

**NAME**

**pmc\_attach**, **pmc\_detach** - attaching and detaching process scope PMCs to target processes

**LIBRARY**

Performance Counters Library (libpmc, -lpmc)

**SYNOPSIS**

```
#include <pmc.h>
```

*int*

```
pmc_attach(pmc_id_t pmcid, pid_t pid);
```

*int*

```
pmc_detach(pmc_id_t pmcid, pid_t pid);
```

**DESCRIPTION**

These functions control the set of target processes tracked by a process scope PMC.

Function **pmc\_attach**() is used to attach a process scope PMC specified by argument *pmcid* to a target process specified by argument *pid*. Argument *pid* may be zero to denote the current process. If the PMC was allocated with modifier PMC\_F\_DESCENDANTS, the PMC will additionally attach to current and future descendents of the specified target process. The PMC should be in a quiescent state (i.e., not running).

Function **pmc\_detach**() is used to detach a process scope PMC specified by argument *pmcid* from a process specified by argument *pid*. Argument *pid* may be zero to denote the current process.

**RETURN VALUES**

Upon successful completion, the value 0 is returned; otherwise the value -1 is returned and the global variable *errno* is set to indicate the error.

**ERRORS**

A call to function **pmc\_attach**() may fail with the following errors:

- |          |   |
|----------|---|
| [EBUSY]  | Argument <i>pmcid</i> specified a PMC that was not in a quiescent state.  |
| [EBUSY]  | The target process specified by function <i>pmc_attach</i> is being tracked by another process scope PMC that uses the same PMC hardware resources. |
| [EEXIST] | The target process is already being tracked by the specified PMC.   |

- [EINVAL] Argument *pmcid* specified a PMC with system scope.
- [EINVAL] Argument *pid* specified an illegal process id.
- [EINVAL] The current process does not own a PMC with the handle specified in argument *pmcid*.
- [EPERM] The caller lacked the privilege needed to attach PMCs to the specified target process.
- [EPERM] (i386 and amd64 architectures) The PMC specified by argument *pmcid* has been setup to allow the use of the RDPMC instruction for self measurement.
- [ESRCH] The current process does not own any PMCs.
- [ESRCH] The process specified by argument *pid* did not exist.

A call to function **pmc\_detach()** may fail with the following errors:

- [EINVAL] Argument *pmcid* specified a PMC with system scope.
- [EINVAL] Argument *pid* specified an illegal process id.
- [EINVAL] The current process does not own a PMC with the handle specified in argument *pmcid*.
- [EINVAL] The specified PMC was not attached to the target process.
- [ESRCH] The current process does not own any PMCs.
- [ESRCH] The process specified by argument *pid* is not being monitored by `hwpmc(4)`.
- [ESRCH] The process specified by argument *pid* did not exist.

#### SEE ALSO

`pmc(3)`, `pmc_start(3)`, `pmc_stop(3)`, `hwpmc(4)`