

Interface Design (IDD)

Description_Arrowhead_Zwave_System_Demonstrator_ZWaveController

Abstract

This document defines the Interface Design Description of ZwaveController for the Arrowhead_Zwave_System_Demonstrator. 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	

2. 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
LiveZwave Devices	"/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/zwavecontroller/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.

3. 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"]

}

4. Data Model

Object Field	Value Type	Description
" deviceID"	String	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	Name of device manufacturer
" deviceVersion"	String	Version of the device
"deviceServices"	Array <Service>	Array of services provided by the device

5. Revision history

5.1. 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

5.2. Quality Assurance

No.	Date	Version	Approved by
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