
Subject: Re: [PATCH 3/3] proc: make UTS-related sysctls utsns aware
Posted by [Sam Vilain](#) on Thu, 25 May 2006 04:01:44 GMT
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Dave Hansen wrote:

> On Tue, 2006-05-23 at 13:23 +1200, Sam Vilain wrote:

```
>
> >> +    /* map the filename to the pointer. perhaps it would be
> >> better
> >> +    to put struct offset pointers in table->data ? */
> >> +    switch (filp->f_dentry->d_name.name[3]) {
> >> +        case 'y': /* ostype */
> >> +            which = uts_ns->name.sysname;
> >> +            break;
>
>
> Why not just switch on the ->ctl_name from the table? Wouldn't that be
> easier?
```

Ha! Sure would.

Subject: proc: make UTS-related sysctls utsns aware
From: Sam Vilain <sam.vilain@catalyst.net.nz>

Add a new function `proc_do_utsns_string`, that derives the pointer into the `uts_namespace->name` structure, currently based on the filename of the dentry in `/proc`, and calls `_proc_do_string()`

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```
kernel/sysctl.c | 97 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
1 files changed, 97 insertions(+), 0 deletions(-)
```

diff --git a/kernel/sysctl.c b/kernel/sysctl.c

index cf053fc..5e6837e 100644

--- a/kernel/sysctl.c

+++ b/kernel/sysctl.c

@@ -141,8 +141,13 @@ #endif

```
static int parse_table(int __user *, int, void __user *, size_t __user *, void __user *, size_t,
                        ctl_table *, void **);
```

```

+ifndef CONFIG_UTS_NS
static int proc_do_uts_string(ctl_table *table, int write, struct file *filp,
    void __user *buffer, size_t *lenp, loff_t *ppos);
+else
+static int proc_do_utsns_string(ctl_table *table, int write, struct file *filp,
+ void __user *buffer, size_t *lenp, loff_t *ppos);
+endif

static ctl_table root_table[];
static struct ctl_table_header root_table_header =
@@ -238,6 +243,7 @@ #endif
};

static ctl_table kern_table[] = {
+ifndef CONFIG_UTS_NS
{
    .ctl_name = KERN_OSTYPE,
    .procname = "ostype",
@@ -283,6 +289,54 @@ static ctl_table kern_table[] = {
    .proc_handler = &proc_do_uts_string,
    .strategy = &sysctl_string,
},
+else /* !CONFIG_UTS_NS */
+ {
+ .ctl_name = KERN_OSTYPE,
+ .procname = "ostype",
+ .data = NULL,
+ /* could maybe use __NEW_UTS_LEN here? */
+ .maxlen = sizeof(current->nsproxy->uts_ns->name.sysname),
+ .mode = 0444,
+ .proc_handler = &proc_do_utsns_string,
+ .strategy = &sysctl_string,
+ },
+ {
+ .ctl_name = KERN_OSRELEASE,
+ .procname = "osrelease",
+ .data = NULL,
+ .maxlen = sizeof(current->nsproxy->uts_ns->name.release),
+ .mode = 0444,
+ .proc_handler = &proc_do_utsns_string,
+ .strategy = &sysctl_string,
+ },
+ {
+ .ctl_name = KERN_VERSION,
+ .procname = "version",
+ .data = NULL,
+ .maxlen = sizeof(current->nsproxy->uts_ns->name.version),
+ .mode = 0444,

```

```

+ .proc_handler = &proc_do_utsns_string,
+ .strategy = &sysctl_string,
+ },
+ {
+ .ctl_name = KERN_NODENAME,
+ .procname = "hostname",
+ .data = NULL,
+ .maxlen = sizeof(current->nsproxy->uts_ns->name.nodename),
+ .mode = 0644,
+ .proc_handler = &proc_do_utsns_string,
+ .strategy = &sysctl_string,
+ },
+ {
+ .ctl_name = KERN_DOMAINNAME,
+ .procname = "domainname",
+ .data = NULL,
+ .maxlen = sizeof(current->nsproxy->uts_ns->name.domainname),
+ .mode = 0644,
+ .proc_handler = &proc_do_utsns_string,
+ .strategy = &sysctl_string,
+ },
+ #endif /* !CONFIG_UTS_NS */
+ {
+ .ctl_name = KERN_PANIC,
+ .procname = "panic",
@@ -1684,6 +1738,7 @@ int proc_dostring(ctl_table *table, int
* to observe. Should this be in kernel/sys.c ???
*/

+ #ifndef CONFIG_UTS_NS
+ static int proc_do_uts_string(ctl_table *table, int write, struct file *filp,
+ void __user *buffer, size_t *lenp, loff_t *ppos)
+ {
@@ -1700,6 +1755,48 @@ static int proc_do_uts_string(ctl_table
+ }
+ return r;
+ }
+ #else /* !CONFIG_UTS_NS */
+ static int proc_do_utsns_string(ctl_table *table, int write, struct file *filp,
+ void __user *buffer, size_t *lenp, loff_t *ppos)
+ {
+ int r;
+ struct uts_namespace* uts_ns = current->nsproxy->uts_ns;
+ char* which;
+
+ switch (table->ctl_name) {
+ case KERN_OSTYPE:
+ which = uts_ns->name.sysname;

```

```

+ break;
+ case KERN_NODENAME:
+   which = uts_ns->name.nodename;
+   break;
+ case KERN_OSRELEASE:
+   which = uts_ns->name.release;
+   break;
+ case KERN_VERSION:
+   which = uts_ns->name.version;
+   break;
+ case KERN_DOMAINNAME:
+   which = uts_ns->name.domainname;
+   break;
+ default:
+   r = -EINVAL;
+   goto out;
+ }
+
+ if (!write) {
+   down_read(&uts_sem);
+   r=_proc_do_string(which,table->maxlen,0,filp,buffer,lenp, ppos);
+   up_read(&uts_sem);
+ } else {
+   down_write(&uts_sem);
+   r=_proc_do_string(which,table->maxlen,1,filp,buffer,lenp, ppos);
+   up_write(&uts_sem);
+ }
+ out:
+ return r;
+}
+#endif /* !CONFIG_UTS_NS */

```

```

static int do_proc_dointvec_conv(int *negp, unsigned long *lvalp,
    int *valp,

```
