

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANIZATION INTERNATIONALE DE NORMALISATION
ISO/IEC JTC1/SC29/WG11
CODING OF MOVING PICTURES AND ASSOCIATED AUDIO

ISO/IEC JTC1/SC29/WG11
MPEG92/
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Source : Sakae Okubo, Chairman of REQUIREMENTS sub-group
Title : Summary of Functionality Proposals
Purpose: Discussion

Proposal	fast for.	fast rev.	random access	compati- bility	low delay mode	scala- bility	bit error resil.	cell loss resil.	others
AT&T	rsI	rsI	rsI	MPEG1,ss					
Aware 1	rsI	rsI	rsI						
Aware 2	<01>	<01>	<02>	sw		<03>			
Bellcore	rsI	<04>	rsI		<05>			conceal	<06>
VADIS-2	rsI	rsI	rsI	MPEG1,sc	M=1				
NTA	rsI	rsI	rsI	sc	<05>				
BT	<07>	<07>	rsI	MPEG1,e		e		CLP	norm rev
CCETT	rsI	rsI			<08>				<09>
GCT			rsI	ss?					
HHI	rsI	rsI	rsI	sc/sw	IP,<08>	<10>			
Hit-Fuj	rsI	rsI	rsI	MPEG1,e		e			
IBM	rsI	rsI	rsI	MPEG1,e		<11>			
JVC		rsI	<12>	MPEG1,ss?	<13>			<14>	<15>
KDD	rsI	<16>	rsI	sw					
LEP-PTT	rsI	rsI	rsI	e <17>	<18>	e		CLP	
Matsushita	rsI	rsI	rsI	ss,sc				<19>	
MIT	<20>	<20>	rsI			<21>			
Mitsubishi	rsI	rsI	rsI	MPEG1,ss	IP,<08>				
NEC	rsI	rsI	rsI						
NHK	rsI	rsI	rsI	sw	IP				
TCE-PCE	rsI	<22>	rsI	<23>	IP,<08>			<24>	<25>
RTT	rsI	rsI	rsI		IP,<08>			<26>	
Sharp	rsI	rsI	rsI	sw					
Sony	rsI	rsI	rsI	<27>					
TCSF-LER						subband			
Toshiba	rsI	rsI	rsI	sw					
UCL	rsI	rsI	rsI	sw,sc	IP			<26>	
Waseda	rsI	rsI	rsI	MPEG1,e		<28>		CLP	
Columbia	rsI	rsI	rsI	ss		<29>		CLP	
EPFL	rsI	rsI	rsI	<30>		<31>			

CLP Cell Loss Priority
e embedded, hence 4 to 1 scalable in resolution
rsI regularly spaced I-pictures
sc simulcast
ss superset,
sw switchable

Notes

- <01> temporal subband composition
- <02> Entry points are the frames of Lt temporal subband.
- <03> A partial reconstruction of the input video by skipping the appropriate spatial-temporal bands
- <04> DC-picture mode from MPEG1 could also be used.
- <05> Small value of M; INTRA slices instead of INTRA pictures.
- <06> gradual build-up for delayed access or channel-hopping
- <07> fast decoding of MPEG1 pictures
- <08> reduction of the buffer size
- <09> 4:2:2 image extracted from interlaced HDTV by using the same technique as in the proposal is demonstrated.
- <10> HDTV, TV and LQTV in different window-size by subband splitting
- <11> scalable in resolution and bit-stream by using 1x1, 2x2, 4x4 and 8x8 DCT sizes
- <12> frequent use of "C" pictures
- <13> small value of M
- <14> concealment, leaky prediction
- <15> normal reverse; quicker reproduction for channel hopping
- <16> only even fields of I-pictures may be used for fast play
- <17> MPEG1 compatibility; H.261 compatibility is possible
- <18> field based coding, no use of B-pictures
- <19> non-recursive data structure such as absolute MBA, insertion of Address Information at the head of each cell, CLP, concealment
- <20> use of spatio-temporal subbands
- <21> spatio-temporal resolution scalability; bitstream scalable
- <22> use of one field only to avoid motion artifacts
- <23> MPEG1 ss, thus upward and forward compatible; sc for downward and backward compatibility
- <24> packetization, high/low priority, concealment
- <25> fifth generation of multiple encoding
- <26> bi-directional correction
- <27> MPEG1 forward compatible if MPGL VLC tables are used
- <28> 4 spatial resolutions are scalable
- <29> "continuous" scalability?
- <30> forward and backward compatibility between two different levels of resolution is possible
- <31> partial decoding of the bitstream for a lower resolution decoding is possible