CrossCore® Embedded Studio 1.0.0.1 Patch Release Note

CrossCore® Embedded Studio version 1.0.0.1 is a patch release for CrossCore® Embedded Studio 1.0.0. It addresses ADSP-BF60x silicon anomaly 16-00-0030 where if a core MMR register read instruction is interrupted and the core MMR register has read side effects, data, such as status flags or FIFO values, could be lost. Shutting off interrupts before these core MMR reads will prevent the anomaly from occuring. This release patches the services and drivers that perform these core MMR reads.

Please note that this patch release is specific to CrossCore® Embedded Studio version 1.0.0 and will not work for any other version.

Other Issues Addressed

Patch release 1.0.0.1 also addresses the following issues.

TAR-48756: Memory required by the SPORT and Linkport driver is insufficient in RTOS environment.

> Most device drivers require the application to pass a buffer to the driver when the driver is opened. The size of the buffer is specified in the driver header file. In the case of the SPORT and LinkPort drivers the specified size in the CCES 1.0.0 release is too small. This patch release includes a fix for this issue.

TAR-49037: Line buffering needs to be enabled when redirecting STDIN via the STDIO service

> The STDIO service has been patched such that the STDIN is now placed into line buffering mode when STDIN is redirected to USB.

The SPI driver in CCES 1.0.0 incorrectly loads the Tx and Rx Word Count registers when configured for 16/32 bit transfers. When loading these two registers with 8 bit transfers, the SPI functions correctly. This patch fixes the issue when 16/32bit transfers are used.

Patch Utility Invocation

It is recommended that CrossCore® Embedded Studio is closed prior to applying the patch.

The patch utility will check for CrossCore® Embedded Studio v.1.0.0. If this version is not detected an error message will be generated and the patch utility will exit.

The patch utility will overwrite existing files. A backup is not created by the patch utility. If a patched file has been modified and you wish to preserve the changes made you will need to create a backup of the file before applying the patch.

After the patch has been applied you will see "version 1.0.0.1" in the CrossCore® Embedded Studio splash screen each time it is started. You will also be able to see 1.0.0.1 in the CrossCore® Embedded Studio "About" page.

Uninstalling the patch will remove the patch from the installation database, but it will not remove the patched files.

There is no patch installation log generated by default. If you encounter patch installation issues, please contact technical support.

List of patched files

The following file is new and will be added

    %CCES_INSTALL%\blackfin\include\sys\16000030.h

The following files will be modified

    %CCES_INSTALL%\blackfin\include\sys\anomaly_macros_rtl.h

    %CCES_INSTALL%\blackfin\include\drivers\linkport\adi_linkport_bf6xx.h
    %CCES_INSTALL%\blackfin\include\drivers\sport\adi_sport_bf6xx.h

    %CCES_INSTALL%\blackfin\src\drivers\uart\adi_uart_bf60x.c
    %CCES_INSTALL%\blackfin\src\drivers\twi\adi_twi.c
    %CCES_INSTALL%\blackfin\src\drivers\linkport\adi_linkport_bf6xx.c
    %CCES_INSTALL%\blackfin\src\drivers\sport\adi_sport_bf6xx.c
    %CCES_INSTALL%\blackfin\src\drivers\spi\adi_spi_bf6xx.c
    %CCES_INSTALL%\blackfin\src\drivers\spi\adi_spi_data_bf6xx.c

    %CCES_INSTALL%\blackfin\src\services\stdio\adi_stdio.c

    %CCES_INSTALL%\blackfin\include\drivers\usb\controller\device\musbmhdrc\adi_usbd_dev_musbmhdrc.h
    %CCES_INSTALL%\blackfin\src\drivers\usb\controller\device\musbmhdrc\adi_usbd_dev_musbmhdrc.c
    %CCES_INSTALL%\blackfin\src\drivers\usb\controller\device\musbmhdrc\adi_usbd_dev_musbmhdrc_intrpt.c
    %CCES_INSTALL%\blackfin\src\drivers\usb\controller\device\musbmhdrc\adi_usbd_dev_musbmhdrc_local.h
    %CCES_INSTALL%\blackfin\src\drivers\usb\controller\device\musbmhdrc\adi_usbd_dev_musbmhdrc_state.c

%CCES_INSTALL%\blackfin\lib\bf609_rev_any\debug\libdrv.dlb
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Support and Assistance

Submit your questions online at:

http://www.analog.com/support

E-mail your Processor and DSP software and development tools questions from within CrossCore Embedded Studio:

processor.tools.support@analog.com

E-mail your Processors and DSP applications and processor questions to:

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  - processor.support@analog.com OR
  - processor.china@analog.com (Greater China support)

Post your questions in the Processors and DSP online technical support community in Engineer Zone at:

http://ez.analog.com/community/dsp