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. post-electricity-grid (SD/IDD)

* Protocol: HTTP(S).
* Encoding: JSON.
* Compression: None.
* Security: Optionally using TLS and X.509 certificates (server/client).
* Accessed at http(s)://127.0.0.1:8882/electricity-grid/
* HTTPS: POST

# Service

* Data model is plain text.
* No payload encryption.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | **Service** | **Method** | **Input** | **Output** |
| money() | post-electricity-grid | **POST** | String | String |

### Description:

Takes a number as plain text. Returns total sold amount of electricity based on parameter and what current price of electricity is in application system.

### Parameters:

This interface takes the following query parameters.

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Usage** | **Example** |
| electricity | The amount of electricity that should be sold in kW/h | Electricity=23.61 will return 23.61 multiplied by the price of current cost of kW/h. |

### Response code:

|  |  |  |
| --- | --- | --- |
| **Code** | **Meaning** | **Comment** |
| 200 | Successful request | Success |
| 401 | Unauthorized | Access denied |
| 400 | Bad request | If parameter isn’t a number. |

### Error handling

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

### Output

Returns String with total amount money earned from selling.

Example: { “5.223”}.

### Interaction with consumers

When a consumer starts sends a sell request to the service. The application system will calculate the money the consumer will receive by multiplying the modelled price with the electricity from the consumer. Many consumers can use this service as a way as selling their excessive electricity.

En bild som visar text, skärmbild, Teckensnitt, linje

Automatiskt genererad beskrivning

Figure 1: ELECTRICITY GENERATION STOP INTERFACE