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commitbec1bea2fa974e63f6059c33edde669c7894d0bc(patch)

tree336d18428756216ea5147800bcb8249606f5383c

parentf9252605b8f350080509d2378c343eb90ce6d18f(diff)

downloadlinux-bec1bea2fa974e63f6059c33edde669c7894d0bc.tar.gz

diff options

context:

3

space:

include

mode:

unified

drm/amd/display: fix shift-out-of-bounds in CalculateVMAndRowBytes

[Upstream commit 031f196d1b1b6d5dfcb0533b431e3ab1750e6189]

[WHY]
When PTEBufferSizeInRequests is zero, UBSAN reports the following warning because dml_log2 returns an unexpected negative value:

shift exponent 4294966273 is too large for 32-bit type 'int'

[HOW]

In the case PTEBufferSizeInRequests is zero, skip the dml_log2() and assign the result directly.

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Diffstat

-rw-r--r-- drivers/gpu/drm/amd/display/dc/dml/dcn30/display_mode_vba_30.c 5

1 files changed, 4 insertions, 1 deletions

```
diff --git a/drivers/gpu/drm/amd/display/dc/dml/dcn30/display_mode_vba_30.c b/drivers/gpu/drm/amd/display/dc/dml/dcn30/display_mode_vba_30.c
index 518672a2450f45..de0fa87b301a5d 100644
--- a/drivers/gpu/drm/amd/display/dc/dml/dcn30/display_mode_vba_30.c
+++ b/drivers/gpu/drm/amd/display/dc/dml/dcn30/display_mode_vba_30.c
@@ -1868,7 +1868,10 @@ static unsigned int CalculateVMAndRowBytes(
     }

     if (SurfaceTiling == dm_sw_linear) {
-        *dppte_row_height = dml_min(128, 1 << (unsigned int) dml_floor(dml_log2(PTEBufferSizeInRequests * *PixelPTEReqWidth / Pitch), 1));
+        if (PTEBufferSizeInRequests == 0)
+            *dppte_row_height = 1;
+        else
+            *dppte_row_height = dml_min(128, 1 << (unsigned int) dml_floor(dml_log2(PTEBufferSizeInRequests * *PixelPTEReqWidth / Pitch), 1));
         *dppte_row_width_ub = (dml_ceil(((double) SwathWidth - 1) / *PixelPTEReqWidth, 1) + 1) * *PixelPTEReqWidth;
         *PixelPTEBytesPerRow = *dppte_row_width_ub / *PixelPTEReqWidth * *PTERequestSize;
     } else if (ScanDirection != dm_vert) {
```