multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/09/15 13:53

I would like a candid discussion about multi-core vs. multi-cpu discussion. With 8-core CPUs, do we need multi-CPU machines? Can we get a single CPU machine with 8 cores and save tons of money? Which of the following makes sense:

2 x (single CPU machine) vs. 1 x (dual CPU machine)

The same argument makes sense with dual and quad CPU machines.

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by srw134 - 2010/09/19 17:38

I would think this would be a decision for the EE folk. It seems to me that for most things a multi-core PC would have the advantage but the real question is available paths to and from the processor. Obviously if the road is not big enough to get in and out of a really fast processing plant then what is the point.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/09/20 14:41

The paths are aggregate in that the total available is equal to the sum of all the parts. Maybe thatâ€™s just my assumption and that is not the case. I think the programming models are the same!? Two cores vs. two CPUs? Is cost the only variable?

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by srw134 - 2010/09/21 06:49

This is what I am wondering, I know between the Core 2's (Normal not extreme) and the newer i series of Intel processors there is a significant change in how the bus is organized as there is no longer have a traditional northbridge (I believe this is what I recall). In this situation the memory controller is integrated into the processor and not a separate entity. These types of technologies when used with a multi-core chip probably make the multicores more power efficient and a better overall choice. But there are so many cores that can fit on one die still so for large servers the multi-cpu approach may still win out.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/09/29 11:34

My issue is that the price difference is too significant:

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by robjvargas - 2010/09/29 12:00

For general business end users, this is a completely academic question. Does a person writing up a proposal ever have

any chance of seeing a difference between a multi-core CPU or a single-core, multi-CPU machine? I think not.

And it doesn't seem like even most of the heavy-hitting applications show any difference to end users, either. We use a 3D CAD program, SolidWorks, and it seems just fine on the single-chip, multi-core CPU's in the machines running it.

I'm no programmer, so I can't speak from the development side. From the end-user side, however, 6 of one, half a dozen of the other. In the end, it all looks the same.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by srw134 - 2010/09/29 18:57

I would agree that to the typical end user that probably would not notice either way. The question is really to the power users (heavy CAD, Video) which may notice the small differences with higher processing requirements. As I don't really require either I am just speculating.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by ciony - 2010/09/29 21:20

With a thought to non-technical implications of multi-cores, those software licensing models that are based on the number of physical CPUs should be less expensive in a multi-core environment.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by srw134 - 2010/10/02 04:36

This is true, I am sort of surprised these vendors have not changed to a per-core license just to get some additional money.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by sediga - 2010/10/06 09:49

The vendors that truly benefit from multi-core (agent-based software packages with an agent per Core/CPU), have changed their model. Vendors that do not have the software to take advantage of multi-core have not just yet. I am not sure how the multi-core will change the OS pricing model, however.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by srw134 - 2010/10/06 19:49

I guess this is not all that surprising to me. As I don't typically by software of this type anymore I don't really see the licensing options much. But you do have to make back your development costs somewhere.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by ciony - 2010/10/06 23:32

I always felt that transaction/usage-based licensing best represented the value a business will get from a license vs. core/CPU licensing, but it's a tougher sell for the vendors and tougher to estimate for the consumers, so we're stuck with either per user or per core/CPU models. I agree that vendors need to be able to recoup and profit from their development investments, and the arbitrage window on # of CPU vs. # of cores is closing.

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/10/10 07:03

I am not sure if CPU/based licensing makes sense any longer. I would say that over 80% of the servers out there are at more 4CPUâ€™s â€“ and with virtualization, etc, taking its hold, pricing should move to a node or instance based licensing.

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by coolpennystocks - 2010/10/11 04:43

Nice post. This is true, I am sort of surprised these vendors have not changed to a per-core license just to get some additional money.

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by srw134 - 2010/10/12 03:10

The idea of instance pricing certainly makes the most sense when you are dealing with visualized products. Simply charge based on the number of node running. Of course this could get pricey quickly if you run several instances with the same product on the same physical server.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/10/12 15:45

A number of companies have â€œvalue-based licensingâ€• which is my favorite. On one hand, it works great, on the other hand, it is a guess-work. I am still a favorite of node-based licensing as I think it transcends any â€œvirtualizedâ€• technology.

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by srw134 - 2010/10/14 19:35

A different view on this is to look into changing models completely from a model charging for the core software to charging for the support required to work with the software. This seems to have worked on many Linux products, i.e. redhat/fedora

-sean

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Re:multi-core multi-cpu configuration. Do we need it?
Posted by sediga - 2010/10/26 21:50

Yes, but the cost of support in many cases surpasses the cost of the software. If you building a cluster, for example, you can get Windows HPC thatâ€™s cheaper that RedHat.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by robjvargas - 2010/10/27 08:02

Licensing seems to be the big question mark out there. That goes, I think, hand-in-hand with support/maintenance. To me, they are different parts of the same cost. Legally, we have to license software if the software requires it, but practically speaking, we license in order to have support, don't we?

You can download free software out there, like Debian or Slackware, and do all the work necessary to get it running, you can turn to user forums, email listservs, etc. But if you make this stuff run enterprise-critical applications, you need the assurance that you have support when those critical apps/services need it.

I hope there's some experimentation with this, even more than we have now. But it's clear that these costs and expectations are in need of managing.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by srw134 - 2010/10/30 02:24

Very true, I am surprised that more companies have not come out simply to offer support services for open source products. There are a number of them out there that offer great feature and functionality.

-sean

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by sediga - 2010/11/04 14:49

Providing support for a product you did not write, nor have control over who contributes to it is very difficult. RedHat spends tons and tons of money to provide support, and there are very few who can.

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Re:multi-core multi-cpu configuration. Do we need it?

Posted by srw134 - 2010/11/04 19:30

I don't agree, many people provide support for MS products everyday without having any control over anything or being the developers of the software. The same could be true for any other open source product.

-sean

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