

LISA

USENIX Special Interest Group for Sysadmins

2011 Salary Survey

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Introduction

The LISA salary survey is a primary component of the efforts to advance the status of system administration as a profession and establish standards of professional excellence. The salary survey also serves individual sysadmins, managers, and HR departments in comparing their practices with those of other companies.

This survey was sponsored by LISA, a Special Interest Group of the USENIX Association, whose goal is to advance the state of system administration with the assistance of several other organizations, including ACM's *Queue* magazine, *Admin* magazine, *Data Center Journal*, Girls in Tech, IEEE *Security and Privacy*, *InfoSec News*, *Linux Pro Magazine*, *Linux Journal*, LOPSA, Server Fault, Twitter, and *UserFriendly*.

The salary survey for the year 2011 was administered during the latter part of 2011 and early 2012 and garnered 1173 valid responses.

This report includes a large section on demographics, the qualities and traits of the respondents. That section is followed by extensive statistical analyses of salaries, distribution, salary increases. Breakdowns include by geography, gender, and experience. The final part of the employment survey includes several pages of respondents' comments on the state of the profession, the future of system administration, and advice to newcomers.

Rather than embed a host of numbers into a tangle of prose, this survey presents most of its results in charts and tables. Look there for the meat of the results. This year, historical information from previous surveys is generally presented as bar-charts with various survey years as the X-axis.

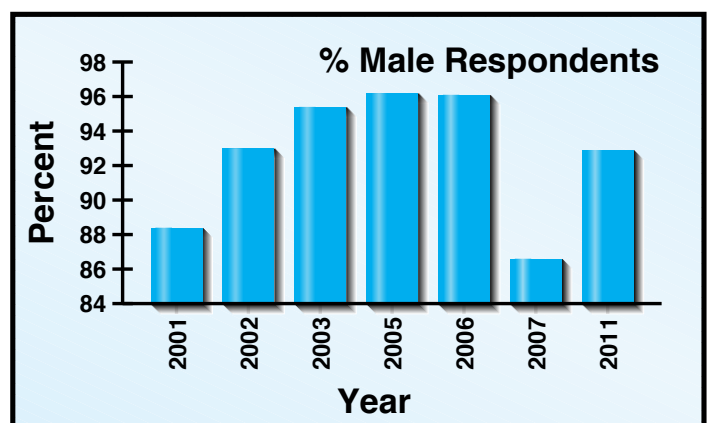
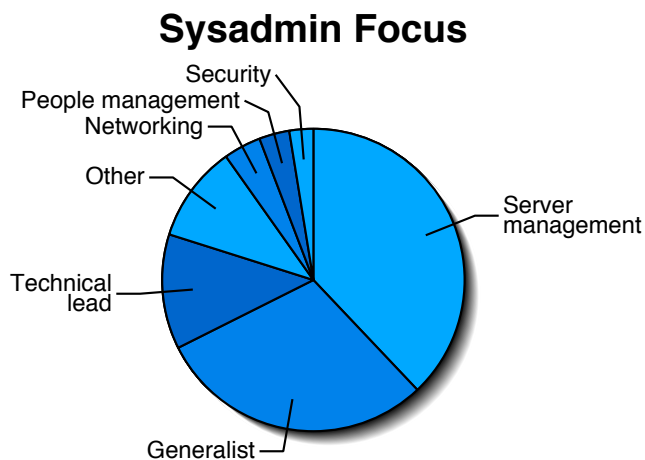
Summary

Of the 1173 valid respondents, 92.9% were men, and 7.1% were women, who are not as well-represented as in previous years for some unknown reason.

90.5% of the individuals worked 35 or more hours weekly; 9.5% worked less than 35 hours/week. These are the same percentages as respondents reported for 'fulltime' vs. 'part-time.'

The set of respondents broke out into several different types of jobs: Server management, Generalist, Technical lead, Networking, Other, People management, Security, Storage, Project management, Databases, Help desk, and Desktop. The chart shows the breakdown of the responses. The 'Other' category notably included many folks who mentioned 'All' and 'Everything.'

Note that the chart on the right exaggerates the amount of difference over time by removing the bottom part of each display (not starting the Y axis at 0).



Statistical Exclusions

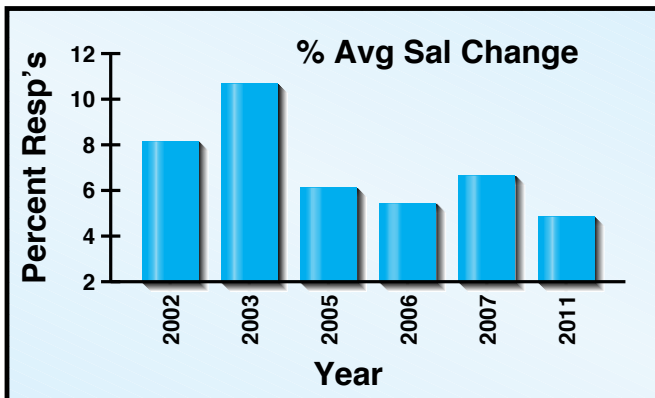
The few respondents who cited salaries greater than US\$260,000 are excluded from most of the analyses throughout this document. These salaries significantly impact the calculation of statistical means (averaging in a salary like one million dollars has a big impact on statistics unless you divide it by another huge number) and thus have generally been omitted from reporting (most seem to be from reporting the salary in some currency besides US dollars but failing to note that circumstance). Likewise, the few with annual salaries less than US\$10,000 are generally omitted, as they must reflect some compensation scheme outside the mainstream (or, more often, reflect hourly or monthly rates rather than annualized).

After analyzing the data extensively, it became clear that the statistics of interest pertained to the salaries companies were paying, a number that is often more than the amount of money people received (since many people were unemployed for weeks or even months). Accordingly, all reported salaries have been annualized (e.g., a reported US\$25,000 for 26 weeks annualizes to US\$50,000/year) and, except where mentioned, all salaries have been converted to US dollars when statistical aggregates are used. Salaries are reported in native currencies when appropriate.

Salary Change Highlights

In these economically uncertain times, the average of all the salary changes (including the negative ones) for 2011 across full-time work world-wide was 4.85% when calculated using annualized salaries. 18.5% of respondents saw no salary change or had their salary reduced. Of the 73.0% who saw their salaries increase between 0.001 and 30%, the mean increase was 7.66%. A net of 27.0% of respondents reported salary decreases.

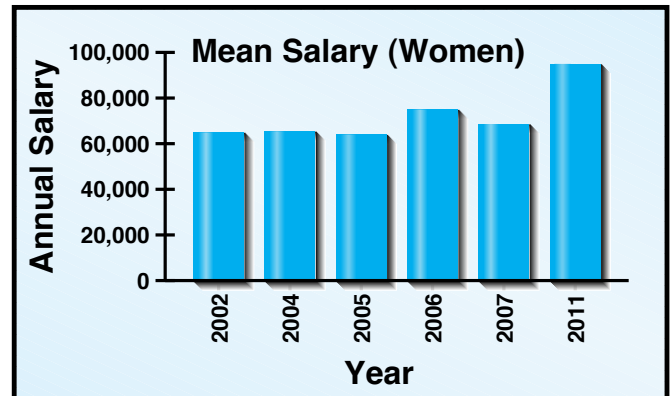
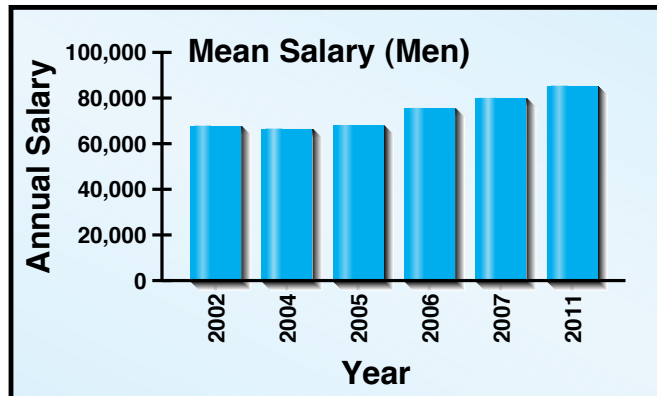
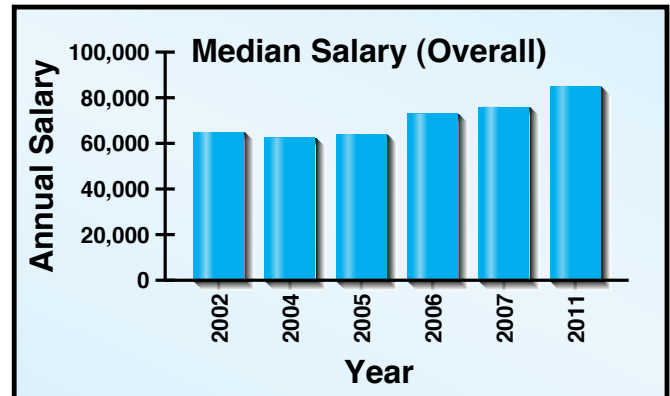
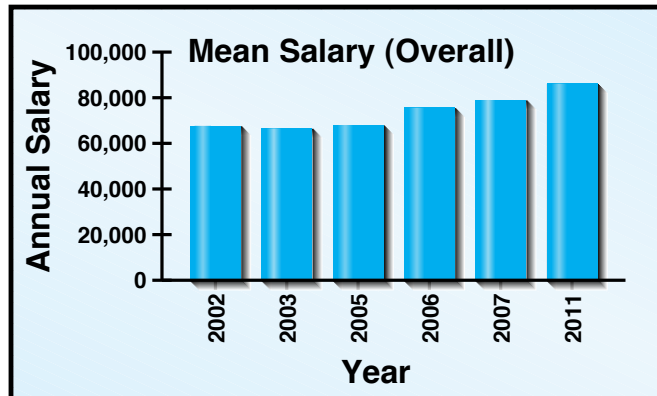
Note that these graphs exaggerate the amount of difference over time by removing the bottom part of each display (not starting the Y axis at 0).



Salary Highlights

The mean reported salary for the 778 respondents who reported using US dollars as their currency was \$86,176. For men, the mean salary was \$85,441. For the statistically small sample size of 60 women, the mean was \$94,972, 11.2% than the men's mean. The overall median was \$85,000. Please note, these numbers **do not factor in experience** and therefore should not be used as a general comparison of anything. However, because this report endeavors to enable you to find how your salary compares to people who have both similar and different backgrounds, we have included analysis (later) which will enable you to make more accurate comparisons based on experience, education, job title, and LISA Sysadmin Classification.

We hope you find the following information useful, and we encourage you to participate in next year's survey.



Demographics

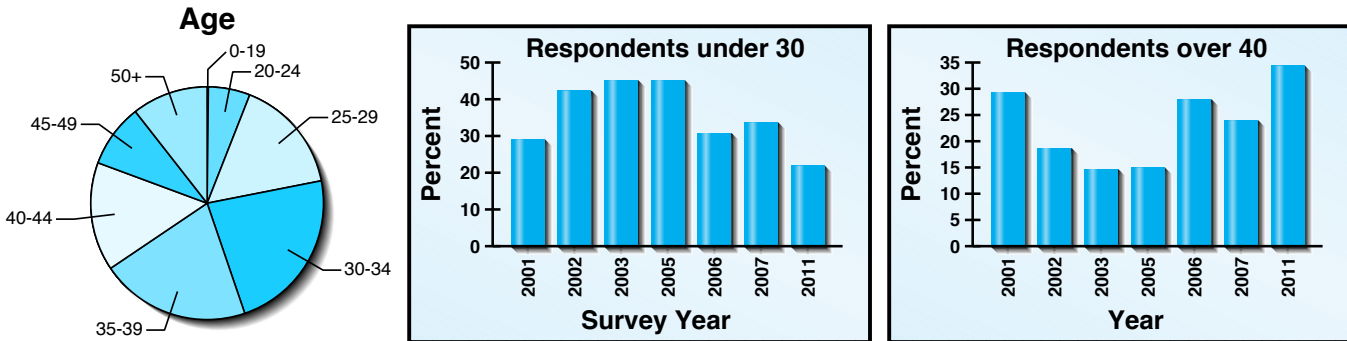
1,173 individuals completed valid employment surveys this year. They completed a comprehensive questionnaire on the World Wide Web with over 80 questions, including:

- Age
- Benefits
- Cloud utilization
- Collaboration
- Corporate policies
- Education
- Employers
- Experience
- Focus
- Gender
- General comments
- Hours worked
- Hours training
- Industry
- Job type
- Length of employment
- Location
- Longevity projections
- Nutrition
- Office space
- Pager/cell phone requirements
- Recent pay increases
- LISA admin level
- Salary
- Site characteristics
- Supervisory duties
- Telecommuting
- Time off
- Time spent at lunch
- Time spent at work
- Training methodologies
- Travel

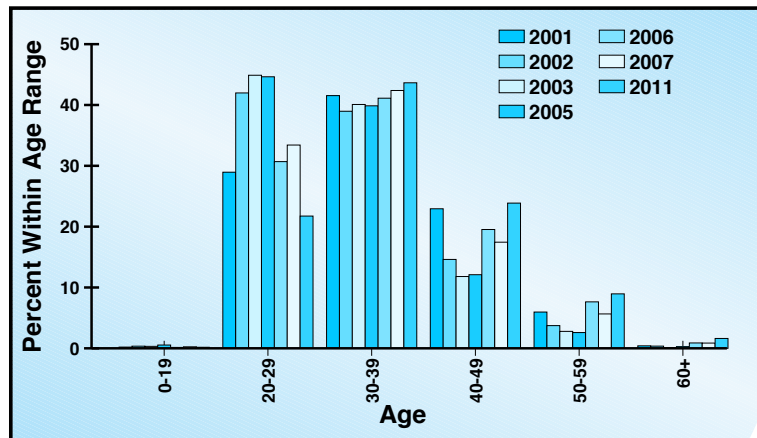
Age and Experience

It has been said that system administration is a young person's game; this is no longer true. The pie chart below depicts the concentration of admins in various age groups. Only 21.9% of the respondents were under 30 years of age; 34.4% were 40 years of age or older. As the field matures, it's clear that admins now span the entire age spectrum of workers. The pie chart suggests that a 'bubble' of admins in the 30-39 age group seems to be passing through the career. As the subsequent chart shows, this is not unusual.

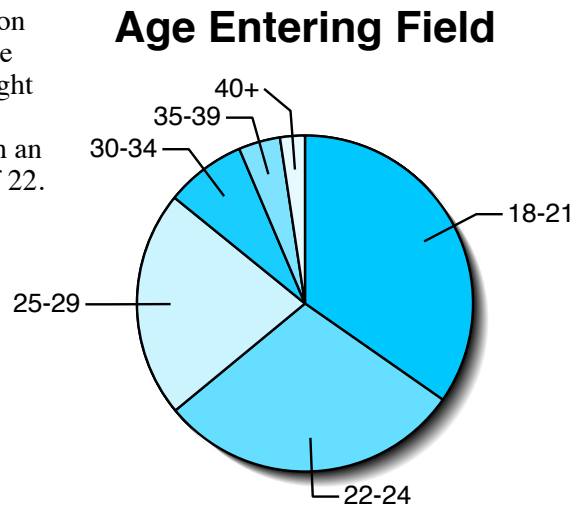
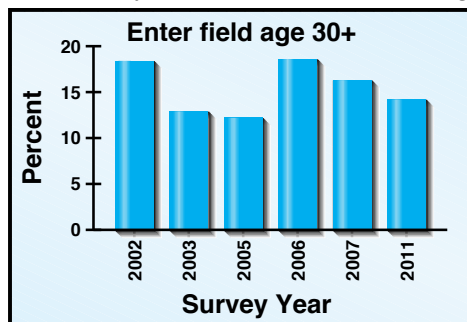
In the two charts below on the right, that the number of younger respondents (under 30) is apparently decreasing over time while the number of respondents over 40 is increasing. This corresponds with anecdotal descriptions of decreasing participation by younger sysadmins in technical events.



Examining the age-group trend by comparing it to data from the previous decade of surveys yields the chart on the right. The decline in the 20-29 age group is easily seen while the 30-39 age group seems to remain a relatively static size. The 40-49 age group has been growing for a decade while the 50-59 age group has been increasing for half that long, reversing an initial decline. The marketplace (dot-com boom), promotion opportunities, career perceptions (i.e., outsourcing and other issues) probably combine to complicate all potential explanations for this phenomenon.

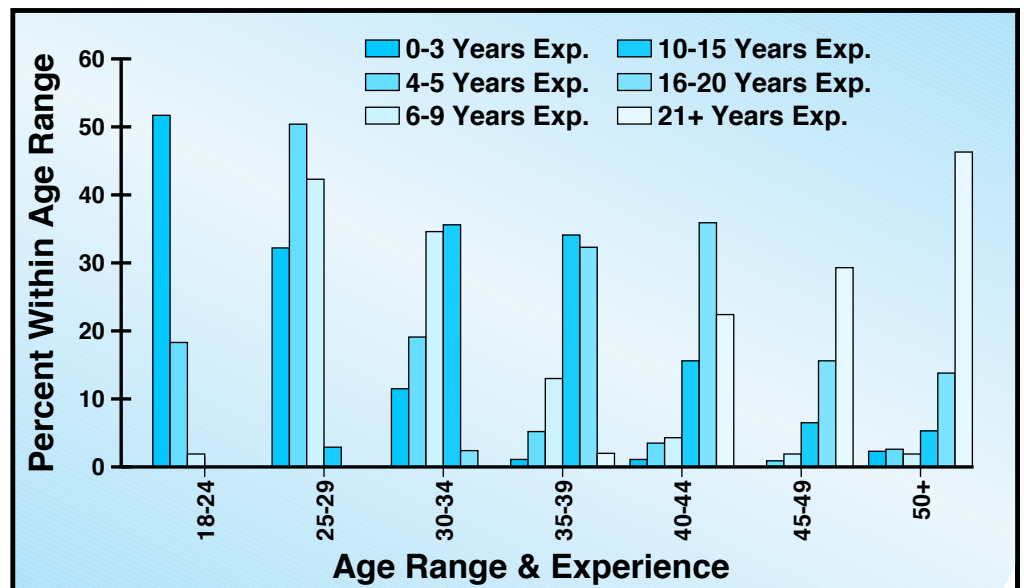


Subtracting years of experience in the field of system administration from the respondent's age can lead to a rough approximation of the age they entered the field (though obviously some respondents might have been sysadmins for a while then changed careers and later changed back). The pie chart on the right shows the results of such an estimation. Almost 2/3 of respondents enter the field by the age of 22. Historically (see below), the trend is again a declining percentage.



The table on the right compares experience and age. This chart has its columns normalized to 100% for easy comparison. The graphic below shows the same information broken out as easy to compare colored bars.

| Age vs. Years Experience | | | | | | | |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|
| Age | 0-3 | 4-5 | 6-9 | 10-15 | 16-20 | 21+ | Total |
| 0-24 | 51.7% | 18.3% | 1.9% | 0.0% | 0.0% | 0.0% | 6.0% |
| 25-29 | 32.2% | 50.4% | 42.3% | 2.9% | 0.0% | 0.0% | 15.9% |
| 30-34 | 11.5% | 19.1% | 34.6% | 35.6% | 2.4% | 0.0% | 22.8% |
| 35-39 | 1.1% | 5.2% | 13.0% | 34.1% | 32.3% | 2.0% | 20.8% |
| 40-44 | 1.1% | 3.5% | 4.3% | 15.6% | 35.9% | 22.4% | 15.1% |
| 45-49 | 0.0% | 0.9% | 1.9% | 6.5% | 15.6% | 29.3% | 8.8% |
| 50+ | 2.3% | 2.6% | 1.9% | 5.3% | 13.8% | 46.3% | 10.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |



Geographies Represented

Respondents were located throughout the world, though only the USA and perhaps Canada had enough data for any statistical validity of the results.

A number in square brackets (e.g., [3]) denotes an absolute number of respondents that is less than one percent of the total of those who named a country.

| Sysadmins Around the World | | | | | | | |
|----------------------------|--------|--------------|--------|---------------|--------|----------------------|--------|
| Country | % Resp | Country | % Resp | Country | % Resp | Country | % Resp |
| United States | 73.7% | Switzerland | [6] | Turkey | [2] | Malaysia | [1] |
| Canada | 7.7% | Ireland | [5] | Ukraine | [2] | Mexico | [1] |
| UK | 2.2% | Slovenia | [5] | Argentina | [1] | Moldova | [1] |
| Australia | 1.6% | South Africa | [4] | Armenia | [1] | Poland | [1] |
| Germany | 1.4% | Belgium | [3] | Bulgaria | [1] | Russia | [1] |
| Greece | 1.0% | Croatia | [3] | Cameroon | [1] | Saudi Arabia | [1] |
| India | [11] | Latvia | [3] | China | [1] | Serbia | [1] |
| New Zealand | [11] | Portugal | [3] | Cyprus | [1] | Singapore | [1] |
| Finland | [10] | Romania | [3] | Estonia | [1] | Sri Lanka | [1] |
| Netherlands | [10] | Austria | [2] | France, Metro | [1] | Trinidad & Tobago | [1] |
| Norway | [9] | Denmark | [2] | Hungary | [1] | United Arab Emirates | [1] |
| Sweden | [8] | France | [2] | Israel | [1] | | |
| Italy | [7] | Japan | [2] | Kazakhstan | [1] | | |
| Spain | [7] | Puerto Rico | [2] | Kenya | [1] | | |

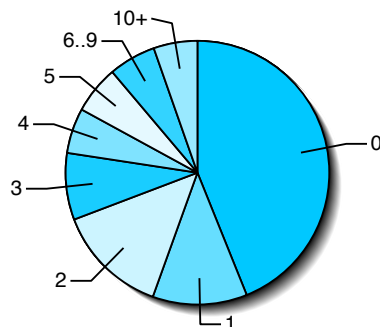
Some larger cities (often shown as metropolitan areas) had good representation in this survey.

| Sysadmins in Large Metro Areas | | | | | |
|-------------------------------------------------|--------|---------|-------------------|--------|---------|
| Metro Area | # Resp | % Resp. | Metro Area | # Resp | % Resp. |
| Not applicable | 622 | 53.0% | Atlanta, GA | 16 | 1.4% |
| San Francisco/San Jose/Silicon Valley, CA, Area | 107 | 9.1% | Dallas, TX | 15 | 1.3% |
| Washington, DC, | 67 | 5.7% | Austin, TX | 14 | 1.2% |
| Seattle/Redmond, WA | 55 | 4.7% | San Diego, CA, | 11 | 0.9% |
| New York | 53 | 4.5% | Montreal, QC, | 11 | 0.9% |
| Boston, MA, | 48 | 4.1% | Vancouver, BC, | 11 | 0.9% |
| Toronto, ON, | 26 | 2.2% | Houston, TX | 9 | 0.8% |
| Chicago, IL | 25 | 2.1% | Denver, CO | 7 | 0.6% |
| Philadelphia, PA, | 23 | 2.0% | London, England | 5 | 0.4% |
| Research Triangle, NC | 20 | 1.7% | Sydney, Australia | 5 | 0.4% |
| Los Angeles/Orange Co., CA, | 19 | 1.6% | Ottawa, ON, | 4 | 0.3% |

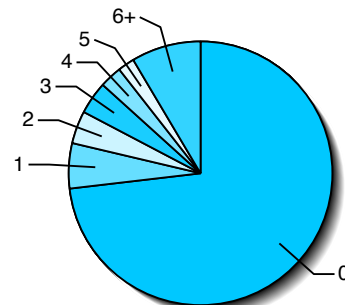
Supervisory Capacity

About 63% of the respondents reported informal supervisory capacity at some level; over a quarter (35.2%) had formal supervisory capacity. These charts hint at the level of mentoring in the profession.

Informal Subordinates

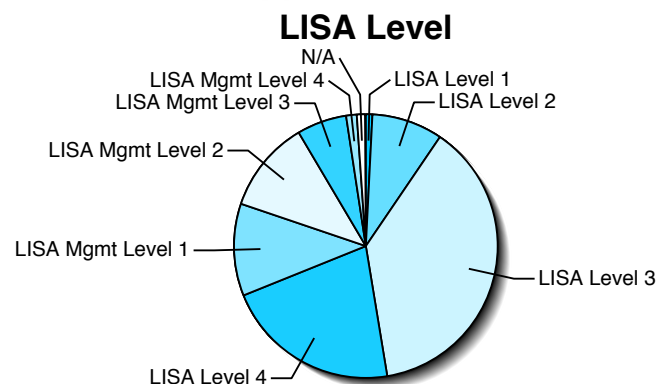


Formal Subordinates



LISA Sysadmin Classifications

Respondents were asked to self-assess the responsibilities of their primary job in order to show the mappings with the LISA job levels. Fully 6.1% of them felt their job did not fit within the proper parameters. The remainder classified themselves according to these definitions. The number of LISA Level 1 respondents was very low while almost half (46.1%) self-assessed at LISA Level 3.



LISA Level I: Assist on consulting or engineering projects or the administration of a systems facility. Perform routine tasks under the direct supervision of a more experienced system administrator or consultant. May act as a front-line interface to users and senior system administrators.

LISA Level II: Assist on consulting or engineering projects or the administration of a systems facility. Work under the general supervision of a computer system manager or senior consultant. Carry out more complex tasks with some independence and discretion regarding how to carry out the tasks.

LISA Level III: Receive general instructions for assignments from manager and work with independence and discretion regarding how to carry out tasks. Initiate some new responsibilities and help to plan for the future of a facility. Manage the work of junior system administrators, operators, engineers, or consultants. Evaluate and/or recommend purchases and have a strong influence on the purchasing process.

LISA Level IV: Design and manage the computing infrastructure or manage the larger, more complex consulting or engineering projects. Work under general direction from senior management. Establish or recommend policies on system use and services. Provide technical lead and/or supervise system administrators, system programmers, engineers, consultants, or others of equivalent seniority. Have purchasing authority and responsibility for purchase decisions and budget.

LISA Management Level I: Technical Lead. LISA Level IV plus: Possess strong communication skills, excellent problem-solving skills, broad technical understanding including networking, operating systems, programming, willingness to mentor, five years experience, technical degree, team membership, aggressive automation skills, supervisory and liaison skills.

LISA Management Level II: System Administration Manager. Skills include: communication, writing, organizational, operating systems, networking, programming, teamwork, team management, mentoring. Technical degree desired. Senior sysadmin skills, business or management coursework. Knowledge of regulatory and legal requirements. Sets goals, defines priorities and strategies for growth. Mentors and guides, communicates with users, colleagues, and IT director, budgets.

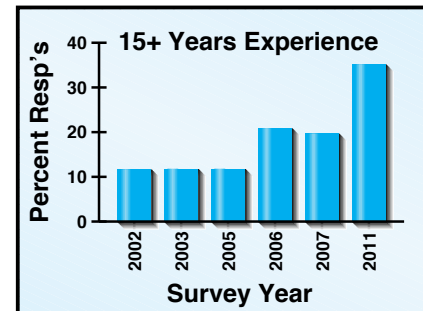
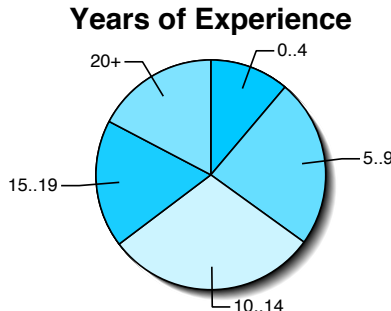
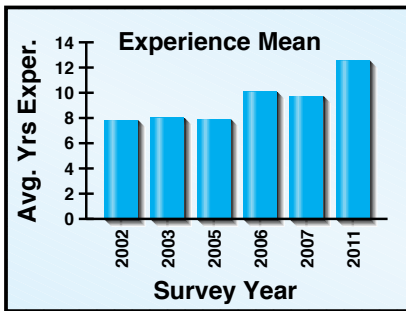
LISA Management Level III: IT Director. Skills include: extensive management, communications, writing, presentation, negotiation, facilitation, meeting, organization, hiring, team-building, mentoring, budgets. Background includes five years of team management, IT regulatory and legal requirements. Degree desirable. Ex-

perience with large IT environments desirable. Plans and provides tactical and strategic direction, management goals, priorities, IT environment, integrity, performance, economy, and reliability. Leads vendor selection, negotiates contracts, managements relationships. Supervises managers. Mentors direct reports.

LISA Management Level IV: Chief Information Officer. Skills include IT director skills plus CS, IS, business, or technical degree, solid broad technical grounding, executive-level finance and accounting, business/management coursework, five years Level III experience, management in medium to large IT environment. Plans, directs, sets goals, defines priorities, develops long-term strategies, communicates across entire spectrum of institution, including Board of Directors.

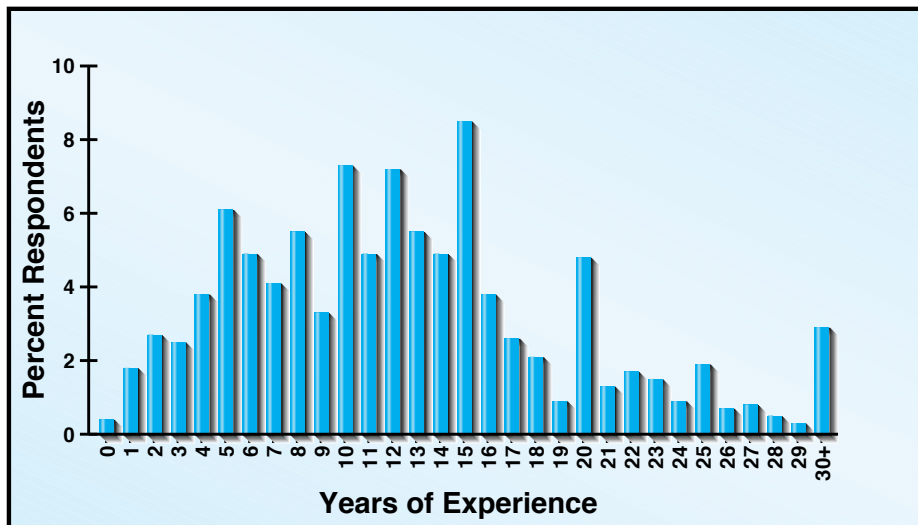
Experience

Respondents had a mean of 12.55 years of experience, with a standard deviation of 7.0 years (up 3.75 years of experience since the survey four years ago!). The median was 12 years, up three years since 2007. About 65.0% had ten years or more of experience; 35.2% had 15 or more years of experience. Two charts summarize the experience levels of the respondents. About 11.2% have less than five years of experience. These statistics bolster the idea that not only are few experienced administrators leaving the field but not so many new administrators are entering the field.



The detail barchart below on the left shows, first of all, that many respondents seem to have rounded their experience to a multiple five. This problem obscures what might be a somewhat bell curve-like distribution with a peak at 10-15 years. In the past, previous years' charts had a peak at five years (and this graph indeed exhibits a small peak at 5 years).

The sample size for women is so small for this survey that trying to draw conclusions from the experience vs. gender chart on the right below is probably futile. Mostly it says there are fewer women in the 5-9 year experience group and more in the 20-24 experience group.

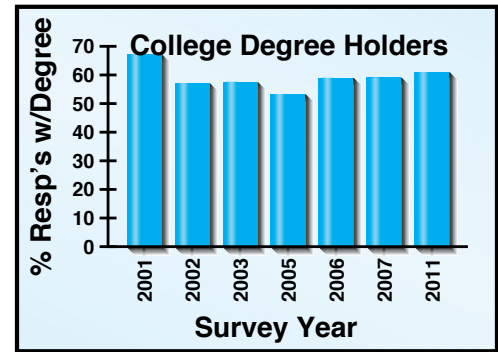


| Exp. vs. Gender | | | |
|-----------------|--------|--------|--------|
| Exp. | Female | Male | Total |
| 0 | 1.2% | 0.4% | 0.4% |
| 1-4 | 7.2% | 11.0% | 10.7% |
| 5-9 | 15.7% | 24.4% | 23.8% |
| 10-14 | 31.3% | 29.6% | 29.8% |
| 15-19 | 16.9% | 18.1% | 18.0% |
| 20-24 | 15.7% | 9.8% | 10.2% |
| 25-29 | 6.0% | 4.0% | 4.2% |
| 30+ | 6.0% | 2.7% | 2.9% |
| Total | 100.0% | 100.0% | 100.0% |

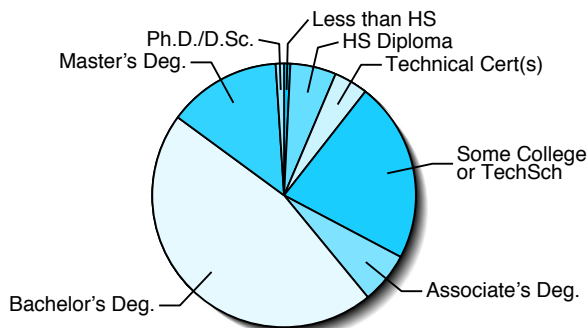
Education

Experience is often backed by education. About 61.0% of those responding have a college degree (at least a Bachelor's) in any field (see the chart on the right). Informal discussions at conferences yield the unsurprising results that those admins with degrees think college education is a real boon while the others argue, "I get along just fine without one."

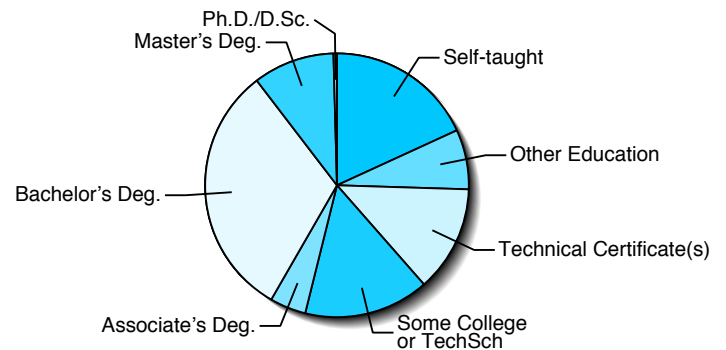
Most universities don't really teach system administration. How do people *really* learn system administration? Over 80% of them were able to attribute much of their knowledge to on-the-job training and/or self-instruction (see the chart below).



Highest Educ. Achievement



Highest Relevant Education



Relevant Education vs. Age

The Relevant Education chart is the rare chart that is probably better read starting at the bottom and moving up. In the past, the bottom three rows (finished college degrees in a relevant field) showed that only the younger members of the profession are indeed getting relevant education. This trend is no longer evident in this chart as it shows remarkably similar numbers across all age groups for each sort of education.

Of course, this correlated with the availability of such education – the first Bachelor's degree in computer science was given around 1974, so some of the 50+ group never had a chance. Nowadays, though, the number of admins with relevant university degrees is in the 37.1%-48.8% range, with just a bit of variance across the age groups. Several admins also have Associate's degrees.

| Relevant Education vs. Age | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Education | 1-24 | 25-29 | 30-39 | 40-49 | 50+ | Total |
| Self-taught | 21.4% | 19.3% | 19.3% | 15.7% | 15.3% | 18.2% |
| Other Education | 2.9% | 6.4% | 7.6% | 8.9% | 6.5% | 7.3% |
| Technical Certificate(s) | 12.9% | 16.0% | 12.9% | 13.6% | 8.1% | 13.0% |
| Some College or TechSch | 18.6% | 15.5% | 16.0% | 13.2% | 15.3% | 15.3% |
| Associate's Deg. | 5.7% | 5.3% | 4.1% | 3.2% | 6.5% | 4.4% |
| Bachelor's Deg. | 32.9% | 32.6% | 30.3% | 31.8% | 31.5% | 31.3% |
| Master's Deg. | 5.7% | 4.3% | 9.6% | 12.5% | 16.9% | 10.0% |
| Ph.D./D.Sc. | 0.0% | 0.5% | 0.2% | 1.1% | 0.0% | 0.4% |

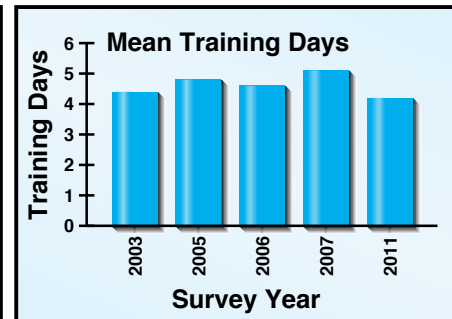
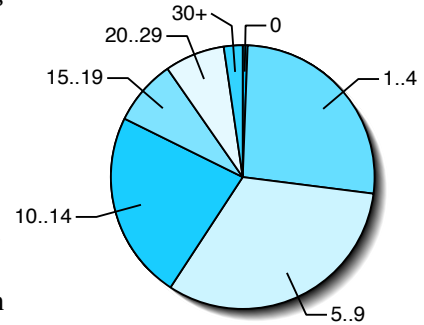
Continuing Education

In the world of computer administration, continual learning and growing are absolute requirements. Admins must keep up to date on a host of new technical and legal developments in their focus area and in 'soft' areas, as well.

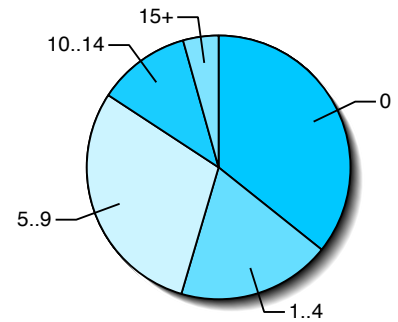
The weekly expenditure of time for keeping up is quite amazing (see the first chart on the right). The average is 8.7 hours/week, and the standard deviation is 8.1 hours/week. This works out almost to a full day per week for '40 hour work-week' respondents. Only 26.9% report four hours or less per week; more than 40.8% report a staggering 10 hours or more per week. Just 0.6% reported 0 hours/week. It is clear that continued learning is de rigueur for this profession.

Organizations sometimes pay for continuing education for employees. 64.3% of respondents were afforded this privilege. This might signal a growing recognition of the value of training by institutions. Even with the many zeroes averaged in, the mean number of training days annually was 4.2 (standard deviation 5.5) and the median was 3. See the chart on the right for the breakdown.

Hrs/wk Self-training



Paid Training Days



Industries Represented

The survey includes responses from workers in over 50 industries. The Education (18.8%) and IT (22.1% total across subcategories) industries dominate, perhaps suggesting a more technical bent to this survey's participants. This might be because those industries are most likely to send participants to events where this salary survey is publicized. The chart below shows the industries with over 1% of the respondents.

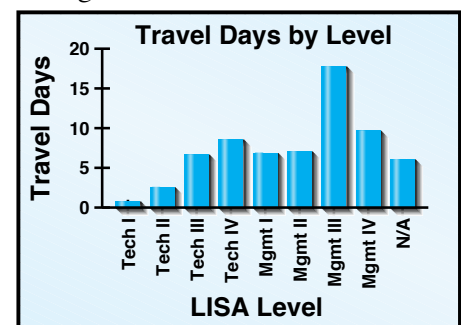
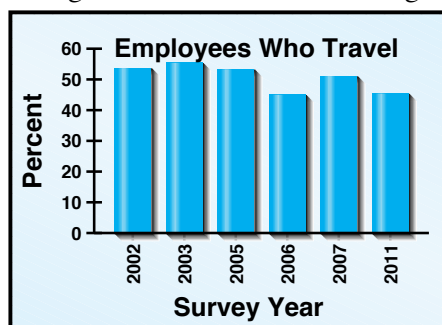
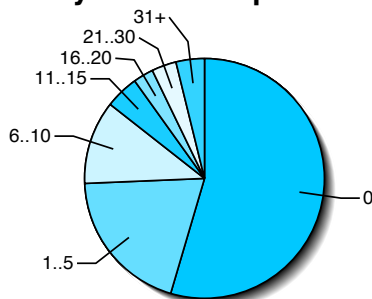
| Employment Categories | | | | | | | | | |
|----------------------------------|-------|------------------------------------------------------------|------|---------------------------------------|------|---------------------------|------|--|--|
| Industry | % | Industry | % | Industry | % | Industry | % | | |
| Education College or University | 18.8% | Other, please specify briefly | 3.7% | Consulting and Business Services | 2.0% | Retail | 1.4% | | |
| IT Company: Software Development | 7.4% | Government Non-Military | 3.3% | Education Elementary or Secondary | 1.9% | Insurance/risk management | 1.3% | | |
| IT Company: Other | 5.5% | Government Contracting | 3.1% | Computer hardware/semiconductor | 1.8% | Publishing | 1.2% | | |
| Financial services (all kinds) | 5.4% | IT Company: Consulting | 2.7% | Not-for-profit | 1.8% | IT Company: Security | 1.1% | | |
| Telecommunications | 4.4% | Manufacturing | 2.2% | Entertainment | 1.7% | | | | |
| Health Care, Medicine | 4.3% | Research | 2.1% | Aeronautical/aerospace | 1.5% | | | | |
| IT Company: ISP/ASP | 3.9% | Advertising, Public Relations, Communication, or Marketing | 2.0% | IT Company: Web development/webmaster | 1.5% | | | | |

Other industries (with fewer than 1% of the respondents) included: Engineering [11], Services (other) [11], State or Local Government [11], Automotive [9], Broadcasting/Cable/Video [9], Library [9], Government – Military [8], Defense [8], Energy Production or Mining (oil, coal, etc.) [8], Pharmaceuticals [8], Utility [7], Biotechnology [7], Legal [7], Transportation [5] Education – Commercial, training, etc. [5], Gambling/gaming/lottery [5], Wholesale [4], Environmental Services [4], Real Estate [4], Accounting [3], Food [3], Travel/Recreation [2], VAR [2], Hospitality [2], Architecture (buildings) [2], Construction [2], Distribution/Warehousing [2], Religion [2], Agriculture [1], Intellectual property [1], and GIS/cartography/mapping [1].

Travel

About half – 45.4% of the respondents travel at all for their company (excluding conferences and training). Only 14.3% travel more than two weeks per year. The travel rate hasn't changed a lot over the last few years; managers travel more than technical types in general, with Level III Managers traveling the most.

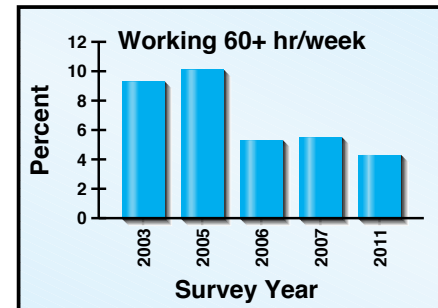
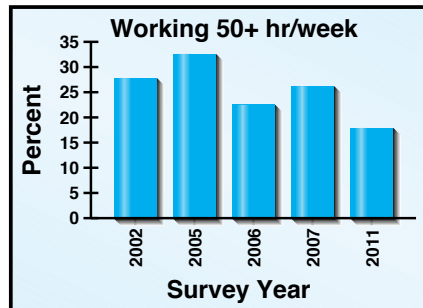
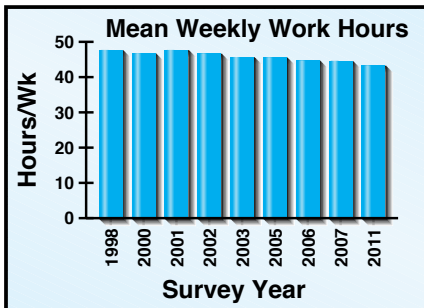
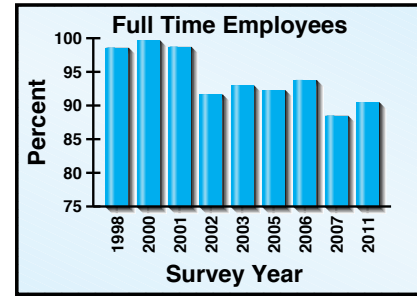
Days of Travel per Year



Work Week Characterization

Sysadmins have perpetually complained about long work weeks. The survey asked how many hours per week each respondent worked. The graph below on the right tells the tale (for those who worked 30 or more hours per week). 60.3% reported 44 or fewer hours per week; 39.8% reported 45 or more. Those reporting 60 hours or more numbered 4.3%. The reduction here might be real or might be a more realistic approach to counting work hours.

For full-timers, the average work week was 43.3 hours/week, the first time since the survey series began that that workweek averaged less than 10% over the 40 hour/week standard. About 17.9% of the respondents – just over one in six – worked more than 50 hours/week (10 hours/day for a standard five-day work week).



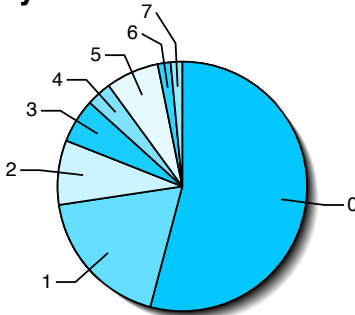
Working from Home

Telecommuting is a big buzzword in the technical community. Just under half – 45.9% – of the respondents report spending at least one day per week time working at last part of the day at home. The chart on the left below tells how many days respondents work at least part of the time by telecommuting. Note that over 3% claim six and seven days/week of telecommuting.

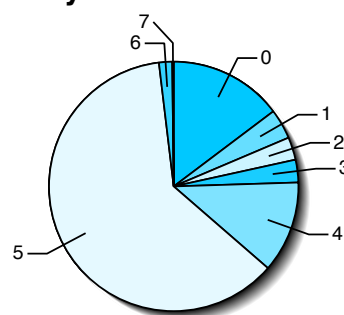
Of course, many respondents spend all or part of their day at their employer's premises. While 62.7% of respondents make it into the office very day during the work week, 14.7% don't go to office at all!

Almost two thirds 60.1% (down from 2007: 64.7%) of respondents telecommute at least an hour every week Fully 9.3% spend more than half time (≥ 20 hours/week) telecommuting.

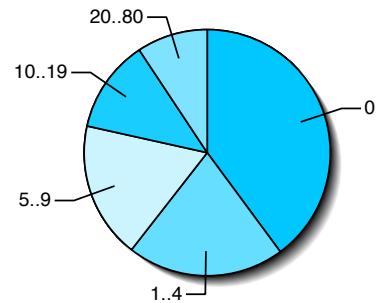
Days/week Telecommuting



Days/week In Office



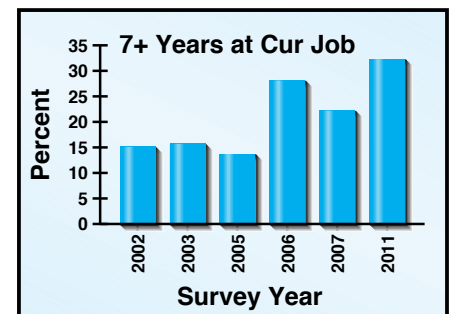
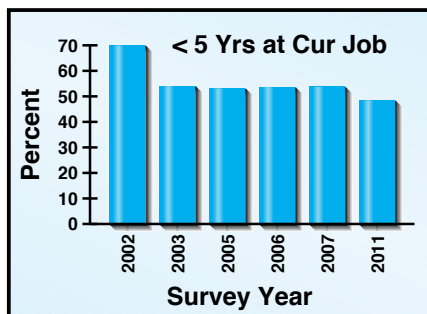
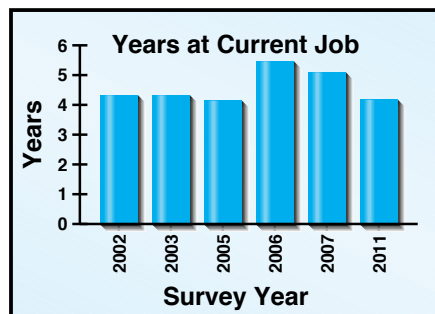
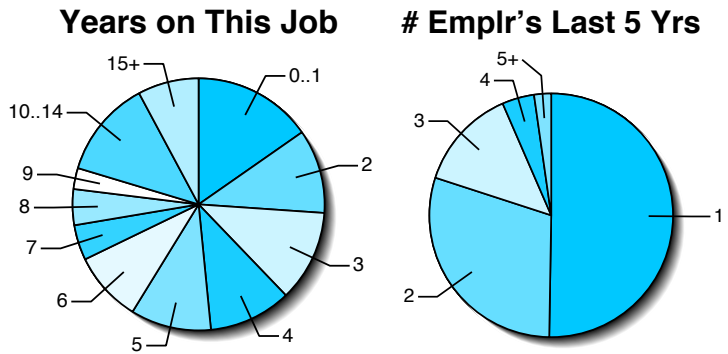
Hours Telecommuting/Week



Longevity and Loyalty

Recent economic conditions have dramatically changed notions of employer (and employee) loyalty and position longevity in many cultures. The mean job stay of those at their job at least a few months is 4.17 years; the median is still three years. Almost half

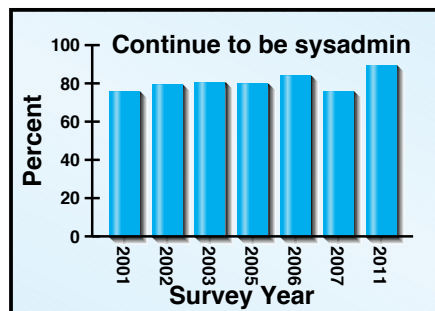
Almost half, 48.4%, have been at their job for less than four years (and thus have changed jobs in the most recent half-decade). Almost 1/3, 32.3%, of those who responded say they have been with their current employer for seven years or more – a trend that’s growing rather than shrinking. As hiring prospects improve, this number might change a lot.



As to longevity expectations, 89.6% of respondents report that they expect to be in system administration in five years; the other 10.4% answered ‘No’ – the highest career-loyalty figure on this decade-long series of surveys. Note that among the small sample of women, many more percentage-wise are contemplating changing fields.

| Still be sysadmin in five years? | |
|----------------------------------|-------|
| Men | 90.2% |
| Women | 81.9% |

For those who would change away from the profession, what future career areas are they considering? 157 respondents answered the question, “What else would you do?” with some answer that wasn’t “Stay in the field.” Management was again the big winner. See the table on the right for details.



| Future Prospects | | | |
|------------------|----------------------------|---------|----------------------------|
| % Resp. | Field | % Resp. | Field |
| 3.1 | Management | [2] | Continue education |
| 2.5 | Development | [1] | Web Development |
| 1.6 | Entrepreneur | [1] | Spiritual |
| 1.5 | Retire | [1] | Something else; no on-call |
| 1.2 | Unknown | [1] | Smaller company |
| 1.1 | Security | [1] | Research |
| [5] | Something else; burned out | [1] | Networking |
| [4] | System Architecture | [1] | International |
| [3] | Project management | [1] | IT Director |
| [3] | Consulting | [1] | Health care |
| [2] | Teaching | [1] | Firearms trainer |
| [2] | Something more creative | [1] | Ecology |
| [2] | Non-technical | | |

Traditional Time Off

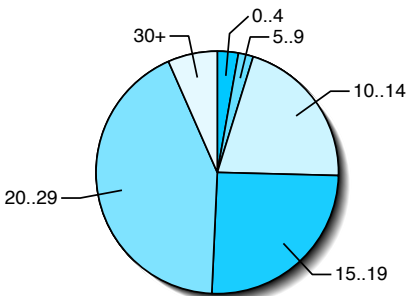
Like most professionals, system administrators usually get some paid vacation (in addition to paid holidays). While 2.2% of those reporting say they get no paid vacation, the mean of those who do is about 18.1 days (not counting those who report more than 30 annual days off). The median is 18 days. While experience in the field can yield increased vacation days, staying with a single employer longer can yield even greater vacation (see the charts below).

Respondents who received paid holidays had a mean of 8.7 paid holidays/year, with 4.6% reporting no paid holidays at all. Note that some cultures have much longer vacation than those in the USA; this accounts for some of the higher numbers.

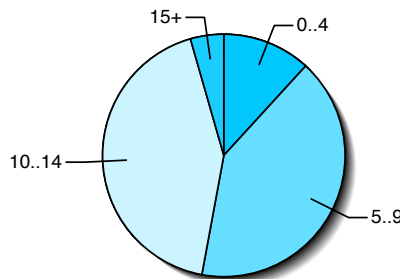
Sick days are another kind of time off work. Of those responding, 27.6% receive (or took) no sick days. The mean was 8.0 days; the median was 5 days. Above on the right is a chart of sick day allocation (for those who have limits).

Note that some companies combine vacation, holidays, and sick leave into a more generalized “time off” which complicates this explication.

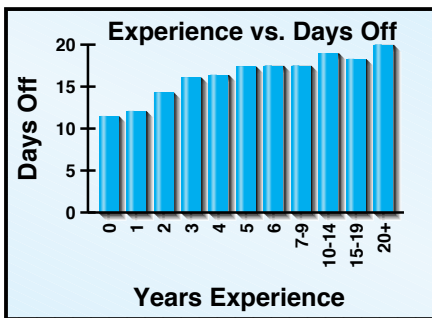
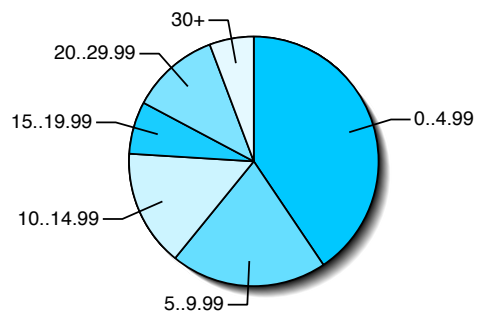
Annual Days Paid Vacation



Paid Holidays



Annual Sick Leave



These charts display both how allocated vacation days and sick leave compare to years of experience, years with the employer. Also included is the comparison of *actual* vacation days used. Anecdotal evidence suggests that tech workers do not generally use up all their vacation days, a statistic now easy to discern by examining the two right charts. While the mean paid vacation time is 18.1 days, respondents (mean experience: 11.0 years) actually took 3.5 days less than that (14.6).

Similarly, with a low overall mean of 3.83 days of annual sick leave taken, this sample of tech workers does not spend a lot of time off the job for reasons of health.

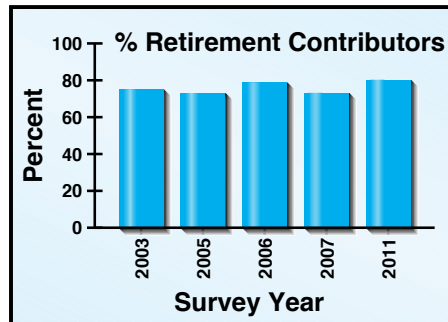


Benefits

The charts below describe insurance coverage and some other benefits for the survey's respondents. Note that those outside the USA often get this coverage from their government and not from their employer. Respondents also reported on receiving other extra benefits.

Retirement Benefits

About 80.3% of respondents report that their employer contributes to a retirement fund on their behalf.

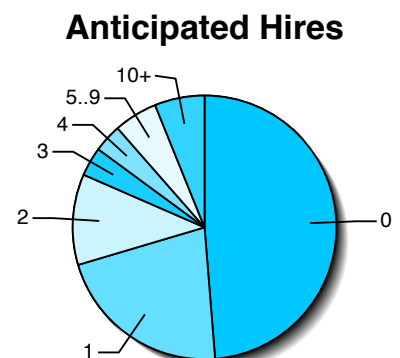


| Insurance Coverage/Benefits | | | | |
|------------------------------|-----------------------|--------|-------------|------------|
| Coverage | Not offered or unused | Unpaid | Partly paid | Fully paid |
| Laptop or similar hardware | 23.7% | 11.6% | 4.2% | 60.5% |
| Cell phone | 23.1% | 17.6% | 17.5% | 41.8% |
| Life insurance | 17.4% | 12.9% | 40.0% | 29.8% |
| Disability insurance | 20.1% | 11.8% | 39.0% | 29.1% |
| Health insurance | 9.0% | 3.8% | 62.2% | 25.0% |
| Dental insurance | 12.9% | 10.7% | 56.4% | 20.1% |
| Vision care insurance | 18.9% | 12.3% | 50.1% | 18.7% |
| Home telecommunication costs | 34.3% | 43.1% | 11.4% | 11.2% |

| Benefits Reported | | | |
|-----------------------------------|---------|--------------------------------------|---------|
| Benefit | % Resp. | Benefit | % Resp. |
| Family medical insurance | 45.4 | Stock options or stock purchase plan | 18.5 |
| 401(k) matching | 44.6 | Donation matching | 17.7 |
| 401(k) (or other retirement fund) | 41.3 | Flexible/cafeteria plan for benefits | 15.5 |
| Tuition or cert cost support | 40.2 | 403(b) | 14.1 |
| Food/drink at work | 37.0 | Employee stock ownership plan | 13.5 |
| Conferences (incl. tutorials) | 33.6 | Credit union | 13.0 |
| Telecommuting | 32.0 | Association memberships | 11.8 |
| Discounts of various kinds | 30.0 | Child care/childcare assistance | 10.1 |
| Parking | 28.6 | Profit sharing | 8.0 |
| Flextime/flexible hours | 28.4 | Special pensions | 2.9 |
| Domestic partnership benefits | 25.3 | IRA | 2.6 |
| Gym, health club membership | 25.0 | Company car (or lease) | 2.6 |
| Performance or signing bonus | 24.6 | Housing/home loan | 2.5 |
| Retirement plan/fund/program | 24.6 | RRSP (matching, assistance) | 2.5 |
| Commuting assistance | 19.4 | Other | 2.0 |

Hiring Outlook

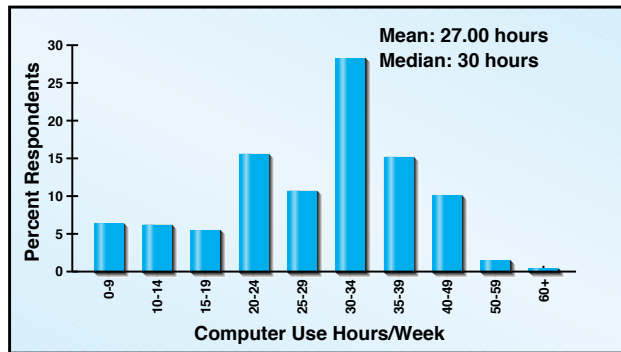
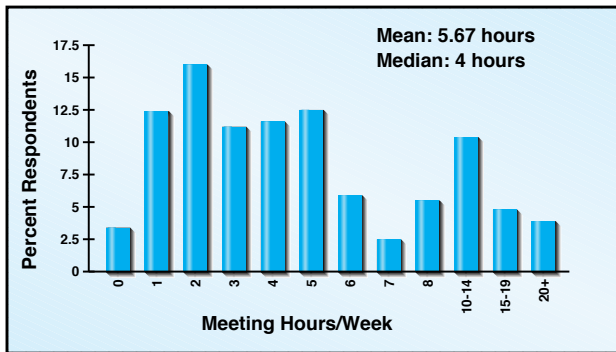
Respondents were asked to estimate the number of sysadmins to be hired in the upcoming year. The chart on the right summarizes this optimistic outlook. Just over half – 51.3% – anticipate hiring one or more people. Over 6% anticipate hiring ten or more.



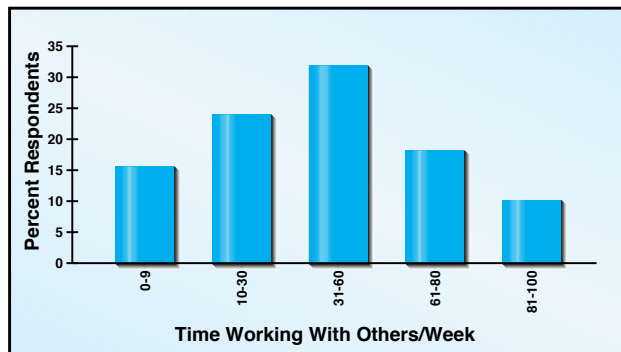
Miscellaneous Demographics and Statistics

Meetings: One of the loudest complaints from many system administrators (and developers, too) is the ever-popular, “I spend just way too much time in meetings.” This survey asked how many hours/week did our respondents spend in meetings. The mean is about an hour per day; 50% spend four hours or less each week in meetings. Only a fifth of respondents spend over ten hours/week in meetings.

Keyboard Time: The converse of meetings is doing “real work” on a system. The survey asked “How many hours/week actually using keyboard/monitor?” with these results. Generally, admins spend 3/4 of a full 40-hour week actually working on a keyboard.

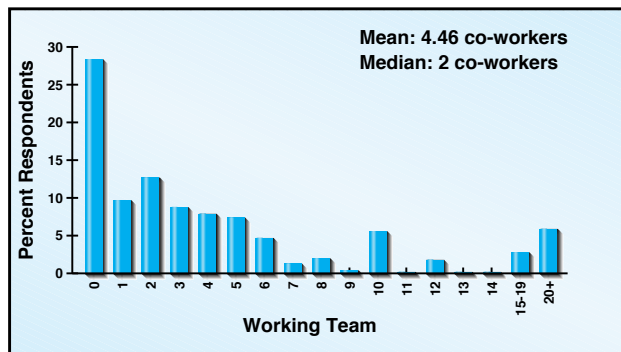
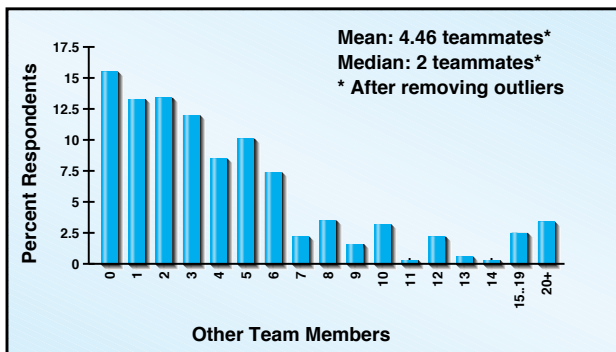


Working with Others: When interviewing for their first job, applicants often ask how much time they will be spending alone, apparently fretting that perhaps they will lose contact with fellow humans. The survey asked, “How much of your time is spent working with others?” but sadly asked for percentage ranges instead of hours from which other statistics could be gathered.

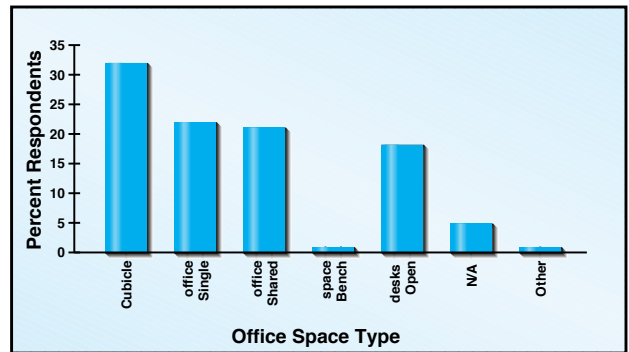


Teammates & Co-workers: To answer the next question from new professionals, the survey asked, “In your most recent job, how many other system administrators are an integral part of a working team with you?” The initial statistics showed a mean of 4.74, but they were swayed by one team of 200 and a few of 50; those outliers were eliminated from calculations. Note that just under one sixth of respondents work alone.

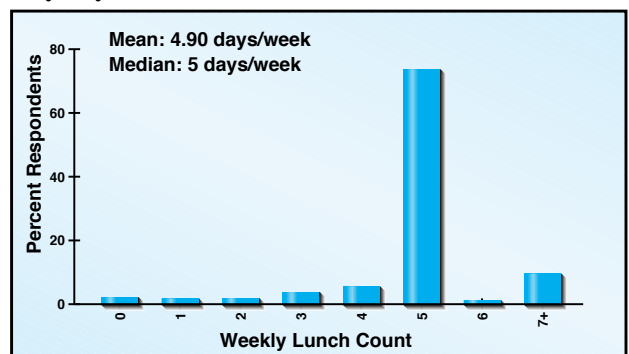
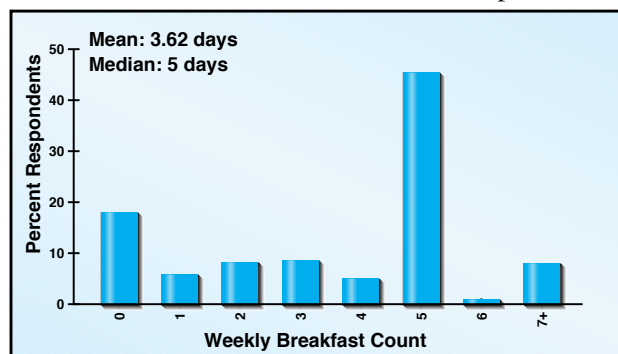
The next question focused on co-workers: “In your most recent job, approximately how many system administrators in your company on average (other than those mentioned in the previous question) do you spend any time working with on a weekly basis?”



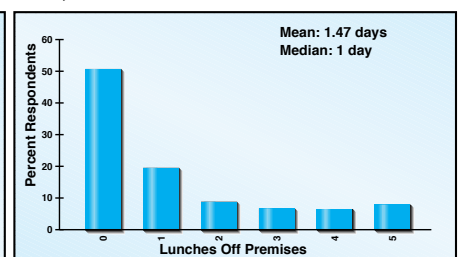
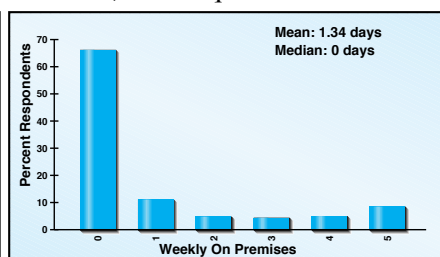
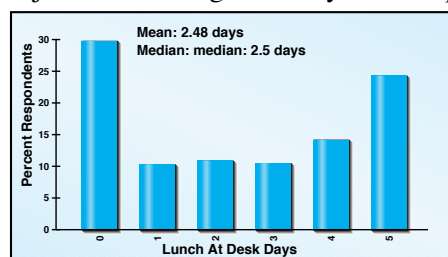
Office space: Performance experts offer a variety of opinions on the effects of office arrangements. Another question queried the sort of office that respondents worked in. Unsurprisingly, cubicles won with almost 1/3 of respondents.



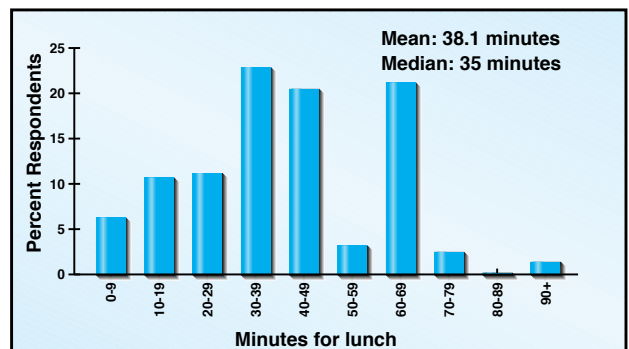
Nutrition – Meals: Recent publicity about the value of nutrition for a productive workday prompted a set of questions about nutrition. The first was: “Generally, how many days per work week do you eat breakfast (not just a cup of liquid)?” Most respondents have a breakfast comprising more than a cup of coffee. Likewise, respondents were asked about lunch. 86% of respondents eat lunch every day.



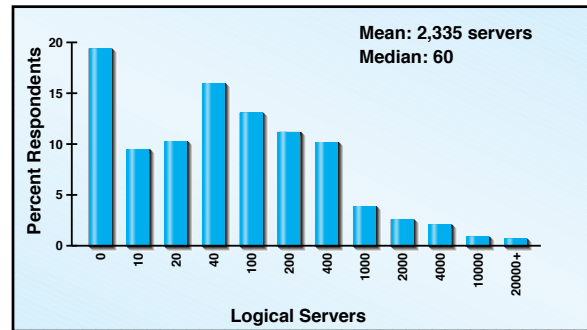
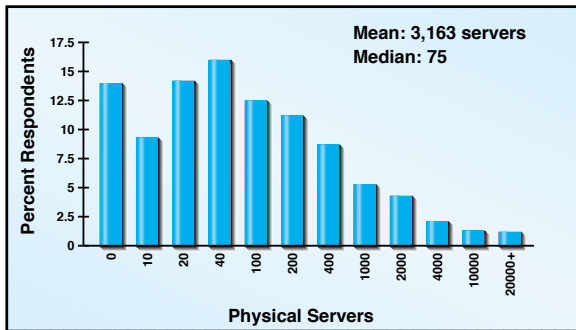
Lunch Locale: Horror stories about workers slaving away, tied to their desks, able to leave only for the quickest nature break. Of course, these stories are balanced by those from happy administrators who enjoy the ability to multi-task lunch and an important task. To keep the statistics reasonable, a total of 218 respondents were rejected for eating too many lunches per week (for this question and the next two).



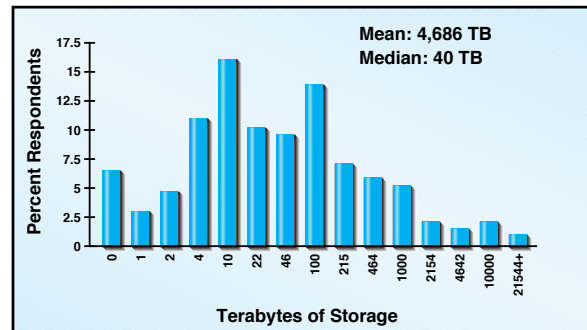
Lunch – Duration: Finally, respondents were asked how long they spent at lunch. The mean was just under 40 minutes, with 3.8% spending no time at all eating lunch. Fully 95.94% finish their lunch in an hour or less; only 0.52% spend more than 90 minutes.



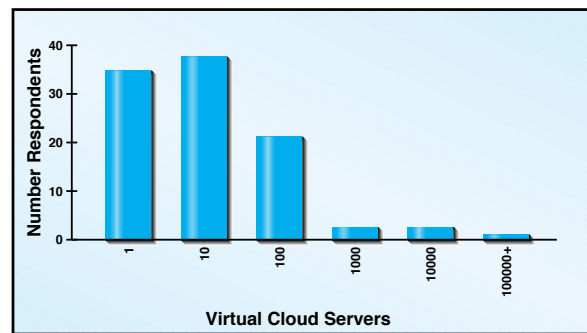
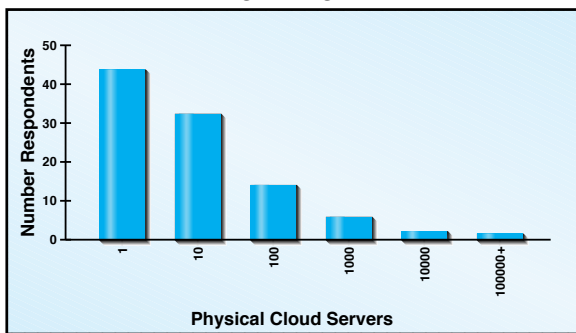
Site Info – Servers: To ascertain the size of respondents’ sites, the survey asked “Please tell us about size of your site at your most recent position.” and “Within 10-20%, how many virtual/logical servers (file servers, compute servers, web servers, etc.) are administered by employees at your site?” The X axis is somewhat logarithmic instead of linear.



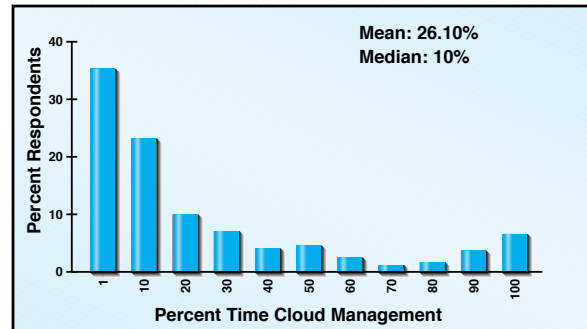
Site Info – Storage: To gauge the magnitude of storage, respondents were asked “Approximately how many TB of centralized file storage are administered at your site?” The four responses of 1,000,000 TB surely increased the mean substantially. Nevertheless, some folks have serious storage!



Cloud Servers: Respondents were also asked how many servers they administered in the “Cloud”. Of the responses, 987 respondents said they administered no physical servers in the Cloud while 930 said they administered no virtual servers. X axis is again logarithmic.



Cloud Server Management: Respondents were asked what percent of their time was spent managing cloud servers. The numbers in this graph pertain only to the 241 people who spent at least 1% of their time managing cloud servers.



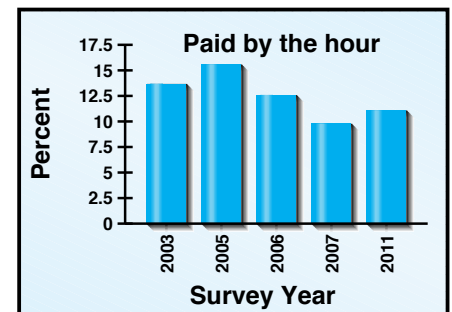
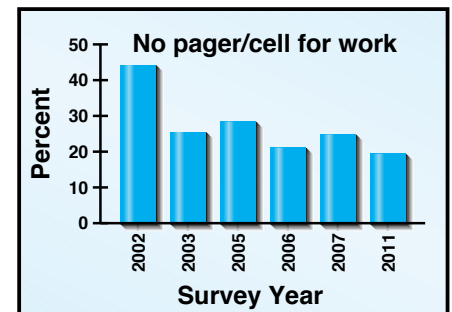
Salary Information

Demographics are interesting, but salaries form the heart of a salary survey. Here's a quick rundown of how some people work and get paid:

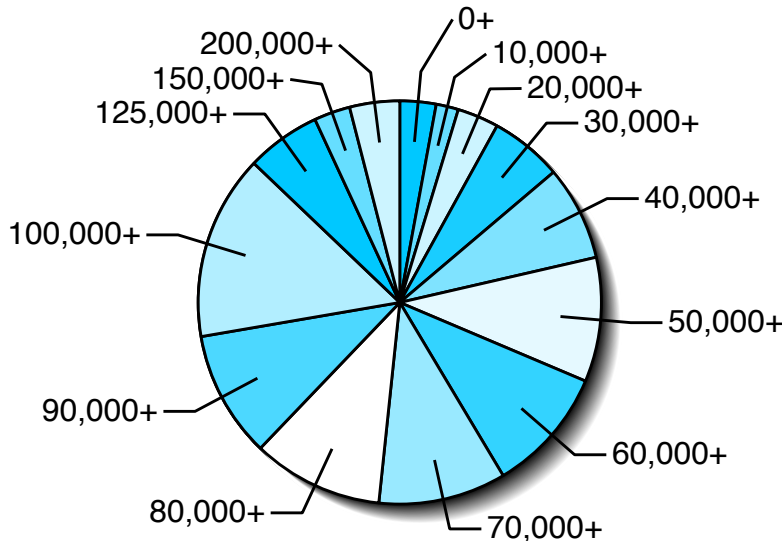
- 51.0% (2007: 54.3%; 2005-2006: 46.1%) of respondents are not specially compensated for overtime
 - 7.2% receive both cash and/or time off as compensation for overtime work
 - 12.1% receive cash compensation for overtime work
 - 29.7% receive time off as compensation for overtime work
- 69.6% of respondents are not specially compensated for 'night' (shift) work
 - 19.4% receive comp time or other compensation for special hours
 - 11.0% receive more money for special hours
- 77.6% of respondents are at least occasionally required to be on call, wear a pager, or carry a cell phone
- 26.3% (2007: 19.4%) receive compensation for being on call (7.1% comp time, 13.3% money, 5.9% either/both)
- 19.4% of respondents never carry a pager/cell phone; 29.2% pager/cell phone all the time. The rest are on call at various frequencies: 7.5% are on call one week out of two or more; 6.0% are on call one week out of three or so; 10.3% are on call one week out of four or so; 7.2% are on call one week out of five or so; 8.0% are on call one week out of six or so; 12.4% are on call sometimes, but less than one week out of six.
- 88.9% of respondents are salaried; 11.1% are paid hourly

This statistical summary attempts to describe the state of salaries and salary changes over the last year by examining salary with respect to gender, age, experience, geography, industry, and other factors.

The number of respondents in certain sub-categories is occasionally too low to draw valid statistical inferences (e.g., just one person in Anchorage, Alaska). Generally, statistics that are nonreliable by virtue of their small sample size are either not reported or reported with a '#' to mark them as unreliable.

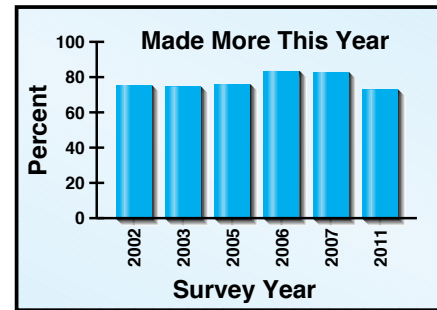
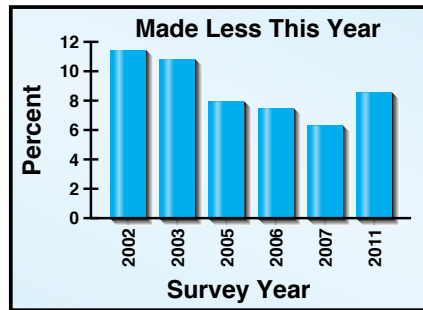
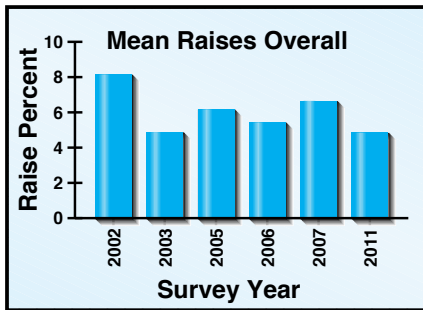


Total Annual Salary

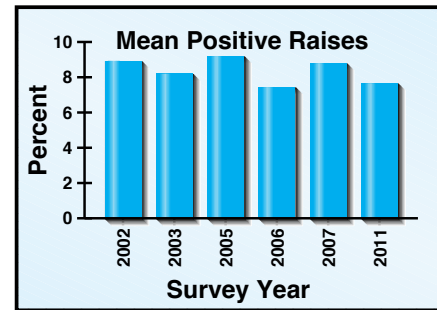
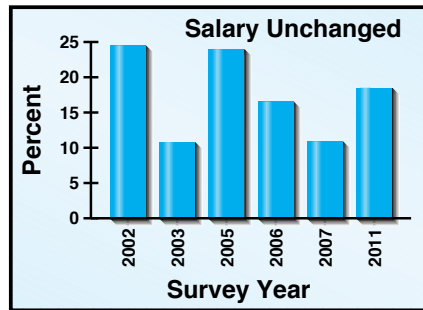


Salary Change Summary

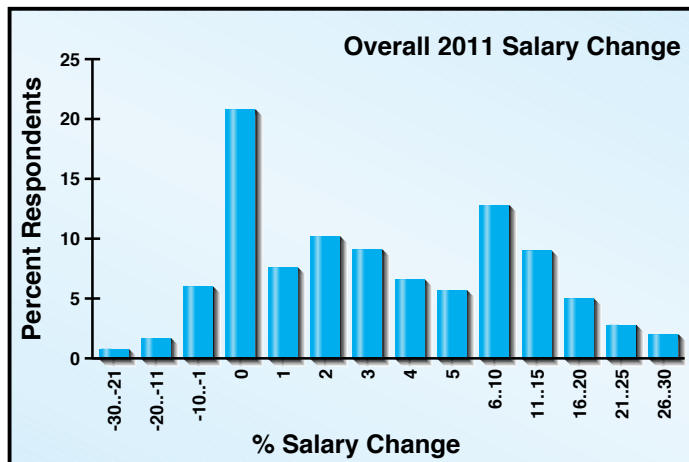
These salary numbers cover those with incomes in the US\$10K-US\$200K range and with changes from -30% to 30% from all nations and currencies. Respondents outside these ranges were considered 'outliers' that would over-influence the statistics.



Of those 72.98% who increased their salaries, the average increase was 7.66%. In a very surprising development, raises were spread fairly evenly throughout the salary range, with higher earners being *much* less penalized than in the past – even disproportionately rewarded – with the single exception of the highest bracket with its small 0.6% of respondents.



The average salary change for 855 full-time respondents was 4.85%, not particularly out of line with raises dating back to 2003 (but not 2002). 8.54% earned less than they did the previous year, but this is really closer to the norm than something anomalous (see the trend chart); 18.5% had no change in salary.



Increases by Salary Range

| Range | % in Range | % Incr | Incr (US\$) |
|-----------------|------------|--------|-------------|
| < 20,000 | 3.2 | 2.6 | 371 |
| 20,000-29,999 | 2.7 | 4.9 | 1,289 |
| 30,000-39,999 | 4.6 | 4.8 | 1,658 |
| 40,000-49,999 | 6.3 | 5.5 | 2,482 |
| 50,000-59,999 | 10.8 | 4.4 | 2,414 |
| 60,000-69,999 | 11.2 | 6.0 | 3,872 |
| 70,000-79,999 | 11.3 | 4.0 | 2,925 |
| 80,000-89,999 | 12.4 | 4.6 | 3,843 |
| 90,000-99,999 | 11.5 | 4.6 | 4,302 |
| 100,000-124,999 | 16.6 | 4.8 | 5,251 |
| 125,000-149,999 | 6.2 | 5.8 | 7,818 |
| 150,000-174,999 | 2.7 | 7.8 | 12,281 |
| 175,000-199,999 | 0.6 | -1.0 | -1703 |

Working More

Respondents reported an average 43.3 hours/week worked this year. Does working more imply getting a bigger salary change? The table at the right suggests that this is no longer true (except for the 3.6% of respondents in the extreme 60+ hours/week case) despite positive indications in previous years.



| Hrs vs. Incr | | |
|--------------|--------|--------|
| Hours | % Incr | % Resp |
| 30-39 | 3.4 | 15.8 |
| 40-44 | 5.4 | 44.5 |
| 45-49 | 5.7 | 18.6 |
| 50-54 | 3.8 | 13.3 |
| 55-59 | 3.1 | 3.6 |
| 60-64 | 7.8 | 3.6 |
| 65+ | 3.2 | 0.7 |

Salaries vs. Experience

Experience counts. Those with less than three years of experience report incomes that average \$30,000 less than those with more than ten years of experience – but the next ten years brings only a \$3,000 average gain (thus demonstrating salary compression). The charts on the next page show *total* compensation (after last year's salary change) vs. experience.

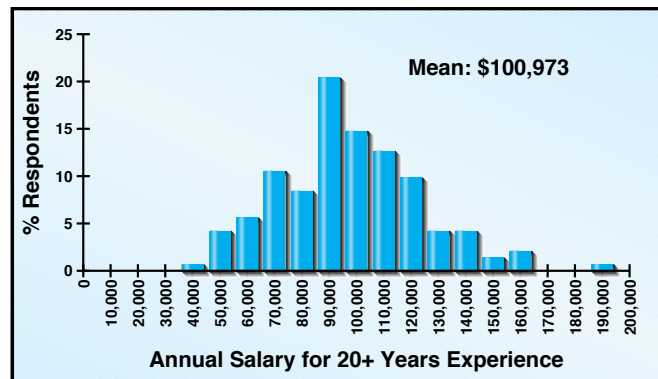
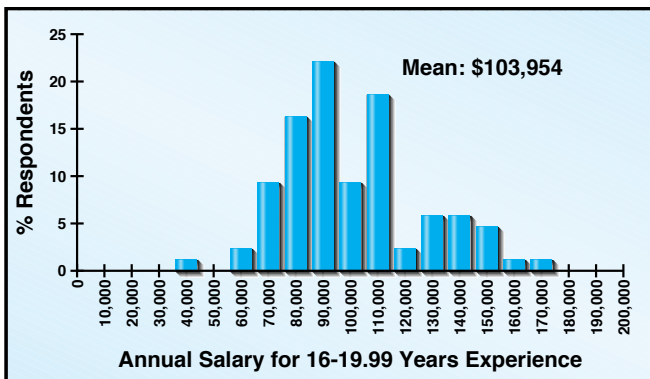
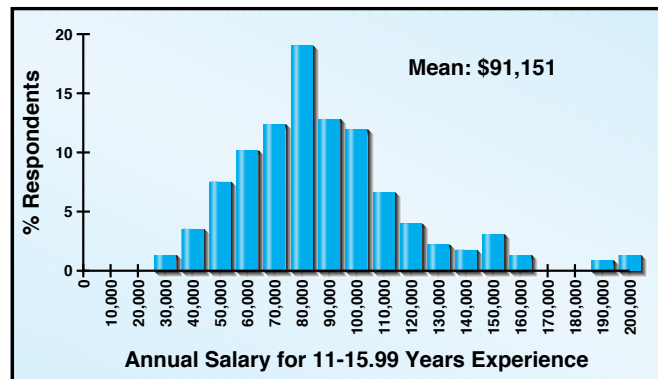
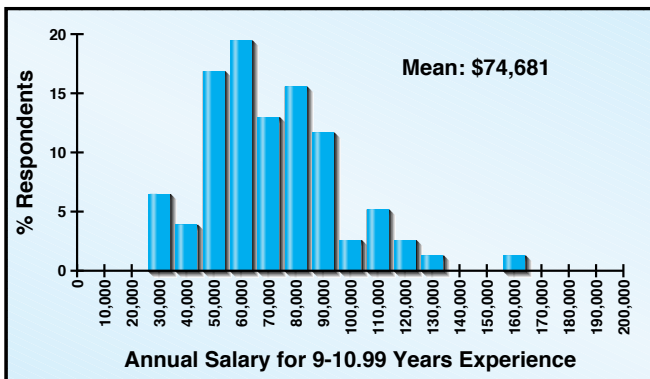
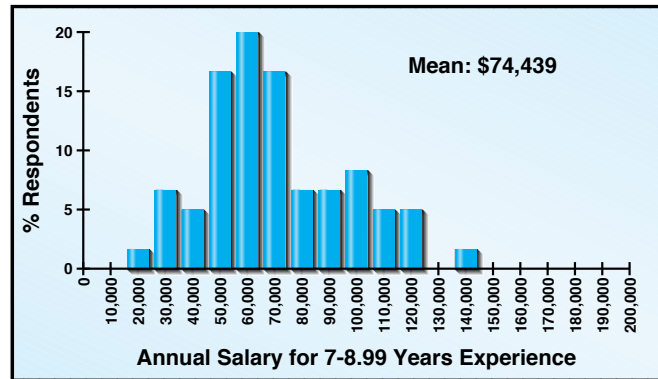
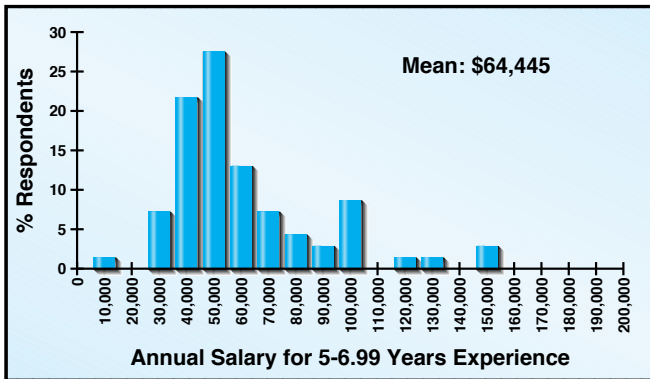
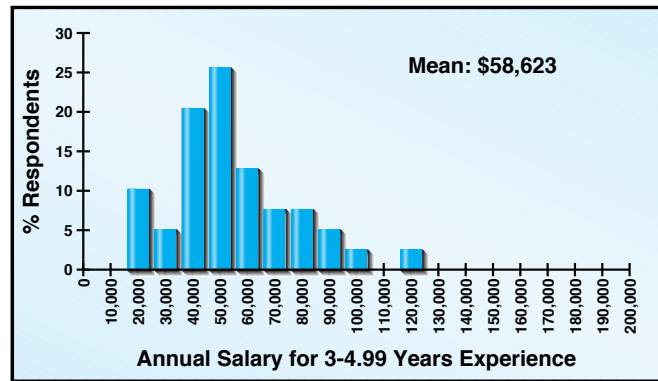
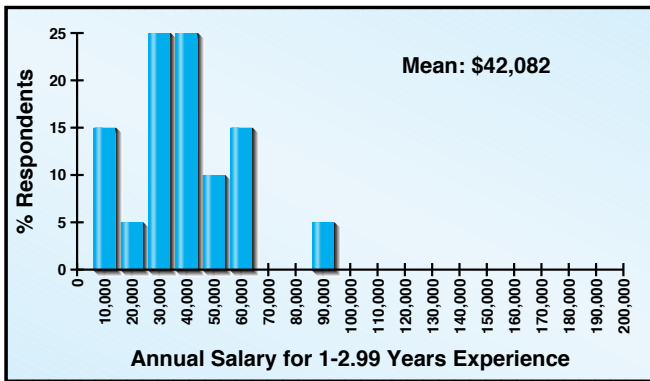
The table below summarizes the experience vs. salary numbers for those reporting in US currency. The graphs on the next page, however, are also illuminating, since they enable you to pinpoint just where you stand in the (almost) bell curve of salaries for those with similar experience.

The table includes three sets of statistics, all of which are narrowed as listed above and also to salaries reported in US dollars (thus restricting the numbers mostly to the USA – no other countries had enough respondents to create valid general statistics). Statistical groups include:

- Summary of all respondents who meet the conditions above.
- Only those who actually increased their salary during this survey's year.
- Only those who have worked for the same organization for at least two years (i.e., this column arguably shows the raises people get at an organization instead of by changing to a new job – note that this loyalty seems to cost about 3% in raises).

| Experience vs. Salary/Increase | | | | | | | | | | |
|--------------------------------|---------|---------------|----------|-----------|----------|----------------|----------|---------|------|---------|
| Exp | % Resp. | All Responses | | Raise > 0 | | Same Co. >2 Yr | | | | |
| | | Sal. | --Incr-- | Sal. | --Incr-- | Sal. | --Incr-- | | | |
| 1-2 | 2.8% | 42,082 | 7.1% | \$2,997 | 47,049 | 12.7% | \$5,984 | 55,272 | 5.4% | \$2,983 |
| 3-4 | 5.4% | 58,623 | 10.3% | \$6,047 | 60,862 | 12.2% | \$7,420 | 58,241 | 8.3% | \$4,837 |
| 5-6 | 9.6% | 64,445 | 7.6% | \$4,922 | 66,049 | 8.9% | \$5,897 | 65,384 | 7.5% | \$4,912 |
| 7-8 | 8.3% | 74,439 | 7.5% | \$5,572 | 77,590 | 11.3% | \$8,747 | 74,994 | 8.4% | \$6,282 |
| 9-10 | 10.7% | 74,681 | 5.6% | \$4,209 | 77,690 | 8.2% | \$6,356 | 73,633 | 5.0% | \$3,679 |
| 11-15 | 31.4% | 91,151 | 4.0% | \$3,662 | 95,556 | 6.4% | \$6,083 | 91,417 | 4.3% | \$3,896 |
| 16-19 | 11.9% | 103,954 | 4.1% | \$4,268 | 104,722 | 6.2% | \$6,467 | 100,156 | 3.3% | \$3,267 |
| 20+ | 19.7% | 100,973 | 2.7% | \$2,775 | 102,315 | 4.7% | \$4,814 | 101,764 | 3.1% | \$3,173 |

Below are the overall distributions for salary vs. experience, though they include all countries with no special processing for geography.



The charts show pleasing bell-curve distributions that connote the validity of the statistics. A small number of much higher-paid respondents ups the average a slight bit in just about every chart. Checking the records uncovers that some of these were due to one-time bonuses for various reasons.

Gender Studies

As time goes on, women are, in general, catching up to men in experience (years ago, computer professions were truly male-dominated). One conjecture for this phenomenon is that men move up and out of system administration, although the number of women *intending* to move to a different profession is higher, as reported elsewhere in this document.

The two charts on the right show (in both table and graph) the distribution and average salary increase for the entire group of respondents and for men/women broken out. The surprising observation is that women above \$70K/year seem (with the exception of the 80-89K range) to be doing much better than men. Again, though, the small sample size for women doesn't bolster this statistic as much it might.

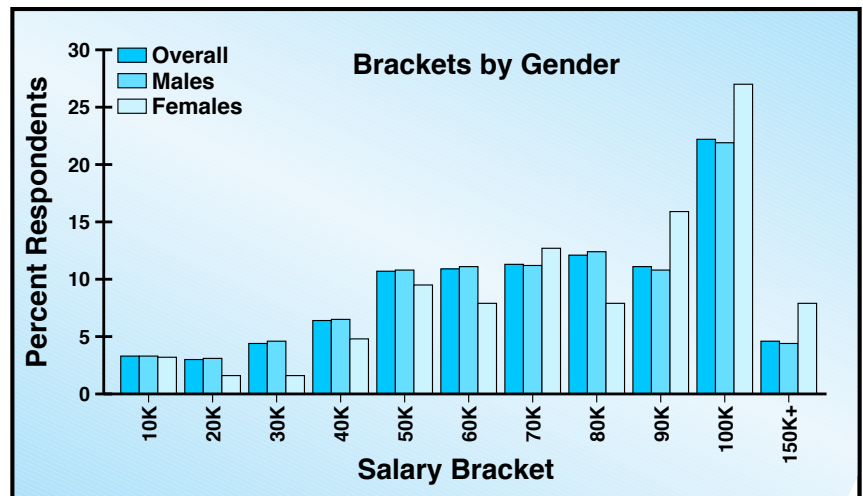
On the right below is a graphical representation of the same salary brackets by gender. Small sample sizes show that the numbers shouldn't be trusted too much, but salaries of women with three or more years of experience seem to be lagging those of men. For women vs. men in salary increases, no trend is readily observable. The final graph of bracketed salaries shows that women *generally* keep parity with men until the US\$100K level. Again, small sample sizes do not warrant much trust in these results.

To the right is an overall chart of last year's salary changes, calculated against last year's salary – and shown by gender. It does not show experience or job categories and thus should be viewed only as an overall picture. Some gender difference appears throughout the table.

The page's final chart shows the various salary changes. It's easy to see that the 0-6% range is very popular.

Salary vs. Years of Experience

| Years | Overall | | Male | | Female | |
|--------|---------|---------|--------|---------|----------|---------|
| | AvgSal | % Resp. | AvgSal | % Resp. | AvgSal | % Resp. |
| 0..2 | 46,320 | 4.3 | 46,245 | 4.3 | 47,333# | 4.2 |
| 3..4 | 58,311 | 6.0 | 57,068 | 6.2 | 82,333# | 4.2 |
| 5..6 | 64,659 | 10.6 | 64,265 | 10.4 | 68,947# | 12.7 |
| 7..8 | 67,164 | 8.8 | 67,133 | 9.2 | 68,520# | 2.8 |
| 9..10 | 68,589 | 10.6 | 68,053 | 10.9 | 82,375# | 5.6 |
| 11..15 | 85,485 | 31.8 | 84,732 | 31.5 | 94,422 | 35.2 |
| 16..19 | 100,282 | 10.1 | 99,685 | 10.2 | 109,833# | 8.5 |
| 20+ | 94,859 | 17.9 | 94,918 | 17.3 | 94,349 | 26.8 |



Raises by Gender

| % Inc. | All | Male | Fem. | % Inc. | All | Male | Fem. |
|-----------|------|------|------|-----------|-----|------|------|
| -30..-10 | 2.3 | 2.3 | 1.8 | 10..11.99 | 4.0 | 3.9 | 5.5 |
| -9.99..-5 | 2.5 | 2.6 | 1.8 | 12..13.99 | 4.0 | 3.7 | 7.3 |
| -4.99..0 | 3.1 | 3.2 | 1.8 | 14..15.99 | 2.6 | 2.7 | 1.8 |
| 0..1.99 | 28.4 | 28.0 | 34.5 | 16..17.99 | 2.4 | 2.6 | 0.0 |
| 2..3.99 | 19.9 | 19.8 | 20.0 | 18..19.99 | 1.2 | 0.9 | 5.5 |
| 4..5.99 | 12.4 | 12.6 | 9.1 | 20..29.99 | 5.8 | 6.1 | 1.8 |
| 6..7.99 | 6.3 | 6.2 | 7.3 | 30+ | 0.2 | 0.3 | 0.0 |
| 8..9.99 | 4.9 | 5.2 | 1.8 | | | | |

Salary and Education

Education is often said to enhance salaries. The chart on the right (which is for general education, not technical education), while not accounting for experience, shows that this adage seems to hold true except for those with graduate degrees (!).

The second chart on the right shows average salaries compared against ‘relevant’ education. Except for graduate degrees, this chart reflects a very traditional sort of observation: more, better education yields higher salaries. Upon checking those whose ‘formal education is in other fields,’ some are entrepreneurs (even company founders) while others live in high-cost-of-living cities or have inordinate experience. The smaller sample size caused a majority of this anomaly.

The final chart shows salaries and raises by educational level and experience. The ‘#’ markers indicate potentially small sample sizes that might not yield statistically significant results. Again, Master’s degrees lag Bachelor’s degrees except at the low end of experience. The no-college folks (“High School Diploma”) seem to be performing unexpectedly (to this author) well in this technical field.

Salary vs. Education

| EducLevel | AvgSal | AvgInc | % Resp. |
|-------------------------|--------|--------|---------|
| Bachelor's Deg. | 84,171 | 5.3% | 46.4% |
| Some College or TechSch | 82,765 | 5.2% | 23.8% |
| Ph.D./D.Sc. | 78,704 | 6.2% | 1.2% |
| Master's Deg. | 78,064 | 3.1% | 13.5% |
| HS Diploma | 71,951 | 5.9% | 3.7% |
| Associate's Deg. | 68,496 | 5.4% | 6.1% |
| Less than HS | 62,273 | 3.4% | [5] |
| Technical Cert(s) | 59,448 | 2.4% | 4.7% |

Salary vs. Relevant Education

| EducLevel | AvgSal | AvgInc | % Resp. |
|--------------------------|--------|--------|---------|
| Other Education | 89,194 | 3.9% | 7.8% |
| Bachelor's Deg. | 86,446 | 5.1% | 31.3% |
| Some College or TechSch | 79,170 | 4.6% | 16.7% |
| Self-taught | 77,784 | 5.8% | 17.4% |
| Master's Deg. | 76,750 | 4.0% | 9.5% |
| Associate's Deg. | 73,147 | 5.0% | 4.4% |
| Technical Certificate(s) | 70,356 | 4.5% | 12.3% |
| Ph.D./D.Sc. | 47,148 | 6.8% | [5] |

Salary and Incr. by Education/Exp.

| Education level | 0..1 | 2 | 3..4 | 5..9 | 10..14 | 15..19 | 20+ |
|----------------------|-----------------|------------------|-----------------|----------------|---------------|----------------|----------------|
| Master's Degree | --- | 69,180 6.4# | 40,920 13.8# | 58,751 5.5 | 75,565 4.3 | 86,616 2.3 | 90,126 2.3 |
| Bachelor's Degree | 57,000 -5.0# | 48,560 8.7 | 72,714 8.2 | 71,633 6.5 | 81,231 6.0 | 98,973 3.4 | 99,773 3.1 |
| Assoc. Degree | 35,600 11.2# | 35,000 13.1# | 52,000 0.0# | 53,200 10.7 | 86,580 0.7 | 98,840 2.1 | 99,285 3.6 |
| Some Coll/Tech Sch | 37,000 0.0# | 25,553 6.8# | 57,858 7.6 | 63,754 6.3 | 75,625 4.4 | 97,253 4.4 | 91,229 2.1 |
| Technical Cert(s) | --- | 61,000 5.2# | 51,191 15.0 | 55,246 6.1 | 77,031 3.5 | 83,594 2.9 | 84,685 0.7 |
| High School Diploma | 40,000 14.3# | 38,000 0.0# | 72,000 15.7# | 71,546 4.4 | 89,072 2.9 | 101,122 3.3 | 103,069 3.2 |
| Less than HS Diploma | --- | 50,000 -16.7# | 49,168 10.5 | 69,738 8.0 | 70,907 4.8 | 95,082 6.6 | 90,444 3.2 |

Salary Compression

The widely reported phenomenon of salary compression is alive and well in the respondents' reported experiences. While everyone wants an annual 5-10% range, the miracle of compounding would make for runaway salaries.

Consider a \$45,000 base upon which a 7% raise is compounded annually for the next 47 years, for a hypothetical employee who worked from age 21 to age 68 (as our friends in the social security administration suggest might be commonplace by the year 2059). See the chart below which shows salaries really taking off by 2035.

Of course, inflation can eat up magnificent salary gains like these (compare to 1950's "Ten Thousand Dollar Man" mentioned in Dale Carnegie's works; sounds more like a "\$100,000 Dollar Man" in these times). Many respondents do make 10x the salary of Carnegie's hero.

| Salary @ 7% Annual Raise | | | | | | | |
|--------------------------|--------|------|---------|------|---------|------|-----------|
| Year | Sal | Year | Sal | Year | Sal | Year | Sal |
| 2012 | 45,000 | 2024 | 101,349 | 2036 | 228,257 | 2048 | 514,077 |
| 2013 | 48,150 | 2025 | 108,443 | 2037 | 244,234 | 2049 | 550,063 |
| 2014 | 51,522 | 2026 | 116,034 | 2038 | 261,331 | 2050 | 588,567 |
| 2015 | 55,127 | 2027 | 124,156 | 2039 | 279,624 | 2051 | 629,767 |
| 2016 | 58,986 | 2028 | 132,847 | 2040 | 299,198 | 2052 | 673,851 |
| 2017 | 63,115 | 2029 | 142,147 | 2041 | 320,142 | 2053 | 721,020 |
| 2018 | 67,533 | 2030 | 152,097 | 2042 | 342,551 | 2054 | 771,492 |
| 2019 | 72,260 | 2031 | 162,744 | 2043 | 366,530 | 2055 | 825,496 |
| 2020 | 77,318 | 2032 | 174,136 | 2044 | 392,187 | 2056 | 883,281 |
| 2021 | 82,731 | 2033 | 186,325 | 2045 | 419,640 | 2057 | 945,110 |
| 2022 | 88,522 | 2034 | 199,368 | 2046 | 449,015 | 2058 | 1,011,270 |
| 2023 | 94,718 | 2035 | 213,324 | 2047 | 480,446 | 2059 | 1,082,060 |

Logarithms help us calculate the equivalent compounded salary increase rate for the salary of an experienced professional compared to the base entry salary (calculated here as \$45,068 for those who reported a mean of 1.20 years of experience). It can be seen that the calculated annual raise declines to 5-6% by year 10 and then starts to drop even more by year 18.

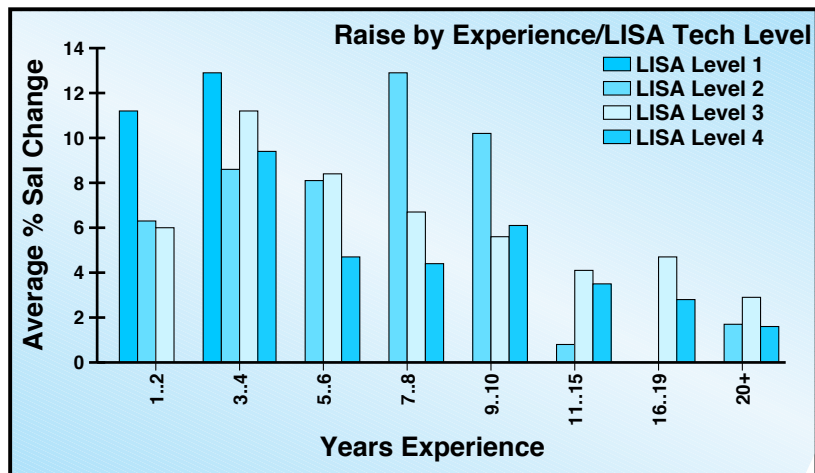
| Compound Raise Percent | | | | | | | | | |
|------------------------|--------|----------|----------|-------------|------------|--------|----------|----------|-------------|
| Exp Bucket | N Resp | Mean Sal | Mean Exp | Compd Raise | Exp Bucket | N Resp | Mean Sal | Mean Exp | Compd Raise |
| 1 | 14 | 45,068 | 1.20 | --- | 12 | 62 | 92,927 | 12.01 | 6.21% |
| 2 | 23 | 43,103 | 2.00 | -2.20% | 13 | 45 | 93,667 | 13.02 | 5.78% |
| 3 | 21 | 55,651 | 3.00 | 7.28% | 14 | 40 | 100,762 | 14.02 | 5.91% |
| 4 | 31 | 60,118 | 4.02 | 7.44% | 15 | 67 | 95,171 | 15.01 | 5.10% |
| 5 | 54 | 67,014 | 5.02 | 8.22% | 16 | 39 | 99,184 | 16.00 | 5.05% |
| 6 | 37 | 68,435 | 6.09 | 7.10% | 17 | 25 | 110,460 | 17.00 | 5.41% |
| 7 | 31 | 75,615 | 7.00 | 7.67% | 18 | 18 | 103,525 | 18.00 | 4.73% |
| 8 | 40 | 72,680 | 8.06 | 6.11% | 19 | 9 | 109,850 | 19.00 | 4.80% |
| 9 | 28 | 71,789 | 9.04 | 5.29% | 20-24 | 92 | 99,848 | 21.24 | 3.82% |
| 10 | 57 | 75,654 | 10.02 | 5.30% | 25-29 | 38 | 96,432 | 26.32 | 2.93% |
| 11 | 44 | 84,517 | 11.01 | 5.88% | 30-49 | 27 | 106,969 | 32.00 | 2.74% |

LISA Technical Classifications vs. Salary

The LISA technical classifications were detailed on page 7. This table and chart with the same data show how classification and experience affect salary. Generally, higher LISA Job Technical Levels seem to have exactly the effect where one would expect, including salary compression at the more experienced levels.

The ‘#’ symbol means the number of respondents is small and not to be trusted too much.

| LISA Tech Level/Experience | | | | | | | | |
|----------------------------|---------|-------|---------|-------|---------|-------|---------|--------|
| Exp Yrs | Level 1 | | Level 2 | | Level 3 | | Level 4 | |
| | Sal | %Incr | Sal | %Incr | Sal | %Incr | Sal | %Incr |
| 1-2 | 35,600# | 11.2# | 34,780# | 6.3# | 44,889 | 6.0 | 50,000# | -16.7# |
| 3-4 | 34,260# | 12.9# | 58,000 | 8.6 | 62,260 | 11.2 | 53,294 | 9.4 |
| 5-6 | --- | --- | 55,963 | 8.1 | 66,280 | 8.4 | 48,713 | 4.7 |
| 7-8 | --- | --- | 65,317 | 12.9 | 70,113 | 6.7 | 66,125 | 4.4 |
| 9-10 | --- | --- | 65,513 | 10.2 | 68,609 | 5.6 | 72,793 | 6.1 |
| 11-15 | --- | --- | 69,367 | 0.8 | 78,630 | 4.1 | 88,808 | 3.5 |
| 16-19 | --- | --- | 77,739# | -2.0# | 98,871 | 4.7 | 103,743 | 2.8 |
| 20+ | --- | --- | 83,000# | 1.7# | 95,144 | 2.9 | 93,045 | 1.6 |

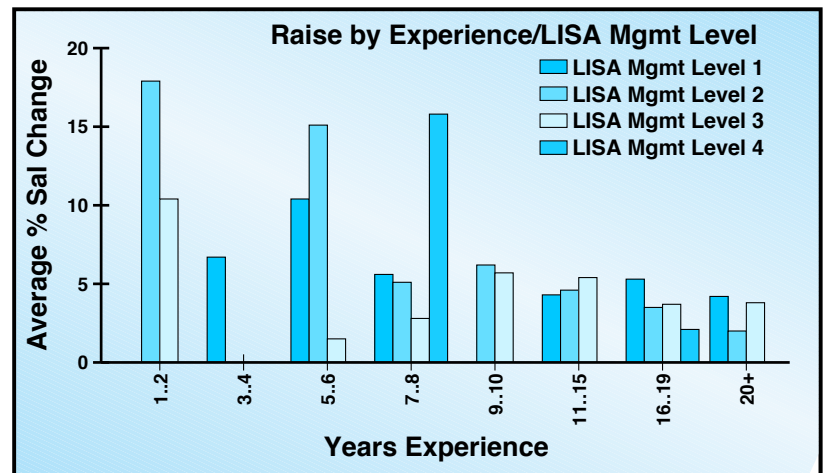
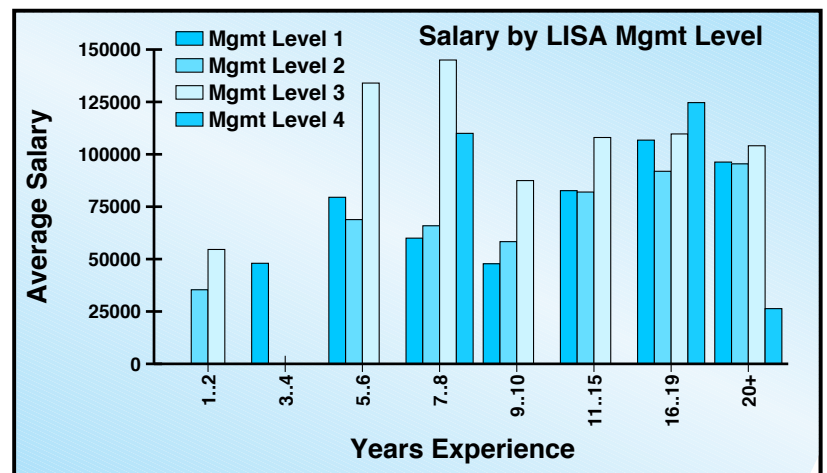


LISA Management Classifications vs. Salary

The LISA management classifications were detailed on page 7-8. This table and chart with the same data show how classification and experience affect salary. Generally, higher LISA Management Levels seem to have exactly the effect where one would expect, including severe salary compression at the higher levels.

The '#' symbol means the number of respondents is small and not to be trusted too much.

| LISA Mgmt Level/Experience | | | | | | | | |
|----------------------------|---------|-------|---------|-------|----------|-------|----------|-------|
| Exp Yrs | Level 1 | | Level 2 | | Level 3 | | Level 4 | |
| | Sal | %Incr | Sal | %Incr | Sal | %Incr | Sal | %Incr |
| 1..2 | --- | --- | 35,360# | 17.9# | 54,590# | 10.4# | --- | --- |
| 3..4 | 48,000# | 6.7# | --- | --- | --- | --- | --- | --- |
| 5..6 | 79,500# | 10.4# | 68,840# | 15.1# | 134,000# | 1.5# | --- | --- |
| 7..8 | 59,997 | 5.6 | 65,894 | 5.1 | 145,000# | 2.8# | 110,000# | 15.8# |
| 9..10 | 47,770 | -0.1 | 58,318 | 6.2 | 87,459 | 5.7 | --- | --- |
| 11..15 | 82,649 | 4.3 | 81,995 | 4.6 | 108,020 | 5.4 | --- | --- |
| 16..19 | 106,773 | 5.3 | 91,901 | 3.5 | 109,719 | 3.7 | 124,667# | 2.1# |
| 20+ | 96,294 | 4.2 | 95,444 | 2.0 | 104,080 | 3.8 | 26,351# | 0.0# |



Salary in Metro Areas vs. Experience

The chart on this page factors in both self-reported geography and experience (a question asked for explicit geographical region); all salaries are converted to US\$.

The # symbol means the sample size is small and not trustworthy; boxes with '----' had few or no samples. The sort order is “by overall average salary for this Metro Area without regard to experience.”

| Avg Salary/Raise by Area/Experience | | | | | | |
|-------------------------------------------------|-----------------|-----------------|-----------------|------------------|-----------------|------------------|
| Area | 0-1 | 2-4 | 5-9 | 10-14 | 15-19 | 20+ |
| Sydney, Australia Metro Area | ---- | 80,639 -6.0# | ---- | 163,320 23.1# | 96,971 5.6# | 133,718 5.4# |
| Los Angeles/Orange Co., CA, Metro Area | ---- | ---- | ---- | 127,533 7.4 | 117,333 9.3# | 103,750 3.5 |
| San Francisco/San Jose/Silicon Valley, CA, Area | ---- | 45,500 30.0# | 109,409 12.9 | 111,163 4.6 | 125,928 4.8 | 115,111 4.6 |
| Atlanta, GA Metro Area | ---- | ---- | 64,000 10.8# | 98,966 3.8 | 160,000 3.2# | 137,950 3.8 |
| Washington, DC, Metro Area | ---- | 90,000 20.0# | 83,977 9.0 | 102,598 6.4 | 109,271 5.6 | 120,466 4.2 |
| New York Metro Area | 57,000 -5.0# | 74,205 11.4 | 74,625 7.7 | 120,341 6.1 | 119,150 2.1 | 119,200 -1.9 |
| San Diego, CA, Metro Area | ---- | ---- | 65,218 -5.8# | 92,333 6.4# | 118,444 8.5# | 95,000 6.7# |
| Boston, MA, Metro Area | ---- | 62,812 6.1 | 83,450 4.8 | 97,169 9.3 | 100,756 6.8 | 106,587 2.0 |
| Seattle/Redmond, WA Metro Area | 37,000 0.0# | 99,000 3.1# | 76,593 5.8 | 86,698 7.1 | 93,909 2.1 | 113,167 -1.3 |
| Chicago, IL Metro Area | ---- | ---- | 80,400 10.4 | 69,666 3.2 | 89,000 3.3 | 116,400 2.4 |
| Research Triangle, NC | ---- | 77,000 8.5# | 88,666 5.2# | 83,249 0.3 | 97,500 7.5# | 105,000 5.0# |
| Philadelphia, PA, Metro Area | 35,600 11.2# | 50,000 19.0# | 74,333 2.4# | 95,100 8.0 | 95,113 4.2 | 80,250 3.9 |
| Toronto, ON, Metro Area | ---- | 37,373 6.2# | 73,659 8.1 | 78,895 7.6 | 95,262 4.8 | 100,822 0.6 |
| Dallas, TX Metro Area | ---- | 50,000 17.6# | 44,727 -0.1# | 83,333 10.2# | 93,844 2.5 | 93,333 3.6# |
| Ottawa, ON, Metro Area | ---- | ---- | 68,520 1.4# | 88,097 2.3# | ---- | ---- |
| Austin, TX Metro Area | ---- | 52,000 0.0# | 47,749 -8.1 | 97,500 2.4# | 90,000 3.9# | 97,500 4.6 |
| Denver, CO Metro Area | ---- | ---- | 66,000 11.1# | 74,000 4.9# | ---- | 96,000 0.0# |
| Houston, TX Metro Area | ---- | 57,175 14.9# | 38,900 5.8# | 111,250 -7.8# | 75,500 4.9# | 58,000 -7.9# |
| Montreal, QC, Metro Area | ---- | ---- | 48,943 11.1# | 60,451 3.8 | 90,055 -1.9# | 83,203 -13.3# |
| Not applicable | 40,000 14.3# | 52,557 8.4 | 54,978 6.2 | 64,280 3.5 | 81,284 2.7 | 81,142 2.7 |
| Vancouver, BC, Metro Area | ---- | ---- | 62,059 13.4 | 63,136 11.2# | ---- | 48,943 0.0# |
| London, England Metro Area | ---- | ---- | 44,060 7.1# | ---- | 83,456 25.0# | ---- |

Salary in Countries

Only a few countries had enough data to calculate statistics with any level of significance.

| Salaries/Raises by Region and Experience | | | | | | | | |
|------------------------------------------|-----|-----|------------------|-----------------|-----------------|-------------------|------------------|------------------|
| Region | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-15 | 16-19 | 20+ |
| Australia | --- | --- | --- | --- | --- | \$106.5K 10.0% | --- | \$123.6K 4.0% |
| Canada | --- | --- | \$69.3K 12.0% | \$67.6K 7.0% | \$74.1K 8.0% | \$79.9K 4.7% | \$92.4K -0.8% | \$84.4K -0.4% |
| Finland | --- | --- | --- | --- | --- | \$47.2K 1.9% | --- | --- |
| Germany | --- | --- | --- | --- | --- | \$56.3K 3.4% | --- | --- |
| Netherlands | --- | --- | --- | --- | --- | \$26.3K 3.7% | --- | --- |
| United Kingdom | --- | --- | --- | --- | --- | \$63.0K 2.2% | --- | --- |

Salary by Specialty

Only four areas had enough samples to display salaries and raises for specialists.

| San Francisco/San Jose/Silicon Valley, CA, Area | | | |
|-------------------------------------------------|------------------|-------------------|-----------------|
| YrExp | Generalist | Server management | Technical lead |
| 11-15 | \$116.5K / 3.9% | \$111.6K / 7.6% | \$130.5K / 7.4% |
| 16-19 | \$147.4K / -2.4% | \$128.2K / 5.7% | \$116.4K / 5.4% |
| 20+ | --- / --- | \$103.7K / 7.0% | --- / --- |

| Boston, MA, Metro Area | |
|------------------------|-------------------|
| YrExp | Server management |
| 7-8 | \$81.5K / 5.2% |
| 20+ | \$102.5K / 3.1% |

| Seattle/Redmond, WA Metro Area | | |
|--------------------------------|-------------------|------------------|
| YrExp | Server management | Technical lead |
| 9-10 | \$83.3K / 6.4% | --- / --- |
| 11-15 | --- / --- | \$118.7K / 13.4% |

| Washington, DC, Metro Area | | |
|----------------------------|----------------|-------------------|
| YrExp | Generalist | Server management |
| 11-15 | \$93.4K / 3.8% | --- / --- |
| 20+ | --- / --- | \$110.5K / 4.8% |

Salaries by Industry and Experience

This 1.5 page chart shows salaries and increases on an industry-by-industry basis with columns representing different levels of experience. **Entries marked with ‘#’ have almost no chance of being statistically valid.** Statistics were limited to salaries in the range of US\$10,000..\$200,000 and raises in the range -30%..30%. No other restrictions were applied (i.e., these charts include a global geography).

Trends in these data were easier to discern: more experience generally gets higher remuneration.

| Salary/Raise by Industry & Experience | | | | | | | | | | |
|------------------------------------------------------------|--------|-------|---------|-------|---------|-------|---------|--------|---------|-------|
| | 1-3 | | 4-6 | | 7-9 | | 10-14 | | 15+ | |
| Accounting | 11,500 | 4.5# | --- | --- | --- | --- | 35,705 | 8.3# | --- | --- |
| Advertising, Public Relations, Communication, or Marketing | 11,121 | -5.8# | 90,911 | 23.0# | 71,902 | 4.0 | 73,806 | 5.9# | 125,001 | 5.6 |
| Aeronautical/aerospace | 35,000 | 6.1# | 43,950 | 3.7# | 12,305 | 0.0# | 89,454 | 3.3 | 104,428 | 3.0 |
| Agriculture | --- | --- | --- | --- | --- | --- | --- | --- | 100,652 | -4.0# |
| Architecture (buildings) | --- | --- | --- | --- | 85,000 | 0.0# | 95,000 | 1.1# | --- | --- |
| Automotive | --- | --- | 29,351 | 22.3# | 40,000 | 0.0# | 106,000 | 14.9# | 90,092 | 13.2# |
| Biotechnology | 30,540 | 20.0# | 73,000 | 2.8# | 145,000 | 2.8# | 100,000 | 5.3# | 109,000 | 4.8# |
| Broadcasting/Cable/Video | 69,313 | 19.6# | 49,000 | 3.7# | 65,583 | -2.9# | 72,583 | 4.1# | 75,000 | -8.5# |
| Computer hardware/semi-conductor | --- | --- | 78,500 | 5.3# | 95,000 | 5.6# | 109,000 | -1.4 | 116,750 | 4.6 |
| Construction | --- | --- | 81,000 | 22.7# | --- | --- | 86,500 | 0.0# | --- | --- |
| Consulting and Business Services | --- | --- | 35,000 | 9.4# | 54,000 | 3.8# | 85,185 | 8.4 | 65,785 | 4.6 |
| Defense | --- | --- | --- | --- | --- | --- | 71,000 | -10.0# | 113,688 | 4.7 |
| Distribution/Warehousing | 32,000 | 6.7# | --- | --- | --- | --- | --- | --- | --- | --- |
| Education College or University | 46,166 | 8.8 | 52,520 | 4.4 | 61,788 | 6.8 | 69,092 | 2.4 | 79,574 | 2.8 |
| Education Commercial, training, etc. | --- | --- | --- | --- | 71,333 | 10.1# | 85,000 | 6.2# | 91,000 | 2.2# |
| Education Elementary or Secondary | 45,833 | 0.0# | 48,217 | 3.2 | 44,500 | 1.0# | 60,000 | 3.2# | 79,250 | 10.0 |
| Energy Production or Mining (oil, coal, etc.) | 85,000 | 7.6# | 59,710 | 29.8# | 68,520 | 16.7# | 95,142 | 10.3# | 136,851 | -5.9# |
| Engineering | --- | --- | 55,455 | 6.8# | 57,000 | 3.6# | 81,000 | 1.2# | 70,447 | 2.5 |
| Entertainment | --- | --- | --- | --- | 55,000 | 3.8# | 89,289 | 5.2 | 131,472 | 7.0 |
| Environmental Services | --- | --- | 53,000 | 2.5# | 79,000 | 0.6# | 83,566 | 5.9# | --- | --- |
| Financial services (all kinds) | 42,000 | 29.2# | 79,988 | 10.0 | 63,470 | 3.1 | 91,330 | 6.3 | 105,802 | 2.4 |
| Food | --- | --- | --- | --- | --- | --- | 12,545 | -11.8# | 70,000 | 4.5# |
| Gambling/gaming/lottery | --- | --- | 60,000 | 9.1# | --- | --- | --- | --- | 121,594 | -1.1# |
| Government Contracting | 55,000 | 25.0# | 103,500 | 2.9# | 75,749 | -4.6 | 87,100 | 8.0 | 104,268 | 3.2 |
| Government Military | --- | --- | 92,000 | 2.2# | 60,000 | 0.0# | 97,000 | 2.5# | 108,577 | 5.5 |
| Government Non-Military | --- | --- | 63,626 | 3.2# | 53,363 | 5.6# | 88,251 | 5.2 | 97,418 | 1.6 |
| Health Care, Medicine | 54,000 | 10.0# | 62,897 | 8.3 | 57,957 | 3.6 | 74,841 | -1.8 | 94,121 | 3.8 |
| Hospitality | --- | --- | 50,000 | 16.3# | --- | --- | 71,261 | 16.5# | --- | --- |
| IT Company: Consulting | 50,000 | 25.0# | 57,212 | 6.3 | 53,481 | 17.7# | 61,218 | 6.9# | 76,736 | 3.9 |
| IT Company: ISP/ASP | --- | --- | 59,500 | 13.4 | 87,653 | 16.1 | 94,035 | 4.0 | 99,728 | 2.5 |

(Chart continued on next page)

Salary/Raise by Industry & Experience

| | 1-3 | | 4-6 | | 7-9 | | 10-14 | | 15+ | |
|---------------------------------------|--------|-------|--------|-------|--------|-------|---------|-------|---------|-------|
| IT Company: Other | 34,260 | 12.9# | 32,181 | 3.8# | 55,930 | 4.9 | 79,541 | 9.2 | 89,174 | 5.2 |
| IT Company: Security | --- | --- | 63,500 | 10.2# | 95,000 | 7.5# | 92,166 | 8.8# | 132,333 | 10.9# |
| IT Company: Software Development | 45,500 | 30.0# | 72,749 | 11.0 | 77,576 | 8.0 | 86,397 | 6.1 | 102,610 | 1.5 |
| IT Company: Web development/webmaster | 99,000 | 3.1# | 91,682 | 15.7# | 87,500 | 14.6# | 126,500 | 11.1 | 124,579 | 3.5# |
| Insurance/risk management | 78,000 | -6.4# | 54,966 | 5.7# | --- | --- | 64,645 | 3.6 | 86,283 | 5.6 |
| Intellectual property | --- | --- | --- | --- | --- | --- | 35,348 | -9.7# | --- | --- |
| Legal | 37,800 | 12.8# | 79,240 | 1.6# | --- | --- | 59,710 | 1.7# | 105,000 | 5.5# |
| Library | --- | --- | 33,450 | 0.9# | --- | --- | 75,781 | 7.6# | 73,730 | 1.6 |
| Manufacturing | 35,360 | 17.9# | 56,000 | 9.6# | 58,017 | 5.2 | 77,500 | 2.1# | 75,109 | 4.4 |
| Not-for-profit | 39,590 | 3.2# | 41,916 | -1.3# | 68,000 | 23.6# | 85,660 | 6.5 | 102,000 | 3.0# |
| Other, please specify briefly | 55,981 | 0.4# | 60,890 | 9.9 | 73,833 | 11.4 | 60,149 | 1.1 | 110,611 | 6.8 |
| Pharmaceuticals | 49,000 | 4.3# | 36,285 | 0.0# | --- | --- | 155,000 | 15.7# | 125,666 | -5.3# |
| Publishing | --- | --- | --- | --- | 80,419 | 2.9# | 81,064 | 5.1# | 104,500 | 1.9 |
| Real Estate | --- | --- | 53,000 | 3.9# | 78,000 | 6.8# | 140,000 | 12.0# | --- | --- |
| Religion | 25,000 | 25.0# | --- | --- | --- | --- | 75,075 | 3.3# | --- | --- |
| Research | 15,000 | -6.2# | 59,000 | 1.7# | 83,501 | 5.3 | 92,118 | 8.8 | 101,257 | 0.3 |
| Retail | --- | --- | 53,333 | 16.7# | 80,000 | 5.3# | 97,000 | 10.3 | 79,434 | 2.6 |
| Services (other) | --- | --- | --- | --- | 51,836 | 14.3# | 62,256 | 6.6 | 108,000 | 5.7# |
| State or Local Government | --- | --- | --- | --- | 39,500 | -1.7# | 59,000 | 5.0# | 59,055 | 0.7# |
| Telecommunications | 37,000 | 0.0# | 84,000 | 5.9# | 45,018 | 0.0# | 69,453 | 3.5 | 113,715 | 0.6 |
| Transportation | --- | --- | --- | --- | --- | --- | --- | --- | 79,280 | 2.4 |
| Travel/Recreation | --- | --- | --- | --- | --- | --- | --- | --- | 13,023 | 3.7# |
| Utility | 57,000 | 26.7# | 64,000 | 0.0# | --- | --- | 87,418 | 5.2# | 86,000 | -1.1# |
| VAR | --- | --- | 66,250 | 8.2# | --- | --- | --- | --- | 78,000 | 20.0# |
| Wholesale | --- | --- | --- | --- | 59,365 | 2.6# | --- | --- | --- | --- |

Opinions and Comments

The survey affords a rare opportunity to query professionals about ideas and on a variety of subjects. This section describes the results.

Many people entered comments in reply to an open-ended question about the state and future of the system administration profession. They have been partitioned into sections with related topics:

- Professional Advice
- Automation
- LISA Challenges
- The Cloud
- Dilution of the Field
- Frustration
- Futures
- Miscellaneous
- Modernization
- Obsolescence
- Optimism
- Outsourcing
- Perspectives
- Pessimism
- Specialization

The comments were generally quite insightful. They have been included below with slight editing for typesetting, brevity, and diction. No meanings have been deliberately changed.

Professional Advice

Be aware of the market, don't sell yourself short.

Keep reading and listen to what's going on.

Really important to make our job become a real profession

Automation

Companies are more focusing on automation [to] cut down Sys admin staff by 40%. Companies are extracting 140% from each SA and treating them as robots (never consider that they are also humans and they too have family life.)

The rise of automation (tools such as MS Operations Manager/HP OpenView Operations, runbook automation, scripts, etc) is gradually beginning to take on the roles traditionally handled by sysadmins. At present, many tasks performed by Level 1 support such as disk space and server health checks are performed automatically and only escalated to a live sysadmin when the tools are unable to fix the problem. My employer is constantly improving and evolving these tools to reduce workforce requirements. The democratization of technology has transformed what used to be a super-specialized role into little more than a power user/system manager one. This is especially felt by employees of large entities offering managed services, a classification that includes myself.

System administration is a market that is slowly drying up, due to increased automation.

LISA Challenges

One of my biggest challenges is staying current in our changing industry. Professional development and training are low priority in our organization's budget priorities. My company no longer pays my dues to professional organizations while they did as recently as 3 years ago. ... The company pays conference/tutorial fees, but won't cover the required dues that are listed separately.

The LISA conference is still the definitive sysadmin conference. However, the cost is so high that, at best, my employers in the past have been willing to send people to LISA "on rotation." For the past decade, my employers have been completely unwilling to send me, and I think the salary levels from this survey will indicate that most people could not afford to pay for it themselves. One thing that would help would be some sort of marketing to employers, since many just don't see the value. The regional LOP-SA short/affordable conferences are affordable enough that many of us could pay our own way.

The Cloud

The future of IT is everything virtualized, with many or most applications hosted on the Cloud. For on-premise, I can imagine a server room for a SMB being one rack with a network switch, a blade server, and a storage server; this should power dozens or hundreds of applications from print servers to databases.

I am concerned about the consolidation of system administration jobs by large cloud service providers. There seems to be potential for a dehumanizing effect for system support personnel.

I predict that there will be a major failure of security or reliability in cloud-based infrastructure and that the industry as a whole will take no responsibility. Basic response will be "we told you so, it was in the fine print," with a huge loss in public and corporate confidence in the capability of IT people as a whole. Most of the IT/Marketing gurus who were pushing the capabilities will blame the technical people and still think they didn't do anything wrong.

It seems the traditional datacenter is going slowly away in favor of systems being abstracted to cloud computing measures. The transition seems to be: Office/Wholly Owned Datacenter -> Rented Datacenter/Rack services-> IaaS (Cloud) -> PaaS.

Many things are going to the cloud so I'll be doing more work on cloud services administration.

Marketing hyperbole is a major contributor to this phenomena, e.g. "just move your IT operations to The Cloud and everything will be taken care of!" Before that it was "just virtualize everything and your problems will be solved!" Neither situation is true, of course; but too many managers and execs believe it nonetheless.

Security of cloud operations is going to be a big, big problem.

Server admin at non-service-providers seems to be a dying position as more companies move to cloud services and/or look to transition their staff to a pool of contractors.

Sysadmins need to be increasingly aware of the business cost-benefit of various SaaS, PaaS, and IaaS solutions. Many things out there are really overpriced.

The cloud is certainly changing the job, requiring more development skills. Companies seem unwilling to train juniors, which bodes well for those of us on the inside, but they continue to complain about a lack of talent.

These days PaaS isn't that flexible, but the future of system administration today seems very much focused on IaaS services.

Dilution of the Field

I'm generally positive about the field of system administration, but feel more and more that the term 'system administration' applies to too wide a field and is in danger of being diluted.

In my company, "system administrators" are becoming viewed as the cogs who load the OS and apply patches (not the people who understand systems and architecture end-to-end). Upper management seems to view this job as something that can be eliminated by the orchestration layer in cloud computing. This is partly due to the influx of junior "Microsoft Administrators" who don't understand programming, networking, automation, etc.

The bulk of the work seems to be shifting away from skilled individuals directly modifying/managing the systems over to development of systems to do that management. Not a bad thing by my view, but definitely skews what "systems administration" consists of. See DevOps.

Frustration

Among the bigger dangers to system administration as a profession:

- Management who don't "get it."*
- Fads, hype, marketing (e.g., Cloud, Virtualization as a panacea)*
- Perception (often by management) that system administration "is easy" (i.e., anyone can do it, often because that's what their third party vendors and marketing and overpaid consultants tell them) and in spite of evidence to the contrary.*

Though I find the work to continue to interest me to some degree, I'm just not excited by it any more. There's too much negative stuff that goes on to make it worth the effort to keep up, IMO.

[I have three things to say:]

- *Normal people have no idea what we do, this makes it tough to juggle dealing with them as well as doing the real work, regardless of the number of Limoncelli seminars one goes to.*
- *I have essentially no admins working under me; I have just a tech. LISA is designed for sites that are much larger than mine, and LISA is filled with people telling me how to run my small army of underlings. I have no underlings and this is making me more interested in LOPSA than in LISA. LOPSA has a very persuasive argument and I receive very little material from LISA (other than the magazine which is pretty cool but has no discussions on how to cope).*
- *Burnout is a big threat in small orgs where there is nobody to go to, and no money for conferences. These small-site admins need help, support, mentoring, sympathy, etc, but since there's no money to be squeezed from their employers, maybe it doesn't matter?*

I am pretty frustrated by the current decline of the profession. Industry/vendors are seriously attempting to dumb down and trivialize a fine profession. It is very sad.

I have my future with the System Administrator and Network Administrator. System & Network Administrators are the back bone of the companies, but in some companies, our talent and our is never been noticed. We work so hard, sit late hours just to make the other staff comfortable, but we are never been appreciated for our efforts no benefits are provided to us, no over time for sitting late night hours.

I really hope that higher management will become aware that our profession is an integral part of all processes nowadays. The chronic lack of workpower in this segment is a big shame for all of those who think of themselves as managers, mismanaging IT depts. for many, many years.

I'm hoping to make a move in 2012 from my current employer. I've never worked harder than in 2011, but 'performance' was capped at a 3% raise and no bonus, company-wide for the grunts. The C-levels got a 40% raise, plus bonus on our backs.

It'd be nice to see more Windows-specific sessions at LISA conferences. We've skipped the last couple of years due to the plan to move off Unix generally. Note, I'm very opposed to the move, but that's what our CEO has decided...

It's hard to work in system administration for a public school system in the US because public education operates outside the realm of reality. It's hard to find others with whom to commiserate, and getting skillsets that are in demand to shift to the commercial sector is difficult.

Our employer is very bad at increasing pay annually, so high staff turnover as this is the only way to get a real pay rise. Do many other employers suffer form this problem of not making existing staff salaries match the going rate to re-hire someone for the same post?

System Administration will continue to be thought of as overhead.

The future of system administration could be grim, if some of the idiots and other unqualified pretenders in IT management don't get flushed out of the industry, at all levels up to and including executive.

This organization needs to rethink their vacation, pay, and benefits packages for IT. They also need to realize that sticking to deprecated technologies is a bad move.

We are highly paid whipping boys.

We're pretty screwed, as a profession. We don't have nearly enough new intelligent young persons taking up systems administration as a career. Moreover, we don't have a good way to encourage it or provide formal training. Systems administration is going to need more and more people over the next few years. We're already facing a shortage.

We've been undergoing budget reductions for the past five years as State funding has been reduced. No raises, travel, etc. I would to move to another country to improve my sysadmin skills, improve my English and get more salary.

I think it's still a challenge in the business world for IT to get recognized as a partner rather than a cost center. Outsourcing data centers as well as support to India is a disturbing trend because it becomes very difficult to make system administration decisions in the context of the environment being supported. System administration often serves as the glue between many different areas of IT, but this is often hard for the decision-makers to see. We need to be seen as more than just cogs in a machine that can be replaced – our value comes in our ability to analyze the big picture and integrate all the pieces.

It never fails to amaze me how unnoticed system administrators can be, right up until a system goes down and suddenly people are aware of our existence.

Futures

The future of system administration is that there is no future. It's a dead-end. Among the first things to go when execs seek to increase their personal net worth and among the first things to get outsourced.

I believe sysadmin will split into "IT tech support" and "server administration". Desktop administration will disappear, or will be subsumed as part of "tech support".

Given the complexity of IT needs for university education and scientific research, and the relatively small amount of focus given to IT training for the typical faculty, staff, or student, we expect there to be a strong continued need for computer support staff and system administrators in this industry sector for many years to come.

[System Administration is a] growing need.

I plan to still be in the field of system administration in five years, but this is the first time I've had a hard time in picking that choice. While I'm not planning to leave the profession, I'm definitely starting to look for other types of work. System administration seems to remain a profession that receive high demands for little respect, and unfortunately that seems to be occurring within the ranks of sysadmins themselves. The mindset of "slap it together and toss it out the door" because "well, that's what I was told" is extremely disheartening, and doesn't bode well for the profession, in my estimation.

I think SA is converging with development more and more, so those of us without the development skills are going to be increasingly sidelined or pigeon-holed. This is unfortunate, because I think many of us without the dev skills tend towards better communication skills, and communication skills are sorely lacking in many IT organizations.

I think merging of development and operations will continue, particularly in smaller companies, startups, and such. I expect to see operations becoming more savvy about how they impact the companies profitability, and will provide more information to management and sales on the performance of systems. I expect to see utility based computing grow as well, with more deployments to services like Amazon and Rackspace cloud.

SA will always be around and the challenges will also be around to be solved no matter what, when or where.

System Administration is very critical to the operation of many medium to large size organizations. I see the need for SysAdmins increasing over time; however, [...] finding qualified and skilled individuals is becoming increasingly more difficult.

Systems administration seems to be getting more and more important since people want to write their own applications, but don't want the difficulty of maintaining any systems themselves. There seems to be a lack of training in undergraduate computer science programs about systematic thinking – plenty about components and aspects, but not a lot tying it all together.

Systems administration, like many IT jobs is now a dead-end career. There is no longer any path into management except by going back to business school and even then, having technical expertise appears to be a serious disadvantage.

Two big trends:

1. DevOps – better communication between sysadmins and developers
2. Sysadmins as coders – config management and increasing complexity will lead to sysadmins having to have more and more developer skills.

Virtualization and SAN knowledge are becoming requirements, even for seasoned Unix/Linux Systems Administrators. Garnering knowledge in these areas can put a candidate above more seasoned sys admins in the resume pile.

Virtualization, Powershell.

Future of system administration: more coding. Sysadmins that can't code will find it harder and harder to get jobs.

System Administration is going to grow due to virtualization of both the server infrastructure and desktop infrastructure. Companies rely heavily on these individuals and will only increase that reliance on them.

Hard times ahead.

It seems like server-focused people will increasingly be aimed at programming-like activities of infrastructure-as-a-service. I know I will be.

[The future] is bright. System administrators should be familiar with cloud computing which will be the future.

With the advent of DevOps, the definition of systems administration will need to change.

Dead end.

Miscellaneous

I am trying with LOPSA to get my son into IT he is still in High School taking CISCO Advanced Networking.

I feel like I'm one of a decreasing number of "boutique" administrators. Our group has a contract with a customer who understands there is a benefit to having professional SA coverage that exceeds the cost of my retention however I also understand that my sort of specialization in being a generalist is frowned upon by other market segments for reasons I do not fully understand.

I plan on automating myself out of each and every job I take. Puppet/Chef, Fabric, etc. Hire a junior guy, train him, move on.

I wonder if I will still work on physical hardware at all in five yrs.

Modernization

I wish telecommuting were generally more accepted with C-level management. Start-ups and forward-thinking companies like the kinds who attend [LISA] seem to get it, and as a result that have fabulous distributed staff. Older, more traditional industries suffer in this area, I think.

System Administration seems to be going the way of the old "operator" positions.

Obsolescence

No one with a critical skillset/knowledgebase is asked to be a full-time systems administrator anymore; parts of the job always seem to include flavours of database admin, systems/network engineer, network admin, helpdesk, programmer/scripter, systems architect, etc etc.

Sadly, nowadays nobody wants to be a systems person. There seems to be a stigma of some sort attached to the role. I am personally not sure where systems administrator will be in the time to come. But I am looking forward to find out :) . Most of the best engineers I know in my life are from systems background, therefore it will be most certainly interesting to see what is going to happen :) .

Optimism

I love being a UNIX hacker, but they still don't pay me enough!

[The future is] very good for sysadmin's.

Outsourcing

Eventually see [sysadmin] being outsourced.

We're starting to see a very slight move back to on-shore workers.

Being faced with possibly being outsourced or rebadged (contracted).

Hopefully all of the U.S. jobs will not be sent offshore.

[The future] looks dim due to outsourcing to other countries.

I'm beginning to see a trend of migrating away from off-shore support and more on on-site/US support. I support specific clients and their IT infrastructure. Over the past year or two, I've had several who have cancelled their off-shore support and insisted on solely US-based administrators. This is normally associated with two primary reasons: 1) communication problems make the supportability extremely difficult and 2) the quality of Unix administration knowledge is not normally as in-depth, resulting in increased costs due to lack of experience and/or training.

Most of the sysadmin activities have been moved offshore. In 2009 I had access to all of our servers, at present I have no root access but have to get someone to log me in that doesn't know squat about UNIX so I can fix problems. It is no longer funny.

My company's goal is 95% offshore.

Offshore resources more prevalent in SA work over the last couple years. I have India resources assigned to my team.

With the onslaught of outsourcing, system administration is increasingly under fire. Companies are hiring offshore to replace the seasoned sysadmins more and more. I have been outsourced and am at constant threat of my position being sent offshore.

Perspectives

Unix sys admins are still in sort supply.

I'll probably be working another 10 years or so if I'm capable. Might consider changing fields at 65 because a small pension and medicare would give me more flexibility. Sysadmin is a pretty good niche for me, but the first 20 years of my career I was a direct hire. Now I work for a consulting firm. Benefits, training, etc. are much less here than when I was starting out. That seems to be widespread in the industry.

People are hired temp-to-perm instead of directly, [creating] much more insecurity than there used to be. Doesn't help that some see sysadmin as a young person's game and women still get more hassles than men do. When I changed jobs at 52 I wondered if I'd have a problem getting hired somewhere. In that case I didn't but I have the same concerns about finding the next job.

I think the field of systems administration is waning – developers are “good enough” now that smaller organizations don't need dedicated admins, and the public has become accustomed to the outages and other negative side effects of this sort of philosophy. I find this situation unlikely to change unless renewed focus is placed on uptime and production availability.

I wonder if I'm paid less because I'm female. It would be nice to know how much of a trend this is.

In the non-profit, charity sector, you don't do this work for the money, you do it for the love of the work. You then bring in students to help you with the tasks, giving them the best learning environment to develop an awareness and appreciation for solving problems without having any budget to work with. That

makes them better techs – because when they hit the corporate world, they know throwing money at the problems is not the answer. Practical solutions are the answer. Tech is “supposed” to only be one third of my role here, aside from outreach to the community about our services, and some fundraising. I’ve been here 10 years, and I’m sure I’ll be here many more.

Make companies more aware of the importance of sysadmins.

Our company has shown strong support of business intelligence initiatives but not in IT end-user operations or maintenance operations (infrastructure). These typically are outsourced, offshored or near-shored in some cases, and have lesser SLA’s than the legacy in-sourced groups provided. It is my belief that IT will be more focused on supporting IT, such as managed services/solutions.

System administration in my company is turning into application administration as the low-level machines have less attention because there are too many for this to scale.

System administration is growing complex. The requirements asked of sysadmins are always growing.

System administration is rather unique in that I’ve worked in it for 10+ years, working on virtual servers, training users, help desk, networking, backups, etc. and yet I still can’t go to a potential employer without finding something like, “Oh, you don’t automate tasks with Python? Sorry, we don’t have a spot to offer you,” or “Oh, you don’t have experience with MongoDB? Sorry, we have nothing to offer you.” If I had taken a job as a welder early on in life, for our geography, I’d make more money than I currently make now, and wouldn’t hear that I couldn’t have a job because I only welded pipelines and not bicycle frames or something like that. I can have plenty of experience in administering systems in our organization, and am good at it, but still can’t get a job somewhere else.

Systems Administration is getting to be as full of nonsense fads as development has been for the last 15 years, and it’s really disappointing. People who ask me what Devops I’m doing in the cloud raise my blood pressure.

The discipline of distributed systems engineering has a loooooong way to go still. There’s an air of “it’s an art” that has to disappear.

The lines are increasingly blurred. I have a very diverse background and it’s really hard to say where the lines between programmers, sysadmin, and support are drawn these days. When I am creating a new system, it spans across business process, software, hardware and training. I believe that there will be a shift towards generalists (with rock solid foundations) and the specialists will be increasingly outsourced. Very few places operate at the scale that makes sense to have your own specialist team on hand full time.

Too many people who have the attitude of “they know what they’re doing” because they have a degree yet they can’t do simple tech support. You can’t be a good admin if you can’t do the basic tech support, too. If you can’t do it, you don’t know what users need, and can’t do a good job of being an admin. Because PHBs can’t tell the difference between a degree and experience, the good techs can’t get good paying jobs.

We really need new talent in the field. It’s lacking and going to hurt us in 10 years.

I’ve found that the rise of the “state sponsored” security incidents over the last two years has spurred hiring in the industry, and left it devoid of any remaining talented security professionals. As an IT Security admin w/a sysadmin background, I’ve found it’s much easier to hire good sysad’s and train them in IT Security than it is to teach ex-military/DoD applicants how to secure a LISA-style configuration management system in a large enterprise environment.

Pessimism

I'm concerned about the younger generation's interest/awareness of the profession. I hired twice in the last two years and there were very few entry level applicants. 99% of the applicants were experienced professionals, which is fine. However, we are not going to live forever! :)

Systems Administration is becoming an endangered field. Too many people (particularly management) believe "it's easy" or "anyone can do it", and subsequently appreciate/reward according to those mistaken beliefs.

Jobs at this company will go away within the next couple years.

Whither Unix, et al., in light of the "continued" push that windows is "easier and cheaper" to buy and manage?

If I didn't have 15 years in IT, I would leave.

Specialization

At my overall institution, but not in my division, system administration is heading towards "network janitor" status. Unless you're a programmer, DBA, or security specialist, the higher administration doesn't understand what we sysadmins do.

[My position is] becoming marginalized. My org (higher ed) will always have sysadmins but there is so many different types of people (customers) to contend with. Everyone wants to do their own thing. It's like herding cats.

The field is seeing too many specialists – it's very hard to find "generalists" or people with diverse backgrounds (especially in Linux/Unix). Seems like many sysadmins are "following the money" into specialized areas of IT (oracle/DBA, MIS, network security, etc.).

Summary

A technically challenging profession that pays its entry people as much as US\$50,000/year is an interesting one. System administration appears to be a fine way to make a living. Experience, education, and enhanced skillsets seem to be the growth path of choice (at least as far as increasing the midpoint of the salary bell curves goes).

About LISA

LISA is a Special Interest Group of the USENIX Association. Its goal is to serve the system administration community by:

- Offering conferences and training to enhance the technical and managerial capabilities of members of the profession
- Promoting activities that advance the state of the art or the community
- Providing tools, information, and services to assist system administrators and their organizations
- Establishing standards of professional excellence and recognizing those who attain them

For a full list of LISA benefits, check out <https://www.usenix.org/lisa>.