

## 2 vm.memory.size parameters

### Overview

This section provides some parameter details for 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. See [Items supported by platform](#) for details.

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

Platform	"available"	"used"
<i>AIX</i>	free + cached	real memory in use
<i>FreeBSD</i>	inactive + cached + free	active + wired + cached
<i>HP UX</i>	free	total - free
<i>Linux&lt;3.14</i>	free + buffers + cached	total - free
<i>Linux 3.14+</i> (also backported to 3.10 on RHEL 7)	/proc/meminfo, see "MemAvailable" in Linux kernel <a href="#">documentation</a> for details. Note that free + buffers + cached is no longer equal to 'available' due to not all the page cache can be freed and low watermark being used in calculation.	total - free
<i>NetBSD</i>	inactive + execpages + file + free	total - free
<i>OpenBSD</i>	inactive + free + cached	active + wired
<i>OSX</i>	inactive + free	active + wired

Platform	"available"	"used"
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 also

1. [Additional details about memory calculation in different OS](#)

From: <https://www.zabbix.com/documentation/current/> - **Zabbix Documentation 5.0**

Permanent link: [https://www.zabbix.com/documentation/current/manual/appendix/items/vm.memory.size\\_params](https://www.zabbix.com/documentation/current/manual/appendix/items/vm.memory.size_params)

Last update: **2020/03/09 09:30**

