



» Linux Foundation Report

# Linux Adoption Trends 2012: A Survey of Enterprise End Users

A Report By The Linux Foundation in Partnership  
with Yeoman Technology Group

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The Linux Foundation  
<http://www.linuxfoundation.org>

# Executive Summary

The Linux Foundation, in partnership with Yeoman Technology Group, recently conducted an invitation-only survey of 1893 enterprise Linux users. The survey pool was comprised of The Linux Foundation End User Council, as well as other companies, organizations and government agencies selected by The Linux Foundation and Yeoman.

This paper reports on the findings of that survey, with a focus on the 428 respondents who work for organizations with sales of more than \$500 million or 500+ employees. The number of respondents from the largest enterprises in the world grew by more than 10% this year, giving us an even better picture of enterprise Linux adoption trends.

This year's Enterprise Linux survey shows that affinity among new and veteran Linux users continues to increase at the expense of Windows and Unix. Eighty-four percent of organizations currently using Linux have expanded its usage over the last twelve months, and continue to rely on it as their preferred platform for "greenfield" deployments, as well as for mission-critical applications.

Part of this growth is due to Linux's role in two of today's biggest IT trends: supporting the increasing level of "Big Data" and achieving productivity and security gains with virtualization and cloud computing. Enterprise Linux users show steady progress on all of these fronts and a clear preference for Linux as the foundation for these trends.

Key findings from this year's report include:

- **Even as IT spending forecasts remain soft, enterprise users are adding more Linux.** Eight out of ten respondents say that they have both added Linux servers in the last 12 months and plan to add more in the next 12 months, with the same number planning to add more Linux in the next five years. Only 21.7% of respondents are planning an increase in Windows servers during that same period (next five years).
- **More than 75% of respondents expressed concern about "Big Data," and nearly 72% are choosing Linux to support it.** Most enterprises expressed concern with the rapid growth of data, and Linux is clearly the platform of choice to address it. Only 35.9% are planning to use Windows to meet the demands of this new environment.
- **Linux users see fewer issues impeding the operating system's success, with technical issues cited among respondents dropping 40% over last year's report.** Technical issues cited by Linux users dropped 40%, from 20.3% in 2010 to 12.2% today. Twenty-two percent fewer respondents cite perception by management as an issue, and 10% fewer say there are no issues at all impeding the success of Linux.
- **The largest collaborative development project gains more contributions from enterprise users:** This year's survey surfaced a nearly 12-point increase in those participating in Linux Foundation activities, an 8-point increase among respondents who are working on code, and a 5-point increase in those who are testing and submitting bugs.
- **TCO, feature set and overall security top Linux benefits:** More than two-thirds of respondents consider Linux to be more secure than other operating systems.

The Enterprise Linux User survey is not intended to be an assessment of the overall penetration of Linux in the market, nor is it designed as a cross-platform study. It's also important to note that enterprise users who are motivated to take a survey from The Linux Foundation are not an

unbiased lot, but the size of these organizations, their buying power and technical prowess – as filtered by The Linux Foundation and Yeoman – should provide important guidance both for Linux vendors and developers, as well as their competitors.



# Eight out of Ten Respondents Say They Are Adding Linux Servers

Our survey results show that Linux use among the world's largest enterprises continues to grow. This deep penetration should contribute to good results for Linux vendors.

Eighty-four percent of respondents report that their organizations have expanded Linux usage in the last 12 months, with 82% planning on continuing that expansion into the year ahead. The 5-year outlook indicates an even longer-term commitment to the platform among 79.8% of Linux users surveyed, who say the use of Linux in their company or organization will increase relative to other operating systems during this time period.

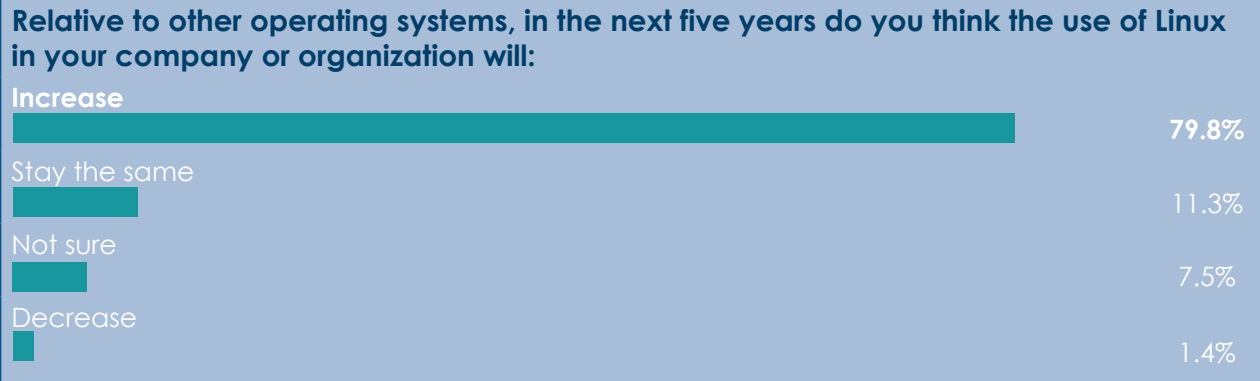


Chart 1

Only 21.7% of respondents are planning an increase in Windows servers during this time period and, in fact, more than 25% are planning to decrease the number of Windows servers.

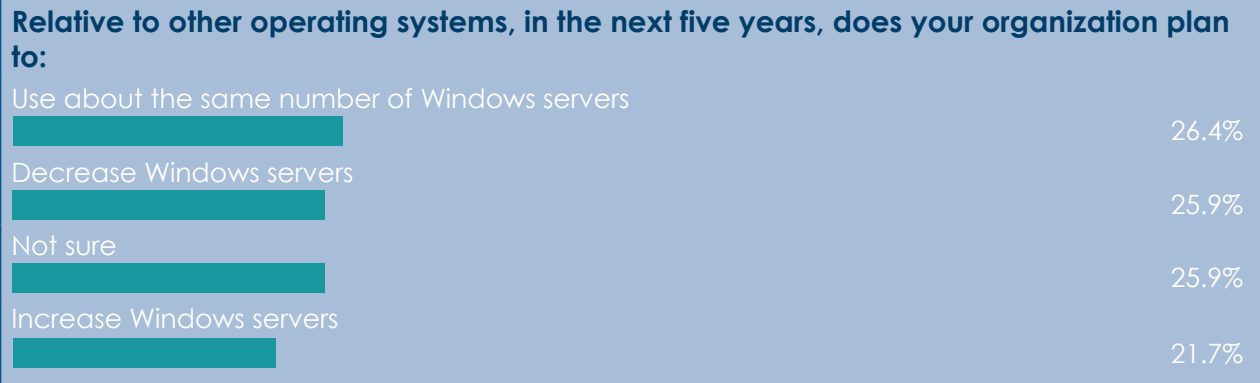


Chart 2

For the second year in a row, respondents say that the majority of their Linux deployments are supporting brand new applications and services (or “greenfield” deployments). As mentioned in last year’s report, this is important since users typically have more flexibility for new applications. Additionally, migrations to Linux continue to come at the expense of legacy Windows and Unix deployments.

### In the last two years, have your new Linux deployments been:



Chart 3

Nothing demonstrates the trust users have in the Linux operating system more than their plans to use it to support mission-critical workloads. Already a strong indicator of trust in 2010 with 60.2% of users planning to use Linux for mission-critical workloads, that number rose 15% this year.

### Relative to other operating systems, how would you describe your planned use of Linux for mission-critical workloads over the next 12 months?



Chart 4

Drivers for adoption remain consistent year over year with lower cost of ownership, Linux feature set/technical superiority, and security topping the list again in 2012.

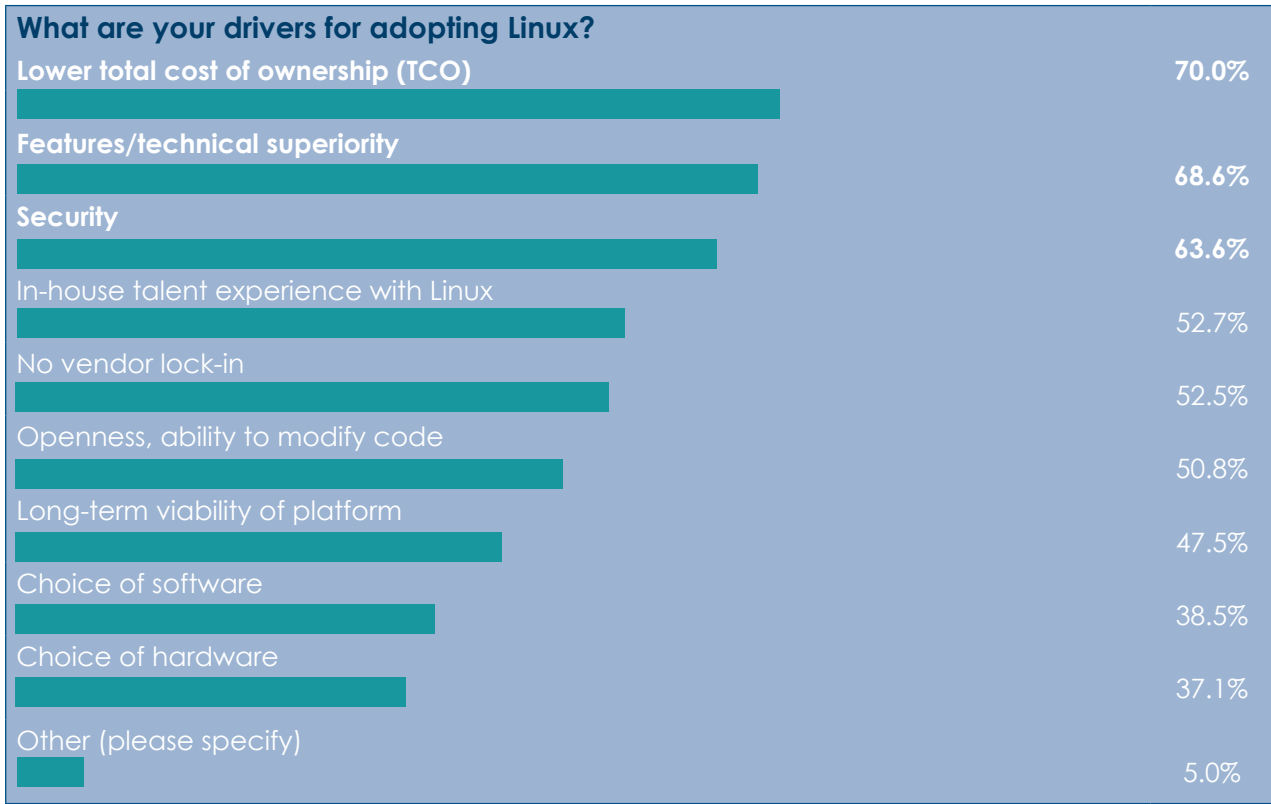


Chart 5

## Linux Dominates in New Strategic Areas of Business

Virtualization and cloud computing are areas where Linux has proven to be a strategic asset, helping to deliver on the promises of increased productivity, flexibility and cost efficiency. At the same time, information is exploding with collection points spreading and more elements of our personal and professional interactions being digitized. This is putting the words “Big Data” in every CIOs vocabulary.

Our survey respondents indicate that Linux is being used as the dominant platform to address these enterprise technology trends.

More than 75% of respondents say they have concerns about their organization's ability to handle the ongoing explosion of “Big Data.” Solving the problem involves more than simply adding more storage; organizations need to invest in better overall management and care of their data.

We asked organizations what role they saw Linux playing in managing this rise in data and found that more than two thirds, nearly 72%, plan to use the Linux operating system to support this new enterprise environment. Only 35.9% plan to use Windows to address what will certainly become a bigger and bigger trend.

### In the next 12 months, what are your company's plans to support Big Data?

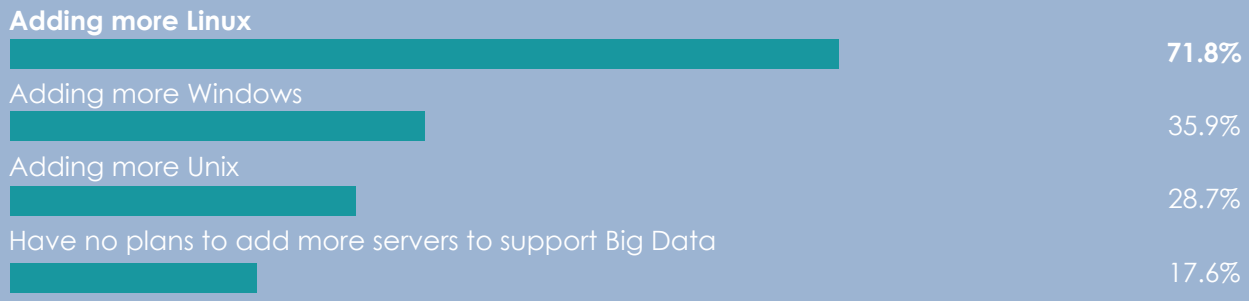


Chart 6

Cloud computing continues its steady adoption across all enterprises worldwide, and this trend is reflected in our survey. This year we saw a 34% increase in organizations migrating some of their applications to cloud-based computing.

All told, 61% of organizations now cite cloud-based applications, whether public, private, or hybrid. Of those users in the cloud, 66% are using Linux as their primary platform, up 4.7% from last year. Going forward, 34.9% of organizations are planning to migrate more applications to the cloud, up from 26% last year.

The decade-long growth of virtualization on x86 platforms is also clearly reflected in our annual survey, with 72% of organizations expecting to have 25% or more of their servers virtualized by year's end. More than 46% of organizations expect to have 50% or more of their platforms virtualized by the end of 2012, an 18% increase over last year.

### What percentage of your organization's production servers do you expect to have virtualized by the end of 2012?

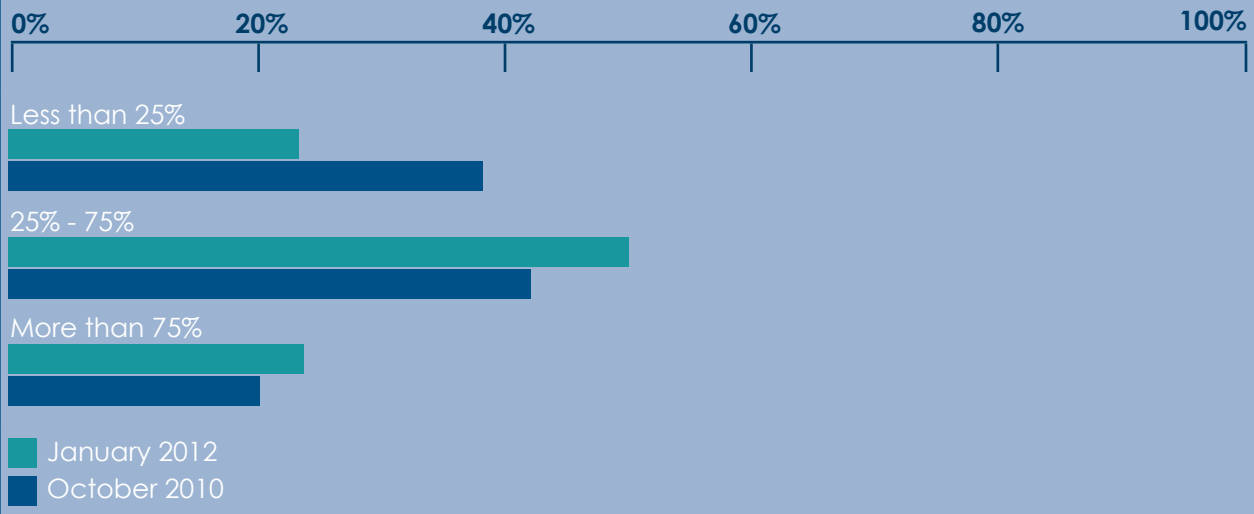


Chart 7

While not all servers can be virtualized, Linux offers a distinct advantage in that it is the only major platform that can be virtualized on x86, mid-range, and mainframe-based systems. This unique value proposition is further bolstered with a virtualized Linux core, which opens up new hardware options for the enterprise based on required computing power.

## While Some Issues Remain, Linux Users Have Fewer Concerns about the Platform Overall

Linux has always had a strong base of support, which is demonstrated this year with a whopping 88.7% of respondents citing an improved perception.

Furthermore, when asked what factors were impeding Linux from having more success in their organizations, we found that technical concerns among respondents dropped 40%, from 20.3% in 2010 to 12.2% today. Twenty-two percent fewer respondents cite perception by management as an issue - though this remains the number one concern among respondents - and 10% fewer say there are no issues at all impeding the success of Linux.

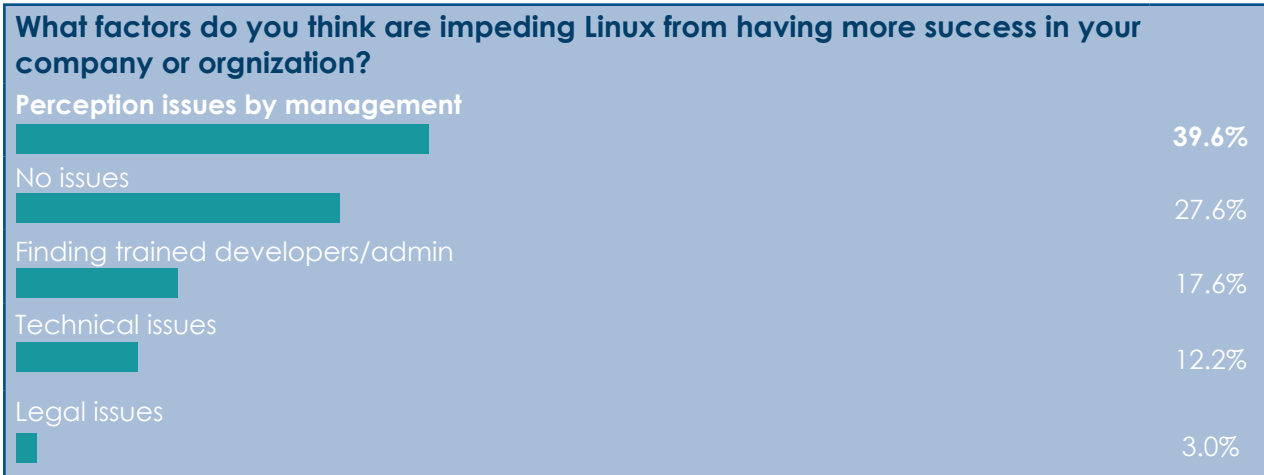


Chart 8

When it comes to remaining concerns about the platform, interoperability topped the list. Given the continued growth of Linux, it's no surprise that interoperability edged out driver availability to become the top concern.



## What remaining concerns do you have about Linux?

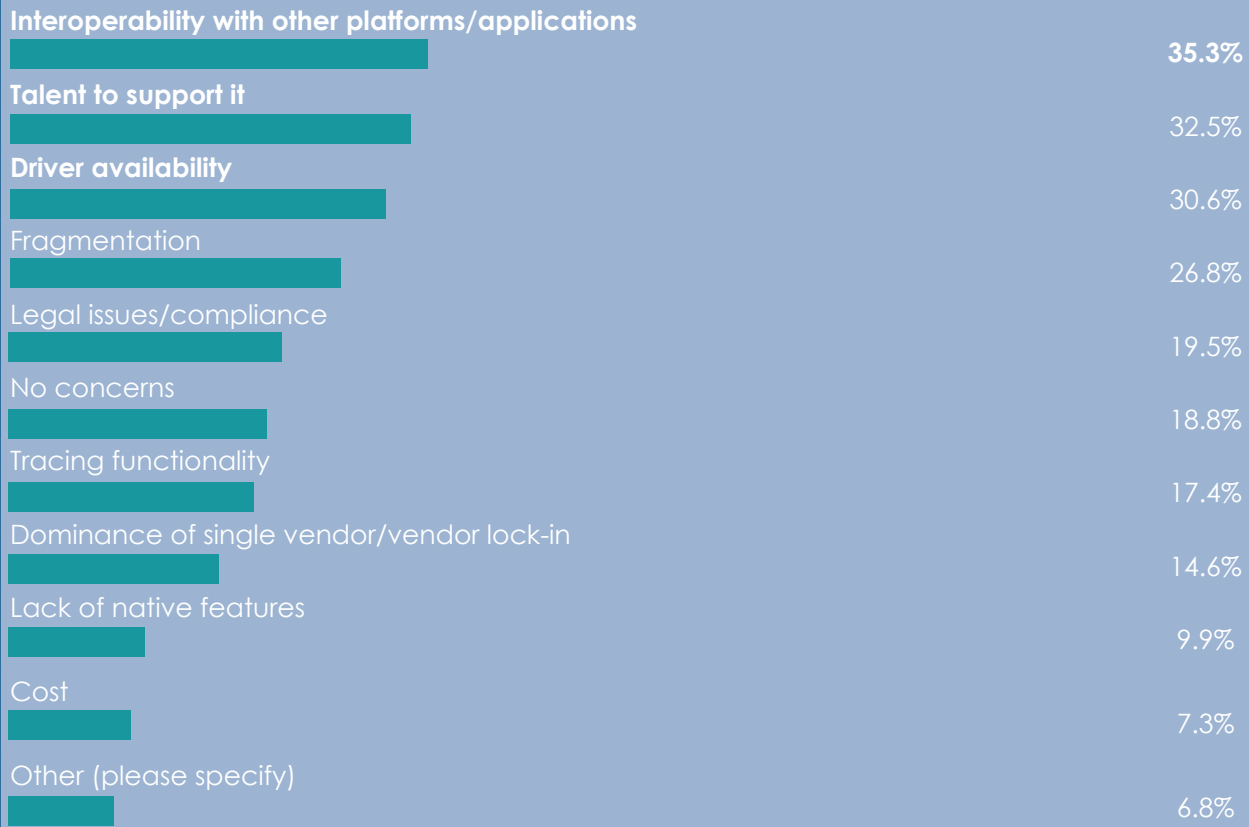


Chart 9

### Linux Users Gain Confidence with New Training Offerings

Last year we pointed out that as Linux was experiencing significant growth in every category of computing, a shortage of qualified people to support this ecosystem was becoming an issue, and it was a concern for 38.3% of respondents. This indicated that the expansion of Linux could also be causing some growing pains.

The Linux Foundation and its members made a strategic decision to address this increase in demand for Linux professionals with significant training and educational resources, including the Linux Training Program ([training.linuxfoundation.org](http://training.linuxfoundation.org)) and developer training at events like LinuxCon throughout the world.

These efforts seem to have had some impact already, as only 32.5% of respondents are concerned about Linux talent to support their initiatives, a 15% drop over last year.

Opinions regarding the overall security of the platform also remain strong, with 77.2% of respondents reporting that they regard Linux to be more secure than other operating systems.



Chart 10

## Largest Collaborative Development Project in History Gains New Contributions from Enterprise Users

As Linux use grows, so does the Linux community. Overall, participation within the Linux community increased over last year, with nearly a 12-point increase in those participating in Linux Foundation activities, an 8-point increase among respondents who are working on code, and a 5-point increase in those who are testing and submitting bugs.

The strong support of the Linux community is also evident in the adoption rates of several newer platform features. **Ext4** adoption leapt from 25.3% to 41.2% this year, and **KVM** usage jumped from 12.8% to 21.4%. Even **Btrfs**, which remains primarily in the review and evaluation stage, saw the number of organizations evaluating or planning its deployment grow by 13%.

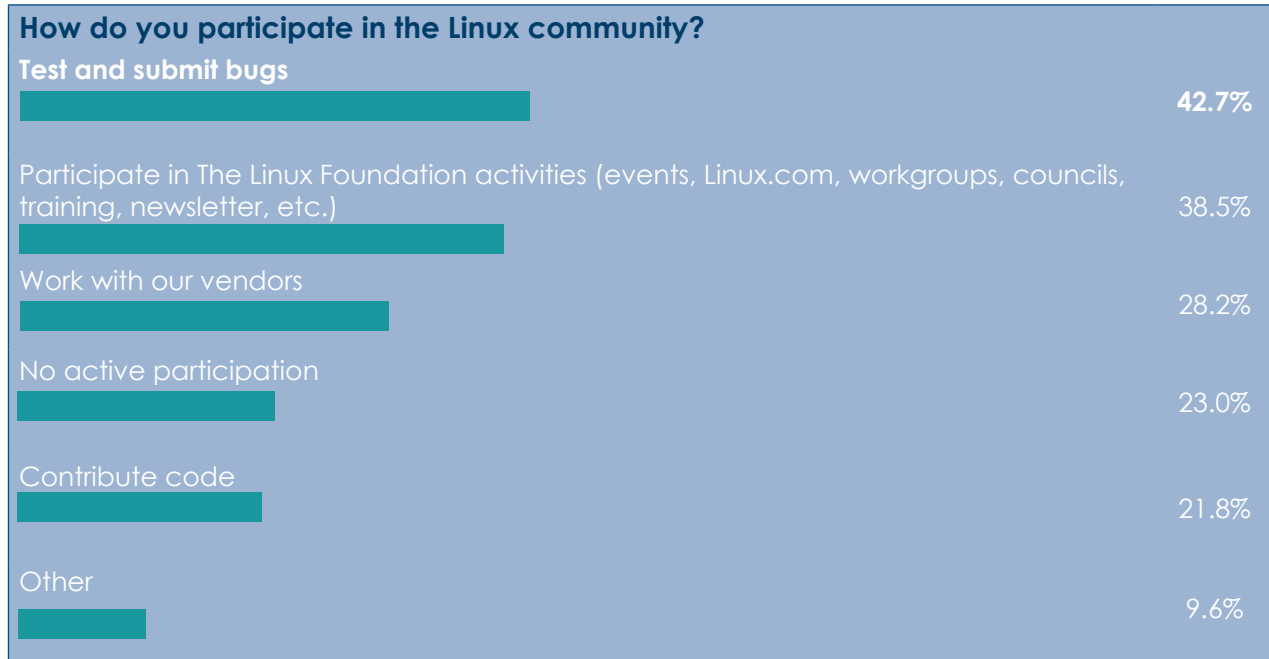


Chart 11

# The Bottom Line: Linux Poised for Further Growth

Once enterprises deploy Linux, they stick with Linux and plan to add more Linux, because the platform provides sustainable benefits that include a broad feature set, security, cost-savings and flexibility. Linux also supports the next generation of computing, supporting growing levels of data, cloud computing and virtualization. We also expect to see it support the social enterprise, energy-efficiency projects and an increasingly connected world in the year ahead.

The consistency of the research findings and the year over year improvements in perception and adoption bode extremely well for Linux. As the community works to foster talent and overcome some lingering misconceptions, Linux vendors should continue to plan for growth in the coming years, as the survey results indicate that the platform is maintaining its positive momentum, perception and adoption among the world's largest enterprise users.

## About Our Respondents

The results of this survey were based on responses from 428 IT professionals from organizations with \$500 million or more a year in revenues or 500+ employees. The vast majority (65.6%) identified themselves as IT/IS staff or developers and represented a wide range of industries. Users from the US and Canada make up 41.6% of the respondents, 27.1% are from Europe, and 15.2% are from Asia.

This survey was conducted with members of The Linux Foundation's End User Council, as well as other end users identified by The Linux Foundation and Yeoman Technologies. The End User Council is a neutral forum for corporate end users to voice platform concerns, discuss best practices on Linux deployments, and identify common technical requirements that can be shared with The Linux Foundation Technical Advisory Board and the Vendor Advisory Council.

Companies represented throughout the years on The Linux Foundation End User Council include Morgan Stanley, Goldman Sachs, Bank of America, Bristol-Myers Squibb, NTT, Deutsche Bank, Dreamworks, ADP, McKinsey and Company, Bank of New York, NYSE, CME Group, NASDAQ QMX, Goodrich, MetLife, AIG, and many more.

By participating in Linux Foundation events and frequently meeting with the Technical and Vendor Advisory Boards, the End User Council promotes understanding of how Linux is – and will be – used in many of the world's most demanding environments.

The organized collaboration among these three constituents aggregates and streamlines communication of key issues facing the platform now and in the future, strengthening Linux for all.

More information on the council, including how to get involved, can be found at <http://www.linuxfoundation.org/programs/advisory-councils/euc>. The next Enterprise End User Summit takes place in New York at the offices of the New York Stock Exchange from April 30-May 1, 2012: <https://events.linuxfoundation.org/events/enterprise-end-user-summit>.

The Linux Foundation promotes, protects, and advances Linux by providing unified resources and services needed for open source to successfully compete with closed platforms.

To learn more about The Linux Foundation, or any of our other initiatives please visit us at <http://www.linuxfoundation.org/>.

