Configuring Code Composer Studio for XML-Defined Devices

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1.1 Introduction

Historically, drivers exposed register information for each device through the Target Protocol Interface (TPI) layer, which required code changes for every new device. Starting with Code Composer Studio (CCStudio) 3.2, a new approach was taken: a Register Server component can optionally read device-specific XML files that define all the registers for a device.

These XML files are generated by the chip design teams, based on their internal database of registers (ASHA). The files are stored in the <CCStudio install>\drivers\TargetDB folder. Only devices created since CCStudio 3.2 have XML files.

Because the XML files completely define the devices, setting up CCStudio using CCSetup is now partially automated. You can easily pick the appropriate XML file and your device scanchain could be configured for simple devices. Complex devices that include routers may require additional adjustments to the scanchain configuration (see below for an example).

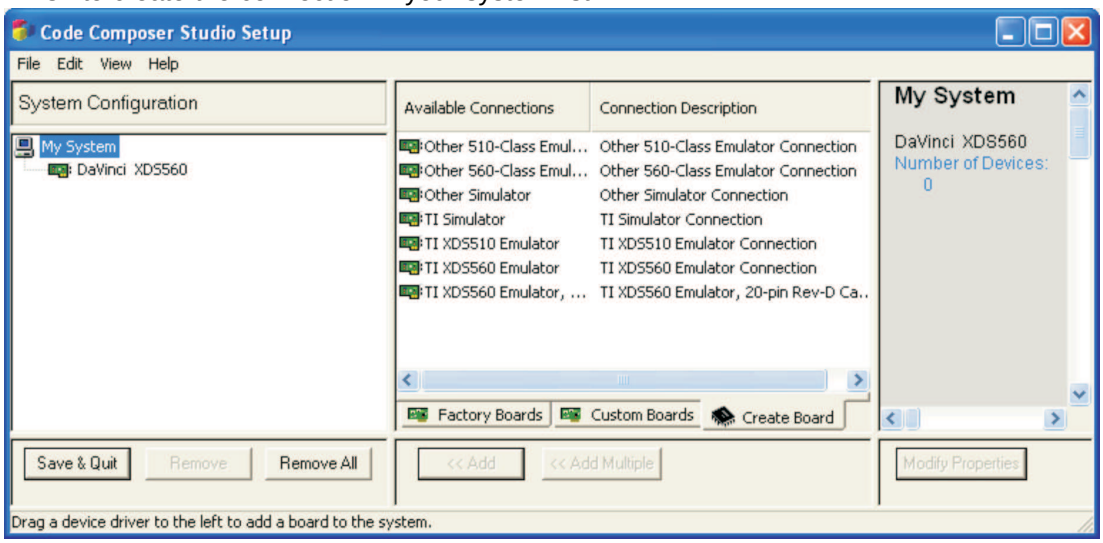
However, CCStudio must associate the appropriate XML file with the configuration loaded through CCSetup. This is accomplished by adding another step to the creation of a device configuration. Note that TPI was not removed, so creating a configuration in the traditional way still works. The steps to create an XML based configuration are shown in Section 1.2, using a DaVinci device as an example.

1.2 Creating a Connection

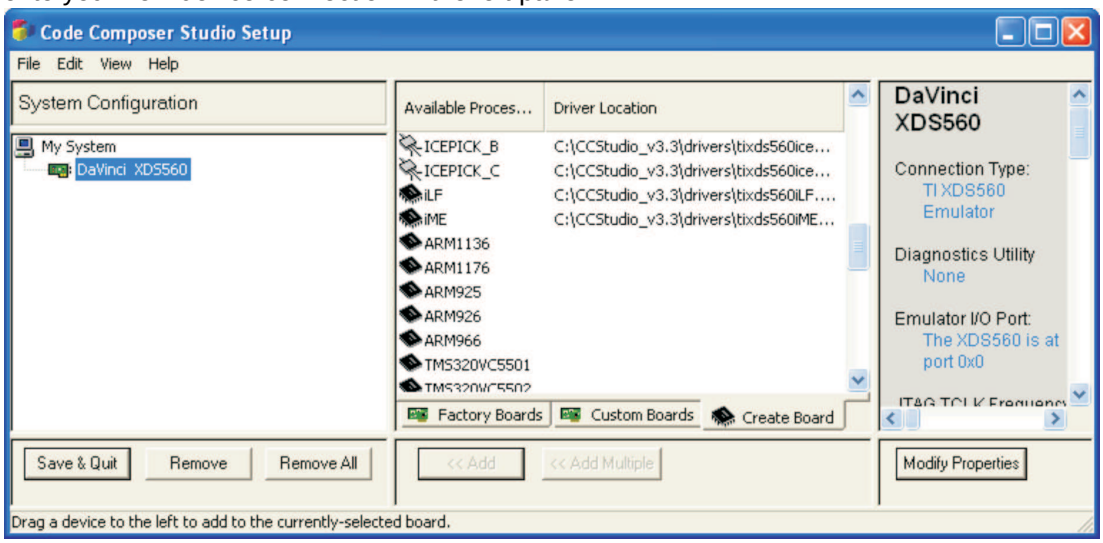
To create your new device connection in CCStudio, you must create a new board type in CCSetup.

1. Start Code Composer Studio Setup by double-clicking on the Setup CCStudio desktop icon, or by selecting Start→Programs→ Texas Instruments→Code Composer Studio→Setup Code Composer Studio.
2. Select the the Create Board tab in the middle pane.
3. From the list of Available Connections, select the configuration that matches your system. This example uses the TI XDS560 Emulator. Click Add to move it to your system list.

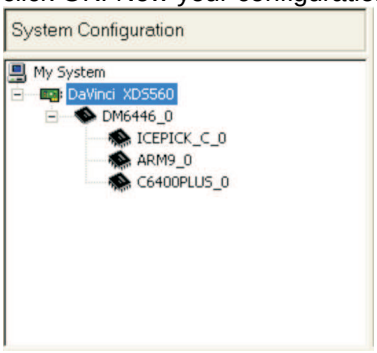
4. A dialog appears, asking you to name the new connection. Name it DaVinci XDS560 and click on Finish to create the connection in your system list.



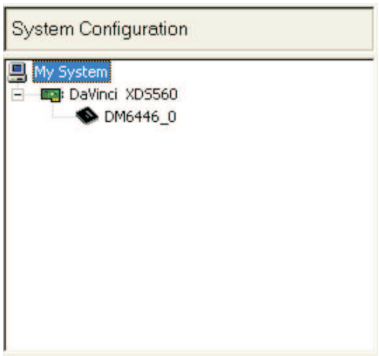
5. In your system list, click on the new connection and then scroll to the bottom of the Available Processor Types in the middle pane. Note that there are two types of Available Processor Types. The original core drivers list a Driver Location next to the processor. The entries with no Driver Location represent the new Device XML files. Select one of the Device XML files (such as DM6446) and drop it onto your new device connection in the left pane.



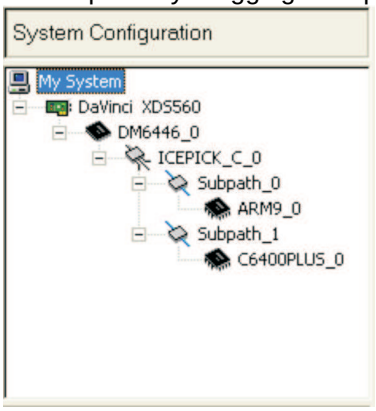
6. CCSetup now parses the XML file, which brings up the configuration dialogs for each of the identified cores. In this example, an ICEPick device is found first, followed by an ARM9. As CCStudio currently does not distinguish between a C64x and a C64x+ core, an additional dialog appears for you to select the appropriate driver. DaVinci is C64x+ based, so choose the C6400PLUS driver from the list and click OK. Now your configuration looks like this:



7. As CCSetup currently does not handle routers (like ICEPick), you must delete the three processor cores from this configuration. Do not erase the DM6446_0 processor that ties the configuration to the XML file.



8. Finally, select the DM6446_0 processor and add the ICEPick and the other cores back in from the middle pane by dragging the appropriate drivers from the middle pane onto the DM6446_0 device.



Your configuration is now complete, and you can launch CCStudio by choosing Start Code Composer Studio from the File menu.

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