

InformationWeek Research Brief

Linux Outlook

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The Upshot

The Crux: The open-source movement is growing, even as the legal actions of SCO Group morph from trade-secrets allegations to copyright-infringement charges. Surprisingly, few Linux sites rely on software suppliers to protect them against possible litigation. Instead, in-house processes have been implemented by Linux sites to prevent open-source projects from infringing on protected intellectual property. Linux server and PC licenses are expected to climb dramatically over the next two years, due in part to the perceived need for an alternative to Windows. However, Linux PC customers face the challenge of resolving compatibility issues with existing corporate software.

The Trends: Linux, coupled with the open-source architecture, is increasingly viewed by its adopters as a platform of innovation. It's easier to customize than Windows. However, open-source is a long way from winning the platform wars. A myriad of operating system platforms will continue to typify IT architecture in 2005 and beyond. Some companies are seeking alternative operating systems for PCs and servers. The expected outcome: Increased use of Linux and open-source software; a decline in the use of Windows NT, 2000, and XP. Two years ago a major hurdle in the use of Linux was reliable support and service, but no more. Companies are either providing training for their IT workers or have hired full-time employees with Linux expertise.

Recommendations: Open-source software, combined with Linux, offers corporations a cost-saving alternative to other operating system platforms. Use this report to understand the challenges companies face in deploying open-source software. And adjust your company's use of Linux by benchmarking its initiatives against those organizations using Linux on servers and PCs.

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Methodology

InformationWeek Research conducted an editorial study to measure corporate use of Linux and open-source software in January 2005. The survey was fielded online and was completed by 439 business-technology professionals familiar with their company's lineup of desktop, network, server, or mainframe operating systems. Participants were derived from a random sampling of InformationWeek subscribers. Forty-six percent of respondents identify themselves as tech management and 26% IT staff. Fourteen percent are corporate management while 7% staff members. Seven percent are consultants.

The following report examines the results of the InformationWeek Research survey and, where possible, compares results from InformationWeek Research's 2004 and 2003 Linux surveys.

Legal Concerns

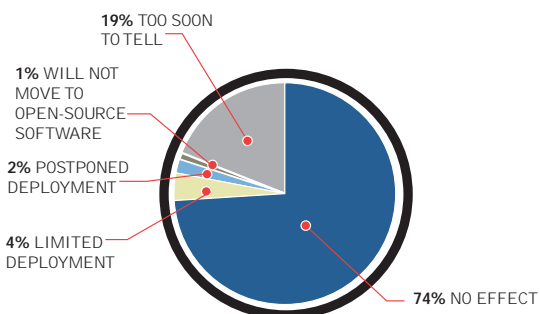
SCO Group's lawsuit regarding the alleged use of Unix source code in Linux isn't stifling corporate interest in open-source software. Only 7% of the sites we surveyed report that SCO's legal actions have slowed or put the brakes on their move to open-source software. The majority of sites say their open-source initiatives are unaffected while one in 10 report it's too soon to tell what effect SCO's suit will have on their open-source software plans.

Where SCO's legal strategy is having an impact is among open-source pilot testers. Nearly a quarter of the study's 102 sites testing open-source products on PCs are uncertain what outcome SCO's legal actions will have on their long-term use of open-source software. The same sentiment is reported by nearly 30% of the 101 sites pilot testing open-source products on servers. Despite this uncertainty testing at these companies continue.

Assurances against potential lawsuits aren't a major concern of managers at sites using or considering adopting Linux. Most sites we surveyed haven't taken any steps to protect themselves against possible lawsuits. Of 239 sites using, pilot testing or planning to use open-source products, only 9% have asked their Linux software supplier to indemnify it from legal actions. Twice as many sites (18%) report that their vendor has volunteered to indemnify it from potential lawsuits by SCO or other organizations. The larger the company, the more likely it is to ask for assurances from a Linux software supplier or receive protection assurances from a vendor. Yet these organizations are still in the minority.

Of Little Consequence

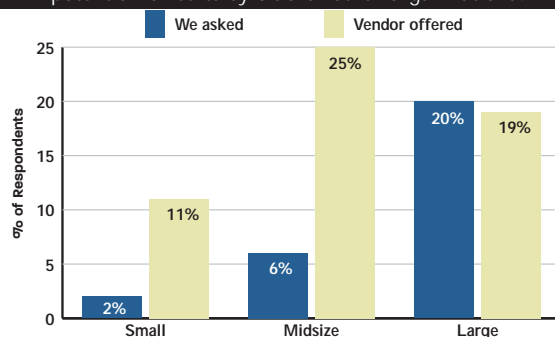
What impact has the SCO Group's lawsuit had on your organization's move to open-source software?



Base: 327 sites using, pilot testing or planning to deploy open-source products
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Company Assurances

Has your organization asked its Linux software suppliers or have suppliers volunteered to indemnify it from potential lawsuits by SCO or other organizations?

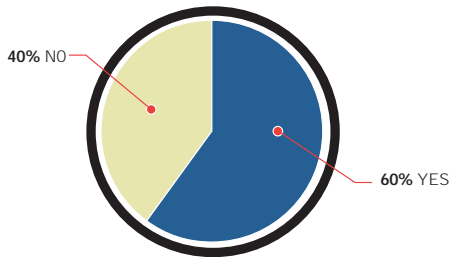


Note: Small companies have annual revenue of less than \$100 million; midsize, \$100 million up to less than \$1 billion; large, \$1 billion or more
Base: 97 small, 63 midsize, and 79 large sites planning, pilot testing or planning the use of open-source products
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Instead of supplier guarantees, companies are implementing their own procedures to guard against the (unintentional) use of copyrighted properties. Three in five sites surveyed with in-house Linux development and support expertise have processes in place to ensure that code contributed to open-source software projects by staff members doesn't infringe on protected intellectual property. Consider the fact that last year IBM, for example, obtained a total of 3,248 patents from the United States Patent and Trademark Office. Internally developed safeguards might not be sufficient enough to protect companies developing open-source code.

Internal Safeguards

Does your company have processes to ensure code contributed by your staff to open-source projects doesn't contain protected intellectual property?



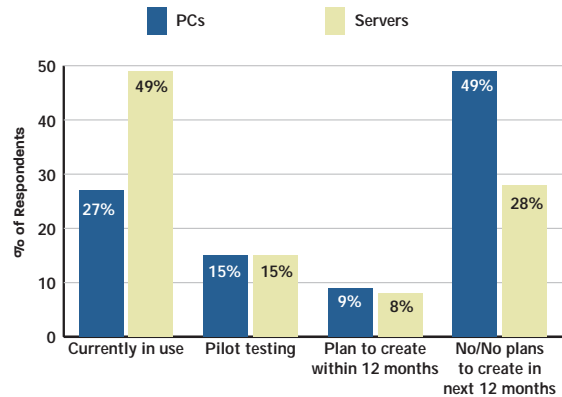
Base: 233 sites with in-house Linux development and support expertise
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

OS and Linux Commitment

There's been a lot of buzz about open-source software rollouts for client PCs. While there are some adopters of these applications, it doesn't begin to match open-source use on servers. More than half of the 439 business-technology professionals we interviewed are using, pilot testing, or planning to use open-source products on corporate desktops or laptops. Yet, by comparison, nearly three-quarters of sites are using, pilot testing or planning to use open-source products on servers.

Open-Source Plans

Does your organization use or plan to use open-source products?



Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Many companies do not rely upon open-source software as their primary platform. Few of the sites using or pilot testing open-source products characterize their IT departments' software architecture as primarily open source (3%). Forty-four percent describe their software as a mix of commercial and open source compared to 53% that prefer commercial products. The smaller the company, more prevalent is the use of open-source software.

Linux sites mostly favor a targeted approach to adoption. It's unusual to find open-source software deployed across an entire enterprise -- only 29% of sites using open-source products do. Instead, use is limited to select business functions, departments, or divisions.

By contrast, nearly all Windows sites deploy it on corporate desktops or laptops. Open source and Unix are nowhere near this penetration. Nearly half of users of open-source products have installed this software on PCs. Twenty-nine percent of the study's Unix users have rolled out Unix software on desktops or laptops.

Open-source products are most commonly deployed on server operating systems, Web server applications, application development tools, and application servers. By contrast, Windows' primarily is found on desktops and laptops (as mentioned before), server operating systems, and messaging services. The chief uses of Unix include operating server systems, application servers and packaged enterprise applications such as database, ERP and CRM programs.

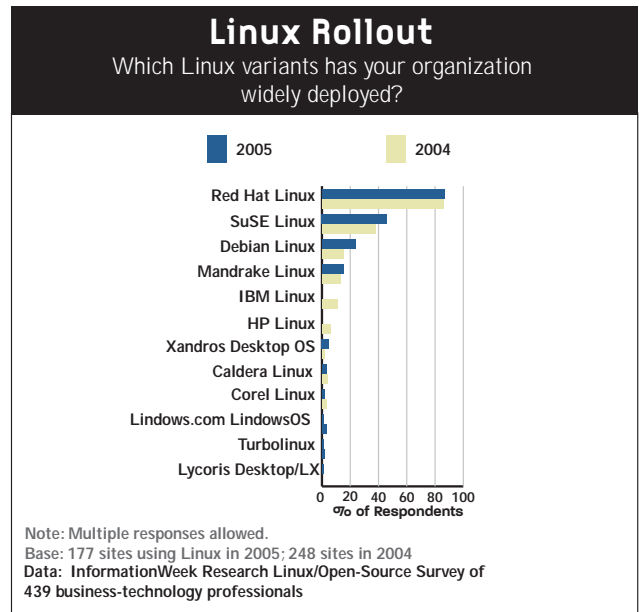
Red Hat is the most widely adopted Linux variant. Nearly 90% of sites we surveyed report its use. SuSE Linux is also popular but is a distant second at 46% of sites. Debian Linux is the next closest rival -- at a quarter of sites. No other variant earns substantial market share among the sites we surveyed.

Platform Mix

In what areas is your organization using open source, Windows, and Unix?

	OS	Windows	Unix
Operating systems – server	75%	81%	87%
Web server applications	75%	68%	61%
Application development tools	68%	78%	62%
Application server	56%	72%	73%
Operating systems – desktop/laptop	47%	97%	29%
E-mail/messaging services	38%	81%	39%
Storage software	36%	62%	62%
Packaged enterprise applications – database, ERP, CRM	35%	64%	67%
Handheld/PDAs/Remote access applications	21%	69%	12%

Note: Multiple responses allowed
Base: 263 sites using open-source, 291 sites using Windows, 218 sites using Unix
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals



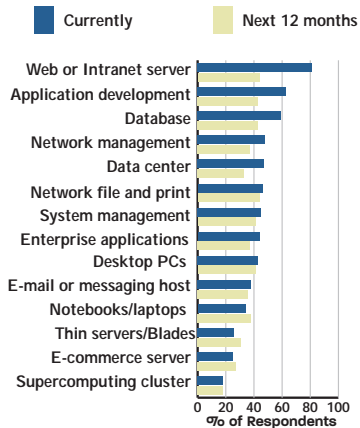
One thing business-technology professionals believe about open-source software: It provides more opportunity for innovation than commercial or proprietary software. Two-thirds of the 439 business-technology professionals we surveyed in January 2005 contend that open-source spurs more opportunities for technical innovation. Half (47%) say it encourages business innovation.

Four out of five sites use Linux on Web or Intranet servers. Application development, database management, and system management are other popular applications of it. This year the growth areas will include desktop PCs, database management, application development, and network and desktop management.

An increasing number of sites identify themselves as long-term users of the operating system. Almost two-thirds of Linux sites have been doing so for two years or more. A year ago, 56% of sites surveyed by InformationWeek Research reported the same amount of experience. And back in 2003, 47% of sites we surveyed had deployed it for two years or more.

Linux Treatments

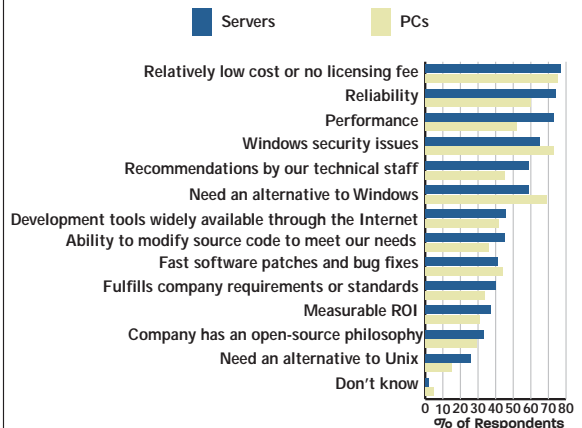
Where does your organization use Linux currently and in the next 12 months?



Note: Multiple responses allowed.
Base: 208 sites using Linux currently; 189 sites in the next 12 months
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Linux Promoters

What has helped accelerate your organization's decision to use Linux?



Note: Multiple responses allowed.
Base: 246 sites reporting on servers; 155 sites on PCs
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

PC and Server Migration

How widely deployed is Linux? Well, nearly half of the sites we interviewed use Linux on servers or PCs. Twenty-three percent have rollout plans for the next 12 months. Another 23% although using open-source products have no current plans for Linux.

Low cost and the lack of licensing fees are the primary reasons why companies deploy Linux on PCs and servers. However, concern about the vulnerability of Microsoft products is also speeding up Linux adoption. Of the sites using Linux on PCs, 73% are doing so in response to Windows security issues while 69% seek an alternative to Windows. Two-thirds of sites state that Windows security concerns are driving Linux adoption on servers while nearly three in five server users want another option to Windows.

Linux's maturation process is evident, judging by the studies we have conducted in recent years. Many Linux sites cite its reliability, performance, and wide availability of development tools on the Web. Linux reliability is mentioned as a key adoption driver by more companies in 2005 than it was 2 years ago.

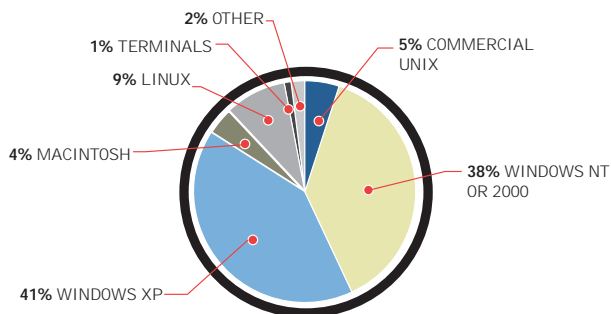
For years, Linux advocates have touted the open-source operating system as a less-expensive, more-reliable alternative to Unix and Windows. Respondents in this study agree that Linux is less expensive. At least seven in 10 sites report that Linux is cheaper to operate than mainframe systems, Windows NT, Windows 2000 servers, Windows XP servers and Commercial Unix servers. Companies also say Linux is a cheaper PC option than Commercial Unix, Windows XP or Macintosh. Only PC terminals offer some cost competitiveness. While 38% of sites say Linux on PCs has a lower total cost of ownership than terminals, 45% say it's the same, while 17% report that terminal costs are lower.

Cost effectiveness is not enough to make Linux a serious threat to Windows on corporate desktops. On average among the sites we surveyed 9% of PCs and 3% of servers use Linux. Windows XP and Windows NT or 2000 dominate desktop and laptops while on servers Windows NT or Windows 2000 and Unix are the main platforms in use.



PC Platforms

What percent of your organization's PCs use the following platforms?



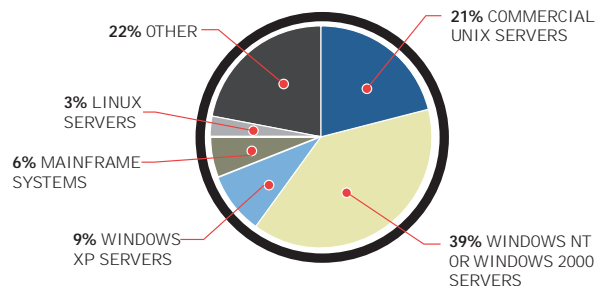
Base: 240 sites using or planning to deploy Linux on PCs
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Linux has its share of problems. Compatibility with existing software is the drawback to overcome with Linux on PCs. Other common complaints related to Linux use on PCs and servers include the lack of technical knowledge of personnel, problems related to multiple Linux versions, poor documentation and hardware support problems. Only 30% of sites using Linux on PCs in 2005 and 28% of sites using the operating system on servers report no deployment issues.

Yet in spite of these customer concerns, Linux is fulfilling the expectations of most users. Eighty-four percent of sites say they are highly satisfied with Linux-server performance compared to half of sites reporting the same level of satisfaction on PCs.

Server Platforms

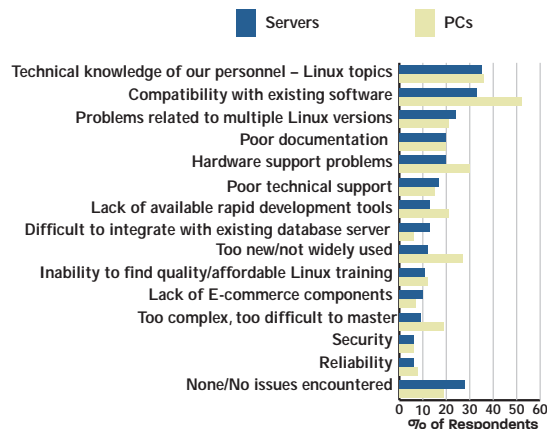
What percent of your organization's servers use the following platforms?



Base: 235 sites using or planning to deploy Linux on servers
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Linux Hurdles

What issues has your organization encountered in its deployment of Linux on its servers or PCs?

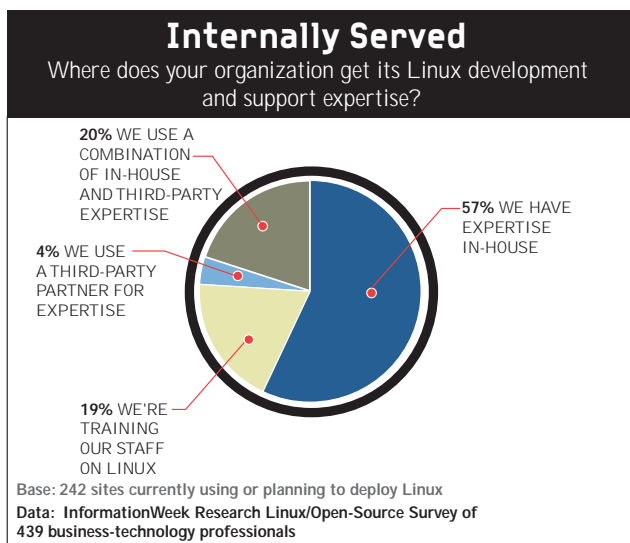


Note: Multiple responses allowed.
Base: 255 sites reporting on servers; 165 sites on PCs
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Companies expect Linux will reduce their dependence on Windows products. In the next 12 months, Linux is expected to replace Windows NT or Windows 2000 servers at nearly half of the sites we surveyed. Three in five sites expect to use Linux on servers instead of Windows NT or Windows 2000.

Linux has its edge on Windows, with low cost, reliable performance, secure environment, expected future innovation and confidence in open-source development model. And three quarters of sites expect the number of PC licenses for Linux to increase over the next two years. Nearly 90% of companies we surveyed anticipate a jump in server licenses for Linux. No other product comes close to these expectations - not Windows, Macintosh or Unix.

Which vendors stand to benefit the most? Our study suggests that Red Hat may be among the biggest beneficiaries of this growth. Red Hat dominates as the provider of Linux-related software and support. Eighty-five percent of sites using Linux have selected Red Hat as their primary provider. Novell/SuSE Linux, IBM, Dell, and HP are other popular vendor choices.



While many customers choose to partner with a vendor for Linux-related software and support, most have the expertise in-house to customize or troubleshoot the operating system. Others are training IT staff to meet the demands of service and support. One in five companies are using a combination of in-house and third-party resources while only 4% are solely dependent on a third-party partner for Linux-related software and support.

Report Appendix

InformationWeek Research is pleased to provide you with the following charts from our Linux/Open-source survey, supplying year-over-year trending on deployment drivers, rollout hurdles, and supplier preferences.

PC Drivers

What are the primary reasons that your organization has decided to use Linux in some of its PCs?

	2005	2004	2003
Relatively low cost or no licensing fee	75%	73%	80%
Windows security issues	73%	-	-
Need an alternative to Windows	69%	67%	64%
Reliability	60%	57%	49%
Performance	52%	55%	48%
Recommendations by our technical staff	45%	45%	41%
Fast software patches and bug fixes	44%	44%	29%
Development tools widely available through the Internet	42%	44%	35%
Ability to modify source code to meet our needs	36%	34%	25%
Fulfills company requirements or standards	34%	34%	25%
Measurable ROI	31%	-	-
Company has an open-source philosophy	29%	23%	24%
Need an alternative to Unix	15%	14%	16%

Note: Multiple responses allowed
Base: 155 sites using Linux on PCs in 2005; 155 sites in 2004; 147 sites in 2003
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Server Drivers

What are the primary reasons that your organization is using Linux in some of its servers?

	2005	2004	2003
Relatively low cost or no licensing fee	77%	79%	86%
Reliability	74%	75%	76%
Performance	73%	76%	71%
Windows security issues	65%	-	-
Need an alternative to Windows	59%	58%	59%
Recommendations by our technical staff	59%	58%	53%
Development tools widely available through the Internet	46%	45%	38%
Ability to modify source code to meet our needs	45%	38%	32%
Fast software patches and bug fixes	41%	39%	37%
Fulfills company requirements or standards	40%	39%	40%
Measurable ROI	37%	-	-
Company has an open-source philosophy	33%	25%	27%
Need an alternative to Unix	26%	28%	25%

Note: Multiple responses allowed
Base: 246 sites using Linux in 2005; 290 sites in 2004; 272 sites in 2003
Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

InformationWeek Research Brief

Linux Outlook

PC Challenges

Has your organization encountered issues deploying Linux on its PCs?

	2005	2004
Compatibility with existing software	52%	41%
Technical knowledge of our personnel regarding Linux topics	36%	25%
Hardware support problems	30%	23%
Problems related to multiple Linux distributions/versions	21%	17%
Lack of widely available rapid development tools	21%	14%
Poor documentation	20%	22%
Too complex too difficult to master	19%	13%
Poor technical support	15%	13%
Inability to find quality/affordable Linux training	12%	7%
Reliability	8%	4%
Lack of E-commerce components	7%	3%
Difficult to integrate with existing database server	6%	4%
Security	6%	7%
No issues encountered	30%	27%
Too new/Not widely used	27%	17%

Note: Multiple responses allowed

Base: 165 sites using Linux in 2005, 186 sites in 2004

Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Server Challenges

Has your organization encountered issues deploying Linux on its servers?

	2005	2004
Technical knowledge of our personnel regarding Linux topics	35%	29%
Compatibility with existing software	33%	34%
Problems related to multiple Linux distributions/versions	24%	21%
Poor documentation	20%	27%
Hardware support problems	20%	19%
Poor technical support	17%	13%
Lack of widely available rapid development tools	13%	11%
Difficult to integrate with existing database server	13%	11%
Too new/not widely used	12%	12%
Inability to find quality/affordable Linux training	11%	9%
Lack of E-commerce components	10%	6%
Too complex too difficult to master	9%	9%
Security	6%	11%
Reliability	6%	3%
No issues encountered	28%	30%
Too new/not widely used	12%	-

Note: Multiple responses allowed

Base: 225 sites using Linux in 2005, 272 sites in 2004

Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Vendor Preferences

Which supplier does your company purchase Linux-related software and support?

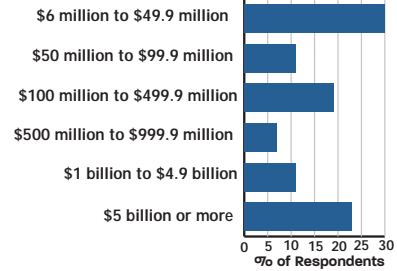
	2005	2004
Red Hat	85%	74%
Novell/SuSE Linux	59%	34%
IBM	50%	29%
Dell	39%	30%
Hewlett-Packard	34%	19%
Sun Microsystems	32%	20%
VMware	29%	21%
Veritas Software	20%	17%
JBoss	17%	-
BEA Systems	11%	7%
Network Appliance	11%	4%
EMC	9%	7%
TurboLinux	7%	-
LinuxCare	5%	3%
Linspire	4%	-
Unisys	3%	1%
Linux Force	3%	-
Other	8%	13%

Note: Multiple responses allowed
Base: 242 sites currently using or planning to deploy Linux in 2005;
277 sites using Linux in 2004

Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Revenue Breakdown

What is the approximate annual sales revenue or operating budget of your entire organization?

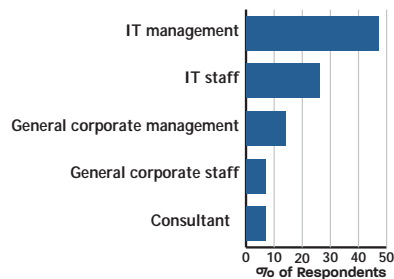


Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Demographics

Participant Breakdown

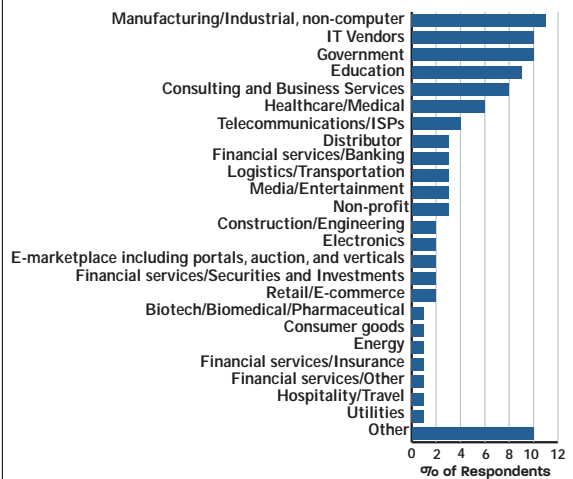
Which of the following categories best describes your title?



Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Industry Breakdown

What is your organization's primary industry?



Data: InformationWeek Research Linux/Open-Source Survey of 439 business-technology professionals

Something To Consider

2004 Expectations

Discover what business-technology managers have planned for 2005 in *InformationWeek* Research's Outlook 2005, part of our quarterly Priorities series. This report also includes the latest outlook on the economy and business prospects with the IT Confidence Index. Use this report to benchmark which strategies will shape business operations the most in 2005.

<http://www.informationweek.com/reports/showReport.jhtml?articleID=56900050>

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We welcome your feedback, inquiries and suggestions at rweston@cmp.com.