

**NAME**

**pmap** - machine-dependent portion of virtual memory subsystem

**SYNOPSIS**

```
#include <sys/param.h>
#include <vm/vm.h>
#include <vm/pmap.h>
```

**DESCRIPTION**

The **pmap** module is the machine-dependent portion of the FreeBSD VM (Virtual Memory) sub-system. Each function documented herein must have its own architecture-dependent implementation.

The **pmap** module is responsible for managing hardware-dependent objects such as page tables, address maps, TLBs, etc.

Machine-dependent code must provide the header file *<machine/pmap.h>*. This file contains the definition of the *pmap* structure:

```
struct pmap {
    /* Contents defined by pmap implementation. */
};
typedef struct pmap *pmap_t;
```

This header file may also define other data structures used by the **pmap** implementation.

The header file *<vm/pmap.h>* defines a structure for tracking **pmap** statistics (see below). This structure is defined as:

```
struct pmap_statistics {
    long    resident_count; /* number of mapped pages */
    long    wired_count;   /* number of wired pages */
};
```

The implementation's *struct pmap* must contain an instance of this structure having the name *pm\_stats*, and it must be updated by the implementation after each relevant **pmap** operation.

**SEE ALSO**

`pmap_activate(9)`, `pmap_clear_modify(9)`, `pmap_copy(9)`, `pmap_copy_page(9)`, `pmap_enter(9)`, `pmap_extract(9)`, `pmap_extract_and_hold(9)`, `pmap_growkernel(9)`, `pmap_init(9)`, `pmap_init2(9)`, `pmap_is_modified(9)`, `pmap_is_prefaultable(9)`, `pmap_map(9)`, `pmap_mincore(9)`,

pmap\_object\_init\_pt(9), pmap\_page\_exists\_quick(9), pmap\_page\_init(9), pmap\_pinit(9),  
pmap\_pinit0(9), pmap\_pinit2(9), pmap\_protect(9), pmap\_qenter(9), pmap\_qremove(9),  
pmap\_quick\_enter\_page(9), pmap\_quick\_remove\_page(9), pmap\_release(9), pmap\_remove(9),  
pmap\_remove\_all(9), pmap\_remove\_pages(9), pmap\_resident\_count(9), pmap\_ts\_referenced(9),  
pmap\_unwire(9), pmap\_wired\_count(9), pmap\_zero\_area(9), pmap\_zero\_page(9), vm\_map(9)

## AUTHORS

This manual page was written by Bruce M Simpson <[bms@spc.org](mailto:bms@spc.org)>.