Documentation

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DAT Resources at SLAC

- JIRA Issue Tracking Project DAT

Software Design Documents

- Dynamic Linker
  1. Module preparation
  2. Requirements
  3. Target API
- Protocol Plug-Ins

Hardware Design Documents

- Cluster Element Module, an I/O System On Chip
- PGP (Pretty Good Protocol)
- Register Command and Data Interface

Useful text notes for Gen0 hardware

- PIC Space Consumption
- PIC Exceptions and Faults
- Physical Layout of Lanes/FMCs/Chips on a Gen0 RCE Board
- Some Gen0 RCE Board Power Measurements
- Multifunction Display Info

Hardware User Documents

- LSST RTB/RCM V1.2 Installation Guide
- LSST COB RTM Installation Guide

External, Third party Documentation

RTEMS

- Wiki
- Manuals
- bugzilla
- Startup

PowerPC ABI & EABI

ABI = Application Binary Interface. The set of rules to be followed in machine code, e.g., how to pass function arguments, alignment requirements, how registers are to be used, etc.

EABI = Embedded ABI. Amended rules for embedded processors. The code generated by GCC for the PPC405 and PPC440 conforms to the EABI.

- UNIX SYSTEM V ABI, PowerPC Supplement
- PowerPC EABI
- PPC EABI notes
- Itanium C++ ABI. The ABIs above were written with C in mind. This ABI, though intended for a different processor, is a widely used model for C++ implementations including that of GCC on PowerPC.

PowerPC 405 & 440 Embedded Cores

- PowerPC 405-S Embedded Processor Core User's Manual
- PPC440x5 CPU Core User's Manual

Xilinx Virtex 4 & Virtex 5

- PowerPC Processor Reference Guide (PPC 405)
- PowerPC 405 Processor Block Reference Guide
- Virtex-4 PowerPC 405 - Errata for all Virtex-4 FX Devices
- Virtex-5 FPGA User Guide
- Virtex-5 FPGA System Monitor User Guide
- Embedded Processor Block in Virtex-5 FPGAs Reference Guide
- Virtex-5 TXT and FXT FPGA Production Errata
- PPC440G5V4 Errata

Xilinx tool suite:

- In Windows:
    - Fire up a Xilinx bash shell
        - Can find it in the Start menu -> Xilinx
        - C:\Xilinx\12.4\ISE_DS\EDK\bin\nt64\xbash.exe
- xmd to connect to JTAG and load code
- There is a gcc, etc.

Debugging with XMD commands:

- xapp1117

TLBs

- Architecture-Dependent Memory Initialization (Linux)
- Perhaps something: http://www.freescale.com/files/training_pdf/26111_PQIII_EDINK_WBT.pdf
- http://www.linux-kvm.org/wiki/images/8/8d/KvmForum2008$kdf2008_13.pdf
- http://read.pudn.com/downloads114/.../embed/.../ppc/mmu440Lib.h__.htm
- https://www.power.org/devcon/07/Session_Downloads/PADC07_Gibbs_Embedded_MMU.pdf
- 440 Errata: http://www.xilinx.com/support/answers/30529.htm
- http://www.kozio.com/view_files/Kozio_TN_PPC405toPPC440.pdf
- Worth a read: http://www.ibm.com/chips/techlib/techlib.nsf/techdocs/852569B20050FF77852569970063431C/$file/440_wp.pdf
- https://www-01.ibm.com/chips/techlib/techlib.nsf/techdocs/C41DE8664DCCFAA787256B2600799BF7/$file/440_Programming_Model.pdf
- Code: http://www.mcs.anl.gov/~kazutomo/ion24codepieces/head_440.S
- Linux: http://kernel.org/doc/ols/2003/ols2003-pages-340-350.pdf

PowerPC 405 and 440 Memory Mapping (VxWorks)

GNU build tools

- GCC
- as
- ld
- binutils

Subversion

- Our repository
- Main Subversion site
- Version Control with Subversion

Talks and Presentations

Our set of talks and presentations has been moved here.