

Title: Proposal on Multimedia Communication Classifications

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Source: Break-out Group on MM Classification

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Re: Skeleton of draft new recommendation J.OVQ (ITU-T SG9)

The ITU-T SG 9 and SG 12 Joint Rapporteur's Group on subjective and objective methods for the assessment of audio-visual quality (including television and multimedia applications) is currently preparing a plan to evaluate objective measures of video quality. Members of T1A1.5 have had useful consultations with IEEE Sub-Committee G-2.1.6 of the Broadcast Technology Society on support for these new studies. Working Group T1A1.5 focused its discussion on Multimedia Communication applications. T1A1.5 discussed alternative attributes (other than channel bit rate) that help define the operational conditions typical of, and comprising the conditions under which candidate measurements would be evaluated. The experts in T1A1.5 therefore suggest the following table giving the results of their discussion, as a starting point for the ITU-T work-in-progress.

Class of Operation	Spatial Format	Coding Algorithm <sup>1</sup>	Delivered Frame Rate	Latency/Delay Vari.	Channel Impairment <sup>2</sup>	(Nominal Bit Rate)
Broadcast			Max FR		Low Impairment	
1			Infrequent			
2			(occasional)			
3			frame drops			
MM 4	R601	H.262	(15-) 30 fps	Delay=const var≈0	with/without	
MM 4	CIF	H.263	~30 fps	Delay=const var≈0	with/without	
MM 5	CIF		10-30 fps	Del ≈400ms var ≥ 100ms	with/without	
MM 5	QCIF		1-15 fps	Del ≈ var ≥ 200ms	with/without	
MM 5	Sub-QCIF	H.263	1-10 fps 10-30 fps	Del ≈ var ≥	with/without	
MM 6	16CIF	H.263		> 1 sec	with/without	

Note 1: Proprietary coding algorithms are also possible. If used, they shall provide performance at least as good as the specified standard algorithm.

Note 2: Channel impairments will be expressed in terms of fraction of packets/cells lost, or an appropriate bit error specification.

MM 4 All frames encoded. Low Artifacts. Usually ≥ 30 fps.

MM 5 Frames May be Dropped at Encoder. Perceptual artifacts possible, but useful for designed tasks.

MM 6 Series of Stills. Not Intended to provide full motion. (Examples: Surveillance, Graphics)