## Howto add altera libraries (alter\_mf etc.)

## Kent Palmkvist, LiU 191008

## Background

In many cases is the technology library altera\_mf required for simulation. This includes simulation of the PLL module in lab 2 and lab 3. It is also common to have the altera\_mf library added as a default library.

The altera libraries are already compiled and placed at /courses/TSTE12/material/altera\_libraries. There is still missing a mapping to this location in order to make these libraries available to hdl designer.

The precompile libraries are only accessible as precompile read-only libraries. They are only used by the modelsim simulation. The library is added to an existing project as downstream libraries.

## Adding all altera libraries to the hdl designer project

Select Tasks/Templates (on the right edge of the Design Manager window)

Start FPGA Library Compile

In the window labeled "FPGA Technology Setup" set FPGA Vendor to Altera, Family to cyclone iv e, Device to ep4ce115, Package to f29c, Speed to 7, as shown in Figure 1.

Click on Compile/Update.

In the "FPGA Vendor Library Compilation" window select "Create Library Mapping Only". Use the Browse button and set Compiled Vendor Library Path to /courses/TSTE12/material/altera\_libraries. The complete setup is shown in Figure 2. Select Run.

The Downstream Only Libraries in the Project tab of the Design manager should now contain 6 entries (altera, altera\_lnsim, altera\_mf, cycloneive, lpm and sgate).

FPGA	Technology	Setup 🗕 🗙		
- FPGA Flow-				
FPGA Vendor:	altera.			
Family:	cyclone iv e			
Device:	ep4ce115 💌			
Package:	f29c 🔹			
Speed:	7			
- FPGA Libraries				
This can be used to compile the necessary technology files for simulation				
Compile/Update				
	ок	Cancel		

Figure 1: Selection of technology

FPGA Vendor Library C	ompilation	1 _ ×
- Compilation		
Path to ModelSim compiler:		
%task_ModelSimPath Brow	Vse	Variables
Force/Refresh/Overwrite Compiled Lib	aries	
Language: VHDL-93		Y
Additional VHDL options:		
Additional Verilog options:		
-Library Mappings		
📕 Create Library Mapping Only (No Com	pilation)	
Create Library Mapping in Shared Proj	ect	
-Compiled Library Options		
Compiled Vendor Library Path:		
/courses/TSTE12/material/altera_libraries		Browse
	Run	Cancel

Figure 2: Setup to add only a reference to the libraries