

m55321

Conditional signalling of planar buffer disabled flag

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■ Problem statement

- **planar_buffer_disabled_flag** is signalled when Angular mode is enabled and Octree is used.
- It is signalled whether Planar mode is enabled or not.

■ Proposal

- **planar_buffer_disabled_flag** is signalled only when both Angular mode and Planar mode are enabled.
- Planar mode is inferred as disabled when Octree is not used (i.e. Predictive coding is used).

- **planar_buffer_disabled_flag** is signalled in GPS when Angular mode is enabled and Octree is used.
- It is signalled whether Planar mode is enabled or not.

geometry_parameter_set() {	Descriptor
...	
if(geom_tree_type == 0) {	
...	
geometry_planar_enabled_flag	u(1)
...	
}	
geometry_angular_enabled_flag	u(1)
if(geometry_angular_enabled_flag){	
if(geom_tree_type == 1) {	
geom_angular_azimuth_scale_log2	ue(v)
geom_angular_azimuth_step	ue(v)
geom_angular_radius_scale_log2	ue(v)
}	
...	
if(geom_tree_type = 0)	u(1)
planar_buffer_disabled_flag	u(1)
}	
...	
}	

- **planar_buffer_disabled_flag** is signalled only when both Angular mode and Planar mode are enabled.
 - **geometry_planar_enabled_flag** is signalled only when Octree is used.
 - When **geometry_planar_enabled_flag** is not signalled, it is inferred to be 0 (next slide).

geometry_parameter_set() {	Descriptor
...	
if(geom_tree_type == 0) {	
...	
geometry_planar_enabled_flag	u(1)
...	
}	
geometry_angular_enabled_flag	u(1)
if(geometry_angular_enabled_flag){	
if(geom_tree_type == 1) {	
geom_angular_azimuth_scale_log2	ue(v)
geom_angular_azimuth_step	ue(v)
geom_angular_radius_scale_log2	ue(v)
}	
...	
if(geom_tree_type == 0 geometry_planar_enabled_flag)	u(1)
planar_buffer_disabled_flag	u(1)
}	
...	
}	

■ Planar mode is inferred as disabled when Octree is not used (i.e. Predictive coding is used).

- Additionally, when `planar_buffer_disabled_flag` is inferred to be 1 (disabled).

7.4.2.5 Geometry parameter set semantics

`geometry_planar_enabled_flag` equal to 1 indicates that the planar coding mode is activated. `geometry_planar_enabled_flag` equal to 0 indicates that the planar coding mode is not activated. When not present, `geometry_planar_enabled_flag` is inferred to be 0.

`planar_buffer_disabled_flag` equal to 1 indicates that tracking the closest nodes using a buffer is not used in process of coding the planar mode flag and the plane position in the planar mode. `planar_buffer_disabled_flag` equal to 0 indicates that tracking the closest nodes using a buffer is used. When not present, `planar_buffer_disabled_flag` is inferred to be 0~~1~~.

- The following condition can be simplified. Because “`planar_buffer_disabled_flag` is equal to 1” means that “Planar is enabled and buffer is disabled” or “Planar is disabled”.

8.2.4.2 Buffer tracking the closest nodes along an axis

[Ed: this needs further rewording/reworking. covers definition and update process]

The arrays `PlanarPrevPos`, `PlanarPlaneOffset`, `IsPlanarNode` record information about previously decoded geometry tree nodes for use in the determination of `ctxIdx` for the syntax element `plane_position`. When ~~either `geometry_planar_enabled_flag` is equal to 0 or~~ `planar_buffer_disabled_flag` is equal to 1, the arrays are not used by the decoding process.

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■ It is recommended that the proposal is adopted to the next draft.