Subject: OpenVZ on Power?
Posted by Bryson Lee on Thu, 01 Mar 2012 16:03:55 GMT

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Hi,

I'm looking for an alternative to BLCR to provide checkpoint/restart functionality for a Linux application on IBM Power hardware. Having seen some mentions that OpenVZ supports Power, I wanted to try it out.

I've tried to rebuild vzkernel-2.6.32-042stab049.6.src.rpm in Mock on an IBM JS-12 blade (Power6) running Fedora 12, and have run into a number of problems. I'll note that we have successfully rebuilt the Fedora12 2.6.32-based kernel from SRPM in the same Mock configuration.

The initial issue was that the patch-042stab049 introduced a single line of invalid syntax into arch/powerpc/include/asm/elf.h:

export struct page *vdso32_pages[1];

Correcting "export" to "extern" resulted in a type-redefinition compile error, since vdso32_pages is defined as IIR "static unsigned int" in the PPC vdso.c.

Removing the extern declaration from elf.h entirely, since apparently the symbol usage in the cpt/cpt_mm.h is ifdef'd by CONFIG_X86 revealed another stumbling block with undefined functions [un]charge_beancounter_fast() due to CONFIG_BEANCOUNTERS not getting defined. I added appropriate no-op definitions to the group already present in the #ifndef CONFIG_BEANCOUNTERS section of kernel/include/bc/beancounters.h, but there appears to be a larger problem in that the contents of config-vz aren't getting reflected in the final kernel config used during the RPM build.

My basic question is whether or not there's any hope of successfully generating a ppc64 OpenVZ kernel. I tried the stable RHEL5 kernel SRPM as well, but encountered a different build failure.

I note that the last e.g. vzctl version that has an RPM download for ppc64 is 3.0.26 from 2/27/2011, and that the next minor release 3.0.26.1 from about a week later has no mention of Power at all.   I reviewed the -announce, -user, and -devel list archives from that timeframe, and didn't see any explicit mention of support for Power being dropped.

Is ppc[64] still a supported architecture for OpenVZ? If so, is checkpoint/restart available? How should I go about building a kernel (and, eventually the utilities) for my Fedora12 systems?

Thanks in advance,

-Bryson Lee