

BTFIXUP

To build new kernels you have to issue "make image". The ready kernel in ELF format is placed in arch/sparc/boot/image. Explanation is below.

BTFIXUP is a unique feature of Linux/sparc among other architectures, developed by Jakub Jelinek (I think... Obviously David S. Miller took part, too). It allows to boot the same kernel at different sub-architectures, such as sun4c, sun4m, sun4d, where SunOS uses different kernels. This feature is convinient for people who you move disks between boxes and for distrution builders.

To function, BTFIXUP must link the kernel "in the draft" first, analyze the result, write a special stub code based on that, and build the final kernel with the stub (btfix.o).

Kai Germaschewski improved the build system of the kernel in the 2.5 series significantly. Unfortunately, the traditional way of running the draft linking from architecture specific Makefile before the actual linking by generic Makefile is nearly impossible to support properly in the new build system. Therefore, the way we integrate BTFIXUP with the build system was changed in 2.5.40. Now, generic Makefile performs the draft linking and stores the result in file vmlinux. Architecture specific post-processing invokes BTFIXUP machinery and final linking in the same way as other architectures do bootstraps.

Implications of that change are as follows.

1. Hackers must type "make image" now, instead of just "make", in the same way as s390 people do now. It is analogous to "make bzImage" on i386. This does NOT affect sparc64, you continue to use "make" to build sparc64 kernels.
2. vmlinux is not the final kernel, so RPM builders have to adjust their spec files (if they delivered vmlinux for debugging). System.map generated for vmlinux is still valid.
3. Scripts that produce a.out images have to be changed. First, if they invoke make, they have to use "make image". Second, they have to pick up the new kernel in arch/sparc/boot/image instead of vmlinux.
4. Since we are compliant with Kai's build system now, make -j is permitted.

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