Subject: VE lo cal time
Posted by devotional on Tue, 01 Aug 2006 09:56:09 GMT
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Must be getting old, cause I was sure I posted a message on this last night, but can't seem to find it. Sorry if it turns out to be a double post after all.

I am evaluating OpenVZ as a base for running multiple test environments in one server. However, the tests involves sequences where passed time has to be simulated by changing the system time. I was hoping to find a solution where time could be changed per VE, but I'm afraid I'm out of luck...? It seems system time cannot be changed at all within a VE and changing it in VE0 will naturally affect all VE's running on that HN.

I had kind of imagined a solution where each VE could keep its own offset to the system time...wouldn't that be kind of a useful feature?

Subject: Re: VE lo cal time
Posted by kir on Tue, 01 Aug 2006 10:50:38 GMT
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Well, in theory this (virtualized time) could be done. In practice this is required very seldom so nobody cared to implement it...

The only thing you can do is to give a VE a capability to set system time (it is described somewhere in OpenVZ User's Guide). Still, it will set per-system time, for all VEs and the host system, which is probably not what you want.

If you do have some kernel programming experience, you can try to find a patch that virtualizes system time (I remember it was posted by Eric Biederman) and apply it to OpenVZ...

Subject: Re: VE lo cal time
Posted by devotional on Mon, 14 Aug 2006 12:29:27 GMT
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Thanks for the pointer...I managed to locate a patch made by Jeff Dike at http://lwn.net/Articles/179825/

The patch was not completely compatible with 2.6.16-026test015.2 but no big issues. However, the solution was not complete as it only worked for the gettimeofday syscall and not for time or clock_gettime. I have added code to handle those cases and are in the middle of testing this solution.

If anyone is interested in these patches, drop me a PM and I'll make it available. If our own tests works out, we will probably keep the patches up-to-date for our own system.

I have to argue that this should be a very useful feature in a virtualization environment that aims at providing multiple isolated test environments. The solution doesn't seem to be that complicated compared to the benefits - although it could be a hairy thing to try and solve things like "what should happen when the base system clock is changed?" and how to handle timers etc. But having a solution where a VE could be given an offet at start time and then not modifiable after that would be useful enough for most test scenarios.