Introduction to

IPSO Smart Objects

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June 15th, 2015

IPSO Smart Objects

- Developed by IP for Smart Objects (IPSO) Alliance in the Smart Objects Working Group.
- Work exclusively on semantic Interoperability across IoT devices and applications.
- Based on LWM2M Object Model.
- Reusable Object IDs and Resource IDs.
- Transport Protocol Independent (CoAP, LWM2M, MQTT, HTTP…) if support addressing, content formats and data types.
- Encoding Independent (JSON, TLV, SenML…)
- Basic Objects represent simple sensors and actuators.
- IPSO Smart Object Guidelines: Starter Pack published on 2014 (Expansion Pack upcoming).
  - http://www.ipso-alliance.org/technical-information/ipso-guidelines
- Tested over CoAP and LWM2M during IPSO Interoperability test on May 2015 (ARM, Ericsson, Intel, SICS, Yanzi, TUT …) .

Roadmap

- ☐ UPnP harmonization – from SOAP to REST.
- ☐ BLE/ZigBee harmonization.
- ✔ Draft Smart Object Data Model Design Guide @done (15-03-30)
- ✔ Draft Smart Object Expansion Pack for Basic Objects @done (15-04-30)
- ✔ Set up test servers for IPSO objects (LWM2M + TLV payload) @done (15-06-15)
- ☐ Draft Domain Specific Objects reference designs @due (mid 2015)
- ☐ Publish Smart Object Data Model Design Guided @due(15-07-31)
- ☐ Publish Smart Object Expansion Pack for Basic objects @due(15-07-31)
- ☐ Publish Smart Object Expansion Pack for Composite Objects @due(15-07-31)
- ☐ Publish Smart Object Expansion Pack for Reference Devices @due(15-07-31)
- ☐ IETF 93 – Bits and Bites @due(15-09-1)

Next Steps

- Activities
  - Working with Smart Objects: Expansion Pack, Composite Objects, Linked Objects.
  - Collaboration with other IoT Interest Groups like UPnP, IIC, OIC.
  - Work on related Standards organizations: IETF CoRE - CoAP, OMA DM - LWM2M.
  - Prototyping and testing (IETF 93, Bits and Bites, 2nd IPSO Interop, …)
- Focus Area
  - IPSO Smart Objects are meant to be very generic.
  - Any vendor can use them for their specific area by creating their own Objects by reusing generic resources and add their own.
- Absolutely necessary for IoT
  - Harmonization and mapping between different data models & standards.
  - Use of standards for Application Level interoperability btw devices and applications vs propietary solutions.


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