

Documentation

Contents:

- [DAT Resources at SLAC](#)
 - [Software Design Documents](#)
 - [Hardware Design Documents](#)
 - [Useful text notes for Gen0 hardware](#)
 - [Hardware User Documents](#)
 - [External, Third party Documentation](#)
 - [RTEMS](#)
 - [PowerPC ABI & EABI](#)
 - [PowerPC 405 & 440 Embedded Cores](#)
 - [Xilinx Virtex 4 & Virtex 5](#)
 - [Xilinx tool suite:](#)
 - [Debugging with XMD commands:](#)
 - [TLBs](#)
 - [PowerPC 405 and 440 Memory Mapping \(VxWorks\)](#)
 - [GNU build tools](#)
 - [Subversion](#)
 - [Talks and Presentations](#)
-

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\\$kd2008_13.pdf](http://www.linux-kvm.org/wiki/images/8/8d/KvmForum2008$kd2008_13.pdf)
- http://read.pudn.com/downloads114/.../embed/.../ppc/mmu440Lib.h__htm
- https://www.power.org/devcon/07/Session_Downloads/PADC07_Gibbs_Embedded_MMU.pdf
- 440 Errata: <http://www.xilinx.com/support/answers/30529.htm>
- http://www.kozio.com/view_files/Kozio_TN_PPC405toPPC440.pdf
- Worth a read: [http://www.ibm.com/chips/techlib/techlib.nsf/techdocs/852569B20050FF77852569970063431C/\\$file/440_wp.pdf](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](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](#).