OPC-UA-2-REST Provider Proof-of-concept — IDD

Abstract

This document provides the description of a proof-of-concept OPC-UA to RESTful Provider for the Arrowhead framework. The system allows a developer to read UPC-UA variables using a RESTful interface and JSON.

ARTEMIS Innovation Pilot Project: Arrowhead
THEME [SP1-JTI-ARTEMIS-2012-AIPP4 SP1-JTI-ARTEMIS-2012-AIPP6]
[Production and Energy System Automation Intelligent-Built environment and urban infrastructure for sustainable and friendly cities]

Contents

1 Overview

This document contains a concrete description of the service related to the OPC-UA-2-REST Provider. The reader is assumed to be familiar with RESTful API:s and JSON format.

1.1 Interface Rules

The Client must always provide the *OPC-UA variable name, namespace, and IP:port of the endpoint*, to the OPC-UA-REST provider.

2 Service Interfaces

2.1 Read OPC-UA variable

This interface responds with `200 OK` if a given request is successful.

Query Parameters The functions of this service interface accept input as HTTP URL parameters. An example of a request and a response is given in Listings 1 and 2.

```
GET opcVariable/10.48.134.10:4840/3/%22xBG5%22 HTTP/1.1
Accept: application/json
```

Listing 1: A request example. A possible response is given in Listing 2.

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "name": bXG5,
  "value": true,
  "type": boolean,
  "timstamp": 123456789,
}
```

Listing 2: A request-response example.

2.2 Primitive Types and Structures

Type	Description
`JSON`	A JSON object.
`Unix timestamp`	A Unix timestamp
`query`	A URL string where variables are separated with ”/”.

Table 1: Primitive types.

Structure	Description
`Map<A, B>`	A JSON object with keys of type `A` and values of type `B`.

Table 2: Primitive structures.

3 Revision History

3.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1				

3.2 Quality Assurance

No.	Date	Version	Approved by
1			