

[patch 18/23] dynticks: i386 arch code

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2006-09/msg08949.html>

- From: Thomas Gleixner <tglx@xxxxxxxxxxxxxx>
- Date: Fri, 29 Sep 2006 23:58:37 -0000

From: Ingo Molnar <mingo@xxxxxxx>

prepare i386 for dyntick: idle handler callbacks and IRQ callback.

Signed-off-by: Ingo Molnar <mingo@xxxxxxx>
Signed-off-by: Thomas Gleixner <tglx@xxxxxxxxxxxxxx>

```
-----
arch/i386/kernel/nmi.c | 3 +-
arch/i386/kernel/process.c | 27 ++++++-----
2 files changed, 17 insertions(+), 13 deletions(-)
```

Index: linux-2.6.18-mm2/arch/i386/kernel/nmi.c

```
=====
--- linux-2.6.18-mm2.orig/arch/i386/kernel/nmi.c 2006-09-30 01:41:10.000000000 +0200
+++ linux-2.6.18-mm2/arch/i386/kernel/nmi.c 2006-09-30 01:41:19.000000000 +0200
@@ -20,6 +20,7 @@
#include <linux/sysdev.h>
#include <linux/sysctl.h>
#include <linux/percpu.h>
+#include <linux/kernel_stat.h>
#include <linux/dmi.h>
#include <linux/kprobes.h>
```

```
@@ -908,7 +909,7 @@ __kprobes int nmi_watchdog_tick(struct p
touched = 1;
}
```

```
- sum = per_cpu(irq_stat, cpu).apic_timer_irqs;
+ sum = per_cpu(irq_stat, cpu).apic_timer_irqs + kstat_irqs(0);
```

```
/* if the apic timer isn't firing, this cpu isn't doing much */
if (!touched && last_irq_sums[cpu] == sum) {
Index: linux-2.6.18-mm2/arch/i386/kernel/process.c
```

```
=====
--- linux-2.6.18-mm2.orig/arch/i386/kernel/process.c 2006-09-30 01:41:10.000000000 +0200
+++ linux-2.6.18-mm2/arch/i386/kernel/process.c 2006-09-30 01:41:19.000000000 +0200
@@ -178,24 +178,27 @@ void cpu_idle(void)
```

/* endless idle loop with no priority at all */

```
while (1) {
- while (!need_resched()) {
- void (*idle)(void);
+ if (!hrtimer_stop_sched_tick()) {
+ while (!need_resched()) {
+ void (*idle)(void);

- if (__get_cpu_var(cpu_idle_state))
- __get_cpu_var(cpu_idle_state) = 0;
+ if (__get_cpu_var(cpu_idle_state))
+ __get_cpu_var(cpu_idle_state) = 0;

- rmb();
- idle = pm_idle;
+ rmb();
+ idle = pm_idle;

- if (!idle)
- idle = default_idle;
+ if (!idle)
+ idle = default_idle;

- if (cpu_is_offline(cpu))
- play_dead();
+ if (cpu_is_offline(cpu))
+ play_dead();

- __get_cpu_var(irq_stat).idle_timestamp = jiffies;
- idle();
+ __get_cpu_var(irq_stat).idle_timestamp = jiffies;
+ idle();
+ }
}
+ hrtimer_restart_sched_tick();
preempt_enable_no_resched();
schedule();
preempt_disable();

--

-
```

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