

Recommendation

ITU-T Y.3212 (09/2024)

SERIES Y: Global information infrastructure, Internet protocol aspects, next-generation networks, Internet of Things and smart cities

Future networks

**Fixed, mobile and satellite convergence –
Requirements for supporting high-altitude
platforms for IMT-2020 networks and beyond**

Global information infrastructure, Internet protocol aspects, next-generation networks, Internet of Things and smart cities

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Recommendation ITU-T Y.3212

Fixed, mobile and satellite convergence – Requirements for supporting high-altitude platforms for IMT-2020 networks and beyond

Summary

A high-altitude platform (HAP) is located on an object at an operational altitude of 18 to 50 kilometres and provides network functions of access network, control plane, user plane, and application services. The HAP can provide communication services to end users cooperating with fixed, mobile and satellite convergence (FMSC), which is the capability that provides services and applications to end users regardless of the fixed, mobile or satellite access technologies being used. Recommendation ITU-T Y.3212 specifies the requirements of supporting HAPs for FMSC for IMT-2020 networks and beyond, focusing on scenarios, requirements, and security considerations.

History *

Edition	Recommendation	Approval	Study Group	Unique ID
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FMSC, HAP, IMT-2020, satellite network.

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In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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Recommendation ITU-T Y.3212

Fixed, mobile and satellite convergence – Requirements for supporting high-altitude platforms for IMT-2020 networks and beyond

1 Scope

This Recommendation specifies the requirements of supporting high-altitude platforms (HAPs) in fixed, mobile and satellite convergence (FMSC) networks for IMT-2020 and beyond. HAPs can cooperate with fixed, mobile and satellite networks to provide communication services to end users.

This Recommendation addresses the following aspects of supporting HAPs in FMSC networks:

- Scenarios of supporting HAPs in FMSC networks.
- Requirements of supporting HAPs in FMSC networks. The requirements include access selection, on-demand/tailored network, mobility management and computing services.
- Security considerations of supporting HAPs in FMSC networks.

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.3101] Recommendation ITU-T Y.3101 (2018), *Requirements of the IMT-2020 network*.
- [ITU-T Y.3102] Recommendation ITU-T Y.3102 (2018), *Framework of the IMT-2020 network*.
- [ITU-T Y.3200] Recommendation ITU-T Y.3200 (2022), *Fixed, mobile and satellite convergence – Requirements for IMT-2020 networks and beyond*.
- [ITU-T Y.3201] Recommendation ITU-T Y.3201 (2023), *Fixed, mobile and satellite convergence – Framework for IMT-2020 networks and beyond*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 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.

3.1.2 data plane [b-ITU-T Y.2011]: The set of functions used to transfer data in the stratum or layer under consideration.

3.1.3 fixed, mobile and satellite convergence [ITU-T Y.3200]: The capabilities that provide services and applications to end users regardless of the fixed, mobile or satellite access technologies being used and independently of the users' location.

3.1.4 IMT-2020 [b-ITU-T Y.3100]: Systems, system components, and related technologies that provide far more enhanced capabilities than those described in [b-ITU-R M.1645].