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SERIES Y: GLOBAL INFORMATION
INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS
AND NEXT-GENERATION NETWORKS

Next Generation Networks – Frameworks and functional
architecture models

Functional requirements and architecture of the next generation network for support of ubiquitous sensor network applications and services

Recommendation ITU-T Y.2026



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Recommendation ITU-T Y.2026

Functional requirements and architecture of the next generation network for support of ubiquitous sensor network applications and services

Summary

Recommendation ITU-T Y.2026 includes functional requirements and architecture of the next generation network (NGN) for the support of ubiquitous sensor network (USN) applications and services. This Recommendation is based on the capabilities defined in Recommendation ITU-T Y.2221.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T Y.2026	2012-07-29	13

Keywords

Frameworks, functional architecture, sensor(s), sensor network(s), USN.

FOREWORD

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Recommendation ITU-T Y.2026

Functional requirements and architecture of the next generation network for support of ubiquitous sensor network applications and services

1 Scope

This Recommendation, which is based on [ITU-T Y.2012], covers extended features of the next generation network (NGN) for the support of ubiquitous sensor network (USN) applications and services. This Recommendation describes functional requirements, a functional architecture and functional entities in order to support the NGN service requirements and capabilities defined in [ITU-T Y.2221].

This Recommendation covers:

- Functional requirements and functions to support the NGN capabilities defined in [ITU-T Y.2221]
- A functional architecture and entities of the NGN to support USN applications and services

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T Y.2012] Recommendation ITU-T Y.2012 (2010), *Functional requirements and architecture of next generation networks*.
- [ITU-T Y.2221] Recommendation ITU-T Y.2221 (2010), *Requirements for support of ubiquitous sensor network (USN) applications and services in the NGN environment*.
- [ITU-T Y.2701] Recommendation ITU-T Y.2701 (2007), *Security requirements for NGN release 1*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

- 3.1.1 sensor** [ITU-T Y.2221]: An electronic device that senses a physical condition or chemical compound and delivers an electronic signal proportional to the observed characteristic.
- 3.1.2 sensor network** [ITU-T Y.2221]: A network comprised of interconnected sensor nodes exchanging sensed data by wired or wireless communication.
- 3.1.3 sensor node** [ITU-T Y.2221]: A device consisting of sensor(s) and optional actuator(s) with capabilities of sensed data processing and networking.

3.1.4 ubiquitous sensor network (USN) [ITU-T Y.2221]: A conceptual network built over existing physical networks which makes use of sensed data and provides knowledge services to anyone, anywhere and at anytime, and where the information is generated by using context awareness.

3.1.5 USN end-user [ITU-T Y.2221]: An entity that uses the sensed data provided by USN applications and services. This end-user may be a system or a human.

3.1.6 USN gateway [ITU-T Y.2221]: A node which interconnects sensor networks with other networks.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ABG-FE	Access Border Gateway Functional Entity
AN-FE	Access Node Functional Entity
ASF&SSF	Application Support Functions and Service Support Functions
AS-FE	Application Support Functional Entity
CAF	Charging and Accounting Functions
EN-FE	Edge Node Functional Entity
IP	Internet Protocol
MLM-FE	Mobile Location Management Functional Entity
MMCF	Mobility Management and Control Functions
NACF	Network Attachment Control Functions
NAC-FE	Network Access Configuration Functional Entity
NGN	Next Generation Network
OSE	Open Service Environment
QoS	Quality of Service
RACF	Resource and Admission Control Functions
SAA-FE	Service Authentication and Authorization Functional Entity
SC&CDF	Service Control and Content Delivery Functions
SCF	Service Control Functions
SCP-FE	Service and Content Protection Functional Entity
SUP-FE	Service User Profile Functional Entity
TAA-FE	Transport Authentication and Authorization Functional Entity
TLM-FE	Transport Location Management Functional Entity
TRC-FE	Transport Resource Control Functional Entity
TUP-FE	Transport User Profile Functional Entity
USN	Ubiquitous Sensor Network