Web of Things mapping ideas based on gateway model

Panasonic Corporation
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“The Internet of Things is currently beset by product silos. To unlock the commercial potential there is a need for open ecosystems based upon open standards.” *1)

*1) http://www.w3.org/WoT/
1-2. Introduction of Panasonic

- Founded in 1918 by Konosuke Matsushita
- Sales: 7.7 trillion yen last year, 26% = CE products.
- Expanding B2B business based on CE technology
2. Web of Things mapping ideas
2-1. Requirements to Web of Things in home
2-1-1. Requirement 1: Simplicity and Compatibility

(1) Various products connected with several existing protocols

(2) Limited capability: home product can’t support multiple protocols
2-1-2. Requirement 2: Safety, Security and Robustness

1) Prevent malicious attack or careless use from outside home
   – Avoid privacy leakage and hazardous operation
2-1-2. Requirement 2: Safety, Security and Robustness

(2) Enable emergency operation at disaster
   – Support time-critical operation and web-offline operation
2-2. Solution 1: Gateway model

- Consider gateway model collaborating with cloud, as one of reference architectures.
2-2. Solution 2: WoT API mapping

- Define WoT API absorbing the differences among existing protocols in home

- Harmonize things description with existing protocols.
- Prepare mapping dictionaries.
3. Service examples of Web of Things in home
3-1. Immediately control any device from anywhere

- Turn off all TVs, air conditioners and lightings in home from office at once.
- Check status of family in home through camera, then remote control air conditioner and lighting appropriately.
- Automatically turn on air conditioner when approaching home.
3-2. Automatically adjust comfort settings for who’s in the house

- Automatically choose and prepare low temperature and cool lighting for father coming back.
- Automatically choose moderate temperature and warm lighting for mother and baby staying home.
4. Conclusion

• We can realize several attractive web services interacting with home products, by defining a Web of Things API that is aligned with existing protocols.

• We can make such services safe, secure & robust, by introducing the gateway model.

• Therefore, Panasonic will contribute to developing Web of Things standard, to help establishing the environment for creating such services.

  Let’s work together toward “A Better Life, A Better World” !