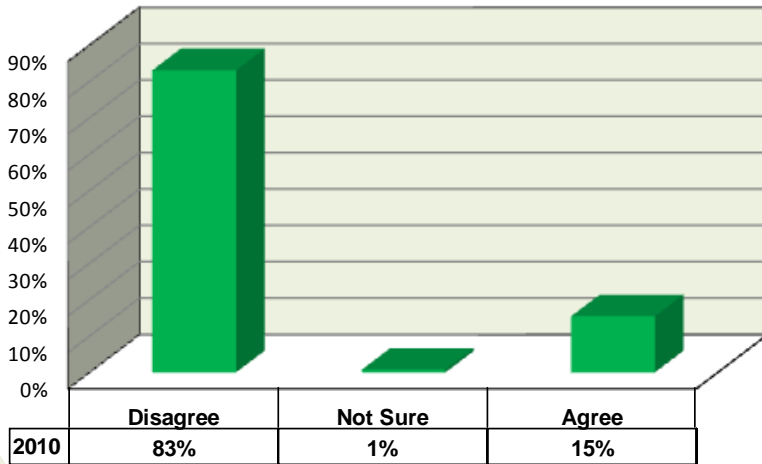


Survey: x86 Virtualization Picking Up Steam, Paying Off

Virtualization is perhaps the biggest trend to hit data centers in the last 20 years. Simply defined, virtualization is technology that allows multiple applications to run on single physical systems with adequate performance, availability, and security. The benefits can be extraordinary when you realize that the average x86 server used to run at about a 5-7% average utilization rate. Virtualization allows customers to finally use that extra wasted capacity.

We follow virtualization trends and technology very closely, and it is a significant section in our **2010 GCG x86 Server Vendor Preference** survey ([details here](#)). As part of the survey, we asked 199 x86 data center managers and workers to tell us how their organizations are using (or not using) virtualization on their x86 systems. Here are some of the high points...

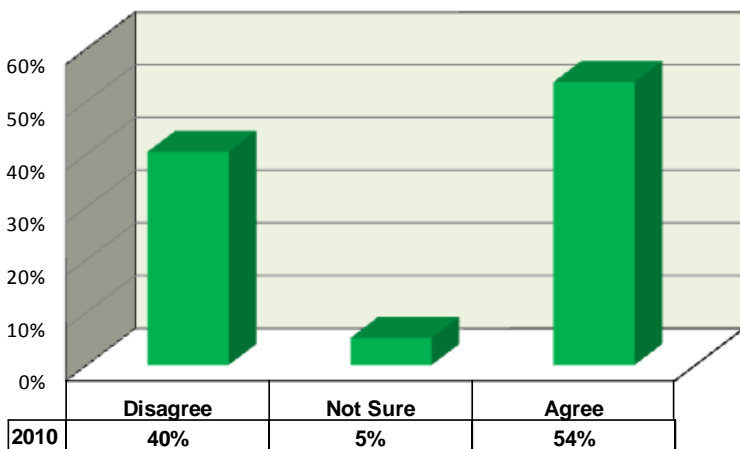
"We aren't using x86 virtualization"



As can be seen from the chart, the vast majority of respondents are using some sort of virtualization on their x86 servers. The number of non-users has steadily dropped from over 20% back in 2007 to 15% in 2010.

The users who aren't on the virtualization bandwagon either have workloads that don't lend themselves to virtualization or they have very small infrastructures which, in their minds, wouldn't benefit from virtualization.

"We've virtualized less than 50% of our x86 systems"

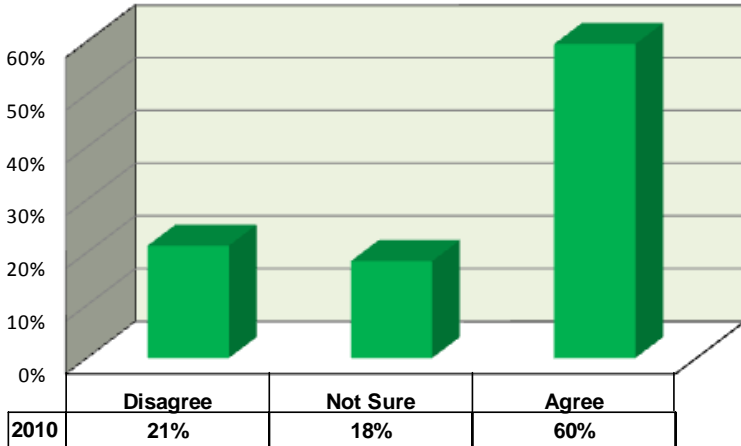


Virtualization still has a long way to go. Just over half of our respondents report that they have yet to virtualize half of their x86 servers; 40% say that they have made big strides in this area. We've seen a steady increase over the years as customers embrace this new usage model.

Of the 40% who are heavily virtualized, it's important to keep in mind that this doesn't mean that those systems are fully virtualized – it just means that they have virtualized them to some extent.

So what benefits are customers seeing from x86 virtualization? We asked several questions along these lines, and here's what we found...

Virtualized x86 Benefit: Higher Hardware Utilization



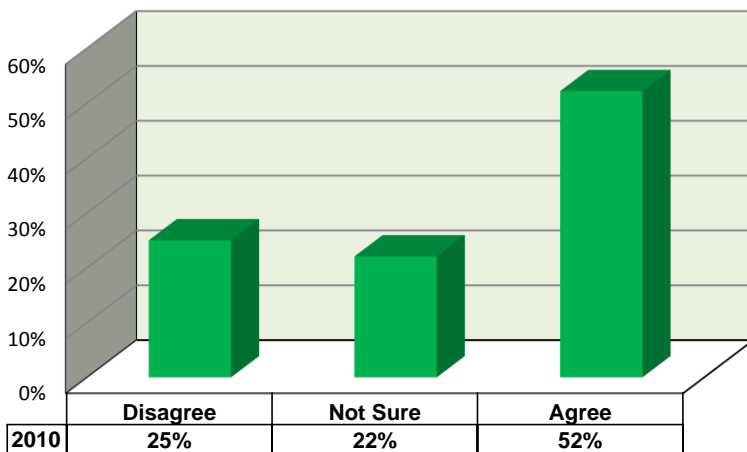
The most basic benefit of virtualization is that it allows customers to get more use out of their existing systems – and it seems to be delivering on this score, according to the large majority of our respondents.

This number has risen from less than 50% in 2008 to where it is now at 60%. This isn't a surprise, of course, but it's always nice to have numbers to back up conventional wisdom.

One of the biggest – and most difficult to control – expense categories in data centers is labor. Data center workers are highly skilled, and they aren't all that easy to find. The nature of their skill set also makes it relatively easy for them to move to another firm if they get a better deal. The explosion of technology over the last 20 years has both driven up the need for solid IT professionals and pushed up compensation.

One of the key promises of virtualization is that it enables IT personnel to manage more systems and more workloads than they could under the old 'one application per physical system' usage model. Is virtualization delivering on this promise? Here's what our respondents said...

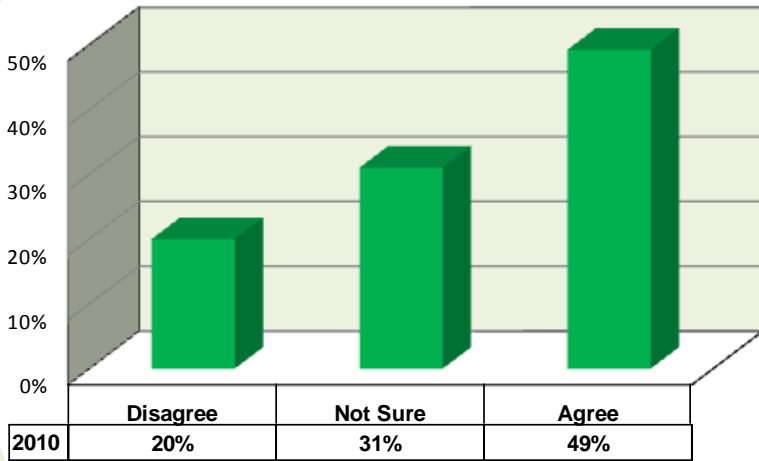
Virtualized x86 Benefit: Easier to Manage



Only a slim majority of respondents say that x86 virtualization has made their lives simpler. This number has stayed about the same over the past three years. Contrast this to our Unix data center survey, where users show significantly higher satisfaction with virtualization management.

This highlights a problem: virtual server sprawl. Virtualization has spawned hundreds or thousands of server instances, and customers are finding it difficult to manage them all. Vendors are responding with a plethora of management tools, but we haven't seen it move the needle yet in terms of user satisfaction.

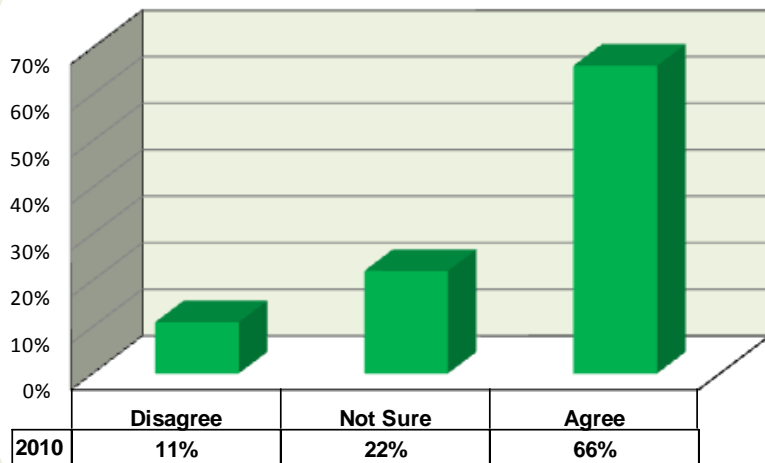
Virtualized x86 Benefit: Easier to meet SLAs



The ability to meet SLAs (Service Level Agreements) with end users is another measure of how well virtualization addresses workload manageability and monitoring issues in data centers.

We haven't seen sustained improvement in this category since we first asked this question three years ago. This is an area where the x86 virtualization ecosystem needs improvement. Other systems (mainframes/Unix servers) do have integrated mechanisms that automate workload management and ensure that SLAs are met. This same capability is needed in the x86 virtualization world.

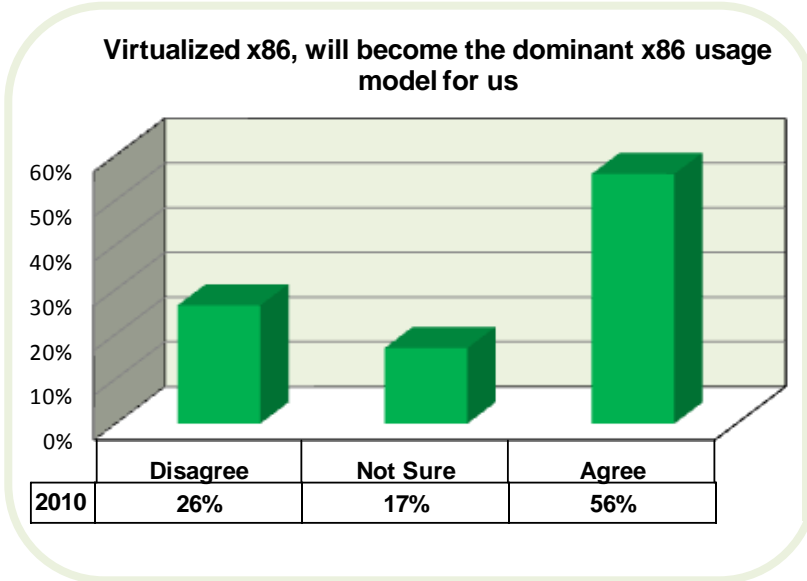
Virtualized x86 Benefit: Saves us money



The large majority of customers see x86 virtualization as a money saver. Two out of three respondents say that virtualization has allowed them to get more bang from their IT buck. We've seen this number increase from 56% in 2008 to 66% in 2010.

The bottom-line benefit of virtualization is its impact on the bottom line of customers. The savings come from several sources including reductions in system spending, power/cooling and floor space usage, and IT labor requirements. Some customers also report a reduction in software licensing costs, but this isn't universal – most of the time, it's a wash.

Given that x86 virtualization is providing solid benefits for most customers, what does this mean in terms of their future plans?



Virtualized x86 is the usage model of choice for more than half of the customers we surveyed. This number has risen a bit in the last few years, but not as much as we expected. We believe that manageability challenges and questions surrounding what virtualization tools to use (and how best to use them) are hindering adoption to some degree.

However, we do believe that virtualized x86 will become the de facto standard in most organizations in the near future. We also see clear trends that customers are trusting virtualized x86 platforms with mission-critical workloads.

Virtualization is going to continue as one of the most significant trends to hit the data center in a long time. As we've seen, customers are steadily adopting it on more of their systems and are receiving solid benefits. Our look at virtualization didn't stop here, however. We also asked customers what mechanisms they're using to virtualize and how many different packages they have. Results from these questions are [here](#).

If you're interested in finding out more about this survey (demographics, expanded results, detailed GCG analysis), [click here](#).

Gabriel
CONSULTING GROUP
www.GabrielConsultingGroup.com
gcginfo@GabrielConsultingGroup.com
(503) 372-9389