      "name": "healthcheck",
    }
  ]
}
                    
```

```
"displayName": "Health check",
"version": "1.0",
"description": "Health check of VNF",
"status": "final" ,
"timestamp": "2016-05-21 15:00",
"updatedBy": "sd345k"
"vendorList": ["amdocs","juniper"],
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],

"supportedComponents": [{
    "ID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "name": "appc"
}],

},
{
    "actionUUID": "BB42B177-3373-5964-4573-0F91A7A02810",
    "actionInvariantUUID": " AA97B177-9383-4934-8543-0F91A7A02836",
    "name": "healthcheck",
    "displayName": "Health check",
    "version": "1.1",
    "description": "Health check of VNF",
    "status": "available" ,
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
```

```
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "ncomponentName": "appc"
}],
},
{
    "actionUUID": "EE62B156-7138-7962-3574-0F91A7A09576",
    "actionInvariantUUID": "FF497B175-6374-1931-2544-0F91A7A058826",
    "name": "healthcheck",
    "displayName": "Health check",
    "version": "1.2",
    "description": "Health check of VNF",
    "status": "Locked"
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],

    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
        "version": "2.1",
        "vendor": "cisco"
    }],
    "supportedComponents": [{
```

```

        "ID": " DD57B177-9383-4934-8543-0F91A7A06557",
        "name": "mso"
    }},
}

```

6.7 Get all Actions

6.7.1 Functional Behavior

The REST GET operation returns a complete list of Actions exist in ASDC.

The list will contain the metadata of the last major and the last minor versions of the Action.

6.7.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB

6.7.2.1 Special Request Headers

Same as in par. 6.1.2.1.

6.7.2.2 Request Body

Not applicable

6.7.2.3 Request Sample

```

GET /onboarding-api/workflow/v1.0/actions HTTP/1.1
Host : asdc.att.com
Accept : application/json
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
X-ECOMP-InstanceID: mso.12345
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836

```

6.7.3 Response

6.7.3.1 Special Response Headers

Same as in par. 6.1.3.1.

6.7.3.2 Response Body

The response body will contain a list of Action objects

Parameter Name	Parameter Type	Mandatory?	Description
actionList	Contains a list of Action objects with the below structure		
actionUUID	String	Y	The actionUUID, i.e UUID of the specific version of that Action
actionInvariantUUID	String	Y	The actionInvariantUUID specified in the request
name	String	Y	The name of the Action e.g. "start_vSBC"
displayName	String	N	A user friendly name. Usually used to display in a UI.
version	String	Y	The version of the Action.
description	String	N	The description of the Action
status	String	Y	Status of the Action. <ul style="list-style-type: none"> - Final - Available - Locked
timestamp	Datetime	Y	Timestamp (UTC) when the version was last modified.
updatedBy	String	Y	The ATTUID of the user. who had last updated the version
vendorList	List(String)	N	A list of Vendor names of the Action E. g. ["amdocs", "juniper"]
categoryList	List (String)	N	A list of categories that the Action belongs to. E. g. ["workflow", "bpmn"]
supportedModels	JSON	N	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes:

Parameter Name	Parameter Type	Mandatory?	Description
			<ul style="list-style-type: none"> – uniqueID (Mandatory) : A unique model version identifier. – invariantUUID (optional): A unique version identifier. – Name (optional) – Version (optional) – Vendor(optional) <p>E. g.</p> <pre> [{"uniqueID":"AA56B177-9383-4934-8543-0F91A7A04971", "invariantUUID":"CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC",version="2.1","vendor":"cisco"}] </pre>
supportedComponents	JSON	N	<p>List of ECOMP component names that support this Action. Each component is specified using the following attributes:</p> <p>Id (Mandatory): A unique ID of the ECOMP system.</p> <p>Name(optional) : Name of the ECOMP component</p> <p>E. g.</p> <pre> [{"componentID":"BB47B177-9383-4934-8543-0F91A7A06448", "componentName":"appc"}] </pre>

6.7.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Action object successfully updated and the actionUUID and actionInvariantUUID is returned.
Error codes	please refer to par. 8	

6.7.3.4 Response Sample

HTTP/1.1 200 Ok

Content-Type : application/json

Content-Length : ...

{

```
"actionList":
  [
    {
      "actionUUID": "CC97B177-9383-4934-8543-0F91A7A02493",
      "actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
      "name": "start_vSBC",
      "displayName": "Start vSBC",
      "version": "1.0",
      "description": "start the vSBC",
      "status": "final",
      "timestamp": "2016-05-21 15:00",
      "updatedBy": "sd345k",
      "vendorList": ["amdocs", "juniper"],
      "categoryList": ["workflow", "bpmn"],
      "supportedModels": [
        {
          "uniqueID": "AA56B177-9383-4934-8543-0F91A7A04971",
          "invariantUUID": "CC87B177-9383-4934-8543-0F91A7A07193",
          "name": "vSBC",
          "version": "2.1",
          "vendor": "cisco"
        }
      ],
      "supportedComponents": [
        {
          "componentID": "BB57B177-9383-4934-8543-0F91A7A06448",
          "componentName": "appc"
        }
      ]
    },
    {
      "actionUUID": "BB42B177-3373-5964-4573-0F91A7A02810",
      "actionInvariantUUID": "AA97B177-9383-4934-8543-0F91A7A02836",
      "name": "start_vSBC",
      "displayName": "Start vSBC",
      "version": "1.1",
      "description": "start the vSBC",
      "status": "available",
      "timestamp": "2016-05-21 15:00",
```

```
"updatedBy": "sd345k"
"vendorList": ["amdocs","juniper"],
"categoryList": ["workflow","bpmn"],
"supportedModels": [{
    "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
    "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
    "name": "vSBC",
    "version": "2.1",
    "vendor": "cisco"
}],
"supportedComponents": [{
    "componentID": " BB57B177-9383-4934-8543-0F91A7A06448",
    "componentName": "appc"
}],
},
{
    "actionUUID": "EE62B156-7138-7962-3574-0F91A7A09576",
    "actionInvariantUUID": "FF497B175-6374-1931-2544-0F91A7A058826",
    "name": "healthcheck",
    "displayName": "Health check",
    "version": "2.0",
    "description": "check the health of the VNF",
    "status": "final"
    "timestamp": "2016-05-21 15:00",
    "updatedBy": "sd345k"
    "vendorList": ["amdocs","juniper"],
    "categoryList": ["workflow","bpmn"],
    "supportedModels": [{
        "uniqueID": " AA56B177-9383-4934-8543-0F91A7A04971",
        "invariantUUID": " CC87B177-9383-4934-8543-0F91A7A07193",
        "name": "vSBC",
        "version": "2.1",
        "vendor": "cisco"
    ]
}
```



```
        },
        "supportedComponents": [{
            "componentID": " DD57B177-9383-4934-8543-0F91A7A06557",
            "componentName": "mso"
        }],
    },
    /**another action object**/
}
}
```

7 Artifacts

7.1 Upload artifact

A user can upload one or more artifacts to the specific Action. This operation is allowed, while the Action status is 'Locked'. If the Action status is not 'Locked', the upload will not be allowed and an error will be thrown.

The artifactName (filename) shall be unique for a specific Action. Any try to upload an artifact with already existing name will result the operation reject with an error message.

As a result of the successful upload, the Action object is updated with the new artifactUUID and its metadata. Any subsequent query, using the actionUUID, will present the list of artifacts of the Action.

7.1.1 Request (POST)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}/artifacts>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant identifier of the Action to link new artifact

7.1.1.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each component calling the ASDC API should identify itself by sending its identity (e.g. Instar name ...) in "X-ECOMP-InstanceID" header. If this header with non-null value is not supplied the HTTP Request will be rejected with '400 Bad Syntax' response code.
Accept	N	Determines the format of the body of the response. Valid value is: "application/json".

Header Name	Mandatory?	Description
Authorization	Y	<p>The username and password are formed into one string as “username: password”. This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string “Authorization: Basic “. If the Authorization header is missing, then an HTTP “401 Unauthorized” with ‘WWW-Authenticate’ header specifying the type of required client authentication and realm token will be returned. “401” response should trigger the repeated HTTP request sending with “Authorization” header containing the client’s credentials.</p> <p>If “Authorization” header is received but the client’s authentication fails (due to either unknown “username” or invalid “password”) the “403 Forbidden” response code will be returned.</p> <p>If the user has authenticated successfully but unauthorized to access ASDC Action library, the “403 Forbidden” response code will be returned.</p>
Content-Type	Y	Specifies the uploaded payload format. The valid value is: multipart/form-data
Content-MD5	Y	A Base64-encoded binary MD5 sum of the content of the response body.

7.1.1.2 Request Body

The content-Type should be ‘multipart/form-data’ that contains the artifact metadata and also the content. The following attributes of Artifacts will need to be sent in the request.

7.1.1.2.1 Artifact Attributes

Parameter Name	Parameter Type	Mandatory ?	Description
artifactName	String, no blanks	Y	Artifact file name with extension. Needs to be unique for an Action. For eg. <i>Healthcheck.bpm</i>
artifactLabel	String	N	Artifact display name
artifactCategory	String	N	Category of the artifact.
artifactDescription	String	N	Description of the artifact

Parameter Name	Parameter Type	Mandatory ?	Description
artifactProtection	String	N	Defines artifact update/delete policy. The valid values are "read", "readWrite". Default is "readWrite"

7.1.1.3 Request Sample

```
POST /onboarding-api/workflow/v1.0/actions/CC97B177-9383-4934-8543-0F91A7A02493/artifacts HTTP/1.1
```

```
Host : asdc.att.com
```

```
Accept : application/json
```

```
Authorization: Basic QWxhZGRpbjpvYVUHNlc2FtZQ==
```

```
X-ECOMP-InstanceID: mso.12345
```

```
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

```
Content-MD5: "14e555rnbvq3tq=="
```

```
Content-Type: multipart/form-data; boundary=hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
```

```
Content-Length : ...
```

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
```

```
Content-Disposition: form-data; name="artifactName"
```

```
Content-Type: text/plain; charset=US-ASCII
```

```
Content-Transfer-Encoding: 8bit
```

```
TestArtifact_1.txt
```

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
```

```
Content-Disposition: form-data; name="artifactLabel"
```

```
Content-Type: text/plain; charset=US-ASCII
```

```
Content-Transfer-Encoding: 8bit
```

```
Artifact_BEIWR1
```

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
```

```
Content-Disposition: form-data; name="artifactCategory"
```

```
Content-Type: text/plain; charset=US-ASCII
```

```
Content-Transfer-Encoding: 8bit
```

Production

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
Content-Disposition: form-data; name="artifactDescription"
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 8bit
```

Artifact lyhqLPgPBI1

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
Content-Disposition: form-data; name="artifactProtection"
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 8bit
```

readWrite

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN
Content-Disposition: form-data; name="uploadArtifact"; filename="artifact_1kb.txt"
Content-Type:
Content-Transfer-Encoding: binary
```

<actual file content, not shown here>

```
--hAvHgaYZc6RIkWNLeeDvtJA96Uz60heN--
```

7.1.2 Response**7.1.2.1 Special Response Headers**

Header Name	Description
Content-Type	Determines the format of the response body. Valid value is: "application/json"

7.1.2.2 Response Body

The response body is sent as a JSON object.

Parameter Name	Parameter Type	Description
artifactUUID	String	An unique artifact identifier that generated by Action library for the new successfully uploaded artifact. Generated UUID is compliant with RFC 4122. It is a 128-bit value formatted into blocks of hexadecimal digits separated by a hyphen ("-").

7.1.2.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Artifact successfully uploaded and the artifactUUID is returned.
Error codes	Please refer to par. 8	

7.1.2.4 Response Sample

```
HTTP/1.1 200 OK
Content-Type : application/json
Content-Length : ...
{
  "artifactUUID":"AA97B177-9383-4934-8543-0F91A7A02836"
}
```

7.2 Update artifact

The user is allowed to update the artifact's metadata and/or its body, while the Action status is 'Locked' only. If the Action status is not 'Locked', the operation will be rejected with error.

Comments:

- The artifact's name artifactName can't be changed
- In case undoCheckout is performed, the artifact body and metadata will be restored to the previous version content.
- Any Action major version will keep its own artifacts regardless of the future changes.

7.2.1 Request (PUT)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}/artifacts/{artifactUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant identifier of the Action to update the artifact
artifactUUID	The unique identifier of the artifact to update

7.2.1.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each component calling the ASDC API should identify itself by sending its identity (e.g. Instar name ...) in "X-ECOMP-InstanceID" header. If this header with non-null value is not supplied the HTTP Request will be rejected with '400 Bad Syntax' response code.
Accept	N	Determines the format of the body of the response. Valid value is: "application/json".
Authorization	Y	The username and password are formed into one string as "username: password". This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string "Authorization: Basic ". If the Authorization header is missing, then an HTTP "401 Unauthorized" with 'WWW-Authenticate' header specifying the type of required client authentication and realm token will be returned. "401" response should trigger the repeated HTTP request sending with "Authorization" header containing the client's credentials. If "Authorization" header is received but the client's authentication fails (due to either unknown "username" or invalid "password") the "403 Forbidden" response code will be returned.

Header Name	Mandatory?	Description
Content-Type	Y	Specifies the uploaded payload format. Valid value is: multipart/form-data
Content-MD5	Y	A Base64-encoded binary MD5 sum of the content of the response body. Provided only if the Artifact file is being updated.

7.2.1.2 Request Body

The content-Type should be 'multipart/form-data' that contains the artifact metadata and also the content. The following attributes of Artifacts will need to be sent in the request.

The Artifact attributes are the same as that sent in the 'Upload Artifact' operation as specified in section 7.1.1.2.1.

7.2.1.3 Request Sample

```
PUT /onboarding-api/workflow/v1.0/actions/DD87B177-9383-4934-8543-0F91A7A04612/artifacts/CC97B177-9383-4934-8543-0F91A7A02493 HTTP/1.1
```

```
Host : asdc.att.com
```

```
Content-Length : ...
```

```
Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==
```

```
X-ECOMP-InstanceID: mso.12345
```

```
X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836
```

```
Content-Type: multipart/form-data; boundary=eWruY109tnk2dDLj6ehc6C3M3_tjn7aa
```

```
Content-Transfer-Encoding: base64
```

```
Content-MD5: "14e555rnbvq3tq=="
```

```
Accept : application/json
```

```
--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa
```

```
Content-Disposition: form-data; name=artifactName
```

```
Content-Type: text/plain; charset=US-ASCII
```

```
Content-Transfer-Encoding: 8bit
```

```
Test_Artifact.txt
```

```
--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa
```

```
Content-Disposition: form-data; name=artifactLabel
```

```
Content-Type: text/plain; charset=US-ASCII
```

```
Content-Transfer-Encoding: 8bit
```


TestArtifact_11

--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa

Content-Disposition: form-data; name=artifactCategory

Content-Type: text/plain; charset=US-ASCII

Content-Transfer-Encoding: 8bit

Production

--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa

Content-Disposition: form-data; name=artifactDescription

Content-Type: text/plain; charset=US-ASCII

Content-Transfer-Encoding: 8bit

Testartifact

--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa

Content-Disposition: form-data; name=artifactProtection

Content-Type: text/plain; charset=US-ASCII

Content-Transfer-Encoding: 8bit

readWrite

--eWruY109tnk2dDLj6ehc6C3M3_tjn7aa

Content-Disposition: form-data; name="updateArtifact"; filename="artifact_2kb.txt"

Content-Type:

Content-Transfer-Encoding: binary

7.2.2 Response

7.2.2.1 Special Response Headers

Header Name	Description
Content-Type	Determines the format of the response body. Valid value is: "application/json"

7.2.2.2 Response Body

N/A

7.2.2.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Artifact successfully updated.
Error codes	Please refer to par. 8	

7.2.2.4 Response Sample

HTTP/1.1 200 OK

7.3 Download artifact

7.3.1 Functional Behavior

This REST GET operation returns an artifact file.

7.3.2 Request (GET)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionUUID}/artifacts/{artifactUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionUUID	The unique identifier (the versionID), of the Action.
artifactUUID	The unique identifier of the artifact to download

7.3.2.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each component calling the ASDC API should identify itself by sending its identity (e.g. Instar name ...) in "X-ECOMP-InstanceID" header. If this

Header Name	Mandatory?	Description
		header with non-null value is not supplied the HTTP Request will be rejected with '400 Bad Syntax' response code.
Accept	N	Determines the format of the body of the response. Valid value is: "application/octet-stream".
Authorization	Y	<p>The username and password are formed into one string as "username: password". This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string "Authorization: Basic ". If the Authorization header is missing, then an HTTP "401 Unauthorized" with 'WWW-Authenticate' header specifying the type of required client authentication and realm token will be returned. "401" response should trigger the repeated HTTP request sending with "Authorization" header containing the client's credentials.</p> <p>If "Authorization" header is received but the client's authentication fails (due to either unknown "username" or invalid "password") the "403 Forbidden" response code will be returned.</p>

7.3.2.2 Request Body

N/A

7.3.2.3 Request Sample

```
GET /onboarding-api/workflow/v1.0/actions/DD87B177-9383-4934-8543-0F91A7A04612/artifacts/CC97B177-9383-4934-8543-0F91A7A02493 HTTP/1.1
```

Host : asdc.att.com

Accept : application/octet-stream

Authorization: Basic QWxhZGRpbjpvYVUHNlc2FtZQ==

X-ECOMP-InstanceID: mso.12345

X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836

7.3.3 Response

7.3.3.1 Special Response Headers

Header Name	Mandatory?	Description
Content-Type	Y	Specifies the downloaded payload format as "arbitrary data in binary format". Valid value is : application/octet-stream

Content-Length	Y	Streamed artifact payload size
Content-Disposition	Y	Specifies the name of file to store the downloaded artifact's payload (RFC 2183). Valid value format: "attachment, filename="{artifactName}"
Content-MD5	Y	A Base64-encoded binary MD5 sum of the content of the response body.

7.3.3.2 Response Body

The response body is sent as an application/octet-stream.

7.3.3.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Artifact successfully downloaded and the artifactUUID is returned.
Error codes	Please refer to par. 8	

7.3.3.4 Response Sample

```
HTTP/1.1 200 OK
Content-Type: application/octet-stream
Content-Transfer-Encoding: base64
Content-Length: ...
Content-Disposition: attachment, filename="vSBC_start.bpmn"
Content-MD5: "14e555rnbvq3tq=="
```

7.4 Delete artifact

The user is allowed to delete an artifact, while the Action status is 'Locked' only. If the Action status is not 'Locked', the operation will be rejected with error.

Comments:

- a. In case undoCheckout is performed, the artifact's body and metadata will be restored to the previous version content.
- b. Any Action major version will keep its original artifacts regardless of the future changes.

7.4.1 Request (DELETE)

<https://{serverRoot}/onboarding-api/workflow/v1.0/actions/{actionInvariantUUID}/artifacts/{artifactUUID}>

Name	Description
serverRoot	Server base URL : hostname+port+base path Hostname shall contain the FQDN of the ASDC iDNS LB
actionInvariantUUID	The invariant identifier of the Action
artifactUUID	The unique identifier of the artifact to download

7.4.1.1 Special Request Headers

Header Name	Mandatory?	Description
X-ECOMP-RequestID	Y	According to the general ECOMP agreement the "X-ECOMP-RequestID" header with the transaction UUID should be published by ECOMP component calling an exposed by other ECOMP component API in order to make possible the transaction traceability across ECOMP.
X-ECOMP-InstanceID	Y	For auditing purpose each component calling the ASDC API should identify itself by sending its identity (e.g. Instar name ...) in "X-ECOMP-InstanceID" header. If this header with non-null value is not supplied the HTTP Request will be rejected with '400 Bad Syntax' response code.
Accept	N	Determines the format of the body of the response. Valid value is: "application/json".
Authorization	Y	The username and password are formed into one string as "username: password". This string is then Base64 encoded to produce the encoded credential which is communicated in the header after the string "Authorization: Basic ". If the Authorization header is missing, then an HTTP "401 Unauthorized" with 'WWW-Authenticate' header specifying the type of required client authentication and realm token will be returned. "401" response should trigger the repeated HTTP request sending with "Authorization" header containing the client's credentials. If "Authorization" header is received but the client's authentication fails (due to either unknown "username" or

Header Name	Mandatory?	Description
		<p>invalid “password”) the “403 Forbidden” response code will be returned.</p> <p>If the user has authenticated successfully but unauthorized to access ASDC Action library, the “403 Forbidden” response code will be returned.</p>

7.4.1.2 Request Body

N/A

7.4.1.3 Request Sample

```
DELETE /onboarding-api/workflow/v1.0/actions/DD87B177-9383-4934-8543-0F91A7A04612/artifacts/CC97B177-9383-4934-8543-0F91A7A02493 HTTP/1.1
```

Host : asdc.att.com

Accept : application/json

Authorization: Basic QWxhZGRpbjpvGVuIHNIc2FtZQ==

X-ECOMP-InstanceID: mso.12345

X-ECOMP-RequestID: AA97B177-9383-4934-8543-0F91A7A02836

7.4.2 Response

7.4.2.1 Special Response Headers

N/A

7.4.2.2 Response Body

N/A

7.4.2.3 HTTP Response Codes

Response code	Service/Policy Exception	Reason /Description
200	N/A	Artifact successfully deleted.
Error codes	Please refer to par. 8	

7.4.2.4 Response Sample

```
HTTP/1.1 200 OK
```


8 Service/Policy Exception Definition

The table below defines the HTTP error codes and the associated API exceptions.

HTTP Response code	Exception ID	Logging Code	Exception message
400	ACT0001	300	Missing mandatory parameters <name of the parameters>.
400	ACT1002	301	"X-ECOMP-InstanceID" HTTP header is missing or empty
400	ACT1003	302	"X-ECOMP-RequestID" HTTP header is missing or empty
400	ACT1004	500	Operation <status> is not supported
400	ACT1005	303	Request Body is missing
400	ACT1007	501	Action Name update is not allowed
400	ACT1008	502	Cannot check out versionable entity Action with id <actionInvariantUUID> since it is checked out by other user :< username>.
400	ACT1009	503	Name with the value '<Action Name>' already exists.
400	ACT1011	304	Invalid Search filter criteria
400	ACT1012	504	Multiple filter criteria are not supported
400	ACT1013	505	Cannot update versionable entity Action with id <actionInvariantUUID> since it is not checked out.
400	ACT1014	305	Invalid requested version: <version>
400	ACT1015	506	Update not allowed for the parameter(s) : <parameter name> Artifacts cannot be created/updated using this operation.
400	ACT1016	507	Cannot check out versionable entity Action with id <actionInvariantUUID> since it is checked out by other user: < username>.
400	ACT1017	508	Cannot check in versionable entity Action with id<actionInvariantUUID> since it is not checked out.
400	ACT1018	509	Versionable entity Action with id <actionInvariantUUID> cannot be submitted since it is already final.

HTTP Response code	Exception ID	Logging Code	Exception message
400	ACT1019	510	Versionable entity Action with id <actionInvariantUUID> cannot be submitted since it is currently locked by user <username>.
400	ACT1020	511	Cannot undo checkout on versionable entity Action with id <actionInvariantUUID> since it is not checked out.
400	ACT1021	512	Operation does not allowed. Action status shall be "Locked"
400	ACT1022	306	Checksum error
400	ACT1023	307	Operation does not allowed. Artifact is too big >20MB.
400	ACT1024	200	No available space.
400	ACT1025	513	Artifact name already exist for Action with id <actionInvariantUUID>. Please use another name. / Artifact name is not specified.
400	ACT1026	514	Can't update "read only" artifact.
400	ACT1027	515	Can't delete "read only" artifact.
400	ACT1028	516	Invalid artifact protection value
400	ACT1029	311	Artifact name cannot contain any of the following characters : #<>\$+%!\`&*" {}?=/:@ including whitespaces, double quotes and back-slash
401	ACT1030	100	Missing Authorization
403	ACT1040	101	Forbidden
403	ACT1041	102	Versionable entity Action with id <action UUID> cannot be updated since it is locked by other user <userName>.
403	ACT1042	103	Cannot check in versionable entity Action with id <actionInvariantUUID> since it is checked out by other user: <userName>.
403	ACT1043	104	Cannot check out versionable entity Action with id <actionInvariantUUID> since it is checked out by other user: <userName>.
403	ACT1044	105	Cannot undo checkout on versionable entity Action with id <actionInvariantUUID> since it is checked out by other user: <userName>.
403	ACT1047	106	Cannot delete artifact since it is locked by other user: <userName>.

HTTP Response code	Exception ID	Logging Code	Exception message
403	ACT1048	107	Cannot delete versionable entity Action with id <actionInvariantUUID> since it is checked out by other user: <userName>.
404	ACT1045	308	Specified Action is not found.
404	ACT1046	309	Specified artifact is not found
405	ACT1050	310	Method is not allowed: Invalid HTTP method type used
500	ACT1060	201	Internal server error

9 Action Object Structure

Parameter Name	Parameter Type	Description
actionUUID	String	<p>Global Action Version Identifier: UUID generated by ASDC per each <u>version</u> of the Action.</p> <p>Generated UUID is compliant with RFC 4122. It is a 128-bit value formatted into blocks of hexadecimal digits separated by a hyphen (“-”).</p> <p>The ActionUUID can later be used to receive more detailed information about the specific resource.</p> <p>Ex.: AA97B177-9383-4934-8543-0F91A7A02836</p>
actionInvariantUUID	String	<p>Global Action Identifier: UUID generated by ASDC per each Action. This UUID stays <u>constant</u> along all the model’s versions</p> <p>Generated UUID is compliant with RFC 4122. It is a 128-bit value formatted into blocks of hexadecimal digits separated by a hyphen (“-”).</p> <p>Ex.: AA97B177-9383-4934-8543-0F91A7A02836</p>
name	String	<p>The name of the Action. The name should be unique.</p> <p>Ex. “start_vSBC”</p>
displayName	String	A user friendly name. Usually used to display in a UI.
version	String	<p>The Action version in ASDC library. Two dot (“.”) separated digit blocks.</p> <p>The version is generated by ASDC and the client need not specify this.</p> <p>Ex. : “2.0”.</p>
description	String	The Action description
status	String	<p>Status of the Action.</p> <p>Valid values returned:</p> <ul style="list-style-type: none"> – Locked – Available – Final
vendorList	List (String)	<p>A list of Vendor names of the Action</p> <p>E. g. [“amdocs”, “juniper”]</p>
timestamp	Datetime	<p>Timestamp (UTC) when the version was last modified. Format of the timestamp is “YYYY-MM-DD HH:mm”</p> <p>E. g. “2016-05-21 15:00”</p>

Parameter Name	Parameter Type	Description
updatedBy	String	The ATTUID of the user who had last updated the version
categoryList	List (String)	A list of categories that the Action belongs to. E. g. ["workflow","bpmn"]
endpointURI	String	Relative URI where the action is exposed as a service. The full URL with the host name and port will have to be specified by the invoking system. The Action only specifies the relative URI. <i>Ex : "/appc/execute"</i>
supportedModels	JSON	List of Catalog Models, i.e. Products, Services or Resources, that support this action. Each Model is specified with the following attributes: <ul style="list-style-type: none"> – uniqueID (Mandatory): A unique model version identifier – invariantUUID (optional): A unique model identifier – Name (optional) – Version (optional) – Vendor(optional) E. g. <pre>[{"uniqueID":"AA56B177-9383-4934-8543-0F91A7A04971", "invariantUUID":"CC87B177-9383-4934-8543-0F91A7A07193", name="vSBC",version="2.1","vendor":"cisco"}]</pre>
supportedComponents	JSON	List of ECOMP component names that support this Action. Each component is specified using the following attributes: componentID (Mandatory): A unique ID of the ECOMP component. componentName(optional) : Name of the ECOMP component <i>E. g.</i> <pre>[{"ID":"BB47B177-9383-4934-8543-0F91A7A06448", "name":"appc"}]</pre>
inputParameters	JSON	A JSON schema describing the input parameters. E. g. <pre>[{"name":"car","defaultValue":"ford","type":"object","desc":"some description","validationRule":"some validation rule"}]</pre>
outputParameters	JSON	A JSON schema describing the output parameters. E. g.

Parameter Name	Parameter Type	Description
		<code>{{"name":"status","defaultValue":"","type":"object","desc":"some description"}}</code>
artifacts	JSON	<p>A list of workflow artifacts that are associated with this Action. Each artifact is specified using the following attributes:</p> <ul style="list-style-type: none"> – artifactUUID (Mandatory): A unique artifact identifier – artifactName (Mandatory): file name – artifactProtection (Mandatory): Read or readWrite – artifactLabel (Optional): display name – artifactDescription (Optional) – artifactCategory (Optional) <p>E. g.</p> <pre> {{"ID":"DD87B177-9383-4934-8543-0F91A7A04612", "name":"vSBC_DG", "artifactProtection":"Read", "description":"workflow to start vSBC", "bpmn_xml":"encoded xml"}} </pre>
operationalData	JSON	<p>A JSON containing the operational characteristics that are relevant for the Action.</p> <p>E. g.</p> <pre> {"outageDuration":"120", "approxDuration":"240"} </pre>
serverList	JSON	<p>A list of servers where each server is defined with the following attributes:</p> <ul style="list-style-type: none"> – Name – Hostname – Port <p>E. g.</p> <pre> {{"name":"appcserver","hostName":"appc1.att.com","port":"8090"}, {"name":"msoserver","hostName":"mso.att.com","port":"7809"}} </pre>

10 References

ASDC Catalog APIs v1610.0

11 Approvals

Date	Revision	Author	AT&T Approver (name/ date)

12 Acronyms

Acronym	Term
ASDC	AT&T Service Design and Creation