Interface Design Description (IDD) and Software Design (SD)

**Abstract**

This document defines the template for the Interface Design Description of Arrowhead compliant Interfaces.

An Interface Design Description provides a detailed description of how the service is implemented/realized by using the Communication Profile and the chosen technologies.

All Arrowhead Interface Designs should be specified using this template and stored on a common repository (available on the SVN server), in order to document and formalize the pilot demonstrators and the common Arrowhead framework.

1. electricity-generation (SD/IDD)

* Protocol: HTTP(S).
* Encoding: JSON.
* Compression: None.
* Security: Optionally using TLS and X.509 certificates (server/client).
* Accessed at http(s)://127.0.0.1:8880/electricity-generation.

# Service

* Data model is JSON.
* No payload encryption.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Function** | **Service** | **Extension** | **Method** | **Input** | **Output** |
| getGeneratedEletricity() | electricity-generation | **-** | **GET** | - | EPayload |

### Description:

Returns generated electricity made from the application system “Energy provider” which consists of solar panels producing electricity depending on time passed.

### Parameters:

This interface doesn’t take any parameters.

### Response code:

|  |  |  |
| --- | --- | --- |
| **Code** | **Meaning** | **Comment** |
| 200 | Successful request | Success |
| 401 | Unauthorized | Access denied |
| 400 | Bad request | If electricity production hasn’t started. |

### Error handling

All errors are handled using HTTP response code. Error message is added in the response payload.

When electricity production hasn’t started, status code 400 is returned with a message stating that electricity production hasn’t started.

### Output

Returns payload consisting of generated electricity.

Example: {EPayload : [ "electricity": 34.61, "days": 4:, "type": "kW/h"] }

### Interaction with consumers

When a consumer requests total generated electricity. After successful request all accumulated electricity will go back to zero.

**En bild som visar text, skärmbild, Teckensnitt, diagram

Automatiskt genererad beskrivning**

Figure 3: Electricity generation interface