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Subject: Re: VZ+DRBD+HA and load balancing  
Posted by [golly](#) on Wed, 27 Aug 2008 12:58:42 GMT  
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I rolled my own Ubuntu Hardy cluster that I manually load-balance (for now). Once I get approval for it, it'll be going into production. Anyway, the three biggest pains I had was:

1. coming up with the VZ directory layout,
2. learning heartbeat's CRM XML, and
3. getting Heartbeat's ManageVE OCF running correctly.

For the first (VZ dir layout), the biggest issue was that the VE's /private and /root directories \*have\* to be on the same block device. When VZ starts a VE, it hardlinks /root to /private (along with other processing - but we won't go there now) and I don't know of a way to hardlink across block devices. (The OpenVZ Gurus probably know all about that, though.)

Anyway, once I settled on how to lay out my directories, I encoded that information in the default OpenVZ config file.

Second, learning heartbeat's CRM - read, read, read! Oh, and when you come across the CRM examples that have the DRBD <master\_slave> configuration - you really do need it! I tried configuring DRBD in heartbeat without it at first (to see if I really, really needed it) and either nothing happened or only one DRBD side came up (i.e. it never sync'd to the other node).

Third, on Ubuntu Hardy, Canonical symlinks /bin/sh to DASH instead of BASH. The ManageVE script starts with #!/bin/sh, but it uses a lot of BASH-isms, so it fails to run under heartbeat on Hardy (but runs fine with heartbeat's testing scripts). It took me three or four days to figure out that heartbeat was running ManageVE under DASH instead of BASH, but my cmdline was BASH so ManageVE would work fine.

Anyway, if you would like more details about how I did it, maybe I can put up a wiki page on it (if there is sufficient interest). Let me know.

Regards

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