

Recommendation **ITU-T F.746.14 (12/2022)**

SERIES F: Non-telephone telecommunication services

Multimedia services

Requirements and reference framework for cloud virtual reality systems

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Requirements and reference framework for cloud virtual reality systems

Summary

Cloud virtual reality based on cloud capabilities, can effectively shield terminal differences, reduce the difficulty of application development, lower some specific industry entry barriers, and promote the industry business chain cooperation.

Recommendation ITU-T F.746.14 focuses on the overall requirements of cloud virtual reality systems and the related requirements of each layer including content requirements, network requirements, control requirements, resource requirements and terminal requirements, as well as the reference framework for related high-level functions.

History

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Cloud virtual reality, reference framework, requirements, virtual reality.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

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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Requirements and reference framework for cloud virtual reality systems

1 Scope

This Recommendation specifies the requirements and reference framework for cloud virtual reality systems.

The scope of this Recommendation includes:

- 1) overview of cloud virtual reality systems;
- 2) reference framework for cloud virtual reality systems;
- 3) requirements for cloud virtual reality systems.

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 J.1631] Recommendation ITU-T J.1631 (2021), *Functional requirements of E2E network platforms to enhance the delivery of cloud-VR services over integrated broadband cable networks*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 degree of freedom (DoF) [b-ITU-T G.1035]: Represents the ways an object can move within a space, which is a key element in helping create an immersive environment for a user.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 operations latency: The time it takes for the entire process from the terminal issuing a control command to the application content responding to the operation request and completing output.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

2D	Two Dimensions
3D	Three Dimensions
3I	Immersion, Interaction and Imagination
API	Application Programming Interface
ARM	Application Resource Manager