# ISO/IEC 23090-32:2025-08 (E)

## Information technology - Coded representation of immersive media - Part 32: Carriage of haptics data

## Contents

Page


Foreword ..... v

1 Scope ..... 1

2 Normative references ..... 1

3 Terms,definitions,andabbreviatedterms ..... 1
3.1 Terms and definitions ..... 1
3.2 Abbreviated terms ..... 3

4 Overview ..... 3
4.1 General ..... 3
4.2 Haptic media ..... 3
4.2.1 Structure of haptic media ..... 3
4.2.2 MIHS streams ..... 3
4.2.3 Temporal units and MIHS samples ..... 4
4.3 Synchronization with other media ..... 5
4.4 Summary of referenceable code points ..... 5
4.4.1 Brands ..... 5
4.4.2 Sample entry types ..... 5
4.4.3 Box types ..... 6
4.4.4 Track reference types ..... 6
4.4.5 Entity grouping types ..... 7
4.4.6 Sample grouping types ..... 7

5 Carriage of haptic coding data ..... 7
5.1 General ..... 7
5.2 MIHS streams and tracks ..... 7
5.2.1 Referencing MIHS band tracks ..... 7
5.2.2 Grouping MIHS band tracks ..... 8
5.2.3 MIHS band entity group ..... 8
5.2.4 MIHS sample entry ..... 9
5.2.5 MIHS band sample entry ..... 9
5.2.6 MIHS configuration box ..... 10
5.2.7 Haptic experience description box ..... 11
5.2.8 Haptic experience description header box ..... 11
5.2.9 Haptic avatar description box ..... 12
5.2.10 Haptic perception description box ..... 13
5.2.11 Haptic perception description header box ..... 13
5.2.12 Haptic reference device description box ..... 15
5.2.13 Haptic channel description box ..... 17
5.2.14 Haptic channel description header box ..... 17
5.2.15 Haptic band description box ..... 19
5.2.16 Sample format ..... 20
5.2.17 Haptics presentation dependency sample group ..... 21
5.2.18 Haptics silent unit sample group ..... 21

6 Encapsulation and Signalling in MPEG-DASH ..... 22
6.1 General ..... 22
6.2 Haptics Media MPD signalling ..... 22
6.3 Basic MIHS track support ..... 22

6.3.1 DASH segment and MPD signalling ..... 22
6.4 Multiple MIHS tracks support ..... 22
6.4.1 Alternative tracks ..... 23
6.4.2 Alternative tracks with different bitrates and/or qualities ..... 23
6.4.3 DASH segment and MPD signalling for bitrate switching ..... 23
6.5 Synchronizing with other media representations ..... 23
6.6 Signalling of Multi-track Haptics Experiences ..... 23
6.6.1 Initialization and Media Segments ..... 24

6.6.2 Bitstream Switching ..... 24
6.7 Haptics experience descriptor ..... 24
6.7.1 The hapticsExperience XML element ..... 25
6.7.2 The hapticsAvatar XML element ..... 26
6.7.3 The hapticsPerception XML element ..... 26
6.7.4 The hapticsChannel XML element ..... 27
6.7.5 The hapticsBandsDescription XML element ..... 27
6.7.6 The hapticsBand XML element ..... 28
6.7.7 The hapticsReferenceDevice XML element ..... 28

Annex A (normative)Fileformattoolsetsandbrands ..... 30

Annex B (normative)MIMEtypesandsub-parameters ..... 35

Annex C (informative) Multiple MIHS tracks and alternate groups ..... 36

Annex D (informative) Player handling of MIHS tracks ..... 37

Annex E (normative) Haptics DASH MPD Schema ..... 38

Annex F (informative) DASH MPD Examples ..... 41