IQRF Standardization

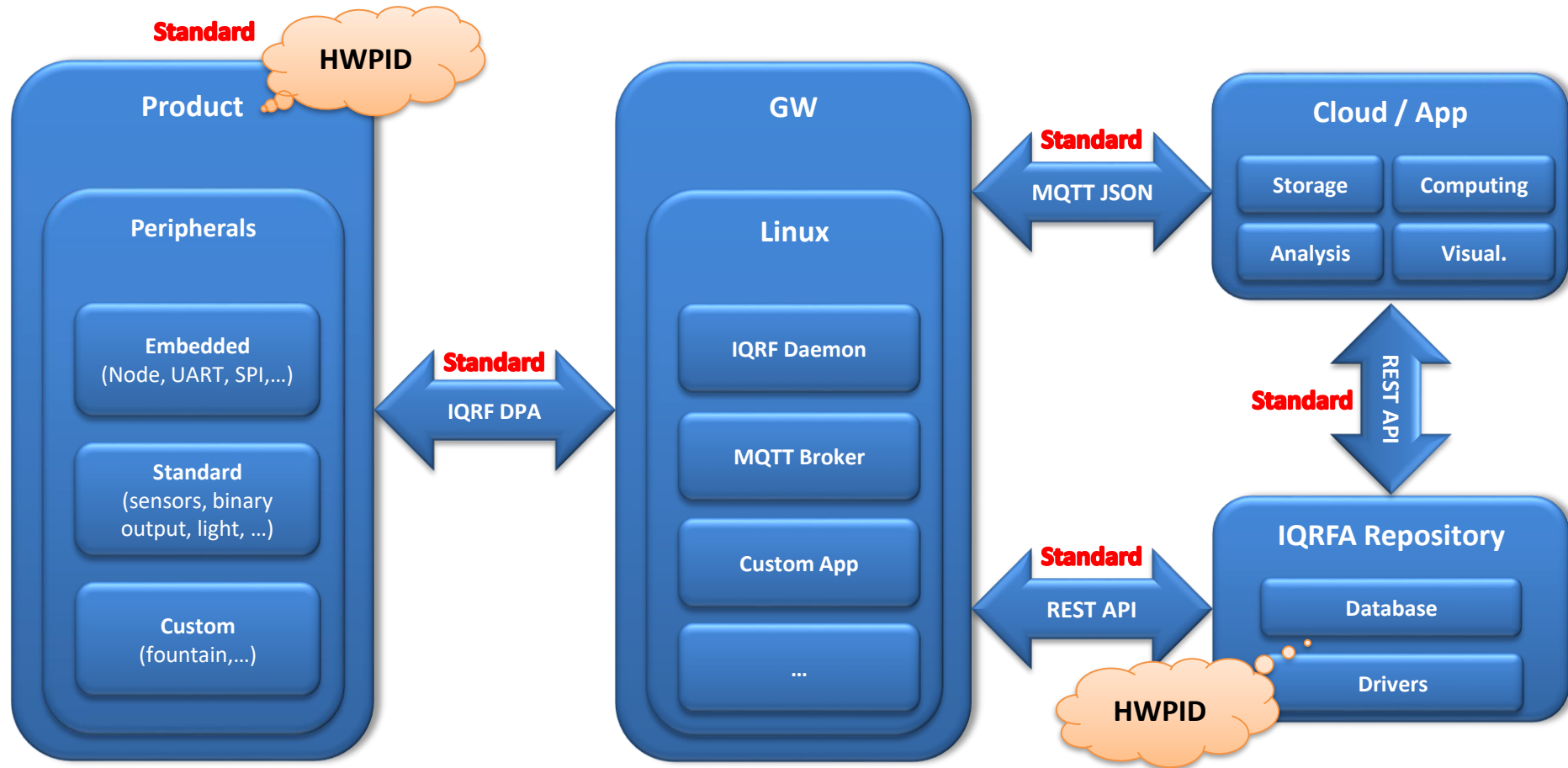**Hynek Syrovátka**
IQRF Alliance, CTO

June 8th , 2017

Standard IQRF Ecosystem

- Device compatibility

- Device interoperability

- Integration simplicity

- Fast development

- …

- ⇒ IQRF success

- Simplicity

- Scalability

- Exception free

- Diversity aware

- Common patterns

- Technical committee

- Regular committee calls
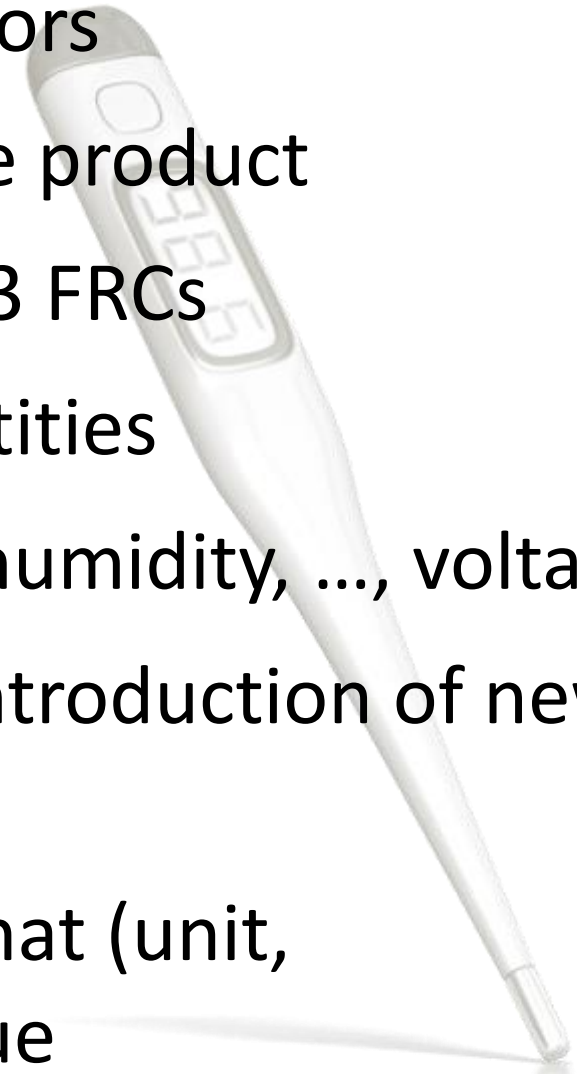
- Bilateral discussions

- Product identification (HWPID) defined

- 3 standards defined

    - Sensor (8 quantities)

    - Binary output

    - Light

- Cooperation with product manufacturers

- Code examples, templates and manufacturer support

- IQRF device repository core DB model

- JSON message structure

- Uniquely identifies product type

- Consists of unique ManufacturerID& ProductID

- Two manufacturer classes

  - 511 with up to 64 products

  - 1792 with up to 16 products

- HWPID assigned for existing standard products

Product						Manufacturer class #1									
bit 15					bit 10	bit 9								bit 1	0

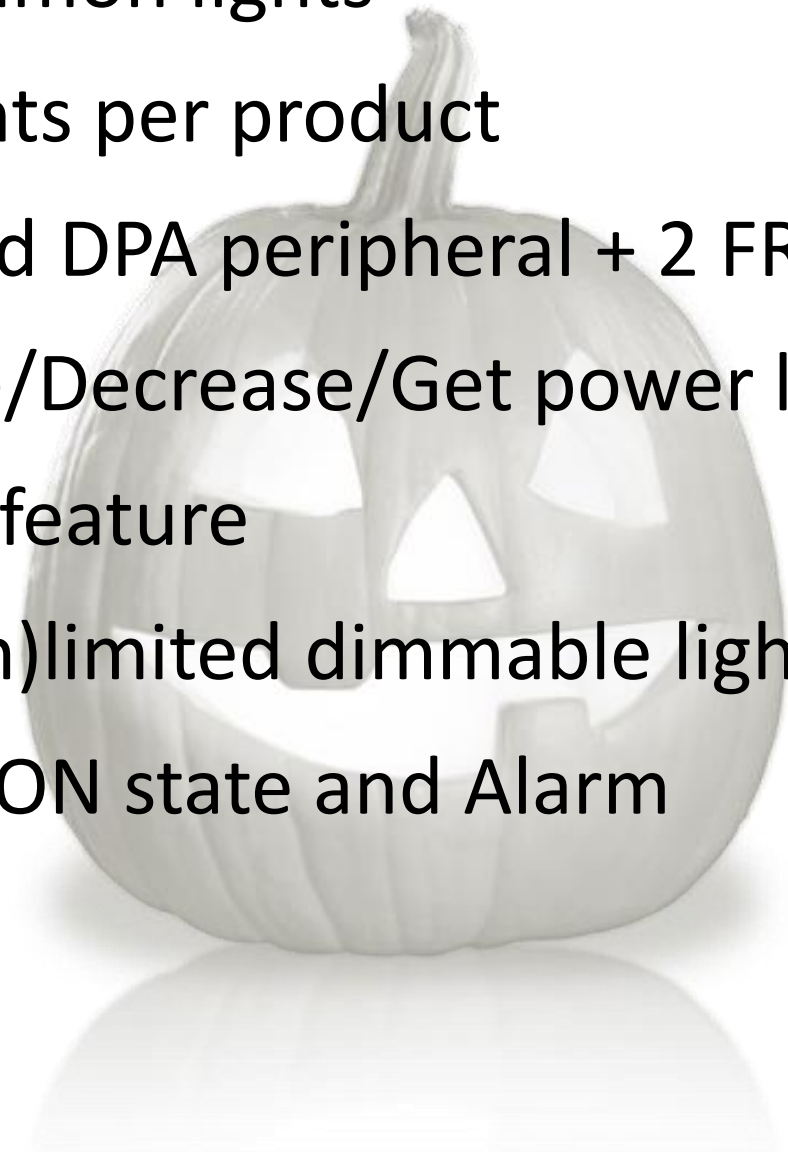| Product				Manufacturer class #2									
bit 15			bit 12	bit 11								bit 1	1

- Handles mono-poly-multi sensors

- Up to 32 diverse sensors in one product

- One standard DPA peripheral, 3 FRCs

- Standard defines various quantities

  - Temperature, CO_2, relative humidity, …, voltage

- Further development just by introduction of new quantities

- Quantity defined by value format (unit, resolution, range) and FRC value

- Can drive any binary actuator

- Up to 32 outputs = common pattern

- One standard DPA peripheral

- Set/Get commands

- ON timeout feature
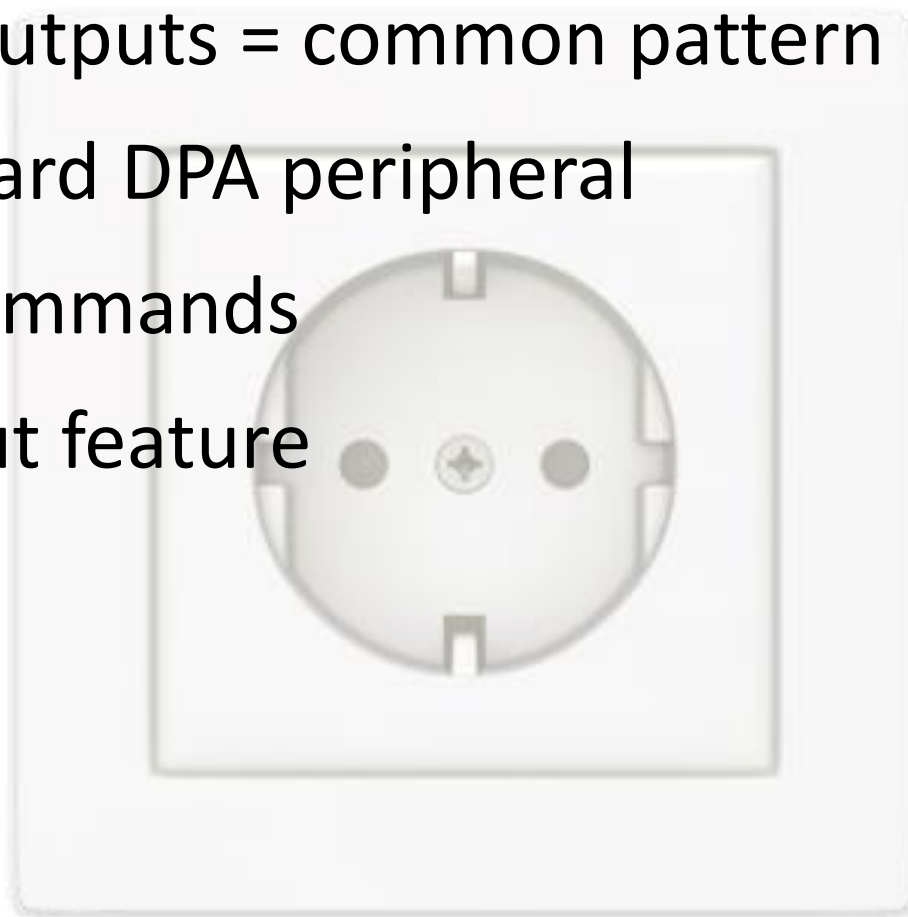
Light

- To drive common lights

- Up to 32 lights per product

- One standard DPA peripheral + 2 FRCs

- Set/Increase/Decrease/Get power level 0-100%

- ON timeout feature

- Supports (un)limited dimmable light

- FRCs report ON state and Alarm

- ## Real

  - Protronix: Temperature + Humidity + CO_2 sensor

  - Protronix: Temperature + Humidity + VOC sensor

  - NETIO: Cobra 1 - 1x power plug

  - DATmoLUX: Light

- ## Examples

  - MICRORISC: DDC-SE01 sensor example

  - MICRORISC: DDC-SE01 + DDC-RE01 sensor example

  - MICRORISC: TR temperature sensor example

  - MICRORISC: Binary output example using LEDs and DDC-RE01

  - MICRORISC: Light example

- Core DB model proposal

- IQRF device driver idea

- Detailed definition, services, functionality and technologies continuously discussed

- JSON message structure
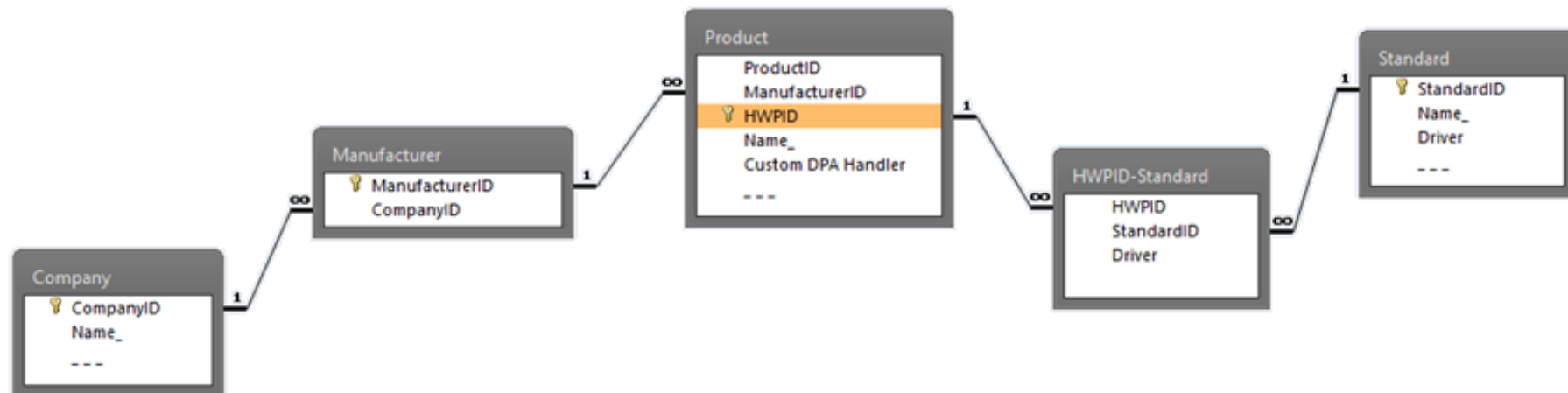
- Develop existing standard

- Further development

  - New sensor quantities

  - New standards

- IQRF device repository specification + development + …

- IQRF device drivers

- IQRF device bonding concepts

- Further IQRF daemon development

THANKS

to

all

standardization

participants

IQRF Standardization

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