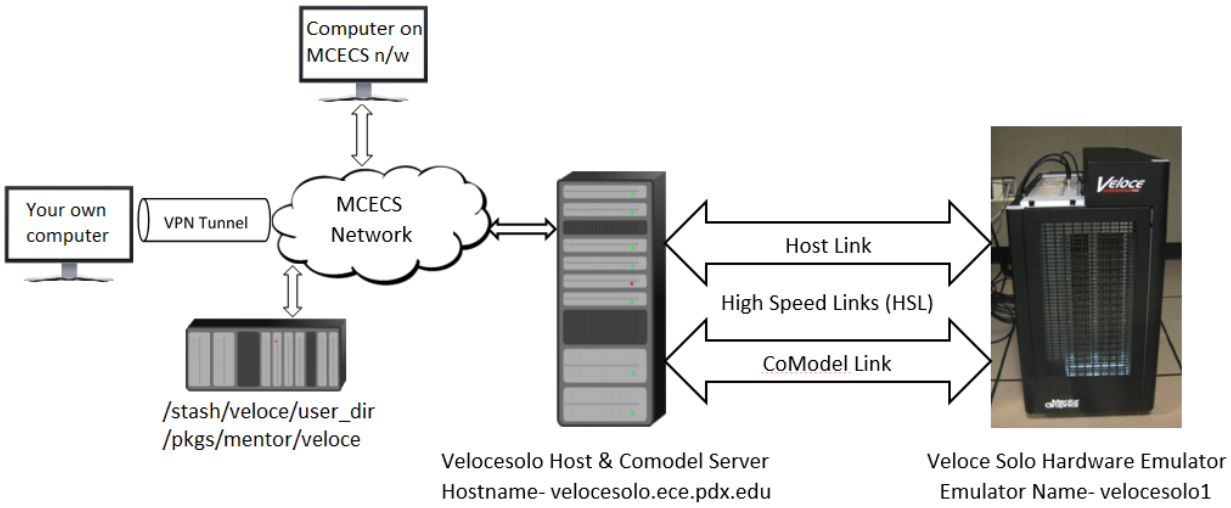
Setup and Usage Instructions
for
Mentor Graphics Veloce Solo at PSU
Updated for RHEL 6.4 and VeloceOS 3 - April 2015

Global Prerequisites

i. You have been authorized by your course instructor to access veloce resources
ii. You are either on the MCECS network or on VPN of MCECS from your own computer

Velocesolo Connection Diagram



Section 1 : Connecting to Velocesolo server

The Veloce server hostname is – velocesolo.ece.pdx.edu

You must be on MCECS network in order to access Veloce resources either physically or through VPN. The following table describes the way you can connect to the veloce based on your platform and location.

No	Your Platform	VPN Required ?	Veloce Host Access Method
1	MCECS Windows Machine (e.g. Intel Lab)	No	Use “Putty” and connect to host-velocesolo.ece.pdx.edu (Default port 22)
2	Your own Windows Machine	Yes, always (Even when you are on campus connected to PSU Secure)	
3	MCECS Linux/Unix Machine (e.g. VLSI Lab)	No	Open terminal/shell and use-ssh velocesolo.ece.pdx.edu
4	Your own Linux/Unix/Mac	Yes, always (Even when you are on campus connected to PSU Secure)	

You need to enter your MCECS credentials to log in to the velocesolo host server.

Section 2 : Initial Environment Setup

Prerequisites

i. You are connected with appropriate method in “Section 1 : Connecting to velocesolo”
You can see the terminal/shell as – your_username@velocesolo:~$

This setup is required to be done **only once.** This will point your bash environment to the correct install path of tools.

1. Setup your bash_profile by executing following commands-
   echo “source /pkgs/mentor/veloce/env.os3” >> ~/.bash_pofile
   logout

   It is important to logout after adding source command to your bash_profile. After this, every login will source the environment.
2. Connect again with SSH and log in
3. Check if the environment was sourced correctly. Execute the following commands and you should see responses similar to shown below-

   Command- echo $VELOCE_BASE
   Response - /pkgs/mentor/veloce/v3007

   Command- echo $VMW_HOME
   Response - /pkgs/mentor/veloce/v3007/Veloce_v3.0.0.7

   If you get response as above, your environment has now been set. You can now run examples through ssh command line interface.

Section 3 : GUI Access using VNC

Prerequisites –

i. You have completed “Section 2: Initial Setup”

VNC is the most preferred way of accessing GUI on velocesolo host server. In most scenarios, ssh command line access is sufficient to run examples. However, with VNC you get added benefit of keeping your session persistent on the server. This is helpful if you lose connection and would like to restore at the point where you left off.

However, it is important to note that you are responsible to save all your work regularly. VNC sessions that are stale are automatically killed.

The updated RHEL 6.4 configuration requires you to use **secure VNC connection**. CAT provides detailed instructions on setting up and using VNC.

1. If your platform is Windows, follow steps explained in the following CAT tutorial. Make necessary changes to your Putty configuration as shown. The host name is always – velocesolo.ece.pdx.edu
   http://cat.pdx.edu/windows/secure-vnc-from-windows.html

2. If your platform is Linux/Unix, follow steps explained in the following CAT tutorial. The host name is always- velocesolo.ece.pdx.edu
   http://cat.pdx.edu/linux/secure-vnc-in-linux.html

Section 4 : File Transfer to/from velocesolo

Prerequisites: Section 1: Connecting to velocesolo
Your user directory for velocesolo is hosted on the stash space of CAT file servers. There are several ways to access this for file transfer purposes

<table>
<tr><th>No</th><th>Your Platform</th><th>VPN Required ?</th><th>User Directory Access Method</th></tr>
<tr><td>1</td><td>MCECS Windows Machine
(e.g. Intel Lab)</td><td>No</td><td rowspan="2">Open My Computer or Windows Explorer and type the following in address bar-
\\stash\veloce\your_username

You can also create a shortcut pointing above.</td></tr>
<tr><td>2</td><td rowspan="2">Your own Windows Machine</td><td rowspan="2">Yes, always
(Even when you are on campus connected to PSU Secure)</td></tr>
<tr><td></td><td>WinSCP Method
Use WinSCP software and connect to host- velocesolo.ece.pdx.edu with “SFTP” protocol.</td></tr>
<tr><td>3</td><td>MCECS Linux/Unix Machine
(e.g. VLSI Lab)</td><td>No</td><td rowspan="2">The path is -
/stash/veloce/your_username

Use copy, move commands as usual. You can also create a symbolic link to this path.</td></tr>
<tr><td>4</td><td>Your own Linux/Unix/Mac</td><td>Yes, always
(Even when you are on campus connected to PSU Secure)</td></tr>
</table>

Section 5 : Checking velocesolo1 Availability

We have Veloce “Solo” version of the emulator. The solo version allows only one user to connect to the emulator at any point in time. This means that it can run only one project at a time.
Hence you MUST make sure that nobody else is connected to the emulator before you try to connect.
If you do not check and continue to connection, your connection will fail if the emulator is being used by someone.

To check if the emulator is free, execute the following command –
whoison –emul velocesolo1

Response when emulator is free-
Info! [WHOISON-50030]: : No User found connected on the emulator velocesolo1

Response when emulator is busy (someone is using the emulator) –

UserId	UserName	UserHost	Connected Since
46	sghewari	velocesolo.ece.pdx.edu	20 seconds

UserName field shows the name of user connected to the emulator. Connected since shows elapsed connection time.

If the emulator is free, you can continue connecting and running your project.
If it is busy, please wait for a few minutes and run the command again to check if it has now become free.

If you notice that a user is connected for more than 30 minutes (1800 seconds), it is possible that user’s session is stuck. In such case email your course instructor and/or TA and inform about emulator being busy for more than 30 minutes and also report the UserName of connected user.

Section 6 : Using the Emulator Responsibly

As discussed in the previous section, only one user can connect a time. You need to use the emulator responsibly and avoid being connected to the emulator beyond your need.
Note that even for a complex design project, the average emulator run time is in order of couple of minutes. For most of simple projects and homework assignments, the runtime is less than 2 minutes.

In some cases, errors in your project can pause execution but keep you connected to the emulator. You need to make sure that any project that you create has been verified for proper execution in “Puresim” mode. If the project fails to run in Puresim mode, do not attempt to connect to the emulator (“Veloce” mode). Debug and address issues in your project and ensure execution in Puresim before using Veloce mode.
More information on the recommended project flow is provided in the tutorials on resource page.