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Part 27: Media and architectures for render-based systems and applications

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Partie 27: Médias et architectures pour les systèmes et applications basés sur le rendu graphique

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Foreword

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Introduction

This document reports on the current state of the art impacting support of emerging immersive displays and other applications that generally rely on 3D-model renderers to ingest and render media according to the specific capabilities of the display or 3D applications. The technologies in this report serve as motivation for the development of standards to support emerging immersive displays and other applications where the primary media format is based on 3D formats.

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Information technology — Coded representation of immersive media —

Part 27: Media and architectures for render-based systems and applications

1 Scope

This document provides context, motivation and use case descriptions for a set of Moving Picture Experts Group (MPEG) standards that collectively deliver media directly to render-based applications such as game engines with a renderer component, or standalone renderers. Emerging examples where such applications are especially relevant include metaverse applications and immersive displays where such displays provide an interface to renderers.

This document:

— describes the motivators leading to the development of new MPEG standards that facilitate the streaming of media to render-based applications;

— differentiates between visual media distributed for video-based applications and visual media distributed to render-based applications;

— provides an overview of a media workflow from content production to content distribution;

— provides general information on relevant components of render-based systems including game engines and renderers

— identifies key components and resources (compute, storage, or network) comprising a heterogeneous set of immersive displays and other render-based applications;

— and documents use cases for end-to-end interoperability, including audio, video, graphics and systems aspects for render-based systems and applications.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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