Arrowhead Historian Service IDD

**Abstract**

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

1. Overview

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

This interface can use HTTP, HTTPS, CoAP or CoAPS, therefore the related CP is valid.

1. Interfaces

As per the SD of this Service, there are three methods implemented. Table 1 describe these.

Table 1 Function description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | **URL subpath** | **Method** | **Input** | **Output** |
| Store | “/historian/{systemName}” | PUT | **SensorData GenericFile** | HTTP CODE: CREATED, NO\_CONTENT  BAD\_REQUEST |
| Retrieve | “/historian/{systemName}” | GET | **SensorData GenericFile** | HTTP CODE: OK, NO\_CONTENT  BAD\_REQUEST |

1. Information Model

The SensorData request payload contains generic sensor data. SensorData normally contains information about the unit, source system, timestamp and metadata. The default payload type is JSON-encoded SenML (RFC 8428). The response to a Store/ Retrieve request is a simple HTTP/CoAP status code (Created/Ok – request was success, No Content – request had no effect). The Content-type for Store must be *application/senml+json*. The Content-type for Retrieve is *application/json*.

# 

# 3.1. SensorData Store- SenML request

[

{"bn":" TempSys23433:","bt":1.276020076001e+09, "bu":"Cel","bver":5,

"n":" IndoorTemperature ","u":"Cel","v":22.1},

{"n":" IndoorTemperature ","t":-5,"v":22.2},

{"n":" IndoorTemperature ","t":-4,"v":22.4}

]

# 3.2. SensorData Store- SigML response

{  
 “p”: 0,  
 "x":" 0

}

The x tag (eXception) value of 0 indicates “No error”. A value different than 0 must also be accompanied by an xs tag that in plain text gives a reason for the error.

If the uploaded JSON is incorrectly constructed, then the following example response could be generated.

{  
 “p”: 0,  
 "x":" 2,

“xs”: “JSON Parse error”

}

# 3.2. GenericFile

The GenericFile can be any type of file. The extension and mime type together define the content.

# Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2018-09-19 | G4.0 | Initial | Jens Eliasson |
| 2 | 2018-10-30 | G4.0 | Text update | Jens Eliasson |
| 3 | 2019-03-15 | G4.0 | Minor text improvements | Jens Eliasson |
| 4 | 2019-03-20 | G4.0 | Switched to RFC8428 | Jens Eliasson |
|  |  |  |  |  |

# Quality Assurance

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