

**NAME**

**fetch**, **fubyte**, **fuword**, **fuword16**, **fuword32**, **fuword64**, **fueword**, **fueword32**, **fueword64** - fetch data from user-space

**SYNOPSIS**

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

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

*int*

```
fubyte(volatile const void *base);
```

*long*

```
fuword(volatile const void *base);
```

*int*

```
fuword16(volatile const void *base);
```

*int32\_t*

```
fuword32(volatile const void *base);
```

*int64\_t*

```
fuword64(volatile const void *base);
```

*int*

```
fueword(volatile const void *base, long *val);
```

*int*

```
fueword32(volatile const void *base, int32_t *val);
```

*int*

```
fueword64(volatile const void *base, int64_t *val);
```

**DESCRIPTION**

The **fetch** functions are designed to copy small amounts of data from user-space of the current process. If the user address is naturally aligned, then the operation will be performed atomically. Otherwise it may fail or be performed non-atomically, depending on the platform.

The **fetch** routines provide the following functionality:

**fubyte**()      Fetches a byte of data from the user-space address *base*. The byte read is zero-extended

into the results variable.

**fuword()** Fetches a word of data (long) from the user-space address *base*.

**fuword16()** Fetches 16 bits of data from the user-space address *base*. The half-word read is zero-extended into the results variable.

**fuword32()** Fetches 32 bits of data from the user-space address *base*.

**fuword64()** Fetches 64 bits of data from the user-space address *base*.

**fuword()** Fetches a word of data (long) from the user-space address *base* and stores the result in the variable pointed by *val*.

**fuword32()** Fetches 32 bits of data from the user-space address *base* and stores the result in the variable pointed by *val*.

**fuword64()** Fetches 64 bits of data from the user-space address *base* and stores the result in the variable pointed by *val*.

The callers of **fuword()**, **fuword32()** and **fuword64()** functions cannot distinguish between -1 read from userspace and function failure.

## RETURN VALUES

The **fubyte()**, **fuword()**, **fuword16()**, **fuword32()**, and **fuword64()** functions return the data fetched or -1 on failure. The **fuword()**, **fuword32()** and **fuword64()** functions return 0 on success and -1 on failure.

## SEE ALSO

copy(9), store(9)