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. put-electricity-house SD/IDD

* Protocol: HTTP(S).
* Encoding: JSON.
* Compression: None.
* Security: Optionally using TLS and X.509 certificates (server/client).
* Accessed at http(s)://127.0.0.1:8881/electricity-house/
* HTTPS: PUT

# Service

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | **Service** | **Method** | **Input** | **Output** |
| updateBattery() | put-electricity-house | **PUT** | String | String |

### Description:

Takes a number as plain text. Updates the household internal electricity variable with the consumption from the parameter.

### Parameters:

This interface takes the following query parameters.

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Usage** | **Example** |
| electricity | Adds electricity to the household. | Electricity=-20.6 will add this value to the application system internal battery. |

### 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 net change after adding consumption to electricity of house.

Example: { “25.7”}.

### Interaction with consumers

When a consumer starts sends a consumption request to the service. In this case the household service the battery will be updated with the consumption parameter. After this the household will also send a request to the electricity provider service which will give a full update to the battery in the household application system.

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Automatiskt genererad beskrivning

Figure 1: ELECTRICITY HOUSEHOLD INTERFACE