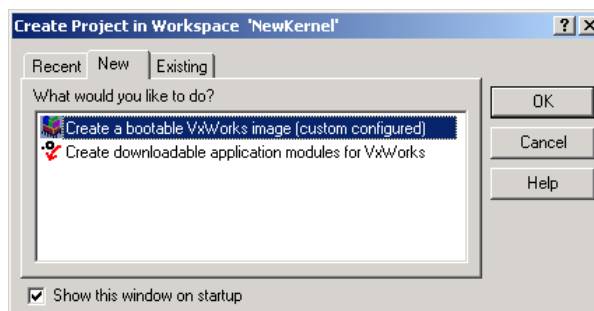


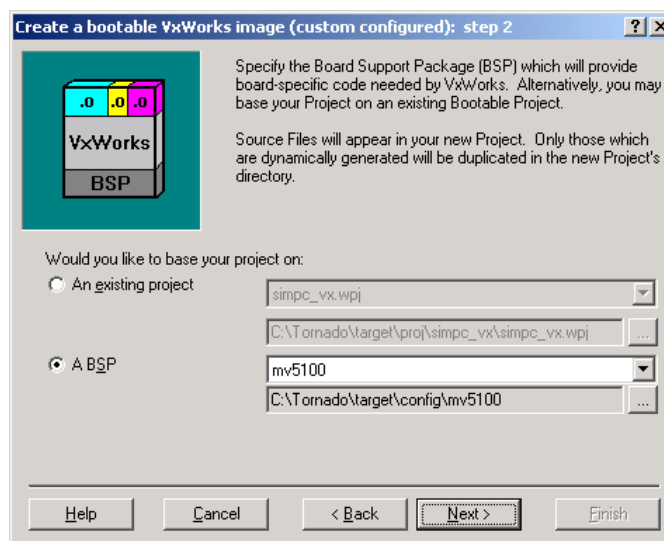
Building a VxWorks Kernel for the ProDAQ 3042

To build a VxWorks kernel for the ProDAQ 3042 PowerPC-based Slot-0 Controller and the Bustec VISA for VxWorks, perform the following steps:

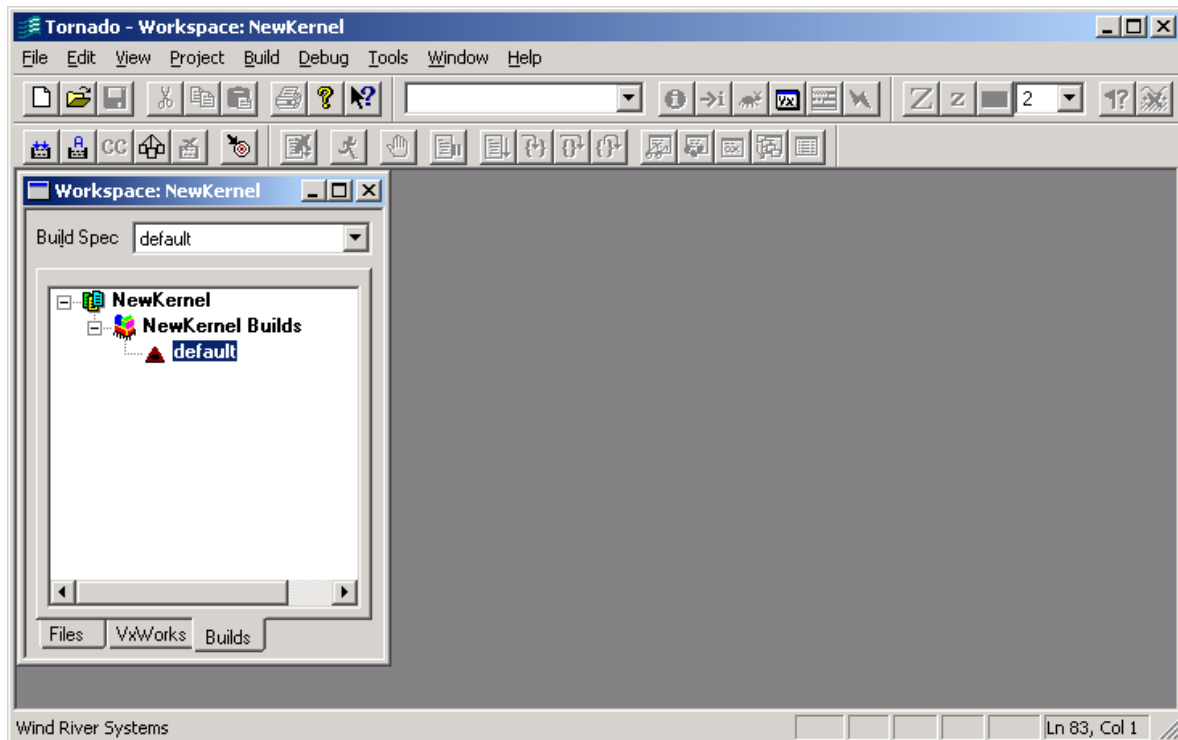
1. Install the Tornado 2.x Development System and the BSP for the Motorola MVME5100 series on your host.
2. Install the VxWorks distribution of the Bustec VISA library and VXIplug&play drivers on your system. To do so, unzip the file "vxipnp.zip" (to be found on our driver distribution CD in the directory "\driver\vxworks") to the %WIND_BASE% directory. It will create the standard VXIplug&play tree in this location.
3. Copy the file "bu3040.h" and "universe.c" coming with the Bustec VISA library distribution into the BSP directory ("%WIND_BASE%\target\config\mv5100"). The file "universe.c" replaces the file coming with the BSP. If you want to keep the old file, please copy it to a different location.
4. Start the Tornado Development system and create a new project. In the new project dialog, select "Create a bootable VxWorks image (custom configured)" as shown below:



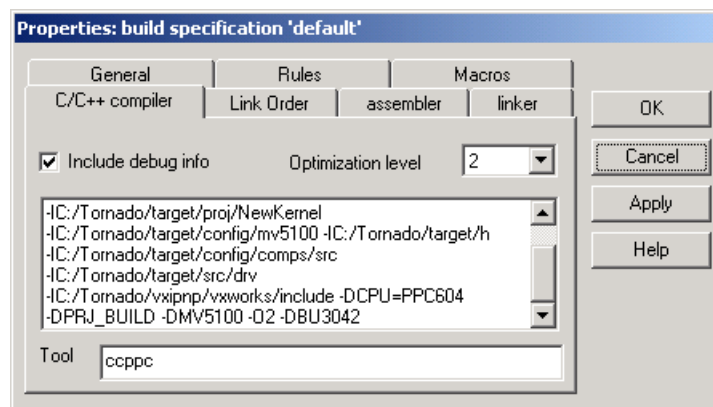
In the following steps to set up the new project, make sure to select the mv5100 board support package as the base for this project:



- In the new workspace, select the “Builds” tab and edit the properties for the default build:



- Select the “C/C++ compiler” tab in the build specification dialog:



and add the path to the VXIplug&play include directory and the macro definition for the ProDAQ 3042 build to the parameter list for the C/C++ compiler. The VXIplug&play include directory was created when installing the Bustec VISA library on your system. If you have unzipped the distribution as described above, the specification for the include directory is

```
-I%WIND_BASE%/vxipnp/vxworks/include
```

The above picture shows the setting for a WIND_BASE set to “c:\Tornado”. The macro to be defined for the 3042 build is “-DBU3042”.

7. Build the kernel by selecting "Rebuild all" from the "Build" menu.
8. If necessary, install the vxWorks bootrom image on the ProDAQ 3042 as described in the BSP documentation (to be found in "%WIND_BASE%\docs\vxworks\bsp\mv5100\mv5100.html").
9. Set the correct network parameters and boot the new kernel.
10. To use the VISA library and resource manager, load the visa library located in the "bin" directory of the VXIplug&play directory tree installed above either by using the Tornado development environment or the loader in a VxWorks shell:

```
ld < c:/tornado/vxipnp/vxworks/bin/visa.o
```

(again shown for an %WIND_BASE% setting of "C:\Tornado"). Now you can run the Resource Manager by typing

```
resman() <return>
```

Please note that the VISA library and Resource Manager require the ProDAQ 3042 to be used as the Slot-0 Controller for the VXI mainframe it is located in. Make sure to install it in the left most slot of the mainframe (slot "0") and set the logical address switch to zero (00_{hex}) before booting the kernel.