October 08th 2015

HOW TO: Assign a MIF file to Memory

This document is an addendum to the book : "A Route to Chaos Using FPGAs. Volume I : Experimental Observations". We will assume that you either have a copy of the book or are familiar with the reference designs associated with the book:

http://www.harpgroup.org/muthuswamy/ARouteToChaosUsingFPGAs/ARouteToChaosUsingFPGAs.html

The idea is very simple: you have to explicitly tell the MegaWizard ROM megafunction where the .MIF (memory initialization file) is on your system. Obviously, the path information would change from system to system, depending on where each user unzips the reference design.

Step 1: Start Quartus.
Step 2:   Open project. For illustration purposes, we will use the De2ChaoticDDEs reference design from the book's website above.
Step 3: Goto Tools→MegaWizard Plug-In Manager (figure 1).
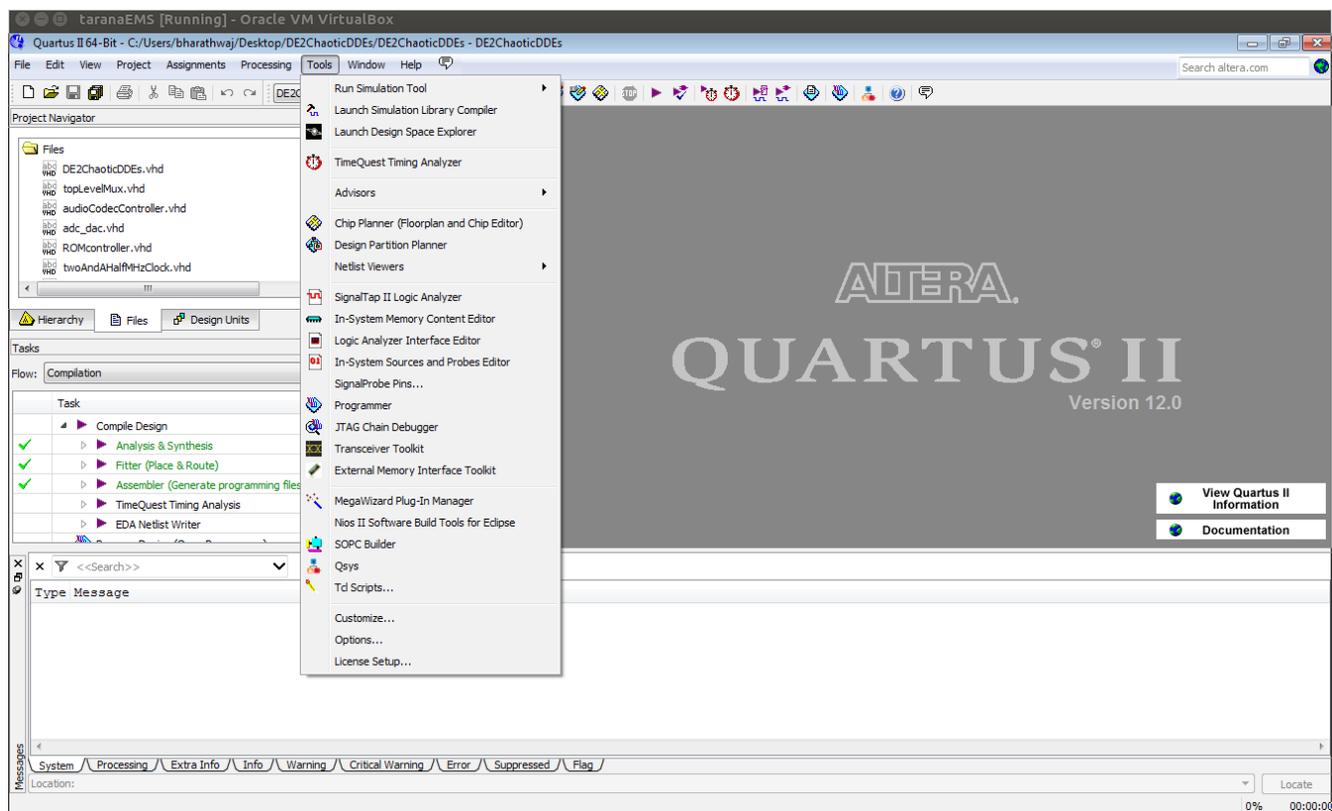
Figure 1. Starting the MegaWizard Plug-In Manager

Step 4: Choose "Edit an existing custom megafunction variation" (figure 2).
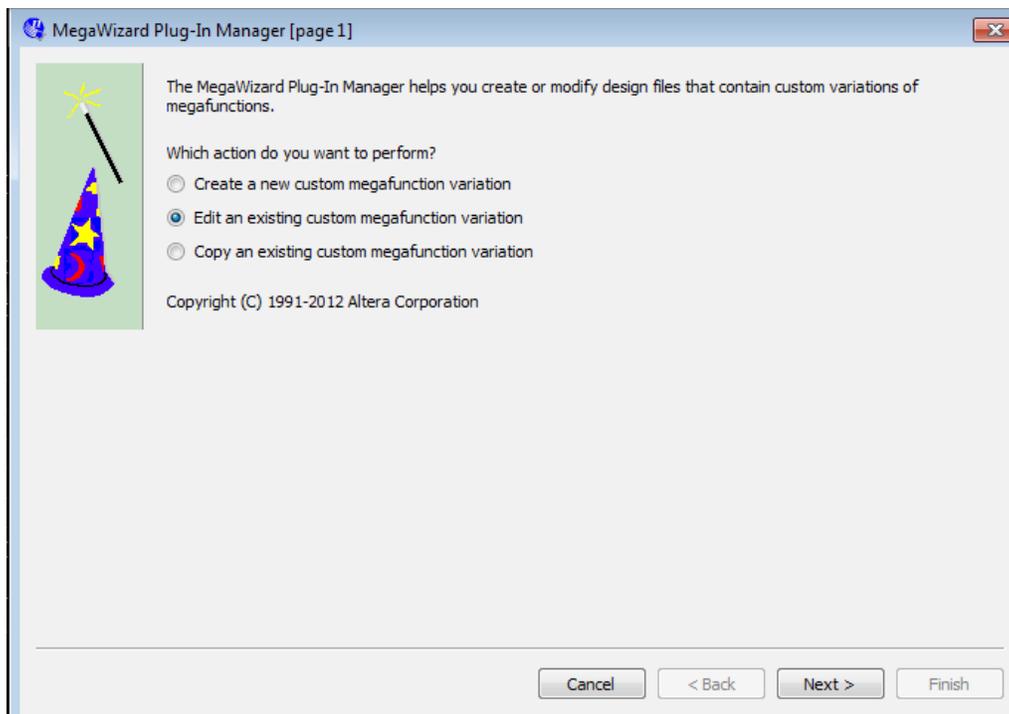
Figure 2. Edit the already existing codecROM.vhd

Step 5: Choose codecROM.vhd (figure 3).
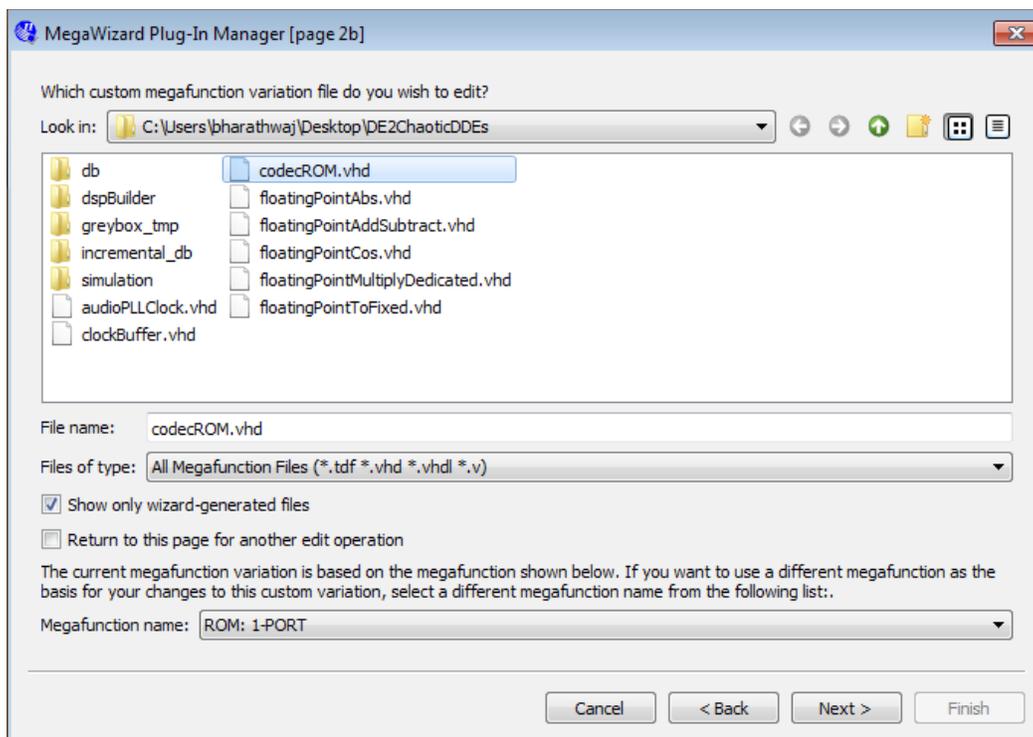
Figure 3. Select codecROM.vhd

Step 6: Keep clicking next till you get to the Mem Init screen (figure 4).
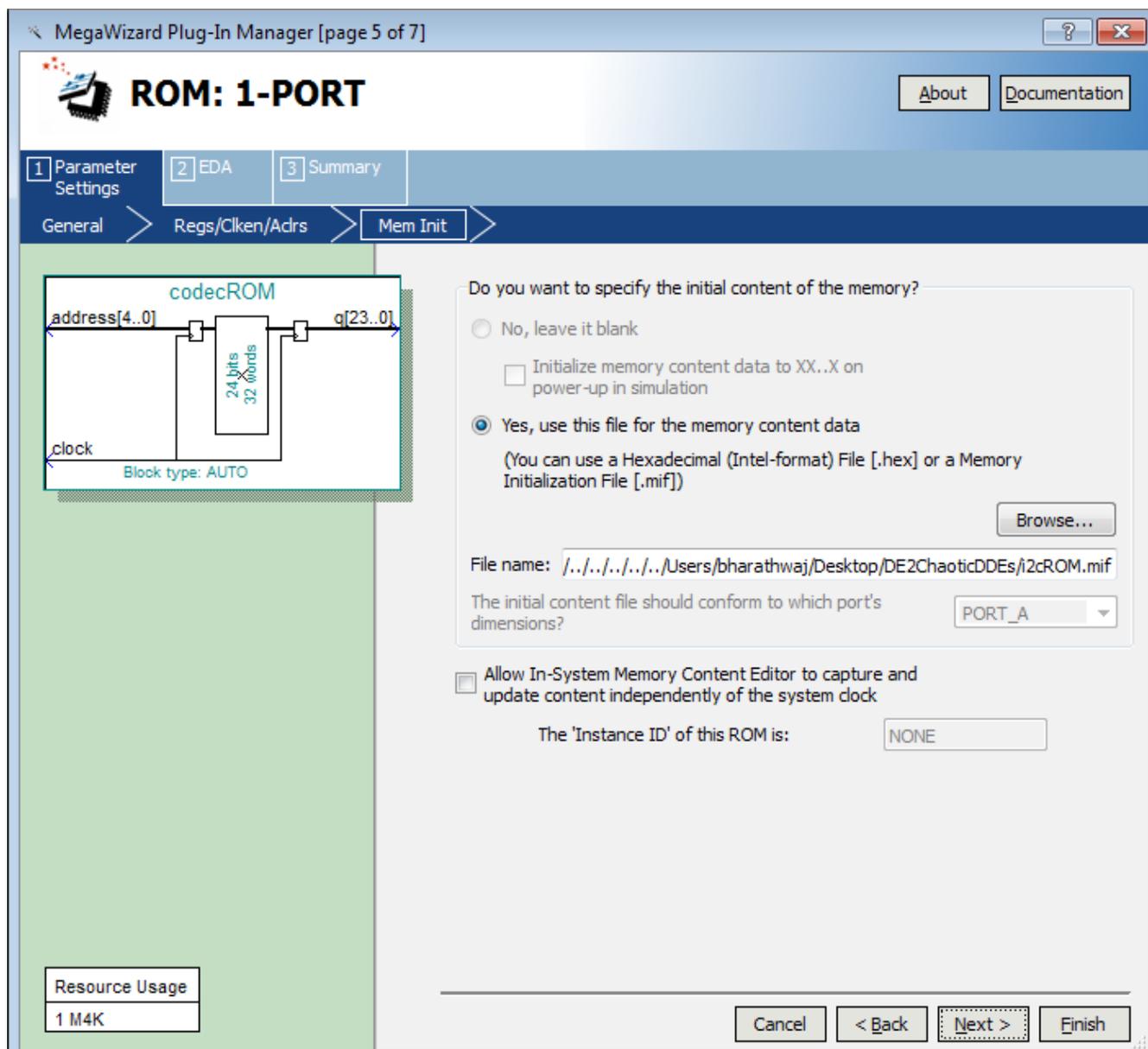
Figure 4. Go to the "Mem init" screen

Notice how the "File name:" text box points to the .MIF file on Dr. Muthuswamy's system. Simply click "Browse" and go to the DE2ChaotiCDDes directory on your system to find the .MIF file (figure 5). Make sure the dropdown "Files of type" shows "MIF Files (*.mif)".
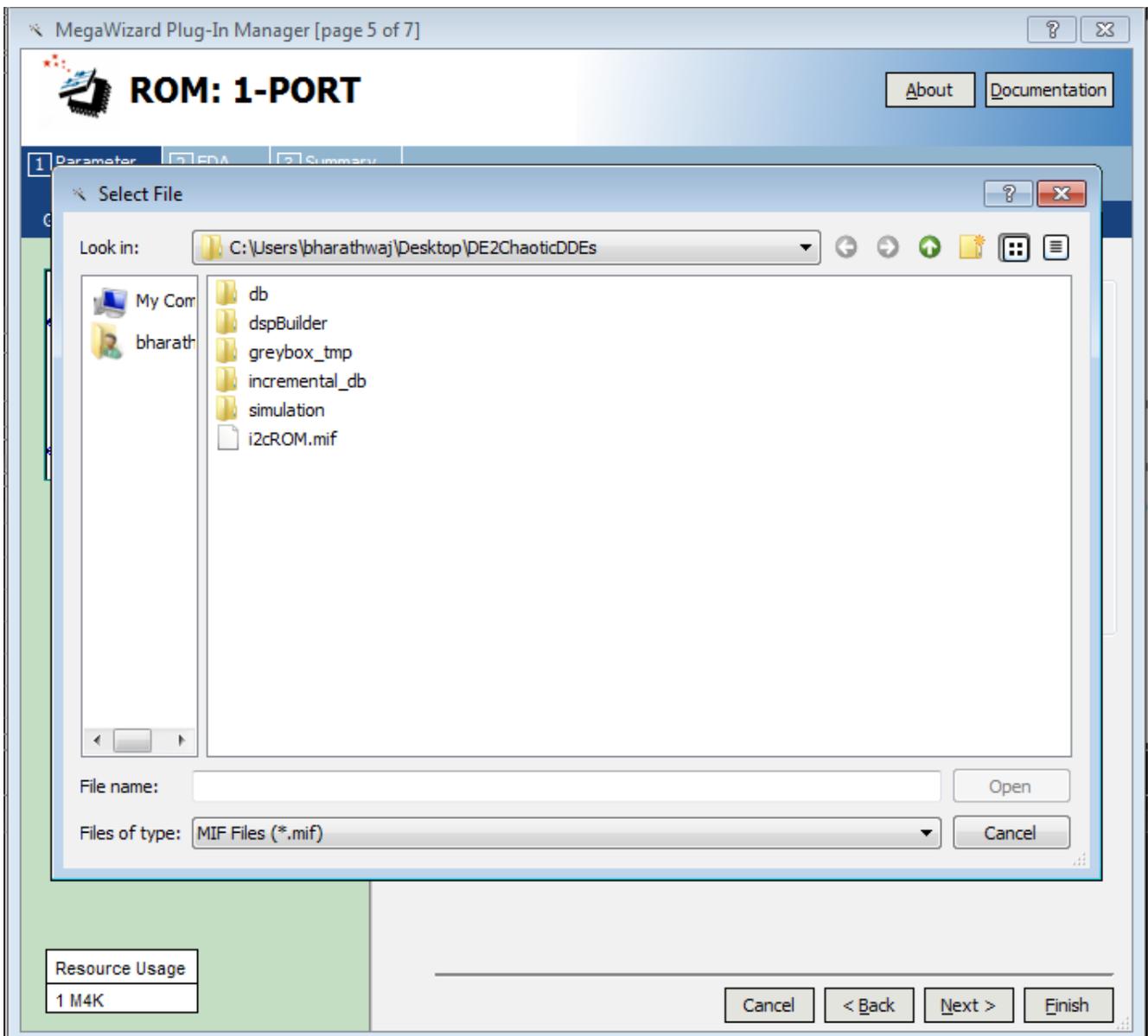
Figure 5. Choose i2cROM.mif