

vmstat performance test

Linux 2.6.38-11-generic (ubuntu) _x86_64_ (4 CPU) 4GB Ram

This is a test of monitoring the virtual memory use for about half an hour here are the columns description and then the results of this test.

FIELD DESCRIPTION FOR VM MODE

Procs

- r: The number of processes waiting for run time.
- b: The number of processes in uninterruptible sleep.

Memory

- swpd: the amount of virtual memory used.
- free: the amount of idle memory.
- buff: the amount of memory used as buffers.
- cache: the amount of memory used as cache.
- inact: the amount of inactive memory. (-a option)
- active: the amount of active memory. (-a option)

Swap

- si: Amount of memory swapped in from disk (/s).
- so: Amount of memory swapped to disk (/s).

IO

- bi: Blocks received from a block device (blocks/s).
- bo: Blocks sent to a block device (blocks/s).

System

- in: The number of interrupts per second, including the clock.
- cs: The number of context switches per second.

CPU

- These are percentages of total CPU time.
- us: Time spent running non-kernel code. (user time, including nice time)
- sy: Time spent running kernel code. (system time)
- id: Time spent idle. Prior to Linux 2.5.41, this includes IO-wait time.
- wa: Time spent waiting for IO. Prior to Linux 2.5.41, included in idle.
- st: Time stolen from a virtual machine. Prior to Linux 2.6.11, unknown.

RESULTS

procs -----memory----- --swap-- -----io----- -system-- -----cpu-----

r	b	swpd	free	buff	cache	si	so	bi	bo	in	cs	us	sy	id	wa
0	0	11428	36340	683984	1062712	0	0	26	33	35	74	7	1	91	0
1	0	11428	59580	684248	1066460	0	0	1	72	1942	4266	8	2	90	0
0	0	11428	32184	686012	1064328	0	0	63	121	2087	4977	10	2	88	0
6	0	11428	43996	648756	1037540	0	0	112	269	1842	4578	12	2	86	0
3	0	11428	33580	648644	1035908	0	0	17	49	1978	4519	9	1	89	0
1	0	11428	56416	647436	1040252	0	0	11	61	1809	4124	9	1	90	0
0	0	11428	160456	648048	1031364	0	0	9	75	1836	4313	9	1	89	0
1	0	11428	155720	648752	1032220	0	0	9	70	1815	3803	8	1	91	0
0	0	11428	161116	649020	1028612	0	0	0	68	1590	3468	7	1	92	0
4	0	11428	148708	650384	1034108	0	0	20	61	1885	4481	9	1	90	0
1	0	11428	162396	650640	1033324	0	0	0	57	1872	4156	9	1	90	0
3	0	11428	161420	650884	1033372	0	0	0	57	1912	4237	9	1	90	0
0	0	11428	160660	651172	1029856	0	0	0	57	1960	4560	9	1	90	0
0	0	11428	163396	651444	1033540	0	0	0	46	1649	3435	8	1	91	0
0	0	11428	165124	651744	1030164	0	0	0	60	1651	3575	7	1	92	0
0	0	11428	155700	652200	1034288	0	0	3	58	1752	4132	8	1	91	0
0	0	11428	151732	652500	1034420	1	0	1	54	1785	4167	8	1	90	0
0	0	11428	156452	652780	1034256	0	0	0	58	1647	3689	8	1	91	0
0	0	11428	155096	653056	1034420	0	0	1	58	1663	3653	8	1	91	0
0	0	11428	131628	654212	1035120	0	0	16	58	2000	4801	10	2	89	0
0	0	11428	129560	655352	1032156	0	0	17	84	1898	4235	11	1	88	0
0	0	11428	99552	655760	1032536	0	0	3	77	1775	3949	8	1	90	0
0	0	11428	116808	656112	1032636	0	0	0	70	1666	3824	8	1	91	0
0	0	11428	103768	661568	1036088	0	0	99	50	1905	4399	9	2	89	0
0	0	11428	87856	663028	1040568	0	0	23	72	1908	4304	9	1	90	0
1	0	11428	115532	663960	1041380	0	0	5	75	1780	4130	9	2	89	0
0	0	11428	110952	664204	1044572	0	0	0	57	1726	3974	9	1	90	0
0	0	11428	117764	664500	1037904	0	0	0	60	1796	4090	8	1	91	0
0	0	11428	105124	664796	1045500	0	0	1	61	1612	3828	8	1	91	0
0	0	11428	100456	665040	1041776	0	0	0	58	1870	4234	9	1	90	0
0	0	11428	97072	665388	1044420	0	0	0	62	1781	4109	9	1	89	0
0	0	11428	96188	665656	1041788	0	0	0	57	1755	3842	8	1	90	0

sar -B PERFORMANCE TEST

This is a paging performance test

COLUMNS DESCRIPTION

-B Report paging statistics. The following values are displayed:

pgpgin/s

Total number of kilobytes the system paged in from disk per second.

pgpgout/s

Total number of kilobytes the system paged out to disk per second.

fault/s

Number of page faults (major + minor) made by the system per second. This is not a count of page faults that generate I/O, because some page faults can be resolved without I/O.

majflt/s

Number of major faults the system has made per second, those which have required loading a memory page from disk.

pgfree/s

Number of pages placed on the free list by the system per second.

pgscank/s

Number of pages scanned by the kswapd daemon per second.

pgscand/s

Number of pages scanned directly per second.

pgsteal/s

Number of pages the system has reclaimed from cache (pagecache and swapcache) per second to satisfy its memory demands.

%vmeff

Calculated as $\text{pgsteal} / \text{pgscan}$, this is a metric of the efficiency of page reclaim. If it is near 100% then almost every page coming off the tail of the inactive list is being reaped. If it gets too low (e.g. less than 30%) then the virtual memory is having some difficulty. This field is displayed as zero if no pages have been scanned during the interval of time.

RESULTS

	pgpgin/s	pgpgout/s	fault/s	majflt/s	pgfree/s	pgscank/s	pgscand/s	pgsteal/s	%vmeff
11:24:45									
11:24:46	0.00	0.00	23.00	0.00	444.00	0.00	0.00	0.00	0.00
11:24:47	0.00	0.00	32.00	0.00	407.00	0.00	0.00	0.00	0.00
11:24:48	0.00	76.00	22.00	0.00	388.00	0.00	0.00	0.00	0.00
11:24:49	0.00	0.00	51.00	0.00	481.00	0.00	0.00	0.00	0.00
11:24:50	0.00	68.00	22.00	0.00	356.00	0.00	0.00	0.00	0.00
11:24:51	0.00	0.00	21.00	0.00	408.00	0.00	0.00	0.00	0.00
11:24:52	0.00	0.00	61.00	0.00	404.00	0.00	0.00	0.00	0.00
11:24:53	0.00	72.00	22.00	0.00	341.00	0.00	0.00	0.00	0.00
11:24:54	0.00	0.00	452.00	0.00	696.00	0.00	0.00	0.00	0.00
11:24:55	0.00	60.00	22.00	0.00	330.00	0.00	0.00	0.00	0.00
11:24:56	0.00	0.00	614.00	0.00	1189.00	0.00	0.00	0.00	0.00
11:24:57	0.00	0.00	59.00	0.00	356.00	0.00	0.00	0.00	0.00
11:24:58	0.00	372.00	57.00	0.00	334.00	0.00	0.00	0.00	0.00
11:24:59	4.00	0.00	271.00	0.00	562.00	0.00	0.00	0.00	0.00
11:25:00	0.00	80.00	21.00	0.00	345.00	0.00	0.00	0.00	0.00
11:25:01	0.00	0.00	22.00	0.00	372.00	0.00	0.00	0.00	0.00
11:25:02	0.00	0.00	1489.00	0.00	964.00	0.00	0.00	0.00	0.00
11:25:03	0.00	84.00	35.00	0.00	508.00	0.00	0.00	0.00	0.00
11:25:04	0.00	0.00	95.00	0.00	370.00	0.00	0.00	0.00	0.00
11:25:05	0.00	88.00	36.00	0.00	357.00	0.00	0.00	0.00	0.00
11:25:06	0.00	0.00	34.00	0.00	355.00	0.00	0.00	0.00	0.00
11:25:07	0.00	0.00	33.00	0.00	332.00	0.00	0.00	0.00	0.00
11:25:08	0.00	92.00	143.00	0.00	417.00	0.00	0.00	0.00	0.00

11:25:09	0.00	0.00	138.00	0.00	433.00	0.00	0.00	0.00	0.00
11:25:10	0.00	60.00	41.00	0.00	387.00	0.00	0.00	0.00	0.00
11:25:11	0.00	0.00	54.00	0.00	352.00	0.00	0.00	0.00	0.00
11:25:12	0.00	0.00	102.00	0.00	374.00	0.00	0.00	0.00	0.00
11:25:13	0.00	64.00	53.00	0.00	380.00	0.00	0.00	0.00	0.00
11:25:14	0.00	0.00	61.00	0.00	414.00	0.00	0.00	0.00	0.00
11:25:15	0.00	72.00	58.00	0.00	394.00	0.00	0.00	0.00	0.00
11:25:16	0.00	0.00	22.00	0.00	426.00	0.00	0.00	0.00	0.00
11:25:17	0.00	0.00	22.00	0.00	367.00	0.00	0.00	0.00	0.00
11:25:18	0.00	76.00	21.00	0.00	317.00	0.00	0.00	0.00	0.00
11:25:19	0.00	0.00	299.00	0.00	434.00	0.00	0.00	0.00	0.00
11:25:20	0.00	60.00	57.00	0.00	352.00	0.00	0.00	0.00	0.00
11:25:21	0.00	0.00	21.00	0.00	362.00	0.00	0.00	0.00	0.00
11:25:22	0.00	0.00	219.00	0.00	609.00	0.00	0.00	0.00	0.00