Proxy Service SD

**Abstract**

This document defines the Proxy Service functionality within Arrowhead Framework generation 4.0. The proxy server is used to allow information exchange between sleepy nodes and other Arrowhead systems.

1. Service Overview

The Proxy Service provides an interface to publish and receive messages to a Local Cloud. The Proxy Service is designed so that sleepy nodes can wake up from low-power mode, publish a message containing sensor readings and return to sleep. Other Arrowhead Systems can then fetch the latest message at any time.

1. Abstract Interfaces

This Service provides four functionalities, shown below.

# ListSystems

This interface lists all systems that have inserted service data. The output is an array of system names.

# ListServices

This interface lists all services for a system that have inserted service data. The output is an array of service names.

# Push

This interface is used to push a message to the Proxy Service in a Local Cloud through the DataManager Core System.

# Fetch

This interface is used to fetch a message from the Proxy Service in a Local Cloud through the DataManager Core System.

1. Abstract Information Model

Accepted data model for Push is SenML. The JSON response to this Service is optional. HTTP or CoAP responses are also used the indicate errors.

# SystemList

|  |  |
| --- | --- |
| **Field** | **Description** |
| Systems | An array of systems that have active services |

Table 1 – SystemList

# ServiceList

|  |  |
| --- | --- |
| **Field** | **Description** |
| Services | An array of services that have stored data |

Table 2 – ServiceList

# SensorData

|  |  |
| --- | --- |
| **Field name** | **Description** |
| Arrowhead System | The System that generated or stored a measurement or file. |
| Base time | If set, this is the timestamp when a reading was taken. If not set, the input message was a reading taken approximately “now”. |

Table 3 - Push

1. Non-functional Requirements

The proxy service must run on a sufficiently powerful host that provides enough storage and processing capacity for the number of clients that are using it.

1. Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2018-09-17 | G4.0 d1 | Initial | Jens Eliasson |
| 2 | 2018-10-30 | G4.0 d2 | Text updates | Jens Eliasson |
| 3 | 2019-03-20 | G4.0 d3 | Updated data model | Jens Eliasson |
| 4 | 2020-11-17 | G4.1.3 | Added more data models | Jens Eliasson |
|  |  |  |  |  |

# Quality Assurance

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