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The IoT Standardization for Support of Global Sustainable Development

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(*Note: this presentation only represents the opinions of the author*)

Topics to be Discussed

- Suggestions for IoT standardization
- Facts for support of these suggestions
- Methods for realizing these suggestions

Suggestions for IoT Standardization

- The standardization works can be classified:
- Category 1: to specify and constrain existing techniques for making standardized products
- Category 2: to guide and stimulate technical innovation for creating innovative and cost-effective product-making systems for support of global sustainable development.
- The standardization on IoT functional framework and IoT architecture belongs to Category 2, its first and the most important target is for technical innovation in the future.
- The cooperation, not the competition is strongly suggested in this stage standardization.

Facts for Support of these Suggestions

- The IoT is the global infrastructure in the future, so it required to be cost-effective and easily deployed and used for support of global sustainable development (e.g. anti-poverty, anti-corruption, anti-terrorist, and global win-win cooperation, etc.).
- No one now can describe the IoT correctly or completely, it needs practices, and it also needs the guidelines, and so that these practices can be collaborated
- World-wide technical innovation is required, and a global platform for support of this innovation is required
- World-wide cooperation is required, and the international standardization cooperation is required

Methods for Realizing these Suggestions

- The methods of standardizing open, inclusive, innovation-simulative standards of the IoT is required.
  - OSI (Open System Interconnection), USB (Universal Serial Bus), etc.
- The standardization work should be in different and complete perspectives to cover all stages of designing, implementing and deploying the IoT
- Academia, the profit-independent part, should participate the IoT standardization work.

Open and Inclusive Standardizing Methods

- Cooperative standardization work methods.
  - Cooperation between ISO and CCITT (ITU-T) for OSI standardization.
- Methods for verifying or validating standards developed in functional perspective, so that only necessary technical constraints are suggested in standards.
  - Formal methods in developing OSI standards
- … …

Standardizing from different perspectives

- The standardization in different and complete perspectives is required in order to cover all stages of designing, implementing and deploying the IoT.
- The standards covering all stages of the IoT development can be used to verifying or validating the necessity of some technical constraints in new standard development.

Practices of IoT Standardization in ITU-T

- The three views of standardizing the IoT functional framework have been proposed in ITU-T Recommendation Y.2068.
- The specifications in the functional view may be used to cover the IoT designing stage.
- The capability specifications in the implementation view may be used to cover the IoT implementing stage.
- The capability specifications in the deployment view may be used to cover the IoT deploying stage.

Conclusion

- The IoT standardization should guide and stimulate technical innovation for creating innovative and cost-effective product-making systems for support of global sustainable development.
- The IoT standardization should be in open, inclusive, innovation-simulative ways.
- The international IoT standardization cooperation is required.

Thank you for your attention!

Q&A

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