

**NAME**

**caph\_limit\_stream**, **caph\_limit\_stdin**, **caph\_limit\_stderr**, **caph\_limit\_stdout**, **caph\_limit\_stdio**, **caph\_stream\_rights**, **caph\_cache\_tzdata**, **caph\_cache\_catpages**, **caph\_enter**, **caph\_enter\_casper**, **caph\_rights\_limit**, **caph\_ioctls\_limit**, **caph\_fcntls\_limit** - set of the capsicum helpers, part of the libcapsicum

**LIBRARY**

library "libcapsicum"

**SYNOPSIS**

```
#include <capsicum_helpers.h>
```

*int*

```
caph_enter(void);
```

*int*

```
caph_enter_casper(void);
```

*int*

```
caph_rights_limit(int fd, const cap_rights_t *rights);
```

*int*

```
caph_ioctls_limit(int fd, const unsigned long *cmds, size_t ncmds);
```

*int*

```
caph_fcntls_limit(int fd, uint32_t fcntlrights);
```

*int*

```
caph_limit_stream(int fd, int flags);
```

*int*

```
caph_limit_stdin(void);
```

*int*

```
caph_limit_stderr(void);
```

*int*

```
caph_limit_stdout(void);
```

*int*

**caph\_limit\_stdio**(void);

void

**caph\_stream\_rights**(cap\_rights\_t \*, int flags);

void

**caph\_cache\_tzdata**(void);

void

**caph\_cache\_catpages**(void);

## DESCRIPTION

The **caph\_enter**, **caph\_rights\_limit**, **caph\_ioctls\_limit** and **caph\_fcntl\_limit** are respectively equivalent to `cap_enter(2)`, `cap_rights_limit(2)`, `cap_ioctls_limit(2)` and `cap_fcntl_limit(2)`, it returns success when the kernel is built without support of the capability mode.

The **caph\_enter\_casper** is equivalent to the **caph\_enter** it returns success when the system is built without Casper support.

The **capsicum helpers** are a set of inline functions which simplify modifying programs to use Capsicum. The goal is to reduce duplicated code patterns. The **capsicum helpers** are part of **libcapsicum** but there is no need to link to the library.

**caph\_limit\_stream**() restricts capabilities on *fd* to only those needed by POSIX stream objects (that is, FILEs).

These flags can be provided:

<b>CAPH_IGNORE_EBADF</b>	Do not return an error if file descriptor is invalid.
<b>CAPH_READ</b>	Set CAP_READ on limited descriptor.
<b>CAPH_WRITE</b>	Set CAP_WRITE on limited descriptor.

**caph\_limit\_stdin**(), **caph\_limit\_stderr**() and **caph\_limit\_stdout**() limit standard descriptors using the **caph\_limit\_stream** function.

**caph\_limit\_stdio**() limits stdin, stderr and stdout.

**caph\_stream\_rights** may be used to initialize *rights* with the same rights that a stream would be limited to, as if **caph\_limit\_stream**() had been invoked using the same *flags*.

**caph\_cache\_tzdata()** precaches all timezone data needed to use libc local time functions.

**caph\_cache\_catpages()** caches Native Language Support (NLS) data. NLS data is used for localized error printing by `strerror(3)` and `err(3)`, among others.

**SEE ALSO**

`cap_enter(2)`, `cap_rights_limit(2)`, `rights(4)`