

[PATCH 3/4] i386: add the X86_FEATURE_SYNC_RDTSC flag

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2007-02/msg10064.html>

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This patch adds the X86_FEATURE_SYNC_RDTSC to the i386 architecture. This is very helpfull to simplify the get_cycles_sync() function and remove the #ifdefs from it.

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```
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diff --git a/arch/i386/kernel/cpu/amd.c b/arch/i386/kernel/cpu/amd.c
index 41cfea5..11f5730 100644
--- a/arch/i386/kernel/cpu/amd.c
+++ b/arch/i386/kernel/cpu/amd.c
@@ -241,6 +241,8 @@ static void __cpunit_init_amd(struct cpuinfo_x86 *c)

if (cpuid_eax(0x80000000) >= 0x80000006)
num_cache_leaves = 3;
+
+ clear_bit(X86_FEATURE_SYNC_RDTSC, c->x86_capability);
}

static unsigned int __cpunit_amd_size_cache(struct cpuinfo_x86 *c, unsigned int size)
diff --git a/arch/i386/kernel/cpu/intel.c b/arch/i386/kernel/cpu/intel.c
index 56fe265..403a495 100644
--- a/arch/i386/kernel/cpu/intel.c
+++ b/arch/i386/kernel/cpu/intel.c
@@ -188,8 +188,11 @@ static void __cpunit_init_intel(struct cpuinfo_x86 *c)
}
#endif

- if (c->x86 == 15)
+ if (c->x86 == 15) {
set_bit(X86_FEATURE_P4, c->x86_capability);
+ set_bit(X86_FEATURE_SYNC_RDTSC, c->x86_capability);
+ } else
```

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```
+ clear_bit(X86_FEATURE_SYNC_RDTSC, c->x86_capability);
if (c->x86 == 6)
set_bit(X86_FEATURE_P3, c->x86_capability);
if ((c->x86 == 0xf && c->x86_model >= 0x03) ||
diff --git a/include/asm-i386/cpufeature.h b/include/asm-i386/cpufeature.h
index 3f92b94..a9f1f01 100644
--- a/include/asm-i386/cpufeature.h
+++ b/include/asm-i386/cpufeature.h
@@ -75,6 +76,7 @@
#define X86_FEATURE_ARCH_PERFMON (3*32+11) /* Intel Architectural PerfMon */
#define X86_FEATURE_PEBS (3*32+12) /* Precise-Event Based Sampling */
#define X86_FEATURE_BTS (3*32+13) /* Branch Trace Store */
+#define X86_FEATURE_SYNC_RDTSC (3*32+14) /* RDTSC is serializing */

/* Intel-defined CPU features, CPUID level 0x00000001 (ecx), word 4 */
#define X86_FEATURE_XMM3 (4*32+ 0) /* Streaming SIMD Extensions-3 */
```