



OpenGL ES 1.1 Emulator Release Note

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Abstract

This document contains notes relating to the EAC release of the OpenGL ES 1.1 Emulator version 1.0 supplied by ARM.

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General suggestion for additions and improvements are also welcome.

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1 PREFACE

This document contains general release information about the OpenGL ES 1.1 Emulator and covers the following topics:

- Deliverables summary
- Details of external tools required
- Build instructions
- Changes and fixes in this release
- Known issues

Intended Audience

This document is written for developers who wish to use the OpenGL ES 1.1 Emulator to develop and run OpenGL ES 1.1 content on a PC. It assumes the reader is familiar with basic development tools such as MS Visual Studio and GNU GCC/GNU *make*.

References

Ref.	Document Number	Author(s)	Title
[1]	PR389-GENC-009884	ARM Limited	OpenGL ES 1.1 Emulator Errata
[2]	ARM DUI 0506A	ARM Limited	OpenGL ES 1.1 Emulator User Guide

2 GLOSSARY

The following terminology is used in this manual.

TERM	MEANING
RHEL	Red Hat Enterprise Linux
GCC	GNU Compiler Collection

3 PRODUCT DELIVERABLES

3.1 Files

The OpenGL ES 1.1 Emulator deliverables include the following:

Deliverable Part Name	Description
OpenGL_ES_1_1_Emulator_WinXP_v1.0.exe	OpenGL ES 1.1 Emulator Windows Installer
OpenGL_ES_1_1_Emulator_RHEL4_v1.0.tgz	OpenGL ES 1.1 Emulator Linux Installer
OpenGL_ES_1_1_Emulator_User_Guide.pdf	OpenGL ES 1.1 Emulator User Guide
OpenGL_ES_1_1_Emulator_Release_Note.pdf	OpenGL ES 1.1 Emulator Release Note
OpenGL_ES_1_1_Emulator_Errata.pdf	OpenGL ES 1.1 Emulator Errata

Table 1: Deliverables included in OpenGL ES 1.1 Emulator v1.0 EAC release

4 DOCUMENTATION

Documents are supplied as “Adobe PDF” (Portable Document Format) files. These files are readable on most common computer platforms and operating systems using an appropriate file reader. A suitable file reader can be downloaded from the Adobe website at <http://www.adobe.com/>. Select “Acrobat” and download the reader for your computer platform/operating system.

4.1 OpenGL ES 1.1 Emulator Release Note

This document contains general release information about the OpenGL ES 1.1 Emulator version 1.0 product.

4.2 OpenGL ES 1.1 Emulator Errata

This document describes the errata discovered in the OpenGL ES 1.1 Emulator version 1.0 product, categorised by level of severity. Each description includes:

- where the implementation deviates from the specification
- the conditions under which erroneous behaviour occurs
- the implications of the erratum with respect to typical applications
- the application and limitations of a work-around where possible

4.3 OpenGL ES 1.1 Emulator User Guide

This document provides information on how to install and use the OpenGL ES 1.1 Emulator version 1.0 product.

5 REQUIRED TOOLS

The OpenGL ES 1.1 Emulator has been tested on the platforms listed below. ARM recommends these platforms but the OpenGL ES 1.1 Emulator might also work with other graphics cards provided the drivers for the graphics card support OpenGL2.x with appropriate extensions. For a Linux platform, the drivers must also support GLX 1.4. Updating the drivers to the latest available version is a good idea.

5.1 Windows platform

- x86 PC with Microsoft® Windows XP™ Professional Service Pack 2
- Nvidia GeForce 8400 GS graphics card with driver version 6.14.11.7519
- ATI Radeon X300/X550/X1050 graphics card with driver version 8.522.0.0

5.2 Linux platform

- x86 PC with Red Hat Enterprise Linux release 4, revision 2.6.9-55.ELsmp
- Nvidia GeForce 8400 GS graphics card with driver version 180.44

ARM recommends RHEL 4 but the OpenGL ES 1.1 Emulator might also work with other flavors of Linux.

5.3 Tools Requirements

5.3.1 Windows platform

In order to build OpenGL ES 1.1 applications for Windows using the OpenGL ES 1.1 Emulator, the following tool is recommended:

- Microsoft Visual Studio 2005

5.3.2 Linux platform

In order to build OpenGL ES 1.1 applications for Linux using the OpenGL ES 1.1 Emulator, the following tools are recommended:

- GCC version 3.4.6
- GNU *make*

The build system for the example application is designed to work with GNU *make*. It has been run and tested on a Linux platform with GNU *make* 3.80. Versions equal to or greater than this should work correctly.

6 INSTALLATION

6.1 Installation Procedure

6.1.1 Windows Installer

Download the Windows installer for OpenGL ES 1.1 Emulator (Part: OpenGL_ES_1_1_Emulator_WinXP_v1.0.exe). Refer to *OpenGL ES 1.1 Emulator User Guide* [2] for installation instructions.

6.1.2 Linux Installer

Download the Linux installer for OpenGL ES 1.1 Emulator (Part: OpenGL_ES_1_1_Emulator_RHEL4_v1.0.tgz). Relocate the downloaded *.tgz bundle to an appropriate location. Unpack the bundle using the following command:

```
# tar -zxvf <download_name>.tgz
```

Note GNU `tar` version 1.16 or later should be used to *untar* the deliverables as many versions of `tar` have problems dealing with very long path names. To find the version of `tar` being used type `tar --version`.

The unpacked directory would be

ARM/Mali_Developer_Tools/OpenGL_ES_1_1_Emulator_RHEL4_v1.0

It contains the following directories:

`bin`

This directory contains the OpenGL ES 1.1 Emulator libraries.

`examples`

This directory contains two example applications that use the OpenGL ES 1.1 Emulator.

`include`

This directory is a placeholder for Khronos header files.

Refer to *OpenGL ES 1.1 Emulator User Guide* [2] for installation instructions.

7 BUILDING

This is a binary release. Build instructions for the example applications are documented in *OpenGL ES 1.1 Emulator User Guide* [2].

8 TESTING

The OpenGL ES 1.1 Emulator has been tested using the Khronos OpenGL ES 1.1 Conformance Tests. The conformance tests pass with some limited failures due to dependence on system components outside of the OpenGL ES 1.1 Emulator product.

Note: The ETC Compressed Texture support is not fully tested.

9 DIFFERENCES FROM PREVIOUS RELEASE

- This is the first release for both OpenGL ES 1.1 Emulator Windows and Linux versions.

10 KNOWN ISSUES AND LIMITATIONS

Issues related to this release are documented in *OpenGL ES 1.1 Emulator Errata* [1] (see section 4.2).

Please contact malidevelopers@arm.com regarding any issues with the installation and content of this release.

11 GLEE GL EASY EXTENSION LIBRARY

The OpenGL ES 1.1 Emulator, Windows version, makes use of GLEE. The notice below is reproduced in accordance with the redistribution conditions of GLEE in binary form.

GLee

GL Easy Extension Library

Version 5.21

By Ben Woodhouse

<http://elf-stone.com>

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