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ADM-XRC Gen 3 SDK 1.5.0 Patch 1 Release Note

Introduction

This Release Note describes the "ADM-XRC Gen 3 SDK 1.5.0 Patch 1 (ADM-XRC-7K1 Production Silicon)".

> **Note**
> In order to support production silicon Kintex-7 devices found on the latest ADM-XRC-7K1 XMC boards, the
> ADM-XRC Gen 3 SDK 1.5.0 requires this patch.

This patch consists of a collection of files that overwrite those found in the ADM-XRC Gen 3 SDK 1.5.0, which only supports Initial Engineering Silicon Kintex-7 devices.

Supported operating systems

This SDK supports the following operating systems:

- Windows NT-based operating systems beginning with Windows 2000. Both 32-bit and 64-bit editions are supported.
- Linux distributions running a 2.6.x or 3.x.y kernel.

Beginning with release 1.2.0, this SDK includes header files and example code for VxWorks. For VxWorks development, it is assumed that a host / development machine is available that runs one of the above operating systems.

Supported Alpha Data hardware

The example applications and HDL code in this patch support the following models in Alpha Data's range of reconfigurable computing hardware:

- ADM-XRC-7K1 with 7K325T Production Silicon or 7K410T Production Silicon

Supported Silicon Revisions

Unpatched, the ADM-XRC Gen 3 SDK 1.5.0 only has support for Kintex-7 Initial Engineering Silicon.

After this patch is applied, the ADM-XRC Gen SDK 1.5.0 will only support Kintex-7 Production Silicon.

Differences

Notable differences between the unpatched ADM-XRC Gen 3 SDK 1.5.0 SDK and the patched version are described in the following sections.

Kintex-7 FPGA Development

This section supersedes section 5.2.2 of the SDK user guide.

In this patched version of the SDK, for Kintex-7 FPGAs, Production Silicon is supported. These devices are marked with a blank SCD code, whereas devices with Initial Engineering Silicon are marked with the SCD code "ES9937".

Xilinx ISE 14.2 or later is recommended. No patches are required.

Bitstream Building Using Xilinx ISE

Information in this section supersedes Kintex-7 information contained in section 5.4 of the SDK user guide.

Kintex-7 Series Models

Xilinx ISE version 14.2 is recommended for rebuilding the Kintex-7 bitstreams for the example FPGA designs in this SDK.

Bitstream Design Bitstreams Using PlanAhead

Information in this section supersedes Kintex-7 information contained in section 5.4.2 of the SDK user guide.

Kintex-7 Series Models

Xilinx ISE version 14.2 is recommended for rebuilding the Kintex-7 bitstreams for the example FPGA designs in this SDK.

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DDR3 SDRAM MIG Cores

Information in this section supersedes Kintex-7 information contained in section 6.5.1 of the SDK user guide.

MIG Version	ISE Versions
MIG7 v1.6	ISE 14.2.

Table 1 : DDR3 SDRAM MIG Core And ISE Version Compatibility

Note
This version of the SDK uses MIG7 v1.6 DDR3 SDRAM MIG cores for Kintex-7 model simulation and synthesis.

The files for each supported core version are generated using a different TCL generation script. Table 2 lists the scripts available:

MIG Version	Generation Script
MIG7 v1.6	%ADMXRC3_SDK%/hdl/vhdl/common/ddr3_sdram_if/gen_ddr3_if_mig7_v1_6.tcl

Table 2 : DDR3 SDRAM MIG core generation scripts

Examples are as follows:

To generate MIG7 v1.6 HDL files for an ADM-XRC-7K1 using Windows, start a shell and issue the following commands:

```
cd /d %ADMXRC3_SDK%\hdl\vhdl\common\ddr3_sdram_if
xtclsh gen_ddr3_if_mig7_v1_6.tcl admxrc7k1
```

To generate MIG7 v1.6 HDL files for an ADM-XRC-7K1 using Linux, start a shell and issue the following commands:

```
cd $ADMXRC3_SDK/hdl/vhdl/common/ddr3_sdram_if
xtclsh ./gen_ddr3_if_mig7_v1_6.tcl admxrc7k1
```

Xilinx documentation is included with the generated Xilinx DDR3 SDRAM MIG core. For example, after generation of the MIG7 v1.6 core for ADM-XRC-7K1 models, its documentation can be found in **hdl/vhdl/common/ddr3_sdram_if/admxrc7k1/mig6_v1_6/mig_temp/mig_v1_6/docs/**.

Similarly its VHDL source files can be found in **hdl/vhdl/common/ddr3_sdram_if/admxrc7k1/mig6_v1_6/rtl/mig_v1_6/**.

Note
The TCL script is run using the Xilinx customized TCL distribution TCL shell xtclsh. The path to this shell must be defined for successful script execution.

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Installation

Installation in Windows

The ADM-XRC Gen 3 SDK 1.5.0 should be installed before applying the patch.

The **admxrcg3-sdk-win32-1.5.0_patch1.zip** file should be extracted over the top level of the existing SDK.

The user should allow existing files to be overwritten when prompted.

Installation in Linux

The ADM-XRC Gen 3 SDK 1.5.0 should be installed before applying the patch.

The **admxrcg3-sdk-linux-1.5.0_patch1.tar.gz** file should be extracted over the top level of the existing SDK. For example, if the ADM-XRC Gen 3 SDK for Linux had previously been installed so that its top level directory is **/opt/admxrcg3sdk-1.5.0**, use the following commands:

```
$ cd /opt
$ tar xzf path/to/../admxrcg3-sdk-linux-1.5.0_patch1.tar.gz
```

Revision History

Date	Revision	Nature of Change
4 April 2013	1.0	Initial version

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