Interface Design (IDD) Description\_Arrowhead\_Zwave\_System\_Demonstrator\_ZWaveController

**Abstract**

This document defines the Interface Design Description of ZwaveController for the Arrowhead\_Zwave\_System\_Demonstator. This provides the interface to the Zwave Hat which provides the list of all devices currently live in the zwave network.

Zwave controller perform inclusion after exclusion and return a list of all the connected live devices (with metadata and services provided by them) in the zwave network. This provides an interface to the DataManager that stores the devices metadata with unique deviceID and the services provided by it into the DataManager.

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1. Interface Design Description Overview

This document describes the services provided by ZWaveController with REST interface. This interface uses HTTPs.

|  |  |
| --- | --- |
| **Service description** | **Path** |
| live-zwave-devices |  |
| register-zwave-devices |  |
|  |  |

|  |  |
| --- | --- |
| **Communication Profile** | **Path** |
| REST-JSON-TLS |  |

1. Interfaces

The interfaces of the ZwaveController service are provided below.

**LiveZwaveDevices**:

The base URL for the request is:

https://<host>:<port>/zwave/zwavecontroller/live-zwave-devices

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Function | URL subpath | Method | Input | Output | Description |
| LiveZwaveDevices | “/zwavecontroller/live-zwave-devices” | GET |  | Array <  deviceID, deviceName,  deviceType, deviceVendor, deviceVersion,  deviceServices  > | Zwave controller perform inclusion after exclusion and return a list of all the connected live devices (with metadata and services provided by them) in the zwave network. |

**RegisterZwaveDevices**:

The base URL for the request is:

https://<host>:<port>/zwave/register-zwave-devices

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Function | URL subpath | Method | Input | Output | Description |
| RegisterZwaveDevices | “/zwavecontroller/register-zwave-devices” | POST | Array <  deviceID, deviceName,  deviceType, deviceVendor, deviceVersion,  deviceServices  > | CREATED,  BAD\_REQUEST | This stores the devices metadata with unique deviceID, deviceName, deviceType, deviceVendor, deviceVersion, and the services provided by it into the DataManager. |
|  |  |  |  |  |  |

1. Information Model

Example:

**LiveZwaveDevices**:

**Response:**

Devices are added to the zwave device list in DataManager with unique deviceID along with its metadata and services.

{

“ deviceID” : “24”,

“deviceName” : “MainsDevice \_24”,

“deviceType” ; 2Binary Power Switch”,

“ deviceVendor” : “Fibaro”,

” deviceVersion” : “1.1”,

“deviceServices” : [“get-state”, “set-state”, “get-power”, “get-energy-consumption”, “set-energy-counter-reset”]

,{

“ deviceID” : “22”,

“deviceName” : “DanfossRadiatorThermostat\_22”,

“deviceType” : “Thermostat”,

“ deviceVendor” : “Danfoss”,

” deviceVersion” : “1.1”,

“deviceServices” : [“get-setpoint”, “set-setpoint”,” get-battery-level”]

}

1. Data Model

|  |  |  |
| --- | --- | --- |
| Object Field | Value Type | Description |
| ” deviceID” | [String](#_bookmark12) | Unique ID of the device from 2 to N assigned by the zwave Hat |
| ” deviceName” | String | Name of the device assigned by the zwave Hat |
| ” deviceType” | String | Type of the device |
| ” deviceVendor” | [String](#_bookmark14) | Name of device manufacturer |
| ” deviceVersion” | String | Version of the device |
| “deviceServices” | Array <Service> | Array of services provided by the device |

1. Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2021-01-6 | 0.1 | First Draft | Salman Javed |
| 2 | 2021-03-17 | 0.2 | Second Draft | Salman Javed |

# Quality Assurance

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