The OpenVME Project

OpenVME

OpenVME

Introducing the Open VMEbus Project

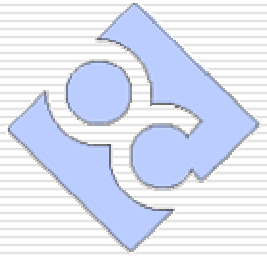
An Open Community VMEbus IP development program consisting of three linked initiatives:

- OVCI - Modular Synthesizable Core HDL for VMEbus functions
- OVDI - Software Source Code for Unified Driver Development
- OVTI - A Unified Test and Development Platform

OVCI – Open VME Core Initiative

Define *initial* VHDL building blocks for *contemporary* VMEbus functions. Expand functions over time.

- Slave transfer: VME-to-WishBone
  - A16/A24/A32, D08/D16/D32 Cycles
  - 2eSST (parameterized)
- Master transfer: WishBone-to-VME
  - A16/A24/A32, D08/D16/D32 Cycles
  - 2eSST (parameterized)
- System Controller
- Interrupter
- Interrupt Handler
- License Under OpenCores.org (GPL-Based Model)



OpenVME

OVDI – Open VME Driver Initiative

Define, develop, and test low-level, OS-independent driver source code for VMEbus OVCI functions.

- Leverage Open Source GNU Development Tools
- Layer on Open Source Operating Systems
  - Linux™ General Purpose OS
  - eCOS™ Hard Real Time OS
  - Others (?)
- Test Across Multiple Architectures
  - PowerPC
  - MIPS
  - x86
  - Others (?)
- Licensed Under GNU GPL

OVTI – Open VME Test Initiative

A capable and flexible hardware/software IP development platform for test, verification, & deployment

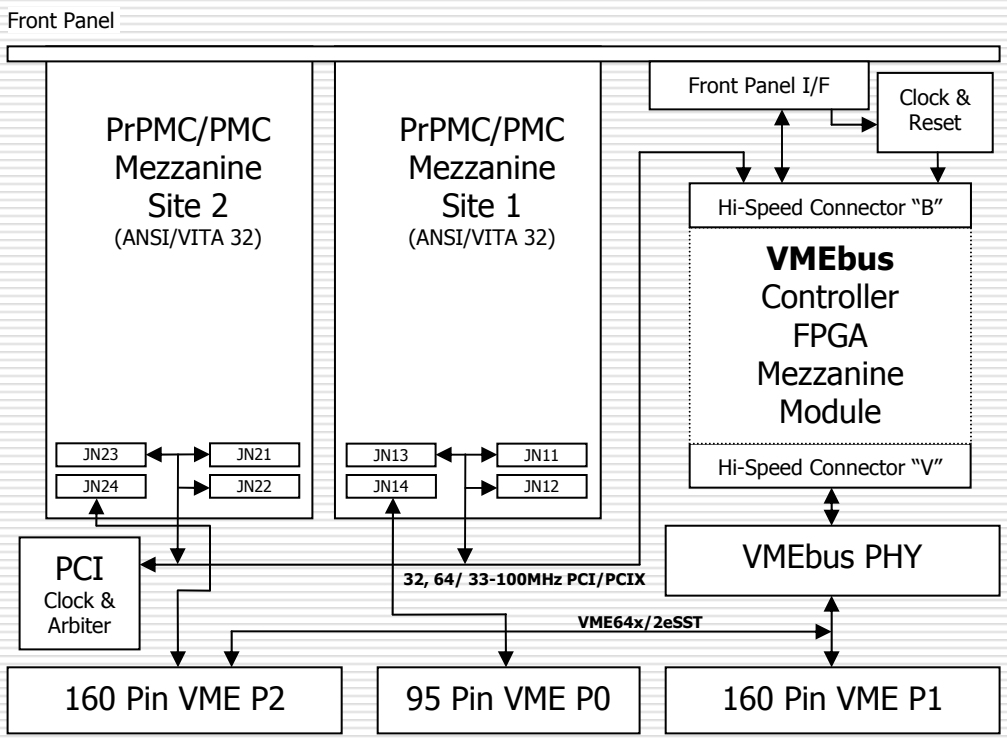
- VME Standards-Based Development Platform (VDP)
  - ANSI/VITA 1.1: VME64x Compliant, 160-pin P1,P2
  - VITA 1.5: 2eSST Capable Logic
  - ANSI/VITA 32: Dual PMC/PrPMC Sites
  - VITA 35: PMC-P4 I/O Mapping to P0 & P2
- Design Files Available *Free* from OpenVME.org
  - Schematic in OrCad™ Format
  - Bill-of-Materials in Excel™ Spreadsheet
  - Printed Circuit Design Files in Mentor PowerPCB™ Format
  - Fabrication Files in Gerber Format
  - Technical Documentation in Microsoft® Word™
  - Mechanicals in AutoCAD® Format
- Assembled/Tested Product Available from OpenVME.org
- Full Rights Granted to Modify, Reproduce, or Manufacture

OpenVME

VDP Development Platform Features

- 6Ux4HP VME Form Factor
- Plug-In VME Controller Module Site (FPGA Independent)
  - Altera EP1C20F400CS Cyclone™ FPGA Based Module
    - High Density & Low Cost
    - Quartus® II Web Edition Available *Free*
    - JTAG & Serial EEPROM Re-programmable
  - QuickLogic QL5064 QuickPCI™ FPGA Based Module
    - 64-bit/66MHz PCI Built-In w/Programmable Fabric
    - QuickWorks™ Development Suite Available *Free*
  - Other FPGA Modules Possible and Desired
- On Board Electrically Compliant VMEbus PHY
  - TI SN74VMEH22501 Transceiver ICs
  - System Controller Capable
- On-Board Agilent-Compatible Probe Connectors
  - Access to ALL VMEbus Signals
  - Access to Local PCI Signals
  - Access to User-Defined Signals

VDP Development Platform



VDP – Block Diagram

Get Involved!

Companies, groups, and individuals may freely contribute to the OpenVME Project at several levels.

- Corporate Sponsor (Logo/Link on OpenVME.org)
  - Donate Resources
  - Donate Labor
  - Donate Funds
  - Sponsor Development
- Individual Sponsor (Recognition on OpenVME.org)
  - Definition
  - Project Management
  - Documentation
- Individual Contributor (In-Project Recognition)
  - Develop and Contribute
  - Review, Test, Verify

OpenVME.org

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