InterCloudNegotiations Service SD

**Abstract**

This document defines the InterCloudNegotiations Service functionality within Arrowhead generation 4.0.

1. Service Description Overview

The InterCloudNegotiations Service provides two functionalities, facilitating the second part of the inter-Cloud orchestration.

1. Abstract Interfaces

This Service provides two functionalities.

# Init ICN

Orchestrator picks out a remote Cloud from the ones that did respond with positive results to the GSDRequest. Then sends an ICNRequestForm to the local Gatekeeper, which has additional information compared to the GSDRequestForm. This initiates the ICN proposal process.

# ICN Proposal

The local Gatekeeper contacts the remote Gatekeeper with an ICNProposal. The receiving Gatekeeper will initiate an orchestration process, and either directly send back the results of that, or first use the Gateway Core System to create a data path for the Consumer and Provider Application Systems. There is a ”use\_gateway” property inside the app.properties file that toggles this behaviour. Without Gateways, the servicing can only be successful, if the 2 Local Cloud can see each other directly on a network level.

1. Abstract Information Model

An ICNRequestForm contains the following information, as presented in Table 1.

Table 1 ICNRequestForm type description

|  |  |
| --- | --- |
| **Field** | **Description** |
| RequestedService: ArrowheadService | The Service requested by the Consumer (from the Orchestrator). |
| TargetCloud: ArrowheadCloud | The remote Gatekeeper that should be contacted for ICN. |
| RequesterSystem: ArrowheadSystem | The Consumer System that requested the Service. |
| PreferredSystems: List<ArrowheadSystem> | The Consumer can have a preferred list of ArrowheadSystems, where it would like to receive servicing from. Consumer can signal whether or not it accepts other Providers too with an orchestration flag. |
| NegotiationFlags: Map<String, Boolean> | The relevant orchestration flags from the Service Request Form. |

An ICNProposal contains the following information, as presented in Table 2.

Table 2 ICNProposal type description

|  |  |
| --- | --- |
| **Field** | **Description** |
| RequestedService: ArrowheadService | The Service requested by the Consumer (from the Orchestrator). |
| RequesterCloud: ArrowheadCloud | The local Gatekeeper information sent to the remote Gatekeeper. |
| RequesterSystem: ArrowheadSystem | The Consumer System that requested the Service. |
| PreferredSystems: List<ArrowheadSystem> | The same list of Systems from the ICNRequestForm. |
| NegotiationFlags: Map<String, Boolean> | The relevant orchestration flags from the Service Request Form. |
| PreferredBrokers: List<Broker> | A list of message brokers this Cloud knows, only relevant if Gateway Services will be used. |
| Timeout: Integer | Timeout value in milliseconds for the message broker (when connecting to the Application System). Only relevant if Gateway Services will be used. |
| GatewayPublicKey: String | Base64 coded public key of the local Gateway (Gateway public keys need to be exchanged for the data path creation). Only relevant if Gateway Services will be used. |

1. Non-functional Requirements
2. Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2017-09-29 | 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 |  |  |  |