

**INTERNATIONAL ORGANISATION FOR STANDARDISATION
ORGANISATION INTERNATIONALE DE NORMALISATION
ISO/IEC JTC1/SC29/WG11
CODING OF MOVING PICTURES AND AUDIO**

**ISO/IEC JTC1/SC29/WG11 MPEG2018/M43546
July 2018, Ljubljana, SI**

Source: DMAG-UPC
Status: Proposal
Title: MPEG-G: Dependencies between Part 1 elements – Use in Part 3 API operations
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Part 3 of MPEG-G includes an API (clause 9) with a set of operations to read and manipulate MPEG-G data.

When working in the refinement of the specification and in the development of related software, a concern appears on that the description of certain operations might left out certain actions to perform on the data, thus creating errors in the file (as specified in part 1). For example, in case of adding a dataset, not only the *gen_info* structure must be introduced, but also the dataset id must be registered in the dataset group header.

In order to help us to produce a more understandable text for Part 3 and to avoid the mentioned problem, we have developed the dependencies "map" we are attaching.

Although the main goal of the map is to determine the constraints to be observed when defining the API operations and their parameters, it also helps as a sanity check for Part 1. For example, by observing the map we can see that we have a dependency of one element to itself. In particular, "parameter set" depends on "parameter set". As this is a dependency of one "instance" on another, it is acceptable, so it is not a mistake.

Similarly, we see two structures depending on one another (between them) in the case of the dataset group's and dataset's header. This is by design to be able to reuse the same structures both in file and transport mode. Therefore, again, this is not a mistake.

We are attaching the map in two formats. First, in an excel format, representing the mapping as an adjacency matrix, to be read as a cell indicating a dependency from the row to the column. Second, as a directed graph, based on the table. SEE ATTACHMENTS.

	a:Dataset Group	a:Dataset Group Header	a:Dataset Group Metadata	a:Dataset Group Protection	a:Label List	b:Reference	b:Reference Metadata	b:Sequence	c:Dataset	c:Dataset Header	c:Dataset Metadata	c:Dataset Protection	c:Dataset Parameter Set	d:Access Unit	d:Access Unit Header	d:Descriptor Stream List	e:Label	f:Descriptor Stream	f:Descriptor Stream Header	f:Descriptor Stream Protection	g:Block	h:Master Index Table	i:Dataset Mapping Table List	m:Dataset Mapping Table	n:Packet
a:Dataset Group																									
a:Dataset Group Header						DG ID, External Dataset Group ID	DG ID			Dataset Group ID															
a:Dataset Group Metadata																									
a:Dataset Group Protection																									
a:Label List	DG ID																								
b:Reference	Reference ID						Reference ID	Seq ID		Reference ID															
b:Reference Metadata																									
b:Sequence							Seq ID																		
c:Dataset																									
c:Dataset Header	Dataset ID					Dataset ID, External Dataset ID								MIT flag								MIT flag			
c:Dataset Metadata																									
c:Dataset Protection																									
c:Dataset Parameter Set													Parent ID								Parameter Set ID				
d:Access Unit																									
d:Access Unit Header						Ref Sequence ID				AU ID												AU ID			
d:Descriptor Stream List																									
e:Label	Label ID									DT ID															
f:Descriptor Stream																									
f:Descriptor Stream Header																Descriptor Stream						Class ID			
f:Descriptor Stream Protection																									
g:Block						Descriptor ID																Block Byte Offset			
h:Master Index Table										Num Descriptors, Num U Access Units					AU Start Position, AU Start Position, AU Start Position, Ref Start Position, Ref Start Position, U Cluster Signature							Num U Access Units			
i:Dataset Mapping Table List	DG ID																								
m:Dataset Mapping Table										DT ID													Dataset Mapping Table SID		Data SID
n:Packet																		Data SID							