InterCloudNegotiations Service IDD

**Abstract**

This document defines interface design of the InterCloudNegotiations Service based on REST within Arrowhead generation 4.0.

1. Overview

This document describes the InterCloudNegotiations service of G4.0 with the REST interface.

This interface uses HTTP or HTTPS, therefore the related CP is valid.

1. Interfaces

As per the SD of this Service, there are two methods implemented. These two methods run on different web servers, meaning the ports will also differ (by default these ports are 8446 and 8448 in insecure mode). Table 1 describe these.

The base URL for the requests: http://<host>:<port>/gatekeeper.

Table 1 Function description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | **URL subpath** | **Method** | **Input** | **Output** |
| ICNRequest | “/init\_icn” | PUT | **ICNRequestForm** | **ICNResult** HTTP OK,  BAD\_REQUEST |
| ICNProposal | “/icn\_proposal” | PUT | **ICNProposal** | **ICNResult or ICNEnd** HTTP OK,  BAD\_REQUEST |

1. Information Model

Examples for the request-response payloads are given here for the REST-JSON-TLS implementation.

# 

# 3.1. ICNRequestForm

# {

# "requestedService": {

# "serviceDefinition": "IndoorTemperature",

# "interfaces": ["json"],

# "serviceMetadata": {

# "unit": "celsius"

# }

# },

# "targetCloud": {

# "operator": "SmartGridOperator",

# "cloudName": "SmartGrid",

# "address": "10.0.0.82",

# "port": 8446,

# "gatekeeperServiceURI": "gatekeeper",

# "authenticationInfo": "MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA7GA65Tt0L+cOcQzrIpSau3d79MX9jlEx4GaGbPHR7NOo0BgDU8db6I4L+baMq4VYD5XHyCKvOInpOqPEfUwEm7q8w3rFBSJY8lOv31YAOo9xz0rQKGzqNFQv2KvZE2Y11sXkfnVKimWqZelutvzv9CT+vDbrEaLd6MAmxyBJI+4ztdTAliID89ZhIrBrV3/rEq+OQl39MJNWOO/t3HXPcGPdURRfdLNvgtGRfL2WzGB3bT3pEw2eV/QdFcudsFM0Cx25wOfPAPs9Ia6qvkzMYkvqv3mE9f+nd6QACjX6H+xy4zkdhSlaNTjAwnasSoaKuq7xeBkD/Q6lV/fivC2LJwIDAQAB",

# "secure": false

# },

# "requesterSystem": {

# "systemName": "client1",

# "address": "localhost",

# "authenticationInfo": "null"

# },

# "preferredSystems": [],

# "negotiationFlags": {

# "onlyPreferred": false,

# "externalServiceRequest": true,

# "metadataSearch": true,

# "pingProviders": false

# }

# }

# 3.2. ICNResult

{

"orchResponse" : {

"response" : [ {

"service" : {

"serviceDefinition" : "IndoorTemperature",

"interfaces" : [ "JSON", "XML" ],

"serviceMetadata" : {

"unit" : "celsius"

}

},

"provider" : {

"systemName" : "GATEWAY",

"address" : "0.0.0.0",

"port" : 8000

},

"serviceURI" : "temperature",

"warnings" : [ ]

} ]

}

}

# 3.3. ICNProposal

# {

# "requestedService" : {

# "serviceDefinition" : "IndoorTemperature",

# "interfaces" : [ "json" ],

# "serviceMetadata" : {

# "unit" : "celsius"}

# },

# "requesterCloud" : {

# "operator" : "EVManufacturer",

# "cloudName" : "EVCloud",

# "address" : "10.0.0.71",

# "port" : 8446,

# "gatekeeperServiceURI" : "gatekeeper",

# "authenticationInfo" : "removed to preserve space",

# "secure" : false

# },

# "requesterSystem" : {

# "systemName" : "client1",

# "address" : "localhost",

# },

# "preferredSystems" : [ ],

# "negotiationFlags" : {

# "onlyPreferred" : false,

# "externalServiceRequest" : true,

# "metadataSearch" : true,

# "pingProviders" : false,

# "useGateway" : true

# },

# "preferredBrokers" : [ {

# "brokerName" : "insecure\_broker",

# "address" : "mantis3.tmit.bme.hu",

# "port" : 5672,

# "secure" : false,

# "authenticationInfo" : ""

# }, {

# "brokerName" : "secure\_broker",

# "address" : "mantis3.tmit.bme.hu",

# "port" : 5671,

# "secure" : true,

# "authenticationInfo" : "removed to preserve space”

# } ],

# "timeout" : 30000

# }

# 3.4 ICNEnd

{

"orchestrationForm" : {

"service" : {

"serviceDefinition" : "IndoorTemperature",

"interfaces" : [ "JSON", "XML" ],

"serviceMetadata" : {

"unit" : "celsius"

}

},

"provider" : {

"systemName" : "InsecureTemperatureSensor",

"address" : "0.0.0.0",

"port" : 8460

},

"serviceURI" : "temperature",

"warnings" : [ ]

},

"gatewayConnInfo" : {

"brokerName" : "mantis3.tmit.bme.hu",

"brokerPort" : 5672,

"queueName" : "152714997213709598481073529448",

"controlQueueName" : "152714997213709598481073529448\_control"

}

}

# Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2017-10-02 | M2 | Initial | Csaba Hegedűs |
| 2 | 2018-02-14 | M3 | Updating document to M3 | Csaba Hegedűs |
| 3 | 2018-05-23 | G4.0 | Updated document to G4.0 | Zoltán Umlauf |

# Quality Assurance

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Date | Version | Approved by |
| 1 |  |  |  |
| 2 |  |  |  |