vWorkshop Preparation

Version 2.0

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Macnica Americas

Welcome to Macnica's vWorkshop training program. We want you to get the most out of the training and the Helio development board.   To do so, you will need to download and install tools prior to class time.   Below is an outline that shows what tools are need for each class. You need not install everything at once, but you may if you wish.

We have several helper documents.

The first document is an introduction to th Helio development board and is also intended to help you with downloads and installations: vWorkshops_Getting_Started.pdf

The second document is to help you set up a Virtual Machine for running Linux on a Windows PC: Creating_CentOS_VM.pdf

All Altera software can be downloaded from the Altera Download Center:
https://www.altera.com/download

To be prepared for the hands-on portion of the **Altera SoC Introduction** vWorkshop, you will need:
- Macnica Helio SoC Evaluation board with micro-USB cable
- Quartus II v13.1 (recommended, web or subscription edition) or stand-alone device programmer
- WinZip or 7-zip for Windows (used to untar and unzip files)
- Win32 Disk Imager for Windows (writes Linux image/binary files to microSD)
- Windows drivers for the SiLabs USB to UART device
- Windows Terminal Program (for Helio board UART interface)

To be prepared for the **Basic Altera SoC HPS Usage** vWorkshop lab, you will need:
- Macnica Helio SoC Evaluation board with micro-USB cable
- Quartus II v13.1 (web or subscription edition)
- microSD card loaded with Helio image as documented in vWorkshops_Getting Started_v2p0.pdf

To be prepared for the **Adding and Simulating Custom SoC Peripherals** vWorkshop lab, you will need:
- Macnica Helio SoC Evaluation board with micro-USB cable
- Quartus II v13.1 (web or subscription edition)
- ModelSim-ASE 10.1d (included in Quartus 13.1 installer)
- microSD card loaded with Helio image as documented in vWorkshops_Getting Started_v2p0.pdf

To be prepared for the Hardware Support for **Graphics Rendering and Video Processing on the Helio *View* Platform** vWorkshop reference design, you will need:
- Macnica Helio SoC Evaluation board with micro-USB cable and *View* LCD module installed
- Quartus II v13.1 (web or subscription edition)
- WinZip or 7-zip for Windows (used to untar and unzip files)
- Win32 Disk Imager for Windows (writes Linux image/binary files to microSD)

To be prepared for the **Altera SoC Power Considerations** vWorkshop demonstrations, you will need:

- Macnica Helio SoC Evaluation board modified as described in Helio_LTPM_board_modifications_v1p0.pdf: https://macnica.box.com/shared/static/fd05j6s0mfa37kk9r0eb.pdf
- LTpowerPlay application: http://www.linear.com/designtools/software/#LTPowerPlay
- LTC DC1613A USB module

To be prepared for the **Altera SoC Embedded Design Suite** vWorkshop lab, you will need:
- Macnica Helio SoC Evaluation board with 2 micro-USB cables and 1 Ethernet cable
- Quartus II v13.1 (recommended, web or subscription edition) or stand-alone device programmer and SignalTap II Logic Analyzer
- SoC EDS v13.1
- ARM DS-5 AE License
- microSD card loaded with Helio Linux kernel v3.9: http://www.rocketboards.org/pub/Documentation/MacnicaHelioSoCEvaluationKit/helio_sdimage_v3.9.tar.gz
- Downloaded Linux kernel v3.9 source for debug: http://git.rocketboards.org/?p=linux-socfpga.git;a=snapshot;h=socfpga-3.9-rel;sf=tgz

To be prepared for the **Build a Linux OS and simple application for the Altera SoC** vWorkshop lab, you will need:
- Macnica Helio SoC Evaluation board with 2 micro-USB cables and 1 Ethernet cable
- Quartus II v13.1 (recommended, web or subscription edition) or stand-alone device programmer
- SoC EDS v13.1 installed on Linux (or Linux virtual machine)
- Terminal Program (for Helio board UART interface)
- Altera's GSRD Yocto Source Package, downloaded but NOT installed/extracted: http://releases.rocketboards.org/release/2013.11/gsrd/src/linux-socfpga-gsrd-13.1-src.bsx

To be prepared for the **Software Support for Graphics Rendering and Video Processing on the Helio *View* Platform** vWorkshop refernce design, you will need:
- Macnica Helio SoC Evaluation board with 2 micro-USB cables and *View* LCD module installed
- Quartus II v13.1 (web or subscription edition)
- SoC EDS v13.1
- Terminal Program (for Helio board UART interface)
- SoC FPGA Quartus design files: https://macnica.box.com/shared/static/n6fioswebm5b8x7xzlr6.zip
- Macnica Linux BSP package: https://macnica.box.com/shared/static/z5mu0v2yzzatmrro1ha5.gz

If you have any questions, please contact us at workshophelp@macnica.com.

Thank you for attending the Macnica vWorkshops.