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News

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4 Key Decision Questions for Moving to x64-bit Computing

There are good arguments for moving to x64 or at least strategically have it on your upgrade plans for 2006. These 4 questions provide a starter:

Is the industry moving in this direction so I don't get caught unprepared?

According to IDC reports, x64 servers now out-ship 32-bit servers. Prices are essentially identical between x86 and x64 for server and workstation-class computers. The prices are such that this will hit the consumer market next year too. The majority of PC and workstations will be 64-bit by late 2006. All major hardware vendors offer x64 system and now Microsoft has released or will be releasing shortly a range of x64-bit business and desktop solutions; and their prices are attractive:

<http://blogs.technet.com/cdnitmanagers/archive/2005/11/15/414557.aspx>

Will x64 address my stability and security concerns which are major issues for managers?

A feature of x64 architecture is Data Execution Protection or DEP which provides protection against the most destructive worms/exploits by controlling memory areas that can be used to execute code. Windows x64 versions also provide Microsoft's Patch Guard technology that prevents non-MS programs from patching the Windows Kernel. All this produces improves overall security and stability.

IT budgets are still constrained: could it ultimately save costs due to performance increases?

According to HP, they anticipate consolidating 32-bit Active Directory servers by a ratio of 4:1 and achieving similar results with 64-bit Exchange (Exchange 12). The International Securities Exchange processed 300% more messages per second than on a 32-bit platform. NASA experienced a two-to-ten times acceleration in processing throughput in their tests. Imagine the cost savings when projected to Server Virtualization. For example, Virtual Server 05 R2 on x64 provides 50% more scalability and more virtual machines. Terminal Services allows 170% more users.

This influences my decision to adopt: just how compatible is it?

There are more than 101 companies producing x64 applications. Existing 32-bit applications can get a performance boost, access to more resources, and most will run in x64 Windows. Some exceptions include: 16-bit and DOS applications are not supported; Kernel mode drivers must be 64-bit; Legacy networking protocols such as NetBEUI, DLC, and AppleTalk are not supported; A WOW64 limitation doesn't allow 32-bit applications to load 64-bit DLLs or visa versa.

Thanks,

Stephen

posted on Tuesday, December 06, 2005 10:42 AM by [joxley](#)

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Comments

re: 4 Key Decision Questions for Moving to x64-bit Computing

Tuesday, December 06, 2005 3:31 PM by [Stephen](#)

I came across this today from an IDC report published late November:

“... growth for the x86-64 segment alone was more than sevenfold, while x86-32 server revenue declined 60.7% as the ecosystem shifted toward 64-bit enablement. In fact, x86-64 servers represented 69% of all x86 server spending and now comprise the single largest segment of the server market by CPU type for the first time as this rapid transformation of the x86 marketplace into a segment that is 64-bit enabled continues.”

The throughput of x86 servers continues to increase as the transition to 64-bit capability accelerates and these capabilities will only increase...”

re: 4 Key Decision Questions for Moving to x64-bit Computing

Wednesday, December 07, 2005 5:04 PM by [D. Mark](#)

You got me thinking. I didn't have this on my map but I will now.

re: 4 Key Decision Questions for Moving to x64-bit Computing

Wednesday, December 07, 2005 6:02 PM by [Stephen Ibaraki](#)

I find that about 20% of the people don't realize they are actually using x64 hardware now "if their gear is new." Change is often hard but it's going to happen so you might as well plan for it including updating your OS and applications over time.

Thanks,
Stephen