

[PATCH] x86-64: improve the format of stack dumps

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2006-02/msg02303.html>

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Improve the format of stack dumps for x86-64.

- * Single column of stack entries. (similar to other arches)
- * Print the offset in hexadecimal instead of decimal! (similar to other arches)
- * Print the size of the routines as well. (similar to other arches)
- * No white line after RIP.
- * No duplicate register dump on RIP line.
- * No white line after register dump.
- * Formatted/lined up dump of the stacks.

For example:

SysRq : Show Regs

CPU 0:

Modules linked in: i2c_dev i2c_core

Pid: 0, comm: swapper Not tainted 2.6.16-rc2-git #34

RIP: 0010:[<ffffffff801096b1>] mwait_idle+0x3c/0x53

RSP: 0018:ffffffff8059bf70 EFLAGS: 00000246

RAX: 0000000000000000 RBX: ffffffff80109675 RCX: 0000000000000000

RDX: 0000000000000000 RSI: 0000000000000001 RDI: ffffffff8052d698

RBP: ffffffff8059bf70 R08: 00000000ffffffff R09: 0000000000000000

R10: 0000000000000000 R11: 0000000000000000 R12: ffffffff805d7184

R13: 0000000000000000 R14: 0000000000000000 R15: 0000000000000000

FS: 0000000000000000(0000) GS:ffffffffff8058d000(0000) knlGS:0000000000000000

CS: 0010 DS: 0018 ES: 0018 CR0: 000000008005003b

CR2: 00002abae842f000 CR3: 00000000763b3000 CR4: 00000000000006e0

Call Trace:

[<ffffffff80109654>] cpu_idle+0x6c/0x8d

[<ffffffff8010802b>] rest_init+0x2b/0x31

[<ffffffff8059c89a>] start_kernel+0x1dc/0x1de

[<ffffffff8059c2a9>] _sinittext+0x2a9/0x2b0

Signed-off-by: Luben Tuikov <ltuikov@xxxxxxxx>

arch/x86_64/kernel/process.c | 4 +-
arch/x86_64/kernel/traps.c | 75 ++++++++-----

include/linux/kallsyms.h | 7 +--

kernel/kallsyms.c | 4 +-
4 files changed, 32 insertions(+), 58 deletions(-)

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diff --git a/arch/x86_64/kernel/process.c b/arch/x86_64/kernel/process.c
index 8ded407..6a29b0e 100644
--- a/arch/x86_64/kernel/process.c
+++ b/arch/x86_64/kernel/process.c
@@ -302,9 +302,9 @@ void __show_regs(struct pt_regs * regs)
system_utsname.release,
(int)strcspn(system_utsname.version, " "),
system_utsname.version);
- printk("RIP: %04lx:[<%016lx>] ", regs->cs & 0xffff, regs->rip);
+ printk("RIP: %04lx:", regs->cs & 0xffff);
printk_address(regs->rip);
- printk("\nRSP: %04lx:%016lx EFLAGS: %08lx\n", regs->ss, regs->rsp,
+ printk("RSP: %04lx:%016lx EFLAGS: %08lx\n", regs->ss, regs->rsp,
```