Abstract

This document describes the known errata in the Mali GPU User Interface Engine version 2.3.1.

This is a working document throughout the product lifecycle and, as such, the content may be modified as new information is uncovered.

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1 ABOUT THIS DOCUMENT

1.1 Change Control

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<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Sep-15, 2009</td>
<td>Errata for version 2.2 EAC</td>
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<tr>
<td>2.0</td>
<td>Jan 24, 2010</td>
<td>Errata for version 2.3 EAC</td>
</tr>
<tr>
<td>3.0</td>
<td>June 2, 2010</td>
<td>Errata for version 2.3.1 EAC.</td>
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</table>

1.2 References

This document refers to the following documents.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Document No.</th>
<th>Author(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td></td>
<td>(none)</td>
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</table>

1.3 Scope

This document describes the errata discovered in the implementation of Mali GPU User Interface Engine Tool, categorized by level of severity. Each description includes:

- the conditions under which erroneous behavior occurs
- the implications of the erratum with respect to typical applications
- the application and limitations of a 'work-around' where possible

1.4 Terms and Abbreviations

This document uses the following terms and abbreviations.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Cat</td>
<td>Acronym for Category</td>
</tr>
<tr>
<td>AEL</td>
<td>ARM Embedded Linux</td>
</tr>
</tbody>
</table>
2 CATEGORISATION OF ERRATA

Errata recorded in this document are split into three groups:

Category 1  Features which are impossible to work around and severely restricts the use of the software in all or the majority of applications rendering the software unusable.

Category 2  Features which contravene the specified behavior and may limit or severely impair the intended use of specified features but does not render the software unusable in all or the majority of applications.

Category 3  Features that were not the originally intended behavior but should not cause any problems in applications.

2.1 Errata Summary

The following tables summarize all errata associated with this product.

Mali GPU User Interface Engine Errata Summary

<table>
<thead>
<tr>
<th>ID</th>
<th>Cat</th>
<th>Summary of Erratum</th>
</tr>
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<tbody>
<tr>
<td>6678</td>
<td>Cat 3</td>
<td>Example 11_dataset_optimization does not work</td>
</tr>
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<td>9777</td>
<td>Cat 3</td>
<td>Compressed texture assets must contain all mipmap levels</td>
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<tr>
<td>9800</td>
<td>Cat 3</td>
<td>Lotion lightshow walls wrong on ATI</td>
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<td>9867</td>
<td>Cat 3</td>
<td>UI Engine unit tests for error handling fail in release builds</td>
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<tr>
<td>9873</td>
<td>Cat 3</td>
<td>Wireframes not displayed in lightshow applet of LotionUI demo</td>
</tr>
</tbody>
</table>
3 CATEGORY 1 ERRATA

No Category 1 errata exist.
4 CATEGORY 2 ERRATA

No Category 2 errata exist.
5 CATEGORY 3 ERRATA

6678: Example 11_dataset_optimization does not work

Status
Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: All

Description
The example runs with out any apparent error messages but gives no visual output.

Implications
There will be no visual rendering on the display.

Workaround
No workaround exists currently

9777: Compressed texture assets must contain all mipmap levels

Status
Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: AEL

Description
The User Interface Engine does not generate missing mipmap levels for compressed texture assets.

Implications
If a compressed texture asset is loaded that includes less mipmap levels than are needed, and then used in an environment that requires mipmap, the texture will be drawn incorrectly.

Workaround
Two workarounds exist:

1. Ensure that compressed textures are loaded with a compressed bitmap for each mipmap level. When building compressed textures using the ARM Mali Texture Compression Tool specify “generate mipmaps” in the compression dialog box.

OR

2. Avoid using mipmap for compressed textures by, for example, setting the filter mode to GL_NEAREST.
**9800: Lotion Lightshow Walls wrong on ATI**

**Status**

Affects: Mali GPU User Interface Engine  
Fault status: Cat 3, Present in: 2.3  
Platforms Affected: Windows and Linux desktops with ATI graphics cards.

**Description**

When the lightshow applet of the Lotion UI is run on a desktop system with an ATI graphics card large diagonal arrows are drawn on some of the surfaces, in place of the expected textures. This has been seen on both an ATI Mobility FireGL V5700 with Windows XP driver version 8.633.0.0, and an ATI Radion HD 2600 Pro with Linux (Ubuntu 10.04) driver version 8.723-100406a-099494c-ATI.

**Implications**

When using this combination of software and hardware surfaces with complex shaders may not be drawn correctly.

**Workaround**

No software workarounds currently exist. Using different graphics cards may solve the problem.

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**9867: UI Engine unit tests for error handling fail in release builds.**

**Status**

Affects: Mali GPU User Interface Engine  
Fault status: Cat 3, Present in: 2.3  
Platforms Affected: All

**Description**

When the UI Engine is build with CONFIG=release it does not check the error status resulting from OpenGL ES 2.0 functions calls, and hence does not report errors. This is done to improve performance (checking the error status introduces an extra OpenGL call after each call that could result in an error.). Two of the unit tests, however, test this error reporting, and hence fail under these circumstances.

**Implications**

When the UI Engine is built with the CONFIG=release option unit tests CONTEXT01 and BUFFER01 fail. Other software that depends on the Mali UI Engine checking for OpenGL ES 2.0 errors will also behave incorrectly.

**Workaround**

Build the UI Engine with CONFIG=debug, or define the CPPFLAGS environment variable to  
-DMDE_DEBUG_BUILD  
before building. Either of these options will, however, reduce the performance of the UI Engine.
9873: Wireframes not displayed in lightshow applet of LotionUI demo.

Status
Affects: Mali GPU User Interface Engine
Fault status: Cat 3, Present in: 2.3
Platforms Affected: AEL

Description
On embedded targets when the wireframe button is pressed on in the lightshow applet of the LotionUI demo everything except the light ball disappears from the drawn scene. This option should also display wireframes of the walls and columns in the scene.

Implications
The scene is drawn incorrectly.

Workaround
No workaround exists currently