2001 SAGE Salary Survey

Introduction

The salary survey is one primary component of SAGE's efforts to advance the status of computer system administration as a profession, and establish standards of professional excellence. The survey was administered by an independent organization in an effort to provide comprehensive, yet objective results.

General Findings

The 2001 salary survey (administered near the end of the year 2001) had 1,974 valid responses, 230 female (11.65%) and 1,744 male (88.35%).

About 84% of the respondents reported that system administration was their primary line of work with 98% of them working full-time.

The few respondents that cited salaries greater than $200,000 were excluded from analysis. These salaries would have significantly impacted the reported means (averaging in a number greater than one million dollars has a big impact unless you divide it by another huge number), therefore, they have generally been omitted from reporting.

Despite economic doldrums, the average raise for 2001 across full-time workers was 6.89%.

The average reported salary was $83,364: $84,159 for males and $76,769 for females. Please note, these numbers DO NOT factor in experience and therefore should not be used as a general comparison. 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 that will enable you to make more accurate comparisons based on experience, education, job title, and SAGE Sysadmin Classification.

The charts do most of the talking – the prose is short and sweet.

We hope you find the following information useful, and we encourage you to participate in the 2002 salary survey at the end of the year.

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Demographics

1,974 administrators completed valid surveys this year. They completed a questionnaire on the World Wide Web with over 60 questions, including:

- Age
- Benefits
- Certifications
- Education
- Employers
- Experience
- Gender
- Hours worked
- Industry
- Job type/responsibilities
- Location
- Operating systems used
- Professional Organizations
- Recent pay increases
- Salary & Bonuses
- Title
- Travel

Reporting Model
Tables display either the percent of legal replies or a bracketed number that is the absolute number of replies (and is less than 1% of the total).

Countries Represented
Respondents were located throughout the world, though only the USA (and, to an extent, Canada) had enough respondents for statistical validity of any results.

Country	% Resp.	Country	% Resp.	Country	% Resp.	Country	% Resp.
USA	84.85%	Algeria	[5]	Japan	[2]	Portugal	[1]
Canada	4.46%	Belgium	[5]	Luxembourg	[2]	Romania	[1]
UK	1.87%	Denmark	[5]	Philippines	[2]	Russia	[1]
Germany	1.32%	Austria	[4]	Bahamas	[1]	Singapore	[1]
Sweden	1.11%	Italy	[3]	Bulgaria	[1]	S. Africa	[1]
Australia	[12]	Albania	[2]	Estonia	[1]	Spain	[1]
India	[11]	Andorra	[2]	Faeroe Islands	[1]	Taiwan	[1]
Netherlands	[10]	Angola	[2]	Greece	[1]	Ukraine	[1]
Norway	[7]	Argentina	[2]	Ireland	[1]	U.A.E.	[1]
Afghanistan	[6]	Croatia	[2]	Macao	[1]	Uzbekistan	[1]
Israel	[6]	Finland	[2]	Malaysia	[1]	Venezuela	[1]
Switzerland	[6]	France	[2]	N, Zealand	[1]	Other	[1]

Within the USA, several metropolitan areas were represented.

Metro Area	% Resp.	Metro Area	% Resp.
Bay Area, CA	9.27%	Chicago, IL	2.79%
Washington, DC	5.47%	Other New York	2.43%
L. A./Orange Co., CA	4.10%	Manhattan, NY	1.98%
Boston, MA	3.85%	Dallas, TX	1.87%
Denver, CO	3.39%	Atlanta, GA	1.82%
San Diego, CA	3.04%	Philadelphia, PA,	1.42%
Seattle, WA	3.04%	Austin, TX	1.17%
Research Tri., NC	2.79%		

Ages
Respondents' ages corresponded to exactly what one might expect for any high-tech career.
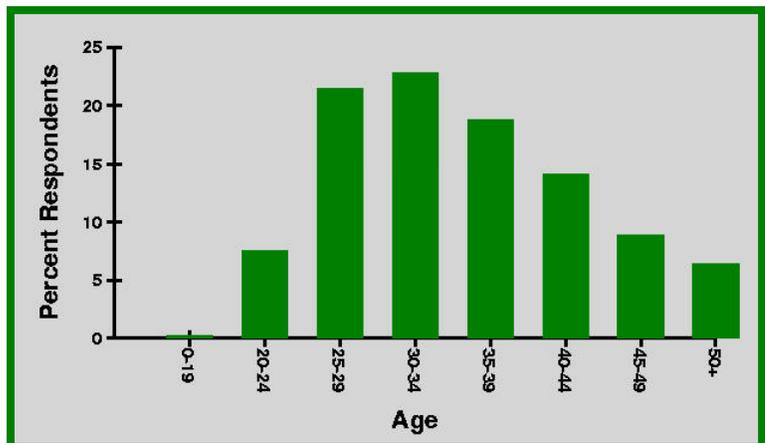
Duties

Respondents report a variety of duties (more than one response was allowed).

Duty	% Resp.	Duty	% Resp.
System Admin.	87.49%	Support Engr.	25.28%
Security	47.52%	Database	20.01%
Network Admin	46.00%	Training	17.73%
Management	32.32%	Facilities Mgmt	12.87%
Programmer	26.14%	Sales	1.62%
Web Admin.	25.99%	Architecture	1.52%
Help desk	25.63%	Project Mgmt.	0.51%

Operating Systems in Use

Fewer than 5% of the respondents find themselves in a single operating system shop. The rest have multiple operating systems, with an average of over four. See the graph for the big story. Only 5.24% reported ten or more operating systems (OSes) at their shop.
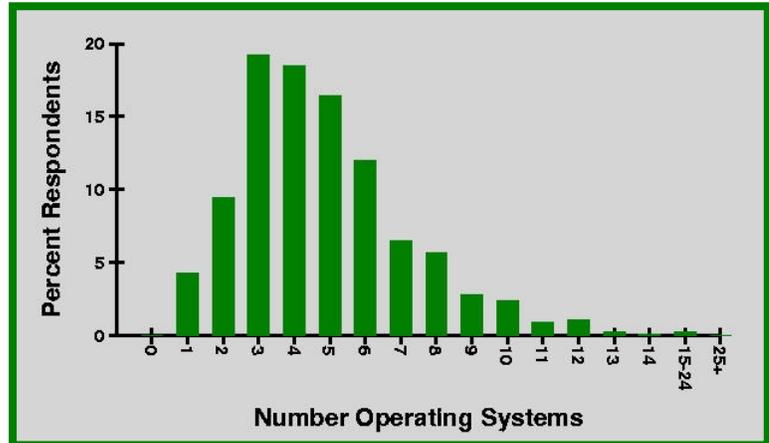
Those operating systems spanned the spectrum of those available.

The big three (Solaris, Windows.*, and Linux) are used in a whopping 97.8% of shops responding. Linux has moved from off the radar to 66% in just a few years.

OS	% Resp.	OS	% Resp.	OS	% Resp.
Solaris	78.88%	SunOS	19.96%	Netware	5.62%
Linux	66.51%	IRIX	16.51%	DOS	4.96%
Windows 2000	56.94%	FreeBSD	15.70%	SCO Unix	4.66%
Windows NT	53.39%	TruUnix	13.48%	Other Unix	3.14%
Windows 95	33.79%	MacOS	12.46%	BSDI	2.99%
HPUX	26.60%	MacOS X	11.40%	NetBSD	2.23%
AIX	20.67%	OpenBSD	8.46%		

Travel

Travel is often a vexing part of some positions. Generally, sysadmins don't seem to travel very much (this sort of travel is for support of the business, not for conferences/training).

| Hours/year	% Resp.	Hours/year	% Resp.
0-19	87.80%	80-99	0.51%
20-39	7.57%	100-199	1.02%
40-59	1.58%	200-299	0.36%
60-79	1.12%	300-399	0.05%

SAGE Sysadmin Classifications

Respondents were asked to self-assess the responsibilities of their primary job in order to show the mappings with the SAGE job levels. Only 5% of them felt their job did not fit within the proper parameters. The remainder broke down this way.

SAGE Job Classification Indices	
% Resp.	**SAGE Job Level**
2.28%	**SAGE Level 1**: Assist on consulting or engineering projects or the administration of a systems facility. Perform routine tasks under the direction supervision of a more experienced system administrator or consultant. May act as a front-line interface to users and senior system administrators.
10.51%	**SAGE Level 2**: Assist on consulting or engineering projects or the administration of a systems facility. Work under 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.
48.68%	**SAGE Level 3**: 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. Mange the work of junior system administrators, operators, engineers, or consultants. Evaluate and/or recommend purchases and have a strong influence on the purchasing process.
33.55%	**SAGE Level 4**: 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.

Workweek Characterization

Sysadmins have long complained about long workweeks. The survey asked how many hours per week each respondent worked. Including part-timers, this graph tells the tale. Over half those reporting said they worked more than 45 hours/week, with ten percent reporting 60 hours or more! For full-timers, the average workweek was 47.73 hours. This is 20% more than the "USA average 40-hour week."
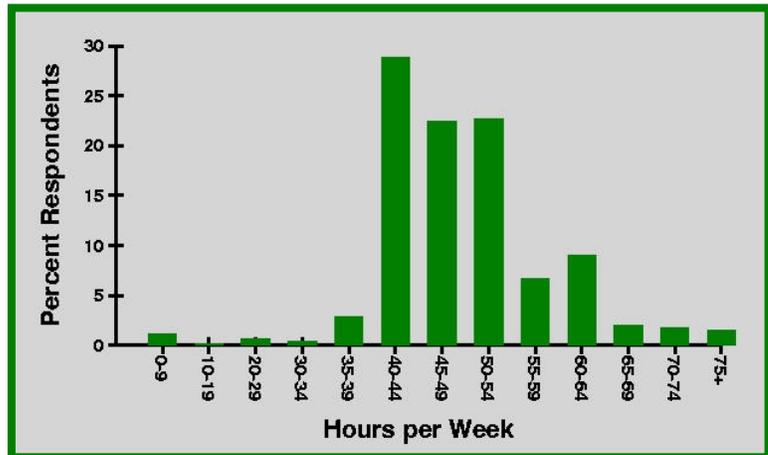
Sysadmins must also keep up to date on new developments. The weekly expenditure of time for keeping up is quite dramatic.
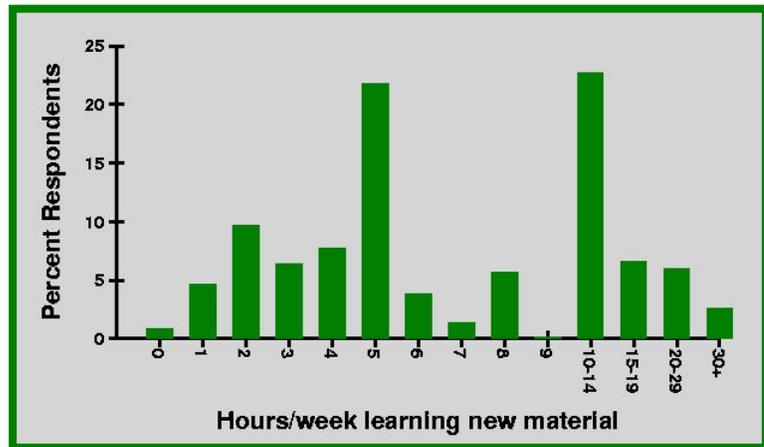
Certifications
Keeping up helps. Many respondents were certified on one or more operating systems.

Type	% Resp.	Type	% Resp.	Type	% Resp.
Solaris	15.10%	Netware	2.58%	SCO Unix	[17]
Windows NT	9.42%	SunOS	2.58%	MacOS	[12]
Linux	6.18%	IRIX	2.08%	BSDI	[12]
Windows 2000	4.81%	Cisco	1.77%	OpenBSD	[8]
HPUX	4.61%	DOS	1.57%	Other Unix	[7]
AIX	4.00%	TruUnix	1.11%	NetBSD	[4]
Windows 95	3.80%	FreeBSD	1.11%	VMS	[2]

Experience
The "graying" of the sysadmin profession is now easy to see. Here's a graph of years of experience in sysadmin (or very similar work).
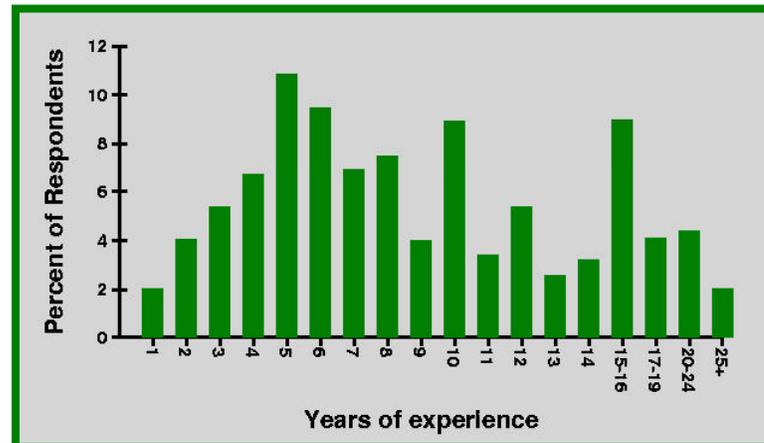
Education
Experience is often backed by education. Just over two thirds (67.3%) of those responding have a college degree (in some field). Here's how they break down.

Type	% Resp.	Type	% Resp.
Bach deg. (computer)	26.66%	HS	2.64%
Bach deg.	21.48%	Ph.D.	1.88%
Some college (computer)	12.65%	Some tech school (computer)	1.68%
Masters deg. (computer)	9.75%	Less than HS	[12]
Some college	7.47%	Some tech school	[10]
Masters deg.	7.11%	Certificate	[9]
Assoc deg.	3.66%	Ph.D. (computer)	[9]
Assoc deg. (computer)	3.00%		

Interestingly, only 53% of the professionals surveyed have education with a computer major. Here is a list of how 1,868 respondents categorized their post-high school education (which might or might not have been a formal university experience). A total of 43 other majors are not listed.

Subject	% Resp.	Subject	% Resp.	Subject	% Resp.
Computer (all kinds)	52.62%	Literature	[12]	Finance	[3]
Elec. Engr./Electronics	6.10%	Geography	[10]	International relations	[3]
Mathematics	4.87%	English	[10]	Law	[3]
Engineering (misc.)	4.39%	Astronomy	[10]	Religion	[3]
Physics	3.69%	Medical/Health	[9]	Library Science	[3]
Business	3.53%	Geophysics	[8]	MBA	[3]
Chemical & Chem. Eng.	2.73%	Geology	[8]	Theater	[3]
Psychology	1.77%	Aeronautics	[8]	Aviation	[3]
Economics	1.66%	Linguistics	[8]	Civil Engr.	[2]
Biology	1.55%	Anthropology	[7]	Ceramics	[2]
Communications	1.18%	"General"	[7]	All graphic arts	[2]
Philosophy	1.07%	Social sciences	[7]	Journalism	[2]
Political Science	1.02%	Art (all kinds)	[7]	Meteorology	[2]
Misc. Science	1.02%	Accounting	[6]	Advertising	[1]
Music	[18]	Architecture	[5]	Genetics	[1]
History	[18]	Management	[5]	All automotive	[1]
Education	[15]	Broadcast	[4]	Hospitality	[1]
Fine Arts	[14]	Industrial	[4]	Criminal Justice	[1]

How Did They Learn System Administration?

97% of he respondents attribute their knowledge to one of seven standard techniques.

How Sysadmins Learn			
Methodology	% Resp.	Methodology	% Resp.
On-the-job Training	84.95%	Univ/College curriculum	13.88%
Self-taught	83.64%	Certification program	11.04%
Learned from friend	48.58%	Non-degree Univ/College courses	9.22%
Formal courses	28.27%	Other*	3.04%
Conference courses	25.18%		

Loyalty

The dot-com and dot-bomb boom/bust cycle severely strained the notion of "loyalty to an employer." Only 18.4% of those who responded say they have been with their currently employer for seven years or more.
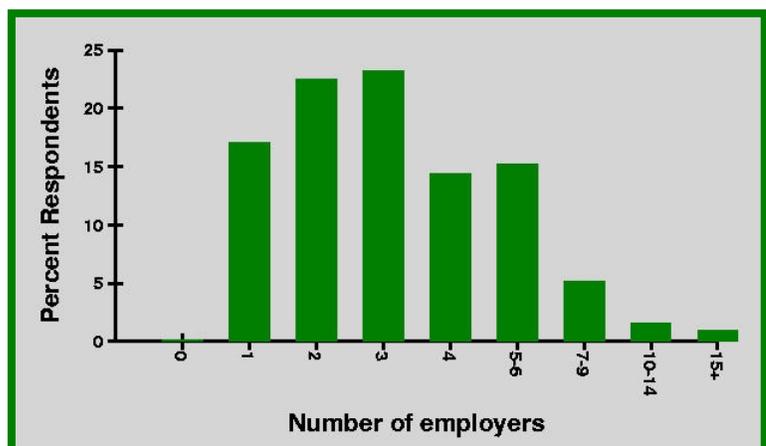
Looked at another way, it's clear that sysadmins move around to different jobs. Here is a chart that reveals the number of employers a typical sysadmin has had.
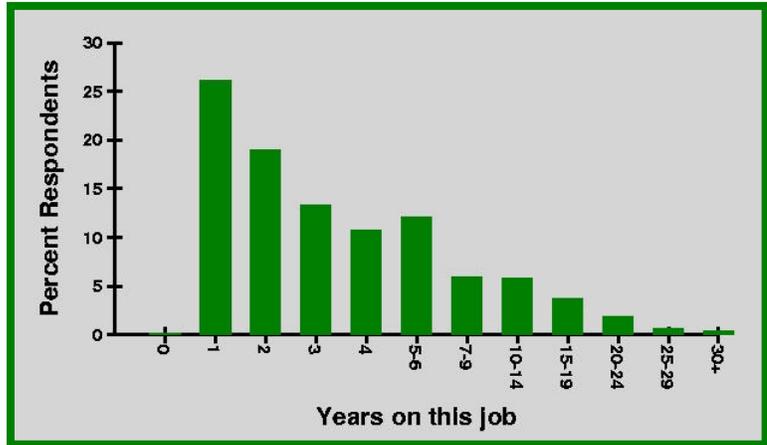
As far as loyalty, the survey asked what would make people wish to change jobs.

These results are reflected the other way, too. When asked if their organization has difficulty filling sysadmin positions, 43% of the respondents replied in the affirmative (though 18% were not sure).

Inducement	% Resp.	Inducement	% Resp.
Higher pay	81.10%	Better challenge	[7]
Better location	71.68%	Better education	[6]
Work type/responsibility	62.61%	Better on call policy	[4]
Benefits	50.30%	Open Source Software	[4]
Atmosphere	44.53%	Better hardware	[3]
Security	43.41%	Better dress code	[3]
Stability	42.91%	Better vacation	[2]
Hours	40.43%	More fun	[2]
Organizational reputation	28.12%	Better mission	[2]
Faster advancement	20.92%	Better social activities	[2]
Workload	20.87%	Travel to LISA	[1]
Better training	1.47%	A certification program	[1]
Better telecommuting	[15]	Less Microsoft	[1]
Better colleagues	[9]	A childcare program	[1]
Less travel	[7]	Better culture	[1]

Future Expectations
Longevity expectations: 75.8% of respondents report that they expect to be in system administration in five years. Both genders responded at approximately the same level.

Organization Membership
Professionally, almost three quarters (73.3%) of the respondents belong to some professional organization. Not surprisingly, 70% belong to USENIX.

Org.	% Resp.	Org.	% Resp.
Usenix	69.66%	SANS	[10]
IEEE	7.70%	BayLISA	[5]
ACM	7.55%	ISC2	[4]
ISSA	[13]	DECUS	[3]
Interex	[12]		

Industries Represented

Roughly 89.5% of the respondents work at a single job; 10.5% have multiple employers (many consultants, e.g., would have more than one employer). Over 98% were able to categorize their employment into these industries.

Industry	% Resp.	Industry	% Resp.
Education: College/University	20.34%	Biotechnology	1.37%
IT: ISP/ASP	9.41%	Not-for-Profit	1.32%
IT: Software Development	7.07%	Advert, PR, Comm, or Mktg	1.12%
Telecommunications	7.07%	Entertainment	1.12%
IT: Consulting	6.05%	Military	1.02%
Manufacturing	5.24%	Publishing	[19]
Fed. Govt. - Non-Military	4.17%	Mining/Energy Prod	[15]
Consulting & Bus. Services	3.86%	Pharmaceuticals	[14]
IT: Other	3.71%	Utility	[13]
Securities, Stk Exch, Finance	3.15%	Transportation	[11]
Engineering	3.05%	Travel/Recreation	[9]
Bank, Insur, & Real Estate	2.85%	Ag/Envir.Svcs/Mining/Energy	[7]
Health Care, Medicine	2.59%	Education: Elem./Secondary	[7]
Research	2.54%	Legal	[5]
Aerospace	2.34%	Real Estate	[4]
Retail and Wholesale Trade	1.78%	Construction	[3]
None of These	1.73%	Wholesale	[3]
State or Local Government	1.53%		

Company sizes vary. Most respondents work for medium-size and larger companies.
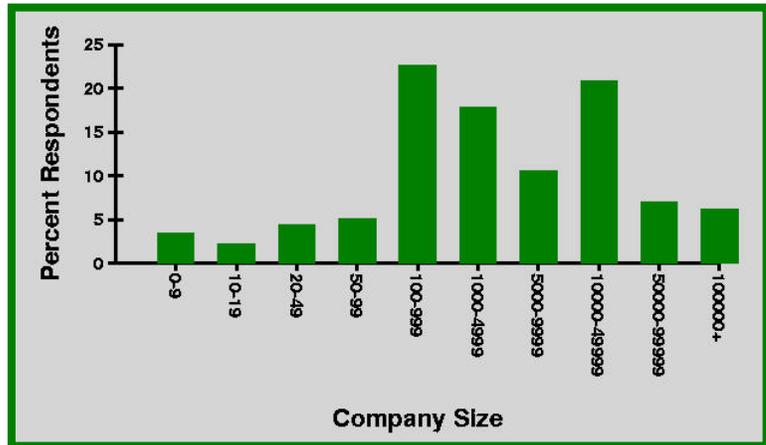
Salary and Benefit Information

A quick rundown of the salary rules:

- 85.35% of respondents are not paid for overtime
- 90.94 of respondents are not paid for "night" work
- 71.77% of respondents are occasionally required to be "on-call"
- Only 14.35% of respondents are paid to be "on-call"
- 44.64% of respondents receive some sort of stock bonus

Raise Summary

Here's an overall chart of last year's raises, calculated against base salary. The average raise for full-timers was 6.89%.

While this does not include "experience" levels, it does show that no gender gap seems to exist for raises in this survey.

Here's a graphical representation of the spread of raises for 2001.

% Increase	Overall	Male	Female	% Increase	Overall	Male	Female
0-1.99	11.3	11.0	13.5	12-13.99	4.5	4.4	5.2
2-3.99	20.7	20.9	19.4	14-15.99	2.3	2.3	2.6
4-5.99	24.6	24.1	28.4	16-17.99	2.3	2.3	2.6
6-7.99	11.9	12.8	3.9	18-19.99	1.2	1.1	1.9
8-9.99	10.1	10.1	10.3	20-29.99	4.3	4.2	4.5
10-11.99	5.1	5.1	5.2	30+	1.8	1.7	2.6
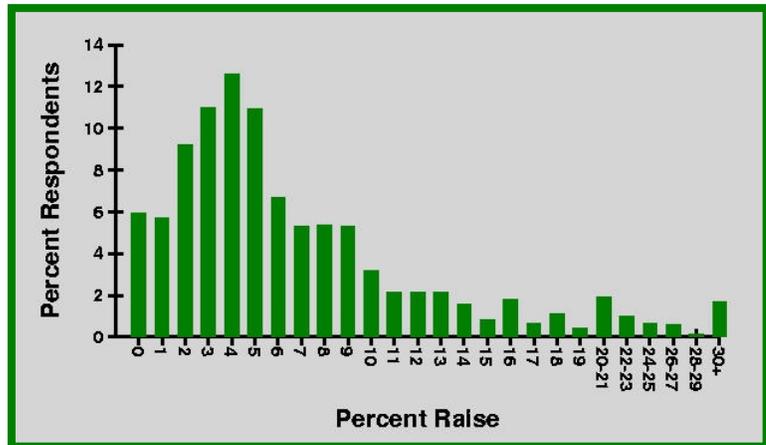
Bonus Summary

Sometimes, companies give a one time financial reward (a "bonus") instead of an ongoing increase in compensation (a "pay raise"). Over 37% of the respondents reported receiving a bonus; the average size was US$6,005. This chart shows the rate of pay increase given a certain bonus size (bonuses over 30,000 were considered extraordinary and are omitted).

Salary Bonus from Year to Year							
Bonus	Overall	Male	Female	Bonus	Overall	Male	Female
1-499	4.9	5.1	2.7	5,000-9,999	26.2	26.7	21.9
500-999	7.7	7.4	11.0	10,000-19,999	15.2	15.4	13.7
1,000-1,999	12.0	11.9	12.3	20,000-29,999	4.5	4.4	5.5
2,000-2,999	12.4	11.3	21.9	30,000+	1.2	1.4	0.0
3,000-4,999	15.9	16.4	11.0				

Up to a point, bigger bonuses seem to be tied to larger pay raises, too. The sample size isn't large enough to draw a strong conclusion, but this seems to be a (nice) trend.

Here are the reasons people cited for receiving bonuses. Almost 75% of the respondents who received bonuses report a bonus size of 5-30%.

Reason	% Cited	Reason	% Cited
Performance bonus	22.85%	Degree-earning bonus	[2]
Organization performance bonus	15.91%	On call/pager bonus	[7]
Group performance bonus	10.08%	Christmas bonus	[4]
Project bonus	4.66%	Overtime bonus	[3]
Recruiting bonus	4.41%	Referral of recruit bonus	[2]
Bonus for staying with company	3.34%	Management bonus	[2]
Exercising stock options	1.37%	Union-caused bonus	[2]
Certification bonus	[10]		

Working More: More Rewards?

Does working more imply getting a bigger raise? This table suggests that such a thing is potentially possible. If one treats the "<30" works as 15 hours per week, there is a 0.846 correlation between hours worked and percent increase. Maybe hard workers *are* rewarded.

Hours per week vs. Salary increase					
Hours	% Incr	% Resp.	Hours	% Incr	% Resp.
<30	5.80	1.0	50-54	7.67	23.1
30-39	7.39	3.1	55-59	8.42	7.2
40-44	6.90	28.6	60-64	7.77	8.9
45-49	6.99	23.1	65+	9.14	5.0

Are hard workers also rewarded with bonuses? The "Total" column tells how many respondents (both part- and full-time) are included in the row. The "0" column seems to imply that those who work more hours seem to get a bit more bonus consideration. Overall, larger bonus numbers tend to favor those with more hours.

Hours Worked vs. Bonus Received							
Bonus	0	1-999	1000-1999	2000-4999	5000-9999	10000+	Total
0-39.99 Hr/wk	75.0%	2.0%	0.0%	10.0%	8.0%	5.0%	5.2%
40-49.99 Hr/wk	60.7%	5.5%	5.4%	12.0%	8.3%	8.1%	51.2%
50-59.99 Hr/wk	57.7%	4.6%	3.9%	9.4%	12.8%	11.5%	29.3%
60+ Hr/wk	58.2%	2.9%	4.4%	9.5%	10.5%	14.5%	14.3%
Total	60.2%	4.7%	4.5%	10.8%	9.9%	9.9%	100.0%

Unemployment

Not everything is roses, though. Over 11% of the respondents were unemployed for at least one week during 2001. Here is a chart showing how many weeks they were out of work.

Weeks	% Unemp	Weeks	% Unemp	Weeks	% Unemp	Weeks	% Unemp
1	3.72%	6	9.30%	11	[1]	20-29	8.37%
2	6.51%	7	1.86%	12	12.56%	30-51	6.98%
3	6.98%	8	11.16%	13	1.86%	52+	[1]
4	12.56%	9	2.79%	14	1.40%		
5	3.26%	10	4.19%	15-19	5.58%		

Traditional Time Off

Like most professions, system administrators usually get some paid vacation and some holidays. While 1.2% of those reporting say they have unlimited vacation (and 4.3% get no vacation), 94.5% receive annual leave. Here are charts showing how many days of paid vacation those 94.5% receive and the number of paid holidays reported.

Vacation Days			
# Days	% Resp.	# Days	% Resp.
0-4	0.43%	15-19	30.04%
5-9	1.84%	20-24	25.50%
10-14	28.85%	25+	13.34%

Sick days are another standard way of using time off. Of those responding, 17.9% receive no sick days while 26.9% (!) receive unlimited sick days. Of the remaining, here is how their sick day allocation breaks down.

Sick Days			
# Days	% Resp.	# Days	% Resp.
0-4	1.29%	15-19	30.04%
5-9	2.13%	20-24	25.23%
10-14	32.44%	25+	8.87%

Paid Holidays			
# Days	% Resp.	# Days	% Resp.
0	5.15%	8-9	20.40%
1	0.05%	10-11	31.16%
2	0.41%	12-14	14.53%
3-4	1.94%	15+	4.44%
5-7	21.93%		

Benefits

Insurance coverage looks like this for our respondents.

Insurance Coverage			
Insurance Type	**Fully Paid**	**Partially Paid**	**Not Paid**
Health Insurance	25.29%	64.89%	9.82%
Dental Insurance	22.65%	58.17%	19.19%
Vision Insurance	18.36%	50.46%	31.18%
Life Insurance	31.64%	46.03%	22.33%
Disability Insurance	22.65%	58.17%	19.19%

Respondents also reported on receiving these extra benefits.

Traditional Benefits			
Benefit	**% Resp.**	**Benefit**	**% Resp.**
Tuition assistance	52.33%	Association memberships	25.03%
Flex time	42.45%	Childcare	5.52%
Telecommuting	34.30%	Comp time	[5]
Stock ownership plan	29.48%	Gym/Health club	[8]

Respondents specifically cited these benefits (that they did receive) as being important to them.

| Benefit	% Resp	Benefit	% Resp.
Flextime	7.70%	Vacation/sabbatical	[11]
Discounts/Free merchandise	4.41%	Transportation/parking	[10]
Strong co-workers/management	3.70%	Culture	[10]
Free food of all types	3.44%	General benefits	[9]
Telecommuting	3.19%	Fun	[8]
Relaxing/laid-back culture	2.18%	Good challenge	[8]
Academic environment	1.98%	Use of open source	[7]
Casual dress code	1.98%	Social activities	[7]
Cell phone, home computer/internet	1.93%	Movies/entertainment	[6]
Flexibility/freedom	1.82%	Good facilities	[6]
Health club	1.72%	Travel/cruises	[6]
Fabulous location	1.22%	Stability/job security	[6]
Single office	1.06%	Compensation	[5]
High speed internet	1.01%	Commuting	[5]
Freedom	[19]	Company car	[3]
Casual environment	[19]	Small co. environment	[2]
Comp time	[18]	Child care	[2]
Education	[15]	Good pension	[1]
Respect/trust	[14]	Dynamic environment	[1]
Tuition payments	[14]	Dogs allowed at company	[1]
Technology/networks	[14]		

Salaries vs. Experience

Experience counts. Those with less than three years of experience report incomes that average at least $33,000 less than those with ten years while the next ten years brings only a $5,500 average gain (thus demonstrating salary compression). The charts here and below show **total** compensation (after last year's raises) vs. experience. This particular table summarizes the experience vs. salary numbers.

Computer Experience vs. Salary and Increase				
Exp Range	Avg Sal	%Incr	$ Incr.	% in range
1-2	56,697	7.6	4,335	5.5
3-4	66,981	8.1	5,420	11.1
5-6	79,828	8.8	7,058	21.1
7-8	87,158	6.9	6,045	13.9
9-10	90,087	7.1	6,381	14.0
11-15	93,509	6.5	6,051	22.6
16-19	96,434	5.8	5,597	5.6
20+	97,002	6.2	6,008	6.1

The graphs that follow, however, are probably more illuminating, since they enable you to pinpoint just where you stand in the (almost) bell curve of salaries for those with similar experience. Each graph shows the (usually bell curve-like) breakdown for salary distribution for various levels of experience. The mean salary is also shown, but the graphic distribution probably gives more information.

Mean: 56697

Annual Salary for 1-2.99 Experience
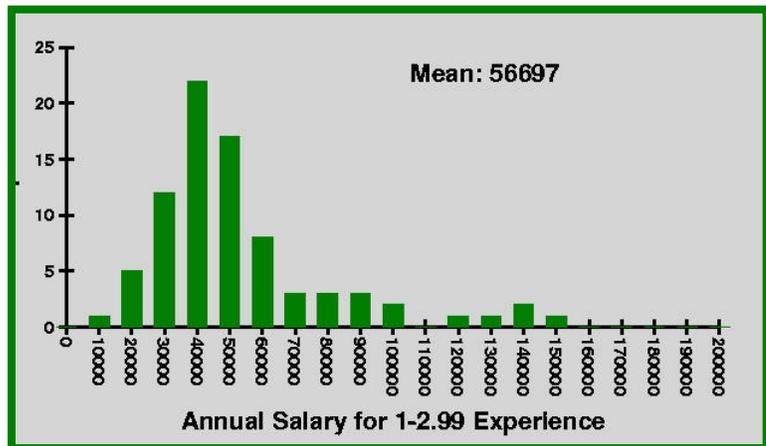
Those first couple years of experience really do add on to the salary. The mean is up 17% and the mode has moved US$10,000 to the better!

Mean: 66981

Annual Salary for 3-4.99 Experience
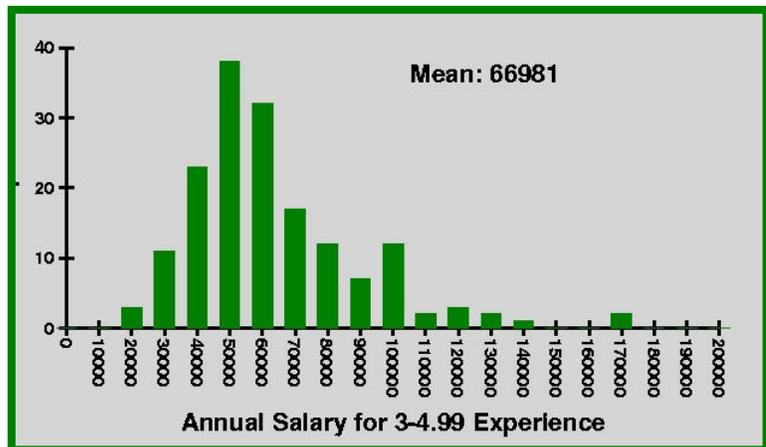
Another US$10K move in the mode, with the next increment looking strong, as well. Experience really makes a different in the first few years.

Mean: 79828

Annual Salary for 5-6.99 Experience
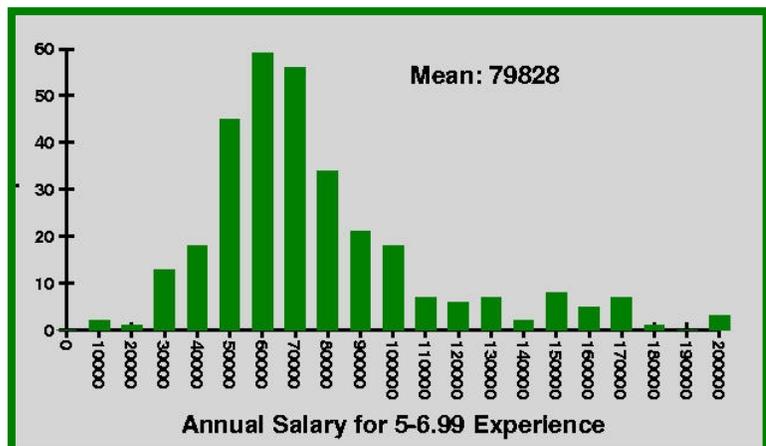
As sysadmins enter their second decade, they encounter the first example of salary compression. The mean is up slightly, but the distribution shows that gains are now much more difficult to earn.

Mean: 90087

Annual Salary for 9-10.99 Experience

Another chart that shows a bit of salary compression, though the right hand tail is still quite pronounced.

Mean: 93509

Annual Salary for 11-15.99 Experience

More salary compression, though the multi-moded distribution continues to march right, albeit slowly.

Mean: 96434

Annual Salary for 16-19.99 Experience

The true veterans, those with at least two decades of experience, make a lot of money (a mean of $97,000!). This distribution has a sort of narrower appearance to it, suggesting that the "ceiling" of salary compression is alive and well. Note that this is a phenomenon with a large number of potential causes. Many high-tech companies prefer to give larger percentage raises to younger employees (presumably in an effort to retain them).

Mean: 97002

Annual Salary for 20+ Experience
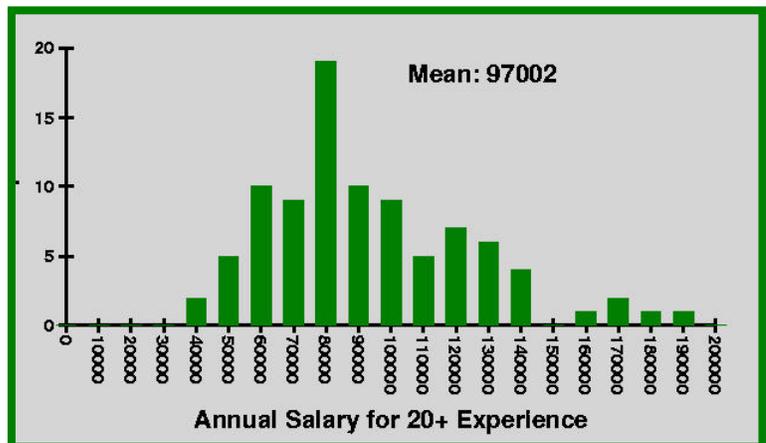
Salaries vs. Work Experience – By Gender

Women are catching up to men in experience. This chart shows a few more women in the "less experienced" (1-2 years) category but a number comparable to men in the others, with the single exception of 9-10 years (which is probably a statistical anomaly).

When comparing salaries, it appears that women in the less-experienced slot are paid 10% more, while 3-4 year experienced women are paid 16% less. Women in the 9-10 and 11-15 categories appear to be undercompensated but those in the 20+ category report 6% higher pay. Regrettably, the survey did not include enough women to explore the causes of these statistics.

Salary vs. Years of Experience						
Years	**Overall**		**Male**		**Female**	
	AvgSal	**% Resp.**	**AvgSal**	**% Resp.**	**AvgSal**	**% Resp.**
1-2	56,693	6.0	55,781	5.5	60,749	10.3
3-4	65,271	11.8	66,481	11.7	55,482	12.0
5-6	80,062	20.9	80,249	20.8	78,586	21.7
7-8	87,128	14.3	87,425	14.4	84,545	13.7
9-10	90,489	13.5	91,905	13.9	73,655	9.7
11-15	93,127	21.6	94,534	22.0	79,095	18.3
16-19	94,482	5.7	94,503	5.6	94,341	6.9
20+	96,071	6.2	95,239	6.1	101,701	7.4

Here is another view of the salary by gender. In the chart above, women pretty much keep pace with men throughout. This is good news for former victims of the "pink ceiling."

Total Salary	Female	Male	Total	Total Salary	Female	Male	Total
0-19,9999	0.0%	0.8%	0.7%	70,000-79,9999	9.3%	14.2%	13.7%
20,000-29,9999	1.0%	1.0%	1.0%	80,000-89,9999	13.9%	12.3%	12.5%
30,000-39,9999	6.2%	3.0%	3.4%	90,000-9,99999	9.8%	9.5%	9.5%
40,000-49,9999	10.8%	6.0%	6.5%	100,000-149,999	15.5%	18.8%	18.4%
50,000-59,9999	13.4%	11.2%	11.4%	150,000+	6.7%	12.4%	11.8%
60,000-69,9999	13.4%	10.9%	11.1%	Total	100.0%	100.0%	100.0%

Salary in USA Metro Areas

The cost of living varies in different cities (e.g., New York City is very expensive; Kansas City isn't). This chart shows how compensation varies in some of the larger USA cities.

Metro area	Salary	% Incr	% Resp.	Metro area	Salary	% Incr	% Resp.
Bay Area, CA	124,099	9.1	18.3	Boston, MA	90,511	8.6	8.6
Manhattan, NY	120,622	7.6	3.5	Atlanta, GA	90,468	7.2	4.2
Other New York	114,402	8.8	5.2	San Diego, CA	84,973	6.2	5.8
Austin, TX	106,944	8.3	2.3	Chicago, IL	84,088	7.0	6.0
Washington, DC	100,184	7.0	11.5	Seattle, WA	82,241	8.5	6.6
Dallas, TX	95,099	6.5	4.0	Research Tri., NC	80,892	4.9	5.3
Denver, CO	93,498	6.2	6.9	Philadelphia, PA,	80,277	6.5	3.2
LA/Orng Co., CA	91,442	6.7	8.6				

This chart factors in both geography and experience. Some areas had too few respondents to enable meaningful statistics; they are omitted below.

Average Salaries and Raises by Metro Area and Experience						
Area	0-1	2-4	5-9	10-14	15-19	20+
Bay Area, CA	64,700/7.9#	87,758/9.1	128,271/9.8	130,702/8.7	135,833/8.1	102,700/9.5
Manhattan, NY	43,800/0.0#	91,666/8.9#	143,133/9.2	99,600/6.3	84,000/3.9#	125,000/3.2#
Other NY	48,000/5.2#	92,250/8.4	101,000/10.1	113,511/8.7	147,375/7.0	182,500/6.8
Austin, TX	----/---	34,000/11.8#	102,162/8.2	82,000/4.9#	141,540/7.1	120,000/20.8#
Wash., DC	70,000/7.8#	81,811/9.8	100,580/7.7	105,614/6.2	114,259/4.8	100,666/2.9#
Dallas, TX	----/---	41,200/4.2	91,685/8.3	112,270/3.7	148,666/5.9#	105,000/3.8#
Denver, CO	----/---	73,571/8.2	95,517/7.3	92,153/5.6	100,218/4.7	104,000/4.8
LA/Orange County, CA	39,500/1.0#	71,850/6.2	87,522/8.9	89,611/5.4	130,750/6.8	106,083/4.2
Boston, MA	----/---	62,400/15.5	85,980/8.4	103,066/7.6	95,200/8.6	105,075/6.3
Atlanta, GA	98,500/5.1#	60,583/11.5	88,029/6.1	113,250/4.8	156,500/9.9#	72,000/6.9#
San Diego, CA	60,033/3.4#	65,281/5.3	84,490/8.0	94,220/5.6	93,860/4.3	107,992/3.2#
Chicago, IL	----/---	59,560/7.5	88,670/7.2	87,700/6.9	133,500/4.8	----/---
Seattle, WA	----/---	67,072/11.3	83,042/11.4	88,500/8.2	90,364/4.5	82,500/2.9
Research Tri., NC	60,000/5.8#	58,750/4.5	74,213/5.2	116,000/5.2	107,000/4.6	88,625/0.7#
Philadelphia, PA	----/---	47,020/8.2	74,137/5.5	93,352/7.2	128,000/3.7#	121,000/9.6#
The # symbol means the sample size is small and not to be trusted too much.						

Education

Education counts, too. Holders of Masters Degrees report salaries $9,000 greater than average. Those without a bachelors degree report smaller than average salaries.

Average Salary vs. Education							
Education Level	Avg Sal	Avg Incr	% Resp	Education Level	Avg Sal	Avg Incr	% Resp
Ph.D. (computer field)	95,333	3.7%	[6]	Some tech school (with computers)	82,424	8.5%	1.8%
Masters (comp.)	91,380	5.8%	9.2%	Some coll. (comp.)	80,870	8.6%	12.6%
Masters	91,196	6.3%	7.1%	Some college	79,590	7.7%	7.4%
Bachelors (comp.)	84,363	7.2%	27.3%	Assoc deg. (comp.)	78,714	7.3%	3.1%
Ph.D.	83,905	6.8%	1.7%	HS	77,945	11.4%	2.8%
Bach deg.	83,626	7.0%	21.7%	Some tech school	75,857	9.1%	[7]
Assoc deg.	83,121	7.8%	3.6%	Certificate	58,228	5.3%	[7]
Less than HS	82,560	10.2%	[10]				

The high average increase for "Less than HS" is due to eight people with >25% raises. The high average increase for "HS" is due to a single person with a huge raise.

Factoring in experience yields the table that might prove to be most useful.

Average Salary by Education & Years Experience					
Education level	1-4	5-9	10-14	15-19	20+
Ph.D. (computer)	79,333/2.9#	170,000/3.8#	----	51,000/5.8#	----
Ph.D.	61,600/14.6#	67,586/7.8	81,536/6.5	122,762/3.8#	126,250/2.6#
Masters deg. (comp.)	83,598/7.9	85,262/6.5	90,475/4.6	103,157/6.1	98,575/5.3
Masters deg.	67,512/4.7	88,371/6.1	99,182/7.0	80,332/4.5	94,249/8.3
Bach deg. (comp.)	64,624/6.9	80,421/7.8	94,555/7.1	96,606/6.5	93,156/6.4
Bach deg.	62,086/7.3	82,335/7.4	90,891/7.5	95,481/4.8	99,211/4.7
Bach deg. (comp.)	64,624/6.9	80,421/7.8	94,555/7.1	96,606/6.5	93,156/6.4
Bach deg.	62,086/7.3	82,335/7.4	90,891/7.5	95,481/4.8	99,211/4.7
Assoc deg. (comp.)	69,750/7.0	74,168/8.5	86,000/6.5	90,583/7.0	109,000/5.5
Assoc deg.	52,147/11.0	94,626/8.3	75,000/6.4	105,685/5.8	102,540/5.2
Some college (comp.)	57,456/10.9	79,888/9.4	82,718/7.3	95,113/5.7	95,590/7.8
Some college	60,615/10.2	87,686/7.6	80,482/6.4	100,590/5.7	65,750/7.6#
Some tech school (comp.)	62,657/6.3	93,125/11.4	94,270/7.7	----	----
Some tech school	50,000/12.7#	84,333/11.6#	78,000/0.0#	70,000/7.1#	----
Certificate	41,500/2.5#	44,066/8.3#	96,400/3.8#	96,000/3.3#	----
HS	66,050/10.3	77,140/11.4	83,000/15.0#	120,900/11.0#	----
Less than HS	72,400/8.7#	111,250/11.7#	----	----	----
The # symbol means the sample is probably too small to believe the numbers.					

Generally, it appears that both education and longevity pay off.

Increases vs. Salary Range
One would expect that salary increases (which, after all, are percentages) would average out across the various salary ranges. This chart, however, shows that higher earners seem to be gaining more.

Range	% in Range	Avg % Incr	Range	% in Range	Avg % Incr
0-19,999	0.3	6.3	90,000-99,999	10.6	7.3
20,000-29,999	0.7	7.5	100,000-109,999	7.8	7.6
30,000-39,999	3.0	6.8	110,000-119,999	3.8	7.5
40,000-49,999	6.7	6.3	120,000-129,999	4.3	8.8
50,000-59,999	12.0	7.6	130,000-139,999	2.4	7.4
60,000-69,999	12.2	7.0	140,000-149,999	1.8	9.3
70,000-79,999	15.4	7.1	150,000-174,999	3.3	8.7
80,000-89,999	13.4	6.7	175,000-199,999	2.2	8.0

Salary by Title and Experience
Sometimes it is easier to compare salaries and increases by "title." This chart explores that possibility. Titles are sorted roughly in descending order of apparent earning power.

Salary and Raise by Title and Years of Experience						
Title	**0-1**	**2-4**	**5-9**	**10-14**	**15-19**	**20+**
Senior System Engr	---	84,333/6.6#	101,176/12.2	105,995/9.2	126,248/5.3	114,750/5.4
Sr. Consultant	---	---	99,400/3.6	108,141/7.7	121,777/7.4	100,000/20.8#
IT, IS, or MIS Mgr	---	71,500/6.5#	96,021/7.0	93,796/6.5	96,442/5.7	101,526/6.2
Sr UNIX Admin	---	75,258/7.8	91,611/8.0	96,028/7.6	95,066/6.0	90,157/5.9
Database Admin	---	50,666/3.0#	90,548/5.0	77,660/7.3	---	---
Consultant	---	56,550/9.8#	89,308/9.6	93,625/5.6#	106,200/7.2	129,000/15.2#
Sr. S/W Engr	---	90,250/2.7#	87,243/5.6	66,752/9.2#	98,500/12.8#	97,666/3.5#
Other	50,500/2.6#	60,718/9.5	86,149/8.3	92,058/6.8	106,518/5.1	104,186/5.5
Sr Sysadmin	---	72,286/10.1	86,172/8.0	89,287/7.6	100,724/5.0	91,974/4.0
System Engr	---	93,400/12.9	85,042/9.6	98,416/4.7	84,170/2.7	---
Computer Analyst/ Scientist/Specialist	---	102,000/4.4#	81,780/4.5	92,900/5.2	112,012/4.3#	80,900/7.3#
Network Engr	---	76,666/8.4	81,173/6.3	102,212/5.8	129,750/5.6#	---
UNIX Admin	53,750/8.5#	73,147/7.1	80,059/7.3	80,555/6.3	86,125/6.7#	78,000/12.9#
Programmer/Anal.	62,893/4.9	57,716/7.9	79,384/4.1	78,010/3.9	65,066/3.0#	---
System Analyst	---	65,750/3.9#	76,500/6.1	78,442/4.5	81,000/6.1#	99,000/5.0#
Web Admin/ Webmaster	---	47,033/8.9#	75,162/6.1	102,875/8.4#	72,766/3.3#	---
System Admin	47,750/5.3#	58,997/8.1	70,402/8.5	73,329/6.2	68,733/6.4	87,000/6.5#
Network Admin	---	49,760/8.3	69,037/8.7	75,933/4.7	80,854/6.6	---
Software Engr	---	86,000/15.8#	62,875/6.7#	110,250/4.2#	95,000/10.7#	86,621/4.2#
Asst/Jr Sysadm	44,500/3.2#	53,388/9.5	---	---	---	---
The # symbol means the sample size is small and not to be trusted too much.						

SAGE Job Classifications vs. Salary

The SAGE job classifications are detailed above. Here is how classification and experience affect salary. Generally, higher numbers seem to appear exactly where one would expect.

Increase/Salary for SAGE Job Classifications and Experience										
Exp yrs	**Level 1**		**Level 2**		**Level 3**		**Level 4**		**Other**	
	Sal	**% Incr**	**Sal**	**% Incr**	**Sal**	**% Incr**	**Sal**	**% Incr**	**Sal**	**% Incr**
1-2	69,323	4.6	63,011	6.8	49,519	6.2	56,713	4.1	57,056	7.4
3-4	54,422	7.7	56,623	6.0	69,323	6.9	72,732	7.6	52,250	7.6
5-6	61,167	6.6	76,879	8.3	79,035	8.4	85,934	7.9	75,288	5.6
7-8	70,250#	5.4#	80,484	5.0	83,497	5.8	96,436	6.6	86,333	7.8
9-10	47,167#	8.0#	78,255	8.7	88,851	5.6	97,236	7.6	79,300	8.8
11-15	84,667#	10.7#	94,414	5.9	86,846	5.4	98,749	6.4	94,554	9.2
16-19	70,000#	3.0#	93,655#	4.2#	82,056	3.4	103,472	6.7	104,579	3.6
20+	70,000#	16.2#	80,500	6.0	90,209	5.1	106,427	5.1	82,400	7.3
The # symbol means the sample size is small and not to be trusted too much.										

Summary

A technically challenging profession that pays its entry people US$50,000/year is an interesting one. System administration appears to be a fine way to make a living. Experience and enhanced skill sets seem to be the growth path of choice (at least as far as increasing the midpoint of the salary bell curves goes). Unfortunately, economic doldrums are liable to have a higher impact on raises for the 2002 salary survey. Until then, enjoy!

SAGE – The System Administrators Guild

The System Administrators Guild (SAGE), a Special Technical Group of USENIX, the Advanced Computing Systems Association was chartered in 1992 with the goal of advancing the status of computer system administration as a profession. SAGE is achieving its goal by establishing standards of professional excellence, recognizing professional achievements, developing guidelines for improving the technical and managerial capabilities of system administrators, and promoting activities that advance the profession's perception. With a worldwide membership of over 4,000 professionals, SAGE is recognized as the premier organization for system administrators, network administrators and their managers.

SAGE is a membership organization that includes system administrators, network administrators, and their managers. SAGE is independent of particular vendors, technologies, or philosophies.

SAGE Programs

SAGE runs several programs that benefit the membership and the community:

- Co-sponsorship of several conferences including LISA, the premier conference for system administrators. LISA often has more than 2,000 attendees.
- The SAGE web and portal site.
- A booklet series that includes the groundbreaking 'Job Descriptions for Systems Administrators' and 'Systems Security: A Management Perspective.'
- Several system administration discussion groups hosted on e-mail.
- A unique certification program that concentrates on the profession rather than on a particular vendor's product.
- A speakers bureau that provides dynamic speakers familiar with the profession.
- Annual salary surveys.
- Support and affiliation for both international and local groups of system administrators.
- An award program for outstanding service to the profession

Vision

SAGE's plans for the short-term include increased Web presence, a bi-weekly email summary of system administration news, a 'book of knowledge' similar to those of other professions, and the first proposal for a university Bachelor of Science curriculum for system administration.

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