

Workshops summary

IQRF Standardization

Certification and Repository



Hynek Syrovátka
CTO, IQRF Alliance

1. **Workshops** summary
2. **IQRF Standardization**
3. **Certification and Repository**

Pretty complicated, huh?
But the foundation of this all is not!

Let's go from the back...

- <https://repository.iqrfalliance.org/api>
- **RESTful** WEB service
- Provides **objects**
 - Products
 - Manufacturers
 - Packages
 - Standards
 - Drivers
 - ...



<https://repository.iqrfalliance.org/doc/api>



Product ▾

GET /products Returns all products.

GET /products/{hwpid} Returns product by its HWPID.

Package ▾

GET /packages Returns all packages optionally filtered by a query.

GET /packages/{packageID} Returns a package by its ID.

Standard ▾

GET /standards Returns all IQRF standards.

GET /standards/{standardID} Returns an IQRF standard by its ID.

GET /standards/{standardID}/{version} Returns standard by its ID and version.

<https://repository.iqrfalliance.org/api/products/0003>

JSON

```
hwpid : 3
name : NETIO Cobra 1 - 1x power plug
manufacturerID : 3
companyName : NETIO Products a.s.
homePage : http://www.netio-products.com/en/products/all-products
picture : https://www.iqrf.org/contest/img/zasuvka.png
```



<https://repository.iqrfalliance.org/api/manufacturers/3>

 JSON

```
{  
  "manufacturerID": 3,  
  "companyID": 3,  
  "name": "NETIO Products a.s."  
}
```

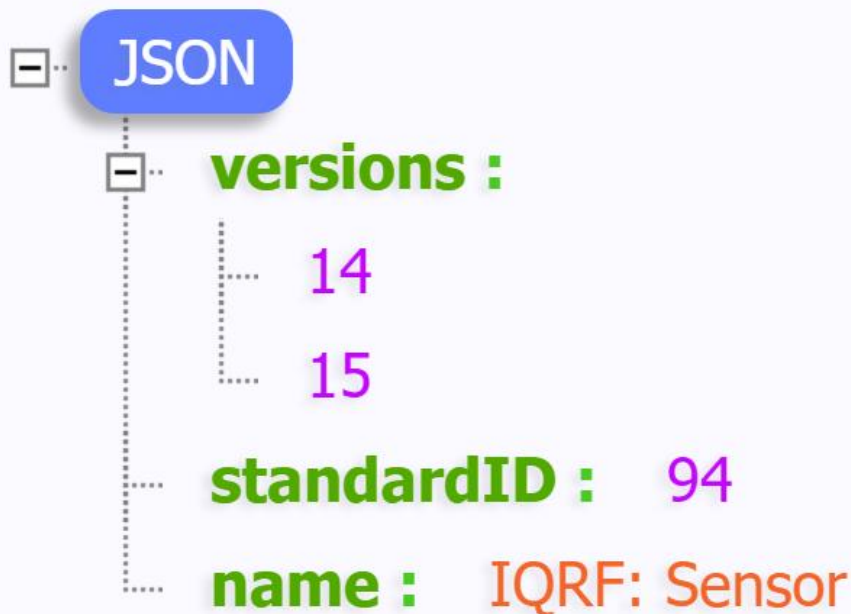
- <https://repository.iqrfalliance.org/api/packages?hwpid=0003>
- <https://repository.iqrfalliance.org/api/packages/21>

```
JSON
{
  driver: /* <none> */
  standards:
    0
    1
      version: 4
      versionFlags: 0
      driver: // File.: $SRCFile: 4B_IqrfStandardBinaryOutput.js,v $ // Version: $Revision: 1.15 $ // Date: $Date: 2018/03/26 14:13:31 $ //#####
      notes: Initial release
      standardID: 75
      name: IQRF: Binary Output
    2
    3
    4
    5
    6
    7
    8
    9
    10
    11
    12
    13
    14
    15
    16
  packageID: 21
  hwpid: 3
  hwpidVer: 0
  handlerUrl: https://repository.iqrfalliance.org/download/handlers/0003_0000_Netio-Cobra1.hex
  handlerHash: C98E22B0CA03D49A2EC193A13EB9E936A125DFC238988AB30D747A66E61CC9B2
  os: 0888
  dpa: 0302
  notes: [none]
```

1. HWPID
 2. Sensor
 3. Binary Output
 4. Light
- Design principles kept intact
 - Simplicity, Scalability, Exception free, Diversity aware, Common patterns
 - Organic growth from 8 to 27 standard sensor quantities

Temperature, CO₂, VOC, Extra-low Voltage, Earth's Magnetic Field, Low Voltage, Current, Power, Mains Frequency, TimeSpan, Illuminance, NO₂, SO₂, CO, O₃, Atmospheric Pressure, Color Temperature, PM_{2.5} Dust, Relative Humidity, Binary Data7, Power Factor, UV Index, Binary Data30, Consumption, Datetime, TimeSpanLong, Data Block

<https://repository.iqrfalliance.org/api/standards/94>



<https://repository.iqrfalliance.org/api/standards/94/15>

```
485 iqrfsensor.ReadSensorsWithTypes_Response = function ( response )
486 {
487     var responseData = iqrfsensor.CheckResponsePnumPcmdDlen( response, iqrfsensor.PNUM, '81' );
488
489     var result = [];
490     var responseData_length = responseData.length;
491     for ( var index = 0; index < responseData_length; )
492     {
493         var sensorType = responseData[index++];
494         var sensorObj = iqrfsensor.SensorTypes[sensorType];
495         if ( sensorObj === undefined )
496             throw new Error( 'iqrfsensor.ReadSensorsWithTypes_Response: Unknown sensor type ' + sensorType );
497
498         var sensorValue;
499
500         switch ( sensorType )
501         {
502             default:
503                 throw new Error( 'iqrfsensor.ReadSensorsWithTypes_Response: Unimplemented sensor type value ' + sensorType );
504
505             // 2 bytes
506             // -----
507             case iqrfsensor.STD_SENSOR_TYPE_TEMPERATURE:
508             case iqrfsensor.STD_SENSOR_TYPE_LOW_VOLTAGE:
509                 sensorValue = responseData[index] + ( responseData[index + 1] << 8 );
510                 sensorValue = sensorValue === 0x8000 ? NaN : iqrfsensor.UInt16toInt16( sensorValue ) / 16.0;
511                 break;
512
513             case iqrfsensor.STD_SENSOR_TYPE_ATMOSPHERIC_PRESSURE:
514                 sensorValue = responseData[index] + ( responseData[index + 1] << 8 );
515                 sensorValue = sensorValue === 0xFFFF ? NaN : sensorValue / 16.0;
516                 break;
```

What is a certified product?



Alliance

- Complies with **IQRF Standards**
- **Recognized** by IQRF Alliance
- **Certified** by IQRF Alliance
- Promoted at **Marketplace**

IQRF Certified



ALIS reader

ALIS reader is a basic element of ALIS location system, sends...

IQRF Certified



Protronix NLIH-CO2+RH+T-IQRF+

Combined sensor NLIH-CO2/RH is used to monitor air quality inside...

IQRF Certified



Protronix NLIH-IVOC+RH+T-IQRF+

Room sensor NLIH-IVOC is used to monitor air quality inside buildings.

YASKA



Environmental module with 9 sensors

Smart City environmental module with 9 sensors capable of measuring...

IQRF Certified



Protronix NLIH-RH+T-IQRF+

Room sensor NLIH-RH is used to monitor the air quality inside...



DATmo radioCONTROL outdoor

The MSB system has been developed for monitoring the operational...



DATmo radioCONTROL industrial

MSB-CI WL industrial module can be connected to any type of luminaire...



DATmo radioCONTROL office DALI

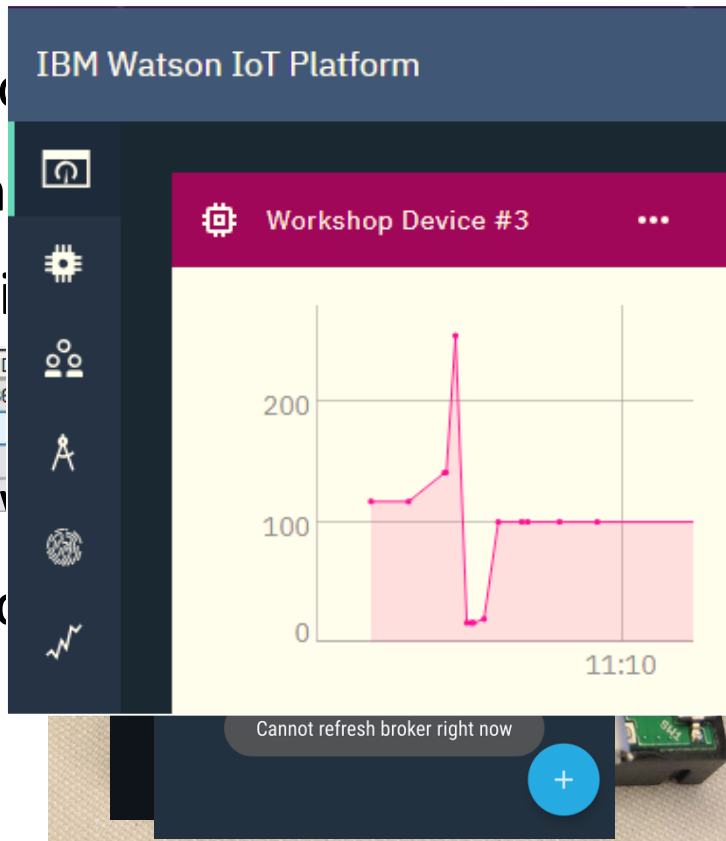
MSB-CI WL office DALI module can be connected to any type of...

What was the workshop like?



Alliance

- We developed
- IQRF Standard
- Products in
- IQRF Smart
- Products v
- Controlled



| ManufacturerID | Company (Man&Com ID) |
|----------------|----------------------|
| 65 | IQRF Smart |

| URL | Rights | HWPID |
|----------------|--------|-------|
| ://www.iqrf... | 0 | 1555 |
| ://www.iqrf... | 0 | 2555 |
| ://www.iqrf... | 0 | 3555 |
| ://www.iqrf... | 0 | 4555 |

Let me finish with the yesterday's slide

- IQRF ecosystem is **maturing**
- Based on industry and own **standards**
- IQRF **Smart Connect**
- IQRF **GW Daemon**
- IQRF **Repository**
- **Simple** integration and maintenance

Workshops summary

IQRF Standardization

Certification and Repository



Hynek Syrovátka
CTO, IQRF Alliance