Subject: Re: [PATCH 3/7] uts namespaces: use init_utsname when appropriate
Posted by serue on Mon, 10 Apr 2006 20:39:03 GMT
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Quoting Eric W. Biederman (ebiederm@xmission.com):
> "Serge E. Hallyn" <serue@us.ibm.com> writes:
>
> >> This also probably makes sense as utsname(). It doesn't
> >> really matter as this is before init is executed. But logically
> >> this is a user space or per namespace action.
> >
> > Right, I was kind of favoring using init_utsname() for anything
> > __init. But utsname() will of course work just as well there.
>
> Basically anything that should move to klibc I favor using
> utsname() for. That tends to make it clear it follows
> the usual user space rules.
>
> With a little luck HPA might actually have this code deleted
> in -mm before we get to far.

Here is a new version of the init_utsname patch. I'm sending a
new version of the utsname() patch in reply to the original [2/7]
patch.

From: Serge Hallyn <serue@us.ibm.com>
Subject: [PATCH 3/7] uts namespaces: use init_utsname when appropriate

In some places, particularly drivers and __init code, the init utsns is the
appropriate one to use. This patch replaces those with a the init_utsname
helper.

Changes: Removed several uses of init_utsname(). Hope I picked all the
right ones in net/ipv4/ipconfig.c. These are now changed to
utsname() (the per-process namespace utsname) in the previous
patch (2/7)

Signed-off-by: Serge E. Hallyn <serue@us.ibm.com>

```
 arch/arm/kernel/setup.c          |    2 +-
 arch/arm26/kernel/setup.c        |    2 +-
 arch/cris/kernel/setup.c         |    2 +-
 arch/i386/kernel/process.c       |    6 ++++---
 arch/i386/kernel/traps.c         |    6 ++++---
 arch/powerpc/kernel/process.c    |    2 +-
 arch/powerpc/kernel/setup_64.c   |    2 +-
```

```
 arch/powerpc/platforms/pseries/setup.c    |    2 +-
 arch/sh/kernel/setup.c                    |    2 +-
 arch/um/kernel/um_arch.c                  |    6 +++---
 arch/um/sys-x86_64/sysrq.c                |    2 +-
 arch/x86_64/kernel/process.c              |    6 +++---
 drivers/infiniband/hw/ipath/ipath_verbs.c |    2 +-
 drivers/parisc/led.c                      |    2 +-
 drivers/scsi/lpfc/lpfc_ct.c               |    8 ++++----
 drivers/usb/core/hcd.c                    |    4 ++--
 drivers/usb/gadget/ether.c                |    2 +-
 drivers/usb/gadget/file_storage.c         |    2 +-
 drivers/usb/gadget/serial.c               |    2 +-
 drivers/usb/gadget/zero.c                 |    2 +-
 include/asm-i386/bugs.h                   |    2 +-
 include/asm-sh/bugs.h                     |    2 +-
 kernel/power/snapshot.c                   |   10 +++++-----
 net/ipv4/ipconfig.c                       |    2 +-
 sound/core/info_oss.c                     |   10 +++++-----
 25 files changed, 45 insertions(+), 45 deletions(-)

3941501899f74ae1fee21a074cdc2e420a4b3f27
diff --git a/arch/arm/kernel/setup.c b/arch/arm/kernel/setup.c
index 4375284..a4dc8de 100644
--- a/arch/arm/kernel/setup.c
+++ b/arch/arm/kernel/setup.c
@@ -319,7 +319,7 @@ static void __init setup_processor(void)
        cpu_name, processor_id, (int)processor_id & 15,
        proc_arch[cpu_architecture()]);

- sprintf(system_utsname.machine, "%s%c", list->arch_name, ENDIANNESS);
+ sprintf(init_utsname()->machine, "%s%c", list->arch_name, ENDIANNESS);
  sprintf(elf_platform, "%s%c", list->elf_name, ENDIANNESS);
  elf_hwcap = list->elf_hwcap;

diff --git a/arch/arm26/kernel/setup.c b/arch/arm26/kernel/setup.c
index 4eb329e..8e6a441 100644
--- a/arch/arm26/kernel/setup.c
+++ b/arch/arm26/kernel/setup.c
@@ -144,7 +144,7 @@ static void __init setup_processor(void)

  dump_cpu_info();

- sprintf(system_utsname.machine, "%s", list->arch_name);
+ sprintf(init_utsname()->machine, "%s", list->arch_name);
  sprintf(elf_platform, "%s", list->elf_name);
  elf_hwcap = list->elf_hwcap;

diff --git a/arch/cris/kernel/setup.c b/arch/cris/kernel/setup.c
```

```
index 619a6ee..1974c01 100644
--- a/arch/cris/kernel/setup.c
+++ b/arch/cris/kernel/setup.c
@@ -161,7 +161,7 @@ setup_arch(char **cmdline_p)
  show_etrax_copyright();

  /* Setup utsname */
- strcpy(system_utsname.machine, cris_machine_name);
+ strcpy(init_utsname()->machine, cris_machine_name);
 }

 static void *c_start(struct seq_file *m, loff_t *pos)
diff --git a/arch/i386/kernel/process.c b/arch/i386/kernel/process.c
index 6259afe..da2e439 100644
--- a/arch/i386/kernel/process.c
+++ b/arch/i386/kernel/process.c
@@ -297,9 +297,9 @@ void show_regs(struct pt_regs * regs)
  if (user_mode_vm(regs))
   printk(" ESP: %04x:%08lx",0xffff & regs->xss,regs->esp);
  printk(" EFLAGS: %08lx    %s  (%s %.*s)\n",
-        regs->eflags, print_tainted(), system_utsname.release,
-        (int)strcspn(system_utsname.version, " "),
-        system_utsname.version);
+        regs->eflags, print_tainted(), init_utsname()->release,
+        (int)strcspn(init_utsname()->version, " "),
+        init_utsname()->version);
  printk("EAX: %08lx EBX: %08lx ECX: %08lx EDX: %08lx\n",
   regs->eax,regs->ebx,regs->ecx,regs->edx);
  printk("ESI: %08lx EDI: %08lx EBP: %08lx",
diff --git a/arch/i386/kernel/traps.c b/arch/i386/kernel/traps.c
index e385279..dd62423 100644
--- a/arch/i386/kernel/traps.c
+++ b/arch/i386/kernel/traps.c
@@ -260,9 +260,9 @@ void show_registers(struct pt_regs *regs
  printk(KERN_EMERG "CPU:    %d\nEIP:    %04x:[<%08lx>]    %s VLI\n"
    "EFLAGS: %08lx   (%s %.*s) \n",
   smp_processor_id(), 0xffff & regs->xcs, regs->eip,
-  print_tainted(), regs->eflags, system_utsname.release,
-  (int)strcspn(system_utsname.version, " "),
-  system_utsname.version);
+  print_tainted(), regs->eflags, init_utsname()->release,
+  (int)strcspn(init_utsname()->version, " "),
+  init_utsname()->version);
  print_symbol(KERN_EMERG "EIP is at %s\n", regs->eip);
  printk(KERN_EMERG "eax: %08lx   ebx: %08lx   ecx: %08lx   edx: %08lx\n",
   regs->eax, regs->ebx, regs->ecx, regs->edx);
diff --git a/arch/powerpc/kernel/process.c b/arch/powerpc/kernel/process.c
index 2dd47d2..6ce9e10 100644
```

```
--- a/arch/powerpc/kernel/process.c
+++ b/arch/powerpc/kernel/process.c
@@ -425,7 +425,7 @@ void show_regs(struct pt_regs * regs)
  printk("NIP: "REG" LR: "REG" CTR: "REG"\n",
         regs->nip, regs->link, regs->ctr);
  printk("REGS: %p TRAP: %04lx   %s  (%s)\n",
-        regs, regs->trap, print_tainted(), system_utsname.release);
+        regs, regs->trap, print_tainted(), init_utsname()->release);
  printk("MSR: "REG" ", regs->msr);
  printbits(regs->msr, msr_bits);
  printk("  CR: %08lX  XER: %08lX\n", regs->ccr, regs->xer);
diff --git a/arch/powerpc/kernel/setup_64.c b/arch/powerpc/kernel/setup_64.c
index 13e91c4..1c6619f 100644
--- a/arch/powerpc/kernel/setup_64.c
+++ b/arch/powerpc/kernel/setup_64.c
@@ -435,7 +435,7 @@ void __init setup_system(void)
  smp_release_cpus();
 #endif

- printk("Starting Linux PPC64 %s\n", system_utsname.version);
+ printk("Starting Linux PPC64 %s\n", init_utsname()->version);

  printk("-----------------------------------------------------\n ");
  printk("ppc64_pft_size                = 0x%lx\n", ppc64_pft_size);
diff --git a/arch/powerpc/platforms/pseries/setup.c b/arch/powerpc/platforms/pseries/setup.c
index 5eb55ef..58b7a74 100644
--- a/arch/powerpc/platforms/pseries/setup.c
+++ b/arch/powerpc/platforms/pseries/setup.c
@@ -255,7 +255,7 @@ static int __init pSeries_init_panel(voi
 {
  /* Manually leave the kernel version on the panel. */
  ppc_md.progress("Linux ppc64\n", 0);
- ppc_md.progress(system_utsname.version, 0);
+ ppc_md.progress(init_utsname()->version, 0);

  return 0;
 }
diff --git a/arch/sh/kernel/setup.c b/arch/sh/kernel/setup.c
index bb229ef..024401e 100644
--- a/arch/sh/kernel/setup.c
+++ b/arch/sh/kernel/setup.c
@@ -481,7 +481,7 @@ static int show_cpuinfo(struct seq_file
   seq_printf(m, "machine\t\t: %s\n", get_system_type());

  seq_printf(m, "processor\t: %d\n", cpu);
- seq_printf(m, "cpu family\t: %s\n", system_utsname.machine);
+ seq_printf(m, "cpu family\t: %s\n", init_utsname()->machine);
  seq_printf(m, "cpu type\t: %s\n", get_cpu_subtype());
```

```
  show_cpuflags(m);
diff --git a/arch/um/kernel/um_arch.c b/arch/um/kernel/um_arch.c
index 7d51dd7..b49dd7d 100644
--- a/arch/um/kernel/um_arch.c
+++ b/arch/um/kernel/um_arch.c
@@ -167,7 +167,7 @@ static char *usage_string =

 static int __init uml_version_setup(char *line, int *add)
 {
- printf("%s\n", system_utsname.release);
+ printf("%s\n", init_utsname()->release);
  exit(0);

  return 0;
@@ -278,7 +278,7 @@ static int __init Usage(char *line, int
 {
   const char **p;

- printf(usage_string, system_utsname.release);
+ printf(usage_string, init_utsname()->release);
   p = &__uml_help_start;
   while (p < &__uml_help_end) {
    printf("%s", *p);
@@ -400,7 +400,7 @@ int linux_main(int argc, char **argv)
  /* Reserve up to 4M after the current brk */
  uml_reserved = ROUND_4M(brk_start) + (1 << 22);

- setup_machinename(system_utsname.machine);
+ setup_machinename(init_utsname()->machine);

 #ifdef CONFIG_CMDLINE_ON_HOST
  argv1_begin = argv[1];
diff --git a/arch/um/sys-x86_64/sysrq.c b/arch/um/sys-x86_64/sysrq.c
index d0a25af..ce3e07f 100644
--- a/arch/um/sys-x86_64/sysrq.c
+++ b/arch/um/sys-x86_64/sysrq.c
@@ -16,7 +16,7 @@ void __show_regs(struct pt_regs * regs)
  printk("\n");
  print_modules();
  printk("Pid: %d, comm: %.20s %s %s\n",
-        current->pid, current->comm, print_tainted(), system_utsname.release);
+        current->pid, current->comm, print_tainted(), init_utsname()->release);
  printk("RIP: %04lx:[<%016lx>] ", PT_REGS_CS(regs) & 0xffff,
         PT_REGS_RIP(regs));
  printk("\nRSP: %016lx  EFLAGS: %08lx\n", PT_REGS_RSP(regs),
diff --git a/arch/x86_64/kernel/process.c b/arch/x86_64/kernel/process.c
index 70dd8e5..79f8174 100644
```

```
--- a/arch/x86_64/kernel/process.c
+++ b/arch/x86_64/kernel/process.c
@@ -292,9 +292,9 @@ void __show_regs(struct pt_regs * regs)
  print_modules();
  printk("Pid: %d, comm: %.20s %s %s %.*s\n",
   current->pid, current->comm, print_tainted(),
-  system_utsname.release,
-  (int)strcspn(system_utsname.version, " "),
-  system_utsname.version);
+  init_utsname()->release,
+  (int)strcspn(init_utsname()->version, " "),
+  init_utsname()->version);
  printk("RIP: %04lx:[<%016lx>] ", regs->cs & 0xffff, regs->rip);
  printk_address(regs->rip);
  printk("\nRSP: %04lx:%016lx  EFLAGS: %08lx\n", regs->ss, regs->rsp,
diff --git a/drivers/infiniband/hw/ipath/ipath_verbs.c b/drivers/infiniband/hw/ipath/ipath_verbs.c
index 9f27fd3..f873380 100644
--- a/drivers/infiniband/hw/ipath/ipath_verbs.c
+++ b/drivers/infiniband/hw/ipath/ipath_verbs.c
@@ -1048,7 +1048,7 @@ static void *ipath_register_ib_device(in
  dev->process_mad = ipath_process_mad;

  snprintf(dev->node_desc, sizeof(dev->node_desc),
-   IPATH_IDSTR " %s kernel_SMA", system_utsname.nodename);
+   IPATH_IDSTR " %s kernel_SMA", init_utsname()->nodename);

  ret = ib_register_device(dev);
  if (ret)
diff --git a/drivers/parisc/led.c b/drivers/parisc/led.c
index 298f2dd..1d778d2 100644
--- a/drivers/parisc/led.c
+++ b/drivers/parisc/led.c
@@ -684,7 +684,7 @@ int __init led_init(void)
  int ret;

  snprintf(lcd_text_default, sizeof(lcd_text_default),
-  "Linux %s", system_utsname.release);
+  "Linux %s", init_utsname()->release);

  /* Work around the buggy PDC of KittyHawk-machines */
  switch (CPU_HVERSION) {
diff --git a/drivers/scsi/lpfc/lpfc_ct.c b/drivers/scsi/lpfc/lpfc_ct.c
index b65ee57..83f53fb 100644
--- a/drivers/scsi/lpfc/lpfc_ct.c
+++ b/drivers/scsi/lpfc/lpfc_ct.c
@@ -961,8 +961,8 @@ lpfc_fdmi_cmd(struct lpfc_hba * phba, st
    ae = (ATTRIBUTE_ENTRY *) ((uint8_t *) rh + size);
    ae->ad.bits.AttrType = be16_to_cpu(OS_NAME_VERSION);
```

```
    sprintf(ae->un.OsNameVersion, "%s %s %s",
-    system_utsname.sysname, system_utsname.release,
-    system_utsname.version);
+    init_utsname()->sysname, init_utsname()->release,
+    init_utsname()->version);
    len = strlen(ae->un.OsNameVersion);
    len += (len & 3) ? (4 - (len & 3)) : 4;
    ae->ad.bits.AttrLen = be16_to_cpu(FOURBYTES + len);
@@ -1080,7 +1080,7 @@ lpfc_fdmi_cmd(struct lpfc_hba * phba, st
         size);
     ae->ad.bits.AttrType = be16_to_cpu(HOST_NAME);
     sprintf(ae->un.HostName, "%s",
-     system_utsname.nodename);
+     init_utsname()->nodename);
     len = strlen(ae->un.HostName);
     len += (len & 3) ? (4 - (len & 3)) : 4;
     ae->ad.bits.AttrLen =
@@ -1168,7 +1168,7 @@ lpfc_fdmi_tmo_handler(struct lpfc_hba *p

  ndlp = lpfc_findnode_did(phba, NLP_SEARCH_ALL, FDMI_DID);
  if (ndlp) {
-  if (system_utsname.nodename[0] != '\0') {
+  if (init_utsname()->nodename[0] != '\0') {
    lpfc_fdmi_cmd(phba, ndlp, SLI_MGMT_DHBA);
   } else {
    mod_timer(&phba->fc_fdmitmo, jiffies + HZ * 60);
diff --git a/drivers/usb/core/hcd.c b/drivers/usb/core/hcd.c
index fbd938d..c1255ec 100644
--- a/drivers/usb/core/hcd.c
+++ b/drivers/usb/core/hcd.c
@@ -318,8 +318,8 @@ static int rh_string (

   // id 3 == vendor description
  } else if (id == 3) {
-  snprintf (buf, sizeof buf, "%s %s %s", system_utsname.sysname,
-   system_utsname.release, hcd->driver->description);
+  snprintf (buf, sizeof buf, "%s %s %s", init_utsname()->sysname,
+   init_utsname()->release, hcd->driver->description);

  // unsupported IDs --> "protocol stall"
  } else
diff --git a/drivers/usb/gadget/ether.c b/drivers/usb/gadget/ether.c
index c3d8e5c..e6fe999 100644
--- a/drivers/usb/gadget/ether.c
+++ b/drivers/usb/gadget/ether.c
@@ -2242,7 +2242,7 @@ eth_bind (struct usb_gadget *gadget)
   return -ENODEV;
  }
```

```
  snprintf (manufacturer, sizeof manufacturer, "%s %s/%s",
-  system_utsname.sysname, system_utsname.release,
+  init_utsname()->sysname, init_utsname()->release,
    gadget->name);

  /* If there's an RNDIS configuration, that's what Windows wants to
diff --git a/drivers/usb/gadget/file_storage.c b/drivers/usb/gadget/file_storage.c
index cf3be29..d3149e5 100644
--- a/drivers/usb/gadget/file_storage.c
+++ b/drivers/usb/gadget/file_storage.c
@@ -3965,7 +3965,7 @@ static int __init fsg_bind(struct usb_ga
  usb_gadget_set_selfpowered(gadget);

  snprintf(manufacturer, sizeof manufacturer, "%s %s with %s",
-   system_utsname.sysname, system_utsname.release,
+   init_utsname()->sysname, init_utsname()->release,
     gadget->name);

  /* On a real device, serial[] would be loaded from permanent
diff --git a/drivers/usb/gadget/serial.c b/drivers/usb/gadget/serial.c
index b992546..a2f905b 100644
--- a/drivers/usb/gadget/serial.c
+++ b/drivers/usb/gadget/serial.c
@@ -1496,7 +1496,7 @@ static int __init gs_bind(struct usb_gad
   return -ENOMEM;

  snprintf(manufacturer, sizeof(manufacturer), "%s %s with %s",
-  system_utsname.sysname, system_utsname.release,
+  init_utsname()->sysname, init_utsname()->release,
    gadget->name);

  memset(dev, 0, sizeof(struct gs_dev));
diff --git a/drivers/usb/gadget/zero.c b/drivers/usb/gadget/zero.c
index 51424f6..b23e0fd 100644
--- a/drivers/usb/gadget/zero.c
+++ b/drivers/usb/gadget/zero.c
@@ -1240,7 +1240,7 @@ autoconf_fail:
   EP_OUT_NAME, EP_IN_NAME);

  snprintf (manufacturer, sizeof manufacturer, "%s %s with %s",
-  system_utsname.sysname, system_utsname.release,
+  init_utsname()->sysname, init_utsname()->release,
    gadget->name);

  return 0;
diff --git a/include/asm-i386/bugs.h b/include/asm-i386/bugs.h
index 50233e0..6cb79fe 100644
--- a/include/asm-i386/bugs.h
```

```
+++ b/include/asm-i386/bugs.h
@@ -190,6 +190,6 @@ static void __init check_bugs(void)
  check_fpu();
  check_hlt();
  check_popad();
- system_utsname.machine[1] = '0' + (boot_cpu_data.x86 > 6 ? 6 : boot_cpu_data.x86);
+ init_utsname()->machine[1] = '0' + (boot_cpu_data.x86 > 6 ? 6 : boot_cpu_data.x86);
  alternative_instructions();
 }
diff --git a/include/asm-sh/bugs.h b/include/asm-sh/bugs.h
index a6de3d0..d09933c 100644
--- a/include/asm-sh/bugs.h
+++ b/include/asm-sh/bugs.h
@@ -18,7 +18,7 @@ static void __init check_bugs(void)
 {
  extern char *get_cpu_subtype(void);
  extern unsigned long loops_per_jiffy;
- char *p= &system_utsname.machine[2]; /* "sh" */
+ char *p= &init_utsname()->machine[2]; /* "sh" */

  cpu_data->loops_per_jiffy = loops_per_jiffy;

diff --git a/kernel/power/snapshot.c b/kernel/power/snapshot.c
index c5863d0..f43f7db 100644
--- a/kernel/power/snapshot.c
+++ b/kernel/power/snapshot.c
@@ -523,7 +523,7 @@ static void init_header(struct swsusp_in
  memset(info, 0, sizeof(struct swsusp_info));
  info->version_code = LINUX_VERSION_CODE;
  info->num_physpages = num_physpages;
- memcpy(&info->uts, &system_utsname, sizeof(system_utsname));
+ memcpy(&info->uts, init_utsname(), sizeof(struct new_utsname));
  info->cpus = num_online_cpus();
  info->image_pages = nr_copy_pages;
  info->pages = nr_copy_pages + nr_meta_pages + 1;
@@ -662,13 +662,13 @@ static int check_header(struct swsusp_in
   reason = "kernel version";
  if (info->num_physpages != num_physpages)
   reason = "memory size";
- if (strcmp(info->uts.sysname,system_utsname.sysname))
+ if (strcmp(info->uts.sysname,init_utsname()->sysname))
   reason = "system type";
- if (strcmp(info->uts.release,system_utsname.release))
+ if (strcmp(info->uts.release,init_utsname()->release))
   reason = "kernel release";
- if (strcmp(info->uts.version,system_utsname.version))
+ if (strcmp(info->uts.version,init_utsname()->version))
   reason = "version";
```

```
- if (strcmp(info->uts.machine,system_utsname.machine))
+ if (strcmp(info->uts.machine,init_utsname()->machine))
   reason = "machine";
  if (reason) {
   printk(KERN_ERR "swsusp: Resume mismatch: %s\n", reason);
diff --git a/net/ipv4/ipconfig.c b/net/ipv4/ipconfig.c
index b9bdf0f..4c13acb 100644
--- a/net/ipv4/ipconfig.c
+++ b/net/ipv4/ipconfig.c
@@ -367,7 +367,7 @@ static int __init ic_defaults(void)
   */

  if (!ic_host_name_set)
-  sprintf(system_utsname.nodename, "%u.%u.%u.%u", NIPQUAD(ic_myaddr));
+  sprintf(init_utsname()->nodename, "%u.%u.%u.%u", NIPQUAD(ic_myaddr));

  if (root_server_addr == INADDR_NONE)
   root_server_addr = ic_servaddr;
diff --git a/sound/core/info_oss.c b/sound/core/info_oss.c
index f9ce854..35662bb 100644
--- a/sound/core/info_oss.c
+++ b/sound/core/info_oss.c
@@ -94,11 +94,11 @@ static void snd_sndstat_proc_read(struct
 {
  snd_iprintf(buffer, "Sound Driver:3.8.1a-980706 (ALSA v" CONFIG_SND_VERSION " emulation
code)\n");
  snd_iprintf(buffer, "Kernel: %s %s %s %s %s\n",
-      system_utsname.sysname,
-      system_utsname.nodename,
-      system_utsname.release,
-      system_utsname.version,
-      system_utsname.machine);
+      init_utsname()->sysname,
+      init_utsname()->nodename,
+      init_utsname()->release,
+      init_utsname()->version,
+      init_utsname()->machine);
  snd_iprintf(buffer, "Config options: 0\n");
  snd_iprintf(buffer, "\nInstalled drivers: \n");
  snd_iprintf(buffer, "Type 10: ALSA emulation\n");
--
1.1.6
```