

RE: Xen and the art of Database performance

Source: <http://linux.derkeiler.com/Mailing-Lists/RedHat/2007-10/msg00264.html>

- *From:* "McDougall, Marshall (FSH)" <Marshall.McDougall@xxxxxxxxxx>
 - *Date:* Thu, 25 Oct 2007 08:42:41 -0500
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-----Original Message-----

From: redhat-list-bounces@xxxxxxxxxx
[mailto:redhat-list-bounces@xxxxxxxxxx] On Behalf Of J.
Refugio Rodriguez
Sent: Wednesday, October 24, 2007 2:59 PM
To: General Red Hat Linux discussion list
Subject: Re: Xen and the art of Database performance

--- "McDougall, Marshall (FSH)"
<Marshall.McDougall@xxxxxxxxxx> wrote:

A while back we took delivery of several Dell 2950 servers to update our hardware environment which supports our Ingres, Sybase and DB2 systems. Ingres 2.6 and DB2 were running on RHEL 2.1, Sybase was running on RHEL3. We were hoping to be able to maintain the same levels software, but the new hardware is not supported by RHEL2.1. This is where the fun starts. I built up several RHEL4 servers and installed the Database systems on them and gave them to the DBA's to test. They promptly came back and said that they were up to 7 times slower than the previous hardware platforms, with the exception of DB2. I ran some OS benchmarks and they came back up to 7 times faster than the previous hardware. We worked on various tweaks and tunes to the OS and DBMS to no avail. At that point we started to engage the vendors/support orgs for the various products. Sybase could do nothing to improve performance on the

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RHEL4 server, so we tried RHEL5(or advanced platform or whatever they are calling it this week). The performance was just as dismal. We ended up going back to RHEL3U9 to get the Sybase environment to an acceptable performance level. Ingres is another story. First they said try Ingres 2006. It worked, but it has significant implications to our OpenRoad development environment, and as such is not really an option. I went the same route as before with the various flavours of RHEL and it made no difference. Finally, I built a RHEL5 server, installed VMWare Server, and created a RHEL2.1 guest on that. We now have performance where we want it. The downside is that on my server with 8GB of ram I can only use 3.6GB for the VM. My options as I see them now are; Install VMWare ESX and see if that buys me anything, or spend the time and effort to see if Xen will be of benefit. The problem with the latter is that according to the doc RHEL 2.1 is not a supported OS on RH5.

Indeed, XenSource does not include the appropriate modified kernel for RHEL 2.1 and, accordingly, is not officially supported on XenEnterprise 3.2 or higher.

Notwithstanding, you can create an proper Linux kernel for your RHEL 2.1 by installing the same into a machine that has the CPU virtualization extensions (i.e., hardware assisted virtualization).

Once you successfully install/modify your RHEL 2.1 under XenEnterprise in the above hardware assisted virtualization environment, you can use the image on older non-hardware assisted virtualization CPUs.

Before going to ESX, you may want to evaluate XenEnterprise in price and performance. Back in version 3.2 of XenSource XenEnterprise, you could allocate to an virtual machine up to 15GB of memory.

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XenSource Certified Partner.

So, after all this, the gist of my post is; Has anybody successfully sparked up a RHEL 2.1 guest, using more than 4 GB of RAM, on a RH5 virtual platform, or, has anyone installed Ingres 2.6 on a Linux 2.6 kernel and made it perform at an expected level? Thanks for reading this far.

Regards, Marshall
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Jose R Rodriguez
<http://www.metzli-it.com>

Thanks for the input Jose. It sounds like it's doable with Xen, but it also sounds like it's painful. Yesterday I downloaded a time bomb trial of ESX and had it and a RHEL2.1 VM running in about 1.5 hours. I've taken a lot longer than that just trying to understand the Xen docs that I can find.

Regards, Marshall

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