# SystemTap Tapset Reference Manual

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# SystemTap Tapset Reference Manual

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# Chapter 1. Memory Tapset

# Name

probe vm.pagefault — Records that a page fault occurred.

```
probe vm.pagefault
```

# Values

*write_access*        Indicates whether this was a write.

*address*             The address of the faulting memory access.

# Context

The process which triggered the fault

# Name

probe vm.pagefault.return — Records type of fault that occurred.

```
probe vm.pagefault.return
```

# Values

fault_type           0 (VM_FAULT_OOM), 1 (VM_FAULT_SIGBUS), 2 (VM_FAULT_MINOR), and 3 (VM_FAULT_MAJOR)

# Name

addr_to_node — Returns which NUMA node has the given address.

**addr_to_node:long**(*addr:long*);

*addr:long;*

# Arguments

*addr*    The address of the faulting memory access.

# Name

probe vm.write_shared — Write to shared page.

```
probe vm.write_shared
```

# Values

*address*    The address of the shared write.

# Context

The context is the process attempting the write.

# Description

Fires when a process attempts to write to a shared page. If a copy is necessary, this will be followed by a vm.write_shared_copy.

# Name

probe vm.write_shared_copy — Page copy for shared page write.

```
probe vm.write_shared_copy
```

# Values

*zero*        boolean indicating whether it is a zero page (can do a clear instead of a copy).

*address*     the address of the shared write.

# Context

The process attempting the write.

# Description

Fires when a write to a shared page requires a page copy.  This is always preceded by a vm.shared_write.

# Name

probe vm.mmap — Fires when an mmap is requested.

```
probe vm.mmap
```

# Values

*length*        the length of the memory segment

*address*      the requested address

# Context

The process calling mmap.

# Name

probe vm.munmap — Fires when an munmap is requested.

```
probe vm.munmap
```

# Values

*length*   the length of the memory segment

*address*   the requested address

# Context

The process calling munmap.

# Name

probe vm.brk — Fires when a brk is requested (resizing a heap).

```
probe vm.brk
```

# Values

None

# Description

*address* - the requested address *length* - the length of the memory segment

# Context

The process calling brk.

# Name

probe vm.oom_kill — Fires when a thread is targetted by the OOM killer.

```
probe vm.oom_kill
```

# Values

*task*    the task being killed

# Context

The process that tried to consume more memory, and thus triggered the OOM. (correct?)