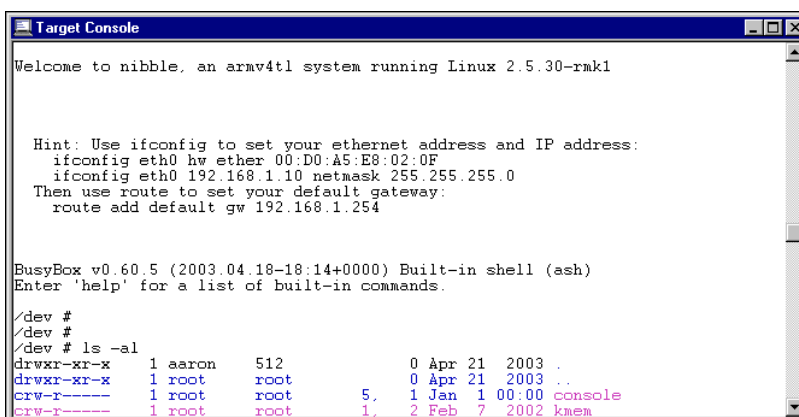# Bringing Up a Linux Console View in SourcePoint™

Overview

A Target Console window in SourcePoint™ provides a Linux console view. This gives you the ability to port Linux console messages via the JTAG to the SourcePoint interface. No other external connectivity is required. (Information on this technology can be found in the Arium application note, *Embedded Linux Debug Tools: A New Paradigm*.) An Arium driver needs to be built in with your Linux kernel.

The Target Console

The Arium SourcePoint **Target Console** window works like the Linux console running on the target. Data normally seen on a serial terminal display in this window.

Target Console **window**

The Arium Linux console driver (ariumdcc) uses the ARM® Debug Communications Channel (DCC) to send console I/O to American Arium JTAG debuggers. To use the Target Console requires a Linux kernel with the AriumDCC console driver statically linked to function at boot time and SourcePoint v5.2.3 or later.

For v2.4 Linux kernels, a call to the console initialization routine (ariumdcc_console_init) must be added. Initialization routines are called automatically in the v2.5/2.6 Linux kernel; if you are using these later versions, this patch is not required.

Additionally, a getty variants should be run after the kernel boots in order to attach the "tty" to a "login" program or to connect directly to a shell.

Due to code and API differences between the kernel versions, a single patch is not available for all users. However, American Arium will assist in creating the necessary patches for your kernel. Contact American Arium to get a copy of all necessary files.

How to Open a Target Console Window

To open a Target Console window:

1. Select Options|Target Configuration from the menu bar.

    The Target Configuration dialog box displays.

2. Select the Operating System tab.

3. Put a check mark in the box before the option, Enable communications with target operating system.

4. Click the OK button.

    The dialog box closes automatically.

5. Select View|Target Console from the menu bar or click on the Target Console icon on the icon toolbar.

    The option is no longer grayed out, and the Target Console window displays.

How to Link the Linux Kernel with the AriumDCC Console Driver

The SourcePoint CD contains a tty driver, "ariumdcc.c'"and some sample patch files.

The first patch file, "patch-for-2.4.19-rmk7-ds3-makefile'"is the patch for the build system. It patches the "drivers/char/Makefile" and "drivers/char/Config.in files". This patch or something like this is mandatory for 2.4, 2.5 and 2.6 kernels.

The second patch file, "patch-for-2.4.19-rmk7-ds3-tty_io.c'" attachment has the "drivers/char/tty_io.c" patch that calls SourcePoint's initialization routines when the kernel is booting so SourcePoint can display the console output. This patch or something like this is mandatory for 2.4 kernels.

These are the only patches that need to be applied to get the "ariumdcc.c" module compiled, linked, and working. The "ariumdcc.c" file should be placed into the "drivers/char" directory, and then the config system should be used to enable the CONFIG_ARIUMDCC_CONSOLE directive.