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SERIES F: NON-TELEPHONE TELECOMMUNICATION
SERVICES

Audiovisual services

Requirements and common characteristics of the IoT identifier for the IoT service

Recommendation ITU-T F.748.1

ITU-T

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Recommendation ITU-T F.748.1

Requirements and common characteristics of the IoT identifier for the IoT service

Summary

Recommendation ITU-T F.748.1 describes the requirements and common characteristics of the Internet of things (IoT) identifier for the IoT service.

History

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Introduction

ITU perceives the Internet of things (IoT) as a vision with technological and societal implications that can be viewed as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies. As a common understanding, the IoT involves various kinds of technologies such as: identification, architectural work, communications, networking, discovery and search engines, power and energy storage and security and privacy. Among these technologies, it is widely agreed that radio frequency identification (RFID), ubiquitous sensor network (USN) or sensor networks and machine-to-machine (M2M) or machine oriented communication (MOC) will be enablers for the IoT.

In RFID environments, tag-based identification [b-ITU-T F.771] enables users to access multimedia information through users' electronic devices equipped with ID tag readers and communication functions. In the IoT environments, it is required to study not only tag-based identification, but also general-purpose identification schemes. Because the IoT involves various enablers such as RFID, USN or sensor networks, and M2M or MOC, the identification scheme of the IoT is required to be applied to these various enablers.

To realize the IoT services, existing information and communication technologies should evolve to support the characteristics of the IoT. Third generation partnership project (3GPP) systems, Internet, wireless local area network (WLAN), wireless personal area network (WPAN), and next generation networks (NGNs) are evolving to provide IoT services based on existing technologies. Due to economic and technical challenges, it is rare to implement completely new technologies. As existing technologies are evolving respectively and independently, the existing identification scheme for each technology will be used continually.

There may be two options for the creation of a future IoT identifier. One is the evolution from existing identifiers, and the other is the creation of a new identifier. Given that information and communication technologies are typically developed with the guarantee of interoperability using existing technologies, a future IoT identifier looks likely to evolve from existing identifiers.

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