I think I have this figured out.

The problem had nothing to do with OpenVZ, other than being apparent because of how OpenVZ meters resources out.

The problem was in a perl module that apache was loading, it was making a http request and calling shutdown on the connection at the end, but not calling close also on the connection, so the file descriptor was never cleared but it was still counted as a tcp connection by user_beancounters. Connections that are shutdown but not closed are not shown in netstat or ss -s. These can also be caused by socket connection that are allocated, but never connected, when there is a socket call but never a connect that follows it. The socket FD (File Descriptor) just hangs around until the program exits.

To view these connections use the command
lsof | grep " sock "
or to just get a count
lsof | grep " sock " | wc -l

The results look like this, here are several processes that each have 1-2 orphan sockets. These are counted in the numtcpsock total even though they don't show up as connections.

```
udevd      151      root  4u    sock      0,6    0t0     22177 can't identify protocol
rpcbind    828      root  4u    sock      0,6    0t0     24640 can't identify protocol
sudo    28430       root  5u    sock      0,6    0t0  74035691 can't identify protocol
/usr/sbin 28886     root  3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28886     root  5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28903   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28903   opensrf 5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28904   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28904   opensrf 5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28906   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28906   opensrf 5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28907   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28907   opensrf 5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28908   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
/usr/sbin 28908   opensrf 5u    sock      0,6    0t0  74055252 can't identify protocol
/usr/sbin 28910   opensrf 3u    sock      0,6    0t0  74055248 can't identify protocol
```

I used strace on the apache processes to find which sockets were being shutdown but not closed. Then found the perl code that was just calling shutdown and fixed that, and now there is no more problem.

Josh