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Future networks

Architecture of ICN-enabled Edge Network in IMT-2020

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Draft Recommendation ITU-T Y.3076 (formerly Y.ICN-edge)

Architecture of ICN-enabled Edge Network in IMT-2020

Summary

This Recommendation specifies the requirements and architecture about ICN-enabled edge network in IMT-2020. 1) From the service and network operation point of view, it discusses detailed requirements of ICN-enabled Edge network in IMT-2020. 2) It provides architecture of ICN-enabled edge network. 3) It describes the key functions and interfaces to satisfy the requirements of ICN-enabled edge network.

Keywords

IMT-2020; Information Centric Networking; ICN; ICN-enabled Edge Network; Edge Data Network; Mobile/Multi-Access Edge Computing; MEC

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Draft Recommendation ITU-T Y.3076 (formerly Y.ICN-edge)

Architecture of ICN-enabled Edge Network in IMT-2020

1. Scope

This Recommendation describes requirements, architecture, and key functions of ICN-enabled edge network in IMT-2020, to meet the high and ultra-performances of enhanced mobile broadband (eMBB) based services, massive machine type communications (mMTC) based services and ultra-reliable low latency communications (uRLLC) based services in IMT-2020.

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; all 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.3101] Recommendation ITU-T Y.3101 (2018), “*Requirements of IMT-2020 network*”.

[ITU-T Y.3102] Recommendation ITU-T Y.3102 (2018), *Framework of the IMT-2020 network*.

[ITU-T Y.3104] Recommendation ITU-T Y.3104 (2018), *Architecture of the IMT-2020 network*.

3. Definitions

3.1. Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

- 3.1.1. **address** [b-ITU-T Y.2091]: An address is the identifier for a specific termination point and it can be used for routing to this termination point.
- 3.1.2. **control plane** [b-ITU-T Y.2011]: The set of functions that controls the operation of entities in the stratum or layer under consideration, plus the functions required to support this control.
- 3.1.3. **data plane** [b-ITU-T Y.2011]: The set of functions used to transfer data in the stratum or layer under consideration.
- 3.1.4. **identifier** [b-ITU-T Y.2091]: An identifier is a series of digits, characters and symbols or any other form of data used to identify subscriber(s), user(s), network element(s), function(s), network entity(ies) providing services/applications, or other entities.
- 3.1.5. **identifier/locator separation** [b-ITU-T Y.2015]: Identifier/locator separation is decoupling the semantic of IP address into the semantics of node identifiers and locators. Distinct namespaces are used for node identifiers and locators so that they can evolve independently. Locators are associated with the IP layer whereas node identifiers are associated with upper layers in such a way that ongoing communication sessions or services shall not be broken by changing locators due to mobility and multihoming.