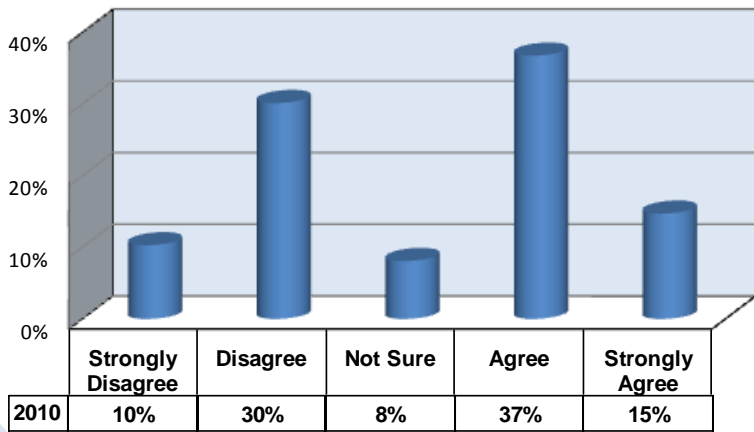


Power, Cooling and Floor Space in x86: How big a concern?

We've seen a lot in the industry press about how IT operations are outgrowing their facilities – outstripping the available power supply and floor space. But are these anecdotal corner cases or a widespread trend?

In our **2010 GCG x86 Server Vendor Preference** survey ([details here](#)), we asked 199 x86 data center managers and workers to tell us how their organizations are coping with ever-escalating facilities needs. Here are some of the major results:

"Server purchases are heavily influenced by power, cooling & floor space issues"

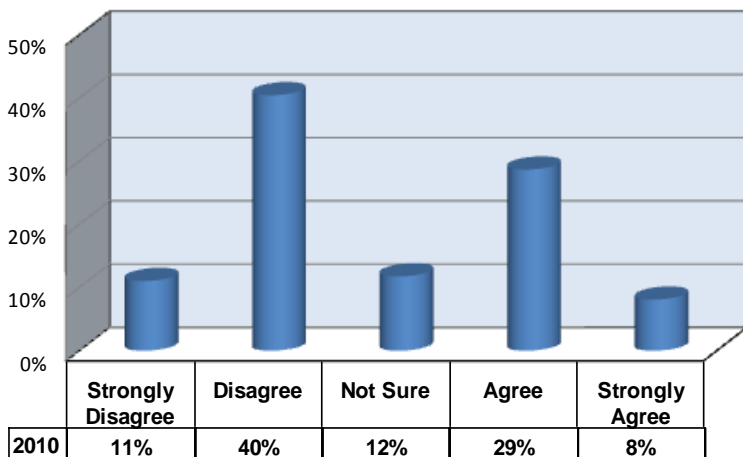


As can be seen in the chart, facilities concerns are top of mind with more than half (52%) of our survey respondents. It's become a major factor in how they select equipment.

These results have remained consistent over the past three years. The main change is that the number of 'strongly agree' responses has doubled since 2007. However, the number of customers who say that their purchase decisions don't heavily rely on facilities concerns has also remained steady at around 40%.

So where are customers feeling the most pain? It's pretty evenly spread between electricity, cooling, and floor space, as you can see from the results below:

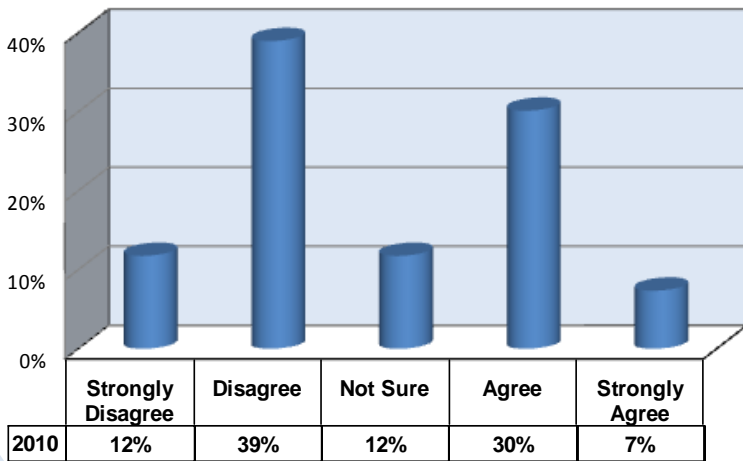
"Rapidly running out of electrical capacity..."



Almost 40% of our respondents say that electricity is becoming a major problem in their data center. This figure has risen significantly from only 30% in 2007.

The number of customers who say that getting enough juice to their systems isn't a significant problem has increased slightly to 50% from 46% in 2007. We've also seen the number of 'not sure' responses drop in half over the same period of time – meaning that data center electrical usage is on more radar screens than before.

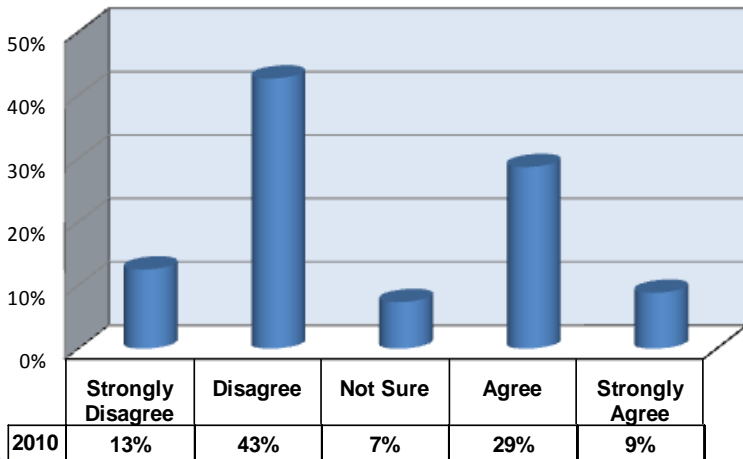
"Rapidly running out of cooling capacity..."



The number of customers saying that heat is a major problem is very close to what we see on the electricity question. This makes sense, as the two go hand-in-hand.

Customers can often solve both power and heat problems with the same measures. Power management that turns off idle equipment, buying newer hardware, and even liquid cooling are a few of the measures that customers are taking to reduce heat and cooling needs.

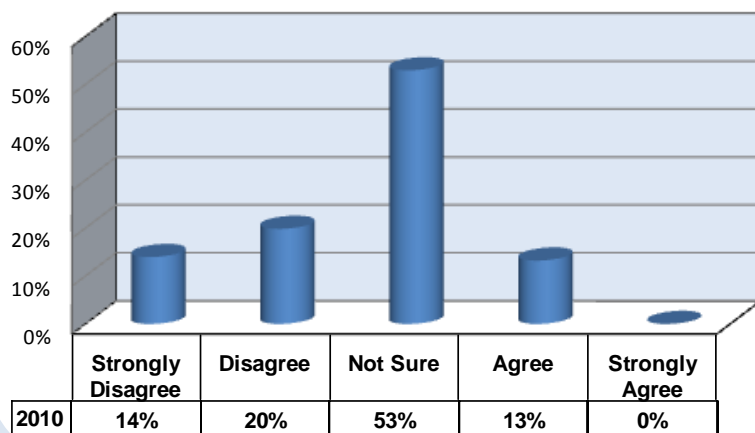
"Rapidly running out of floor space..."



More than a third (38%) of the customers we surveyed said shoehorning more gear into the same space is becoming a larger problem.

The biggest change on this question over time is the number of customers who say that floor space *isn't* a problem. In 2007, it was 45%; in 2010, it rose to 55%. This significant change is due to widespread virtualization and the rise of space-efficient form factors like blades and higher-performing multi-core systems.

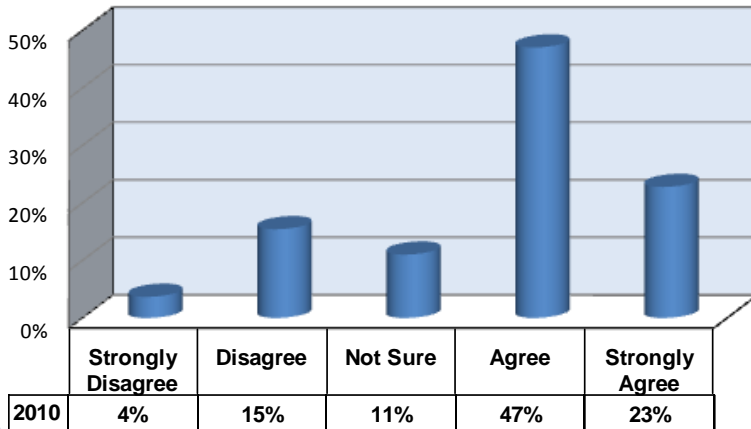
"x86 systems are more power/heat/floor space efficient than Unix servers..."



This interesting result shows that a significant percentage of our x86 data center respondents see Unix systems as more energy/space efficient than x86 boxes.

Two years ago, 36% believed that x86 was definitely more efficient than Unix-based systems. In this survey, only 13% said the same thing. That's quite a change in a short amount of time - and a solid win for the Unix guys vs. the WinLinTel crowd.

"Power, cooling, floorspace will become much more important"



The number of customers saying that facilities issues will become even more important in the future is high and still rising. In 2007, 64% of customers agreed with that statement – now it's over 70%.

This trend drives vendor research into low power products, sophisticated power management mechanisms, and other facilities-oriented innovation. However, only a small number of customers have problems large enough to justify wholesale 'rip and replace' moves.

So a significant number of customers are definitely feeling pain from either power, heat, or floor tile constraints. This is something that every IT vendor is working to address with either real products or serious spin. How effective have they been? Who do customers think is doing the best job on facilities innovation? We asked, and we'll let you know in our [next installment](#).

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

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