NAME

/proc/slabinfo − Kernel slab allocator statistics

SYNOPSIS

cat /proc/slabinfo

DESCRIPTION

Frequently used objects in the Linux kernel (buffer heads, inodes, dentries, etc.) have their own cache. The file */proc/slabinfo* gives statistics. For example:

```
% cat /proc/slabinfo
slabinfo − version: 1.1
kmem_cache           60     78    100    2    2    1
blkdev_requests    5120   5120     96  128  128    1
mnt_cache            20     40     96    1    1    1
inode_cache        7005  14792    480 1598 1849    1
dentry_cache       5469   5880    128  183  196    1
filp                726    760     96   19   19    1
buffer_head       67131  71240     96 1776 1781    1
vm_area_struct     1204   1652     64   23   28    1
...
size-8192             1     17   8192    1   17    2
size-4096            41     73   4096   41   73    1
...
```

For each slab cache, the cache name, the number of currently active objects, the total number of available objects, the size of each object in bytes, the number of pages with at least one active object, the total number of allocated pages, and the number of pages per slab are given.

Note that because of object alignment and slab cache overhead, objects are not normally packed tightly into pages. Pages with even one in-use object are considered in-use and cannot be freed.

Kernels compiled with slab cache statistics will also have "(statistics)" in the first line of output, and will have 5 additional columns, namely: the high water mark of active objects; the number of times objects have been allocated; the number of times the cache has grown (new pages added to this cache); the number of times the cache has been reaped (unused pages removed from this cache); and the number of times there was an error allocating new pages to this cache. If slab cache statistics are not enabled for this kernel, these columns will not be shown.

SMP systems will also have "(SMP)" in the first line of output, and will have two additional columns for each slab, reporting the slab allocation policy for the CPU-local cache (to reduce the need for inter-CPU synchronization when allocating objects from the cache). The first column is the per-CPU limit: the maximum number of objects that will be cached for each CPU. The second column is the batchcount: the maximum number of free objects in the global cache that will be transferred to the per-CPU cache if it is empty, or the number of objects to be returned to the global cache if the per-CPU cache is full.

If both slab cache statistics and SMP are defined, there will be four additional columns, reporting the per-CPU cache statistics. The first two are the per-CPU cache allocation hit and miss counts: the number of times an object was or was not available in the per-CPU cache for allocation. The next two are the per-CPU cache free hit and miss counts: the number of times a freed object could or could not fit within the per-CPU cache limit, before flushing objects to the global cache.

It is possible to tune the SMP per-CPU slab cache limit and batchcount via:

echo "*cache_name limit batchcount*" > /proc/slabinfo

FILES

<linux/slab.h>

VERSIONS

/proc/slabinfo exists since Linux 2.1.23. SMP per-CPU caches exist since Linux 2.4.0-test3.

NOTES

Since Linux 2.6.16 the file */proc/slabinfo* is only present if the **CONFIG_SLAB** kernel configuration option is enabled.

COLOPHON

This page is part of release 3.22 of the Linux *man-pages* project. A description of the project, and information about reporting bugs, can be found at http://www.kernel.org/doc/man-pages/.