

NAME

syscall_helper_register, **syscall_helper_unregister** - kernel syscall registration routines

SYNOPSIS

```
#include <sys/sysem.h>
```

```
int
```

```
syscall_helper_register(struct syscall_helper_data *sd, int flags);
```

```
int
```

```
syscall_helper_unregister(struct syscall_helper_data *sd);
```

INITIALIZER MACROS

```
struct syscall_helper_data
```

```
SYSCALL_INIT_HELPER(syscallname);
```

```
struct syscall_helper_data
```

```
SYSCALL_INIT_HELPER_F(syscallname, int flags);
```

COMPATIBILITY INITIALIZER MACROS

```
struct syscall_helper_data
```

```
SYSCALL_INIT_HELPER_COMPAT(syscallname);
```

```
struct syscall_helper_data
```

```
SYSCALL_INIT_HELPER_COMPAT_F(syscallname, int flags);
```

DESCRIPTION

The **syscall_helper_register()** registers a system call. This function takes the structure *struct syscall_helper_data sd*, which specifies the parameters for syscall registration:

```
struct syscall_helper_data {
    struct sysent    new_sysent;
    struct sysent    old_sysent;
    int             syscall_no;
    int             registered;
};
```

The only valid flag for the *flags* argument to **syscall_helper_register()** is **SY_THR_STATIC**. This flag prevents the syscall from being unregistered.

Before use, the structure must be initialized with one of the **SYSCALL_INIT_HELPER***(*n*) macros. In new code, syscall implementation functions shall be named **sys_syscallname**(*n*) and the regular macros shall be used.

For legacy syscall functions named without "sys_" prefixes, the "COMPAT" versions of the macros may be used.

The only valid flag for the *flags* argument to the "F" variants of the initializer macros is SYF_CAPENABLED. This flag indicates that the syscall is allowed in capability mode.

The **syscall_helper_unregister**(*sd*) unregisters a system call. This function takes the same structure *struct syscall_helper_data sd* that was previously initialized in the manner described above and used in a successful invocation of **syscall_helper_register**(*sd*).

RETURN VALUES

If successful, **syscall_helper_register**(*sd*) and **syscall_helper_unregister**(*sd*) will return 0. Otherwise, they will return an error.

ERRORS

The **syscall_helper_register**(*sd*) call will fail and the syscall will not be registered if:

- | | |
|----------|--|
| [EINVAL] | The <i>flags</i> argument contained a value other than SY_THR_STATIC. |
| [EINVAL] | The specified syscall number, <i>sd.syscall_no</i> (SYS_syscallname), was outside of the valid range of system call numbers (zero through SYS_MAXSYSCALL). |
| [ENFILE] | The system call table does not have any available slots. |
| [EEXIST] | The specified syscall number, <i>sd.syscall_no</i> (SYS_syscallname), was already in use. |

SEE ALSO

SYSCALL_MODULE(9)