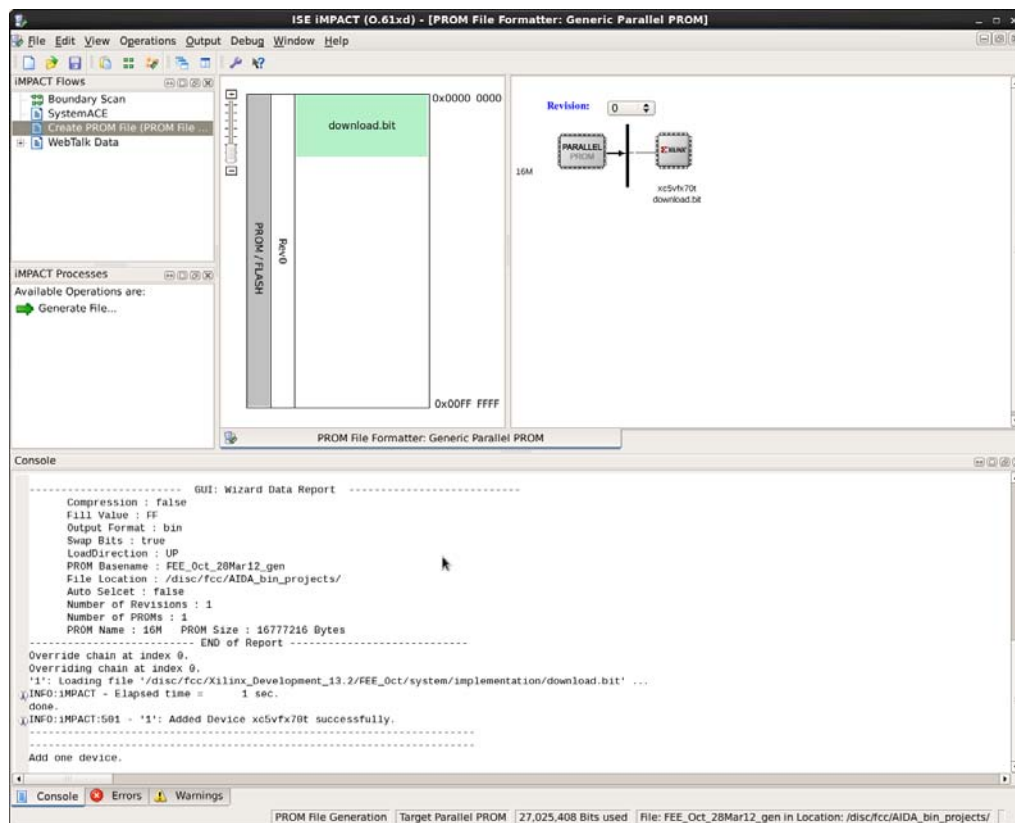
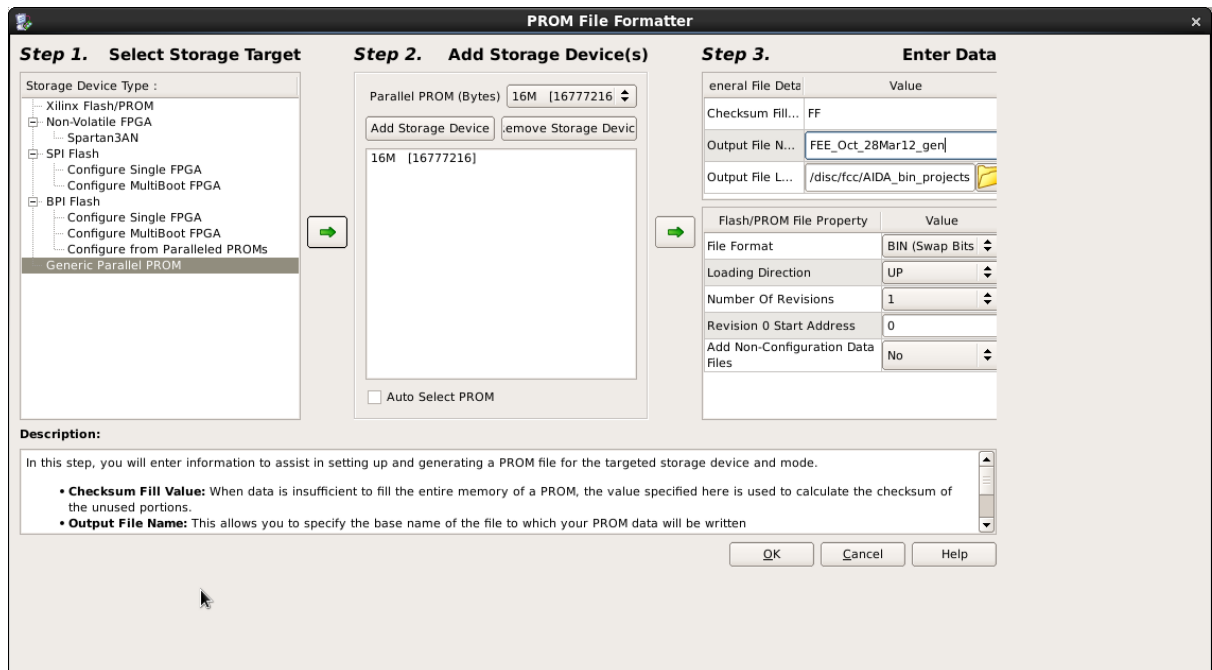


Creating the files for and programming the FEE64 Flash memory

1. Create the .bit file for the FPGA including the "Linux_boot_loader" project in the BRAM.
2. In Xilinx impact create a .bin file from the .bit file using the "generate prom". These shots are from version 13.3. Choosing Generic prom, 16M, and BIN(Swap Bits On).



3. Select the action "Generate file" from the iMPact processes area.
4. Use impact to download the .bit file to the FPGA. (close iMPact to disconnect the JTAG) This allows the Linux to be run when there is no existing VHDL code in the flash.
5. Use xmd (from XPS) to **download** the Linux kernel to the SDRAM and "run" At present this file is called "aida09.elf"
 - connect ppc hw -debugdevice deviceNr 1 cpunr 1
 - stop
 - dow aida10.elf
 - run
 - exit
6. Linux should be able to boot. NB: Correct IP/Mac address programmed into DHCP server.
7. Login as root : aidaroot at the console.
8. Flash_unlock /dev/mtd# (# = 0, 1, 2, 3).
9. Make sure the .bin file created in step 2 is available to the Linux (/MIDAS/Aida for example)
10. Write the .bin file to flash at /dev/mtd2 :- flashcp -v filename.bin /dev/mtd2. This will erase then write then verify the memory.
11. Write the Linux kernel to /dev/mtd1 :- flashcp -v /MIDAS/Aida/simpleImage.aida /dev/mtd1
12. To look at the contents of the flash as hex use :- od -X /dev/mtd# | more
13. Power cycle the card and the linux_boot_loader should run from the BRAM, copy the zImage (Linux kernel) into the SDRAM, check it is ok and then jump to the start address.
14. The Linux utility mtd_debug can be used to work on the Flash as well.