
**Information technology — Coding of
audio-visual objects —**

**Part 4:
Conformance testing**

**AMENDMENT 5: Conformance extensions
for error-resilient simple scalable profile**

*Technologies de l'information — Codage des objets audiovisuels —
Partie 4: Essai de conformité*

*AMENDEMENT 5: Extensions de conformité pour profil «error-resilient
simple scalable»*

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO/IEC 2005

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 5 to ISO/IEC 14496-4:2004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Introduction

In ISO/IEC 14496-2:2004, the bitstream syntax of the Simple Scalable Profile does not allow the use of the error resilience tools. As the enhancement layer can only be decoded if it is received error-free this limits the use of scalable video to error-free communication environments. This would exclude mobile communications, a significant future market for MPEG-4 SSP.

Scalable video can be quite useful in many other applications. For instance, matching different or varying network bandwidths, video multicast to heterogeneous end systems and more importantly, providing different subjective quality of video content to subscribers of a given video service depending on their network tariffs and viewing preferences.

As such a set of bitstreams which should be used for conformance testing of MPEG-4 Error Resilient Simple Scalable Profile is proposed.

Information technology — Coding of audio-visual objects —

Part 4: Conformance testing

AMENDMENT 5: Conformance extensions for error-resilient simple scalable profile

Add the following to 5.5.3.1:

5.5.3.1.36 Test bitstream #L0bGE-1

Specification: This bitstream tests dynamic performance of the decoder. It puts stress on a decoder at Level L0b of the Simple Profile. It has a bitrate close to the maximum allowed at Level L0b. It utilizes extensively the maximum allowed VBV buffer size. The default values are used for the VBV parameters `vbv_buffer_size` and `vbv_occupancy`, as defined in Annex D of ISO/IEC 14496-2 “Video buffering verifier”.

Functional stage: Prediction bandwidth

Add the following subclauses after 5.5.3.3, and change the subclause numbers after those subclauses accordingly:

5.5.3.4 Conformance test conditions for Error Resilient Simple Scalable Profile

For the ERSSP object the following functional tests have to be applied for testing of decoder conformance.

Test Bitstreams

5.5.3.4.1 Test bitstream #A6-GE13

Specification: Temporal scalability with P-VOP in the enhancement layer. Base layer is CIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 24000 bits. The enhancement layer is CIF, 10 FPS, P frames only, quantizer value is 8, and resync marker is every 24000 bits. Total number of frames is 295.

Functional stage: temporal scalability with P-VOP

5.5.3.4.2 Test bitstream #A6-GE14

Specification: Temporal scalability with P-VOP in the enhancement layer and data partitioning. Base layer is CIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 24000 bits. The enhancement layer is CIF, 10 FPS, P frames only, quantizer value is 8, and resync marker is every 24000 bits. Total number of frames is 295.

Functional stage: temporal scalability with P-VOP and data partitioning

5.5.3.4.3 Test bitstream #A6-GE15

Specification: Temporal scalability with B-VOP in the enhancement layer. Base layer is CIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 17000 bits. The enhancement layer is CIF, 10 FPS, P frames only, quantizer value is 8, and resync marker is every 10000 bits. Total number of frames is 159 frames.

Functional stage: temporal scalability with B-VOP

5.5.3.4.4 Test bitstream #A6-GE16

Specification: Spatial scalability with P-VOP in the enhancement layer. Base layer is QCIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 500 bits. The enhancement layer is CIF, 10 FPS, P frames only, quantizer value is 8, and resync marker is every 1500 bits. Total number of frames is 60 frames.

Functional stage: spatial scalability with P-VOP

5.5.3.4.5 Test bitstream #A6-GE17

Specification: Spatial scalability with P-VOP in the enhancement layer and data partitioning. Base layer is QCIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 500 bits. The enhancement layer is CIF, 10 FPS, P frames only, quantizer value is 8, and resync marker is every 1500 bits. Total number of frames is 60 frames.

Functional stage: spatial scalability with P-VOP and data partitioning

5.5.3.4.6 Test bitstream #A6-GE18

Specification: Spatial scalability with B-VOP in the enhancement layer. Base layer is QCIF, 10 FPS, 10 P frames between I frames, quantizer value is 8, and resync marker every 500 bits. The enhancement layer is CIF, 10 FPS, B frames only, quantizer value is 8, and resync marker is every 1500 bits. Total number of frames is 60 frames.

Functional stage: spatial scalability with B-VOP

In 5.5.7, add the following Table after Table 10:

Table AMD5-1 — Normative Test Suites for Error Resilient Simple Scalable profile

NOTE Each row represents a single bitstream.

Legend:

S – Bitstream is intended for functional test

D – Bitstream is intended for dynamic test

X – Bitstream is for functional and dynamic test