

## Survey: Unix Still Tops Linux as Mission Critical Platform

Here's a blinding glimpse of the obvious: the Linux operating system has had a huge impact on enterprise computing. It's being used in closet-sized data centers and massive government research facilities alike – and most all of the IT shops in-between. Linux growth has come from new workloads, Microsoft Server replacements, and – of course – from the commercial Unix installed base as well.

Pressure from Linux-fueled systems has driven the major Unix solutions toward the high end of the data center. You no longer see racks of Sun, HP, or IBM RISC systems driving file, print, or application servers. In fact, Linux (and to a lesser extent Microsoft) operating systems have completely taken over those functions, along with many others. Systems based on commercial Unix have moved to a much more mainframe-like role, hosting large SMP workloads and databases that are typically described as mission critical.

We closely track all of these markets through our annual Vendor Preference surveys. In our latest **Unix Vendor Preference Survey** (2010-11 edition; methodology and demographics [here](#)) we ask enterprise customers a wide range of questions about their IT infrastructures, how they're dealing with new challenges, and how they regard the major commercial Unix vendors.

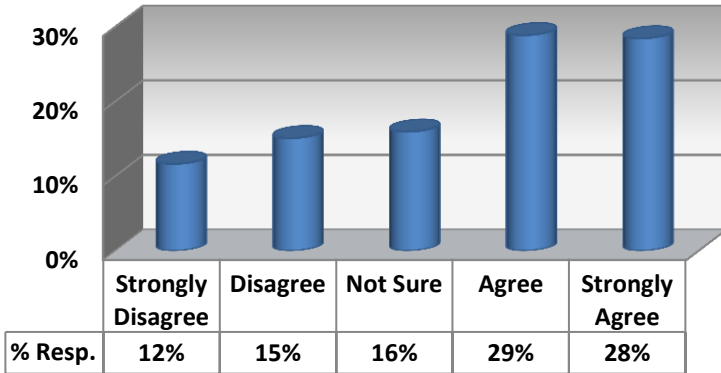
We ask about operating environments in this survey but confine it to AIX, HP-UX, and Solaris Unix operating systems. We do ask about Linux distributions, but that's in our annual x86 surveys. There are those who would argue (loud and long) that Linux=Unix, but we disagree; while we believe that the operating systems are very similar, there are key differences in the technology, development models, and business models that keep us from putting them into the same bucket for comparison purposes.

Even though we usually don't cover Linux in the Unix survey, we've been increasingly curious to see how our enterprise Unix survey respondents view Linux. Has Linux matured to the point where it's a substitute for commercial Unix? Does Linux offer the mission critical characteristics that data center customers need for their most important workloads?

We asked a number of detailed questions designed to find out. It's important to point out that there's a place for both commercial Unix and Linux in the modern data center and that these are both moving targets – so we're taking a snapshot in time on these issues. We also want to make it clear that the questions were couched in terms of Linux as a commercial Unix replacement.

As a final note, we made sure that all respondents in this section of the survey were currently using both commercial Unix and Linux operating systems. That said, here are a few Linux/Unix data points...

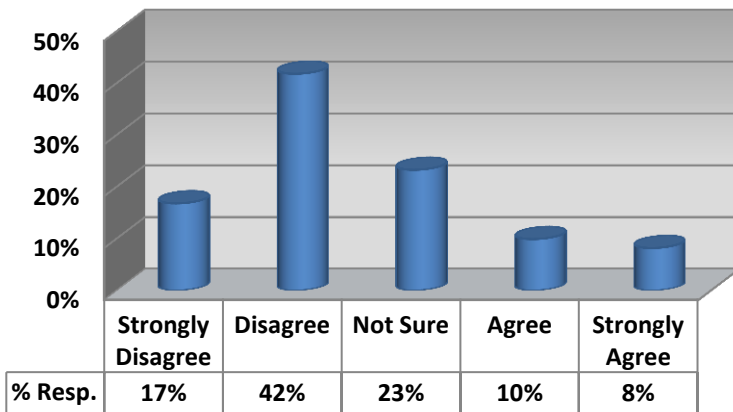
**Unix is ahead of Linux on a number of factors that are important to us**



Almost 60% of our respondents believe that commercial Unix is a better choice than Linux for some workloads. It's a majority, but not overwhelming.

It's interesting to note that the 'Not Sure' responses outweigh both the 'Disagree' and 'Strongly Disagree' voters. This is a pattern we saw on many of the Unix vs. Linux questions: a hardcore minority of 20-30% who see Linux as superior to Unix in every way, and then a reasonably large number of undecided respondents.

**Linux is technically better than the major Unix o/s's**

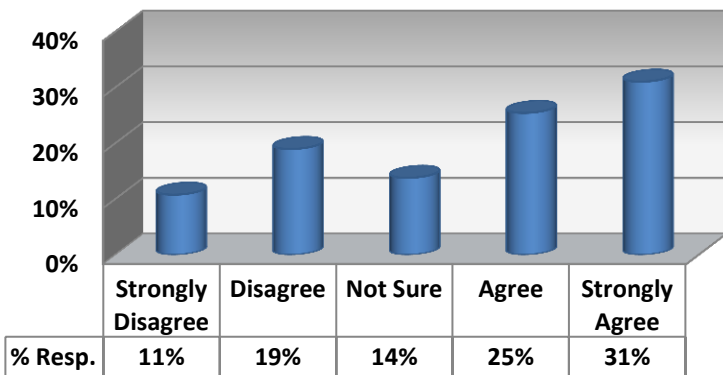


O/S quality is the second most important factor in Unix purchase decisions, according to survey respondents. This question asks, from a Linux perspective, if Linux is technically better than Unix these days. A solid majority of customers (60%) say Linux isn't quite at the same technical level as commercial Unix.

However, we also see that a quarter of respondents aren't quite sure which is better, perhaps signifying the 'moving target' nature of the two operating environments.

In the next set of questions we went into more detail, asking customers how they view Linux as a substitute for commercial Unix on specific enterprise computing-centric factors like system availability, vendor support, etc.

**Current Unix operating systems more available and reliable vs. Linux o/s's**

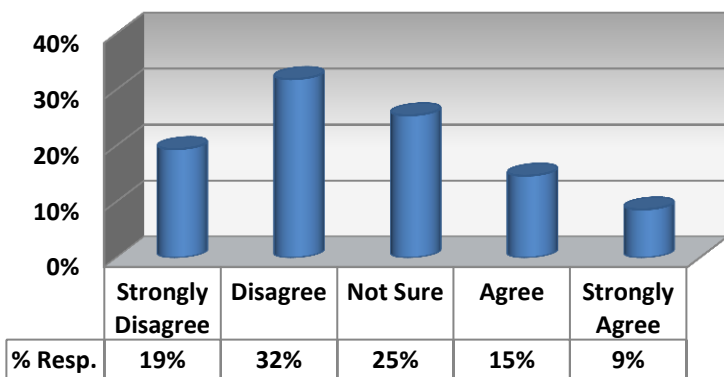


'Availability and Stability' was the single most important buying criteria for Unix users in our survey. Almost half (56%) believe that commercial Unix-based systems provide higher levels of availability and reliability than the typical Linux distribution.

Unix vendors, since they own the entire HW/SW stack, can closely integrate their hardware and o/s to enable more RAS features. In the Linux world, developers can only code to what is provided for in the hardware and the instruction set.

Of course, it can be argued that Linux can provide very high application availability when it's used in a cluster or with applications that scale horizontally rather than vertically. But that's not the same thing as the single-system availability that has been the design point for modern commercial Unix operating systems.

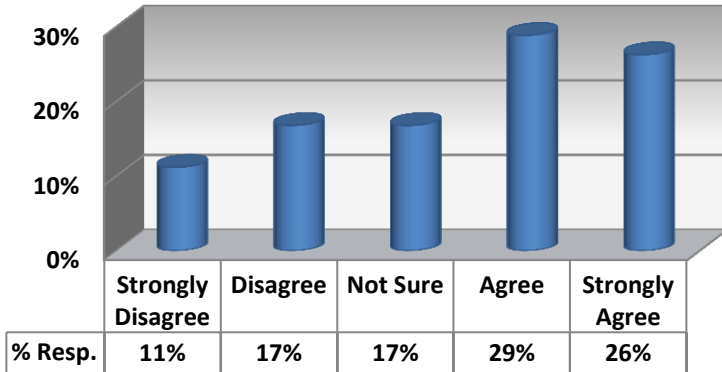
**Linux vendor support is as good as that offered by Unix vendors**



In the survey, 'Vendor Support' came in as the fourth most important buying factor. Direct support from the vendor is key to the commercial Unix value proposition, but it comes at a high cost when compared to Linux.

Slightly less than a quarter of our respondents said that Linux support is better than what is offered by Unix vendors. With barely over half saying that Unix support is better, that leaves 25% who aren't quite sure which is best. We're a bit surprised at this; we figured that the Unix vendors would win by a wider margin.

**Currently, Unix offers higher performance & throughput vs. Linux**



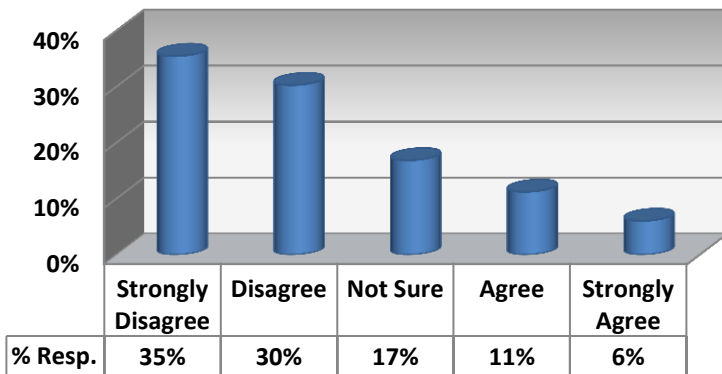
We thought that Linux would come out on top in raw system performance. Linux distributions matched up with speedy Intel chips can sometimes run rings around other architectures. And yet, more than half of our Unix/Linux-using respondents said that Unix performs better.

We think the key to explaining this result is the word 'throughput'. The sweet spot for Unix is vertically scaling workloads that utilize large SMP images. There aren't many >quad-socket x86 systems available, and thus few large-scale Linux systems. This just isn't the Linux model, which means a win for Unix.

Even though Unix tops Linux on the data center-centric criteria we asked about in the survey, the margins of the wins weren't overwhelming. Typically, fewer than 30% of our respondents felt that Linux was better on any of the factors we asked about. But when you add that total to the number of 'Not Sure' responses, we see a much closer ballgame on most of the questions.

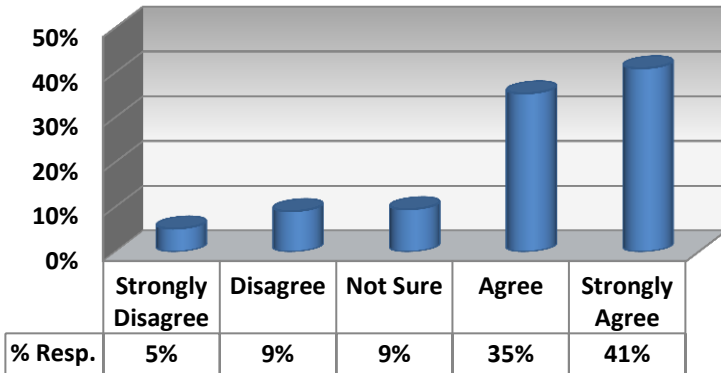
Given that these results aren't a knockout in favor of either traditional Unix or upstart Linux, what are the implications? Both Linux and Unix are advancing on technical and customer support terms. Linux has come a long way very quickly, which begs the question: do customers believe that they'll be abandoning traditional Unix for Linux in the near future?

**Migrating completely away from Unix in the near future in favor of Linux (less than 5 years)**



A pretty solid majority of our respondents (65%) clearly said that they don't anticipate migrating away from commercial Unix in the next five years. Almost 20% were on the fence, while only 17% said that they were going to move from commercial Unix to Linux in the near future.

**We will be using Unix systems for the foreseeable future (>5 years)**



The large majority of customers see themselves using commercial Unix systems well into the future. Out of the 76% who say this, it's interesting to note that 41% 'Strongly Agree' with the statement vs. only 5% who do not.

There are very few people on the fence on this issue – only 9%, which attests to the strategic nature of the commercial Unix platform in most organizations.

What we're really seeing in these results is that there's a place for both traditional Unix and Linux in the modern enterprise data center. At this point, the majority of our respondents do not see Linux as a direct replacement for commercial Unix; they see the need for both.

There are plenty of situations where Linux is superior to Unix and is the best choice. But we were asking customers whether they think Linux is ready to take on the Unix mission critical platform role.

We're a big believer in the right tool for the job. And we've seen again and again that useful tools aren't made obsolete by the emergence of new tools. Minicomputers (VAX, etc.) didn't take out mainframes; Unix systems didn't either. By the same token, x86 Windows and Linux-fueled systems haven't taken out commercial Unix systems.

We'll continue to monitor the relationship between Linux and Unix in future surveys and report back. If you're interested in finding out more about this survey (demographics, expanded results, detailed GCG analysis), click [here](#).

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