

## 2 vm.memory.size parameters

### Overview

This section provides more details and platform-specific information on the parameters of the `vm.memory.size[<mode>]` [agent item](#).

### Parameters

The following parameters are available for this item:

- **active** - memory currently in use or very recently used, and so it is in RAM
- **anon** - memory not associated with a file (cannot be re-read from it)
- **available** - available memory, calculated differently depending on the platform (see the table below)
- **buffers** - cache for things like file system metadata
- **cached** - cache for various things
- **exec** - executable code, typically from a (program) file
- **file** - cache for contents of recently accessed files
- **free** - memory that is readily available to any entity requesting memory
- **inactive** - memory that is marked as not used
- **pavailable** - 'available' memory as percentage of 'total' (calculated as  $\text{available}/\text{total}*100$ )
- **pinned** - same as 'wired'
- **pusd** - 'used' memory as percentage of 'total' (calculated as  $\text{used}/\text{total}*100$ )
- **shared** - memory that may be simultaneously accessed by multiple processes
- **slab** - total amount of memory used by the kernel to cache data structures for its own use
- **total** - total physical memory available
- **used** - used memory, calculated differently depending on the platform (see the table below)
- **wired** - memory that is marked to always stay in RAM. It is never moved to disk.

Some of these parameters are platform-specific and might not be available on your platform. Please refer to [this page](#) for details.

Platform-specific calculation of **available** and **used**:

Platform	"available"	"used"
AIX	free + cached	real memory in use
FreeBSD	inactive + cached + free	active + wired + cached
HP UX	free	total - free
Linux<3.14	free + buffers + cached	total - free
Linux 3.14+	/proc/meminfo, "MemAvailable" (includes "Cached")	total - free
NetBSD	inactive + execpages + file + free	total - free
OpenBSD	inactive + free + cached	active + wired
OSX	inactive + free	active + wired
Solaris	free	total - free
Win32	free	total - free

The sum of `vm.memory.size[used]` and `vm.memory.size[available]` does not necessarily equal total. For instance, on FreeBSD:

\* Active, inactive, wired, cached memories are considered used, because they store some useful information.

\* At the same time inactive, cached, free memories are considered available, because these kinds of memories can be given instantly to processes that request more memory.

So inactive memory is both used and available simultaneously. Because of this, the *vm.memory.size[used]* item is designed for informational purposes only, while *vm.memory.size[available]* is designed to be used in triggers.

See the "See also" section at the bottom of this page to find more detailed information about memory calculation in different OS.

### Platform-specific notes

- on Linux **shared** works only on kernel 2.4

### See also

1. [Detailed information about memory calculation in different OS](#)

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