

Tuning for large outbound smtp queues

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To: freebsd-performance@freebsd.org

We have separate inbound and outbound smtp servers and I am looking to better tune the boxes (2 of them) that spool my network's outbound mail. As a result of the zillion viruses and n*zillion spams bouncing back to networks that dont accept mail, I am seeing some very large queues for sendmail. Apart from

```
define(`confTO_IDENT', 0s)
define(`QUEUE_DIR', `/var/spool/mqueue/q*')dnl
```

where there are 60 q directories I havent really tuned sendmail nor the OS. However, as the volume grows, the box becomes quite sluggish. Is it just a matter of throwing more hardware at the issue, or can I better tweak RELENG_4 and sendmail to deal with massive (80,000+) queues ? Allocating more memory to caching the filesystem for example ?

Here is a quick snapshot.

```
smtp3# vmstat -c 100
procs memory page disk faults cpu
r b w avm fre flt re pi po fr sr ad0 in sy cs us sy id
3 10 0 390168 36660 491 0 0 0 717 98 0 504 1749 430 3 7 90
1 13 0 390964 35604 204 0 0 0 225 0 107 407 1155 166 2 10 87
3 8 0 391672 37112 543 0 0 0 1359 0 110 470 1862 163 1 13 85
1 11 0 461436 37316 149 0 0 0 285 0 105 422 1409 190 0 9 91
2 12 0 459796 37700 247 0 0 0 357 0 104 418 1620 177 2 9 89
3 10 0 460924 36612 249 0 0 0 201 0 105 457 2017 185 1 10 88
2 12 0 486584 36888 39 0 0 0 201 0 106 402 1156 164 1 7 92
3 9 0 484632 37280 195 0 0 0 355 0 110 445 1426 184 1 8 90
2 11 0 503260 37628 23 0 0 0 172 0 105 401 706 127 0 7 93
4 7 0 503260 37372 58 0 0 0 30 0 99 384 931 107 1 7 91
2 10 0 529064 36480 202 0 0 0 176 0 110 429 1400 143 1 10 90
2 8 0 527280 36900 114 0 0 0 306 0 109 382 681 130 1 9 90
3 8 0 533508 36592 5 0 0 0 16 0 107 365 641 111 1 4 95
3 9 0 534364 35840 167 0 0 0 138 0 105 375 919 109 1 9 90
^C
smtp3# iostat -c 100
```

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```
tty ad0 cpu
tin tout KB/t tps MB/s us ni sy in id
0 2 0.00 0 0.00 3 0 4 3 90
0 43 14.60 119 1.70 0 0 0 0 100
0 43 14.13 155 2.14 0 0 0 1 99
0 43 4.93 107 0.51 3 0 4 0 93
0 43 5.01 106 0.52 2 0 3 2 94
0 42 4.17 102 0.42 2 0 2 2 93
0 43 3.51 92 0.32 0 0 1 1 98
0 43 3.42 99 0.33 0 0 1 1 98
0 43 4.87 105 0.50 1 0 1 0 98
^C
```

Memory statistics by type Type Kern

```
    Type InUse MemUse HighUse Limit Requests Limit Limit Size(s)
atkbddev 2 1K 1K102400K 2 0 0 32
uc_devlist 0 0K 2K102400K 12 0 0 16,1K
nexusdev 3 1K 1K102400K 3 0 0 16
memdesc 1 4K 4K102400K 1 0 0 4K
  mbuf 1 96K 96K102400K 1 0 0 128K
  isadev 8 1K 1K102400K 8 0 0 64
  ZONE 14 2K 2K102400K 14 0 0 128
VM pgdata 1 64K 64K102400K 1 0 0 64K
  devbuf 85 185K 185K102400K 141 0 0
16,32,64,128,256,512,1K,2K,4K,16K
UFS mount 15 37K 37K102400K 15 0 0 512,2K,4K,8K
UFS ihash 1 256K 256K102400K 1 0 0 256K
FFS node 63819 15955K 15955K102400K 97174709 0 0 256
  dirrem 15 1K 18K102400K 30060178 0 0 32
  mkdir 0 0K 8K102400K 718 0 0 32
  diradd 0 0K 41K102400K 30360613 0 0 32
  freefile 0 0K 41K102400K 19194217 0 0 32
  freeblks 2 1K 163K102400K 19194170 0 0 128
  freefrag 0 0K 13K102400K 4389505 0 0 32
allocindir 0 0K 1051K102400K 4645678 0 0 64
  indirdep 1 1K 81K102400K 173299 0 0 32,16K
allocdirect 2 1K 70K102400K 27923527 0 0 64
  bmsafemap 2 1K 2K102400K 20570860 0 0 32
  newblk 1 1K 1K102400K 32569206 0 0 32,256
  inodedep 18 259K 480K102400K 50515208 0 0 128,256K
  pagedep 15 33K 46K102400K 30234990 0 0 64,32K
  p1003.1b 1 1K 1K102400K 1 0 0 16
  syncache 1 8K 8K102400K 1 0 0 8K
  tseg_qent 0 0K 1K102400K 213633 0 0 32
IpFw/IpAcct 5 1K 1K102400K 5 0 0 64
  in_multi 2 1K 1K102400K 2 0 0 32
  routetbl 68 10K 490K102400K 8649146 0 0
16,32,64,128,256
  faith 1 1K 1K102400K 1 0 0 256
  ether_multi 7 1K 1K102400K 7 0 0 16,32,64
  ifaddr 16 5K 5K102400K 16 0 0 32,64,256,2K
```

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BPF 5 1K 65K102400K 56 0 0 32,128,32K
vnodes 17 4K 4K102400K 209 0 0
16,32,64,128,256
mount 6 3K 3K102400K 8 0 0 16,128,512
cluster_save buffer 0 0K 1K102400K 788517 0 0 32,64
vfscache 66731 4683K 4990K102400K115446494 0 0 64,128,256,512K
BIO buffer 6 12K 1198K102400K 2565 0 0 512,2K
pcb 25 5K 18K102400K 47486348 0 0 16,32,64,2K
soname 4 1K 12K102400K404821840 0 0 16,128
lockf 2 1K 49K102400K759540302 0 0 64
ptys 5 3K 3K102400K 5 0 0 512
ttys 567 73K 73K102400K 2439 0 0 128,256
atexit 1 1K 1K102400K 1 0 0 16
zombie 0 0K 7K102400K 8677258 0 0 128
shm 1 12K 12K102400K 1 0 0 16K
proc-args 35 2K 69K102400K100222163 0 0
16,32,64,128,256
kqueue 12 12K 786K102400K 43631105 0 0 256,1K
sigio 1 1K 1K102400K 1 0 0 32
file 91 6K 257K102400K318106792 0 0 64
file desc 41 11K 203K102400K 8677309 0 0 256
dev_t 715 90K 90K102400K 715 0 0 128
timecounter 10 2K 2K102400K 10 0 0 128
kld 4 1K 1K102400K 36 0 0 16,32,128
sem 3 6K 6K102400K 3 0 0 1K,4K
AR driver 1 1K 3K102400K 3 0 0 64,512,2K
AD driver 2 2K 2K102400K218055758 0 0 64,1K
msg 4 25K 25K102400K 4 0 0 512,4K,16K
rman 50 3K 3K102400K 400 0 0 16,64
ioctlops 0 0K 1K102400K 12 0 0 512,1K
taskqueue 2 1K 1K102400K 2 0 0 32
SWAP 2 1097K 1097K102400K 2 0 0 32,512K
eventhandler 11 1K 1K102400K 11 0 0 32,64
bus 424 39K 40K102400K 730 0 0
16,32,64,128,256,512,1K,2K,4K
sysctl 0 0K 1K102400K 10415 0 0 16,32
uidinfo 5 2K 2K102400K 8114 0 0 32,1K
cred 30 4K 100K102400K 2963736 0 0 128
subproc 101 9K 79K102400K 17364833 0 0 32,64,256
proc 2 8K 8K102400K 2 0 0 4K
session 22 2K 48K102400K 2872588 0 0 64
pgrp 26 1K 24K102400K 2873228 0 0 32
ATA generic 2 1K 1K102400K 2 0 0 16,512
temp 166 117K 161K102400K 294963 0 0
16,32,64,128,256,512,1K,4K,16K,128K

Memory Totals: In Use Free Requests
23137K 3624K 2427718869

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