

**SAGE/SANS/BigAdmin**  
ANNUAL  
SALARY  
SURVEY

Results  
for  
Calendar  
Year  
2002



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# INTRODUCTION

Salary surveys are primary components of the efforts to advance the status of computer 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 co-sponsored by three organizations: SAGE (whose goal is to advance the state of system administration), SANS (leader in information security research, certification, and education), and Sun Microsystems' BigAdmin (a community-driven set of resources for system administrators).

The salary survey for the year 2002 was administered during April and May of 2003 and garnered 10,334 valid responses, 9,651 individuals and 683 consultants. This first document analyzes the individuals; the consultants will be served by a second document.

Three major sections will be found below: demographics, salary information, and administrator comments. Only the second section discusses compensation rates.

## A Note on Nomenclature


This year's survey generated some contention as respondents wrestled with the nomenclature surrounding the term 'system administrator'. In some circles, this is a generic term that covers all those people who care for a computer (security folks, database people, networkers, etc.). In others, it is a carefully delineated area from which many wish to distinguish themselves. This was clear when people began asking if the survey was 'going to be applicable to them.'

The survey was intended to include all those people who might be lumped into the general field of 'computer support' or 'user support.' Next year we'll try to do a better job of being inclusive while enabling people to distinguish their particular career path (for salary comparison purposes).

## Summary

As a quick teaser of things to come, here are some facts: 8,973 males (92.97%) and 678 (7.03%) females participated (vs. 88.35%/11.65% in 2001). 92.97% of the individuals worked 30 or more hours weekly (though only 91.67% claimed to work fulltime); 7.03% worked less than 30 hours/week. They broke out into several different types of jobs:

SYSADMIN DUTIES	
DUTY	% RESP.
Server management	33.69%
Generalist	22.69%
Security	14.27%
Networking	12.53%
Project management	3.85%
Databases	3.09%
Help desk	2.84%
People management	1.39%



The few respondents who cited **salaries greater than US\$200,000 are excluded** from most of the analysis throughout this document. These salaries significantly impact the calculation of statistical means (averaging in a number greater than one million dollars has a big impact unless you divide it by another huge number) and thus have generally been omitted from reporting. Likewise, the few with annual **salaries less than US\$10,000 are generally omitted** as they must reflect some compensation scheme outside the mainstream.

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 (i.e., 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.

Despite economic doldrums, the average of all the salary changes (including the negative ones) for 2002 across full-time workers worldwide was plus 8.15% when calculated for annualized salaries. Fully 1,810 respondents (24.03%) saw no salary change or reduced their salary. Of the 54.54% who increased their salaries 0-30%, the mean increase was 8.88%.

The average reported salary for the 6,198 respondents who reported using US dollars as their currency was \$67,675: \$67,920 for males and \$64,946 for females. The overall median was \$65,000 and coincided with the median for all males. The female median was \$63,000. 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, which 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 in these results. Usually, the prose is short and sweet.

We hope you find the following information useful, and we encourage you to participate in the 2003 salary survey in March and April of 2004.

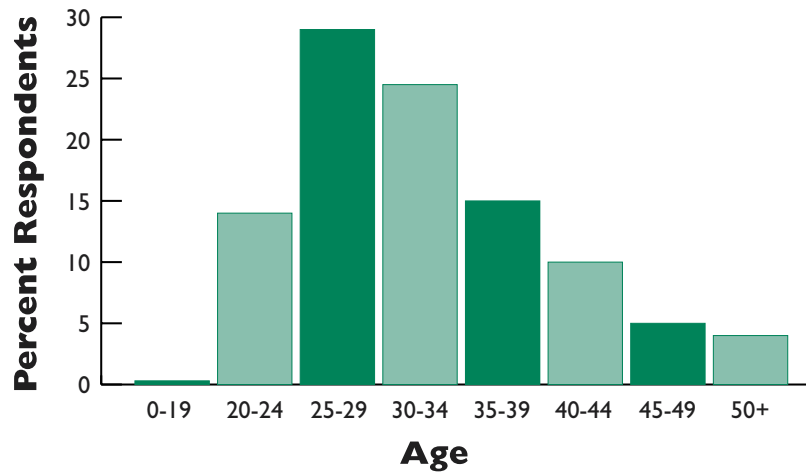
# DEMOGRAPHICS

9,651 individuals completed valid surveys this year. They completed a comprehensive questionnaire on the World Wide Web with over 80 questions, including:

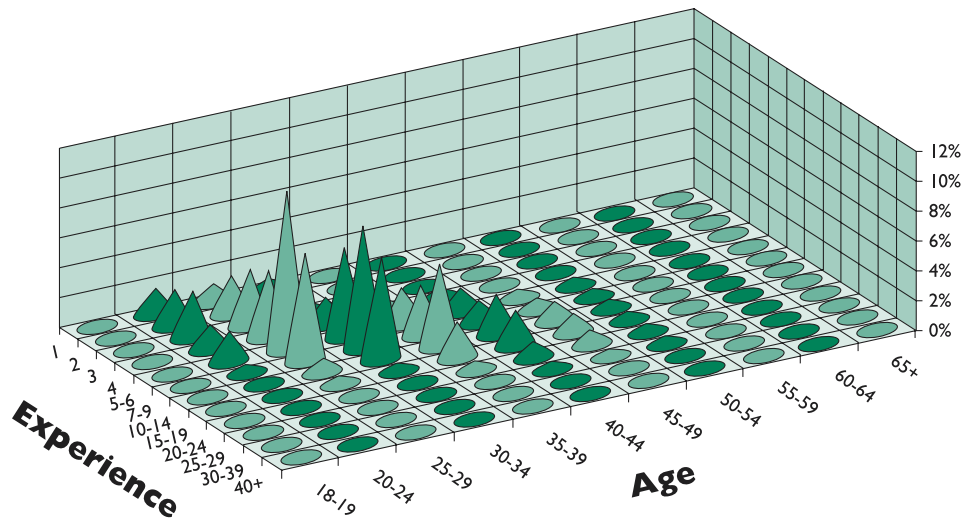
- Age
- Benefits
- Certifications
- Education
- Employers
- Experience
- Gender
- Hours worked
- Industry
- Job type
- Location
- Operating systems used
- Professional Organizations
- Recent pay increases
- Salary & Bonuses
- Title
- Travel
- Email use

## Ages

It has been said that system administration is a young person's game. It is easy to believe such a statement in light of this chart, that shows the percentage of admins in various age groups:



The comparison of age and experience is interesting. Several respondents (8.3%) entered the field at age 30 or later. Here's a graphical representation:



Here is a tabular representation of the same data. This table has its columns normalized to 100% so the distribution is easy to see:

AGE VS. YEARS EXPERIENCE														
AGE	0	1	2	3	4	5-6	7-9	10-4	15-19	20-24	25-29	30-39	40+	TOTAL
18-19	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20-24	0.0	43.4	37.5	32.6	19.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6
25-29	0.0	28.3	37.5	39.2	47.8	45.2	33.7	5.3	0.0	0.0	0.0	0.0	0.0	29.2
30-34	0.0	15.1	14.7	15.6	18.8	25.4	38.2	37.7	5.5	0.0	0.0	0.0	0.0	25.1
35-39	0.0	5.2	4.0	7.3	9.2	10.4	15.5	30.1	33.4	7.9	0.0	0.0	0.0	15.3
40-44	100.0	3.3	3.5	2.4	2.1	6.4	7.1	14.2	31.0	37.1	2.5	0.0	0.0	9.5
45-49	0.0	1.6	1.9	1.6	1.8	2.7	3.4	7.6	18.3	31.8	50.6	7.4	0.0	5.9
50-54	0.0	0.8	0.9	0.8	0.6	1.1	1.5	3.3	7.6	15.0	31.6	37.0	0.0	2.7
55-59	0.0	0.3	0.0	0.2	0.3	0.4	0.6	1.3	3.4	7.5	12.7	40.7	50.0	1.2
60-64	0.0	0.3	0.0	0.2	0.1	0.1	0.0	0.3	0.6	0.7	0.0	14.8	50.0	0.2
65+	0.0	0.3	0.2	0.0	0.1	0.1	0.1	0.3	0.2	0.0	2.5	0.0	0.0	0.2

## Countries Represented

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

SYSADMINS AROUND THE WORLD			
COUNTRY	% RESP.	COUNTRY	% RESP.
United States	73.11%	Norway	[27]
Canada	6.62%	Algeria	[26]
United Kingdom	4.24%	Japan	[25]
Australia	3.42%	Denmark	[24]
Germany	[94]	France	[24]
Netherlands	[88]	Brazil	[18]
India	[68]	Mexico	[17]
Ireland	[50]	Russia	[17]
Sweden	[47]	Argentina	[13]
New Zealand	[43]	France, Metro	[12]
Argentina	[13]	Malaysia	[12]
France, Metro	[12]	Austria	[11]
Malaysia	[12]	China	[11]
Austria	[11]	Israel	[11]
China	[11]	Poland	[11]
Israel	[11]	Greece	[10]
Poland	[11]	Philippines	[9]
Greece	[10]	Puerto Rico	[9]
Philippines	[9]	Romania	[8]
Puerto Rico	[9]	Angola	[7]



## SYSADMINS AROUND THE WORLD

COUNTRY	% RESP.	COUNTRY	% RESP.
Andorra	[6]	Namibia	[2]
Turkey	[6]	Panama	[2]
Uruguay	[6]	Serbia	[2]
Bulgaria	[5]	Ukraine	[2]
Iceland	[5]	Uzbekistan	[2]
Korea (South)	[5]	Vanuatu	[2]
Saudi Arabia	[5]	Armenia	[1]
Slovakia	[5]	Bahrain	[1]
Slovenia	[5]	Belarus	[1]
Taiwan	[5]	Indonesia	[1]
Egypt	[4]	Kazakhstan	[1]
Hungary	[4]	Kenya	[1]
Luxembourg	[4]	Kuwait	[1]
United Arab Emirates	[4]	Moldova	[1]
Bermuda	[3]	Nigeria	[1]
Cayman Islands	[3]	Other	[1]
Central African Rep.	[2]	Papua New Guinea	[1]
Chile	[2]	Peru	[1]
Colombia	[2]	Reunion	[1]
Ghana	[2]	Tanzania	[1]
Guam	[2]	Thailand	[1]
Jamaica	[2]	Uganda	[1]
Jordan	[2]	Venezuela	[1]
Lebanon	[2]	Vietnam	[1]
Lithuania	[2]	Virgin Islands (US)	[1]

A number in square brackets, e.g., [3] denotes an absolute number of respondents that is less than one percent of the total.

Several metropolitan areas were represented:

SYSADMINS IN LARGER METRO AREAS					
COUNTRY	RESP'S	% RESP.	COUNTRY	RESP'S	% RESP.
Washington, DC	544	12.24%	San Diego, CA	156	3.51%
San Francisco/San Jose/ Silicon Valley, CA	538	12.10%	Philadelphia, PA,	155	3.49%
New York	369	8.30%	Toronto, ON	135	3.04%
Los Angeles/Orange Co., CA	332	7.47%	Houston, TX	123	2.77%
Chicago, IL	313	7.04%	Research Triangle, NC	120	2.70%
Boston, MA,	292	6.57%	Austin, TX	119	2.68%
Seattle/Redmond, WA	259	5.83%	Vancouver, BC	101	2.27%
Atlanta, GA	215	4.84%	Ottawa, ON	87	1.96%
Denver, CO	202	4.54%	Montreal, QC	77	1.73%
Dallas, TX	201	4.52%	London, England	60	1.35%
			Sydney, Australia	48	1.08%

## Titles

Respondents were asked what their actual title was (i.e., on their business card) and also to specify a 'generic' title from three tables for easy analysis.

9,639 actual titles contained 688 distinct words. Only 36 words (5%) appeared in more than 50% of the titles.

The average actual title was 22.7 characters long with 3.722 words. 468 titles had multiple functions separated by a slash; 18 of those had more than one slash.

The word 'administrator' showed up in 3,041 actual titles, 31.6%. But the strict abbreviation 'admin' was in 176 more, along with the "new" word 'sysadmin' in 45 additional titles. 'Administration' appeared in 53 more along with another half dozen variants of the term. In total, 3,333 titles (34.6%) contained 'administrator' or a variant.

A few years ago, the word 'administrator' carried the connotation of secretary. It appears that infrastructure support employees are now using the word with high frequency.

Other popular title nouns include:

POPULAR WORDS IN TITLES			
FREQUENCY	WORD	FREQUENCY	WORD
34.6%	Administr*, sysadmin	1.6%	Officer
9.8%	Manager	1.0%	Coordinator
9.2%	Analyst	0.7%	Supervisor
6.3%	Specialist	0.5%	Leader
3.4%	Consultant	0.4%	Scientist
3.3%	Programmer	0.4%	Technologist
2.8%	Director	0.4%	Webmaster
1.9%	Architect	0.3%	Auditor
1.9%	Developer	0.2%	Designer
1.7%	Technician		

These cover the top 16% of title nouns; many very specialized titles show up far less frequently (e.g., CIO, CTO, Writer).

Frequent modifiers include:

FREQUENT MODIFIERS			
FREQUENCY	MODIFIER	FREQUENCY	MODIFIER
39.7%	system{s}	0.3%	program
17.7%	senior	0.3%	enterprise
14.9%	network	0.3%	design
9.2%	security	0.2%	Solaris
9.1%	unix	0.2%	head
7.4%	comput{er,ing}	0.2%	desk
6.0%	I.T. (many ways)	0.2%	corporate
5.2%	information	0.2%	center
4.5%	technical	0.2%	business
3.7%	support	0.2%	advisor
3.3%	software	0.2%	VP
2.2%	technology	0.2%	processing
2.0%	lead	0.2%	integrator
1.9%	II, 2	0.2%	Oracle
1.3%	operations	0.2%	help
1.1%	infrastructure	0.2%	assurance
1.3%	III, 3	0.2%	department
1.0%	I.S. (many forms)	0.2%	customer
0.9%	web	0.2%	group
0.9%	staff	0.2%	production
0.9%	assistant	0.2%	networking
0.9%	associate	0.2%	level
0.8%	principal	0.2%	test
0.8%	team	0.2%	desktop
0.8%	application{s}	0.2%	consulting
0.7%	project	0.2%	solutions
0.7%	engineering	0.2%	networks
0.5%	[tele]communications	0.2%	lab
0.7%	internet	0.2%	storage
0.7%	data	0.2%	site
0.7%	chief	0.2%	product
0.6%	development	0.1%	WAN
0.6%	LAN	0.1%	technologies
0.5%	tech	0.1%	risk
0.5%	research	0.1%	open
0.7%	I, I	0.1%	infosec
0.5%	member	0.1%	advanced
0.5%	server	0.1%	regional
0.5%	PC	0.1%	noc
0.4%	M.I.S.	0.1%	global
0.4%	junior	0.1%	expert
0.4%	professional	0.1%	windows
0.3%	linux	0.1%	resource
0.3%	IV	0.1%	projects
0.3%	service	0.1%	programming
0.3%	NT	0.1%	operating
0.3%	vice-	0.1%	field
0.3%	integration		

Titles occasionally connote working with very specific products or technologies:

TECHNOLOGY-SPECIFIC WORDS					
FREQUENCY	WORD	FREQUENCY	WORD	FREQUENCY	WORD
9.1%	Unix	2 #	DB2	1 #	LTO
0.5%	PC	2 #	DNS	1 #	Lotus
0.4%	webmaster	2 #	IDS	1 #	MCT
0.3%	NT	2 #	Java	1 #	MSE
0.2%	Solaris	2 #	MCSE	1 #	Mac
0.2%	Oracle	2 #	NAS	1 #	NOS
0.2%	desktop	2 #	PHP	1 #	NTAC
0.2%	product	2 #	RAS	1 #	NTCSS
0.1%	Windows	2 #	SQL	1 #	Netbackup
0.1%	configuration	2 #	WWW	1 #	Netware
0.1%	CAD	2 #	forensics	1 #	PMP
0.1%	AIX	2 #	hostmaster	1 #	PeopleSoft
0.1%	SAN	2 #	intranet	1 #	Perl
0.1%	AVP	2 #	net	1 #	Pharma
0.1%	IP	2 #	payroll	1 #	SCC
0.1%	firewall	2 #	sasystem	1 #	SCM
0.1%	hosting	1 #	3g	1 #	SLA
0.1%	ISP	1 #	Appicare	1 #	SME
0.1%	SAP	1 #	Backoffice	1 #	SMS
0.1%	e-business	1 #	Citrix	1 #	SQA
4 #	Macintosh	1 #	Clearcase	1 #	SSA
4 #	Sun	1 #	EDI	1 #	SSR
4 #	backup	1 #	ERP	1 #	SVP
4 #	multimedia	1 #	GWA	1 #	TSM
3 #	AS/400	1 #	HPC	1 #	TSS
3 #	Exchange	1 #	HPUX	1 #	VM
3 #	IR	1 #	IAP	1 #	VOIP
3 #	ISSM	1 #	IMS	1 #	W2k
3 #	OS	1 #	IPC	1 #	Wintel
3 #	QA	1 #	ISC	1 #	buildmaster
3 #	Tivoli	1 #	ISCO	1 #	e-commerce
3 #	VMS	1 #	ISSE	1 #	e-government
3 #	availability	1 #	ITP2	1 #	esystems
3 #	broadband	1 #	ITSSC	1 #	etechnology
3 #	intrusion	1 #	Infovista	1 #	middleware
3 #	mail	1 #	Intel	1 #	safety
3 #	workstation	1 #	Jen-a-sys	1 #	webhosting
2 #	DAA	1 #	L2		

Amazingly, the word 'Cisco' did not appear in any of the titles.

The # indicates an absolute number of responses smaller than 0.1% of the samples.

## Duties

Respondents reported their main area of duty/expertise (and here is where the nomenclature differentiation is created for the various types of support personnel):

SYSADMIN DUTIES	
DUTY	% RESP.
Server management	33.69%
Generalist	22.69%
Security	14.27%
Networking	12.53%
Other	5.66%
Project management	3.85%
Databases	3.09%
Help desk	2.84%
People management	1.39%

What about purchasing responsibilities? Half of the respondents at least contribute to the budget; over a quarter can purchase less expensive items:

PURCHASING RESPONSIBILITIES								
RESPONSIBILITY	GENERALIST				HELP DESK			
	NONE	CONTR	SPEC	FINAL	NONE	CONTR	SPEC	FINAL
Items < US\$500	15.4%	10.4%	39.0%	35.2%	33.9%	16.1%	32.5%	17.5%
Items US\$500-5000	16.4%	16.4%	52.3%	14.8%	39.4%	24.1%	30.7%	5.8%
> US\$5000	20.3%	26.6%	46.4%	6.8%	52.6%	25.2%	19.0%	3.3%
Budget: Workgroup	37.6%	32.9%	22.7%	6.8%	67.2%	22.6%	7.7%	2.6%
Budget: Department	43.7%	32.0%	18.6%	5.7%	70.4%	20.4%	7.3%	1.8%

PURCHASING RESPONSIBILITIES								
RESPONSIBILITY	SECURITY				NETWORKING			
	NONE	CONTR	SPEC	FINAL	NONE	CONTR	SPEC	FINAL
Items < US\$500	25.4%	12.8%	39.3%	22.5%	17.5%	10.2%	42.7%	29.6%
Items US\$500-5000	25.6%	17.3%	46.6%	10.6%	18.2%	16.7%	51.9%	13.2%
> US\$5000	27.7%	26.1%	41.5%	4.6%	22.0%	24.0%	48.0%	6.0%
Budget: Workgroup	41.4%	33.3%	20.6%	4.7%	37.5%	35.0%	22.8%	4.7%
Budget: Department	54.5%	33.6%	10.3%	1.6%	44.7%	33.8%	17.9%	3.6%

PURCHASING RESPONSIBILITIES								
RESPONSIBILITY	SERVER MANAGEMENT				DATABASES			
	NONE	CONTR	SPEC	FINAL	NONE	CONTR	SPEC	FINAL
Items < US\$500	21.7%	13.4%	44.2%	20.7%	27.9%	15.1%	37.6%	19.5%
Items US\$500-5000	22.4%	18.6%	51.2%	7.9%	31.2%	21.8%	40.9%	6.0%
> US\$5000	23.7%	27.6%	45.4%	3.2%	37.9%	28.9%	31.5%	1.7%
Budget: Workgroup	44.9%	35.9%	16.7%	2.5%	55.0%	30.9%	11.1%	3.0%
Budget: Department	52.4%	34.1%	11.7%	1.8%	64.1%	26.2%	7.7%	2.0%

PURCHASING RESPONSIBILITIES								
RESPONSIBILITY	PEOPLE MANAGEMENT				PROJECT MANAGEMENT			
	NONE	CONTR	SPEC	FINAL	NONE	CONTR	SPEC	FINAL
Items < US\$500	11.2%	3.7%	17.2%	67.9%	16.7%	8.9%	29.8%	44.6%
Items US\$500-5000	9.0%	6.0%	34.3%	50.7%	17.5%	12.9%	43.0%	26.6%
> US\$5000	8.2%	10.4%	47.0%	34.3%	21.0%	19.6%	46.5%	12.9%
Budget: Workgroup	7.5%	19.4%	35.8%	37.3%	29.6%	24.7%	31.7%	14.0%
Budget: Department	17.9%	30.6%	29.9%	21.6%	34.1%	30.6%	25.0%	10.2%

PURCHASING RESPONSIBILITIES				
RESPONSIBILITY	OTHER			
	NONE	CONTR	SPEC	FINAL
Items < US\$500	24.9%	13.0%	35.2%	26.9%
Items US\$500-5000	27.8%	18.7%	40.7%	12.8%
> US\$5000	33.0%	25.1%	35.3%	6.6%
Budget: Workgroup	47.1%	29.7%	17.6%	5.7%
Budget: Department	54.8%	25.8%	15.6%	3.8%

## 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 4% 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
1.54%	<b>SAGE Level 1:</b> 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:
12.94%	<b>SAGE Level 2:</b> 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.
51.76%	<b>SAGE Level 3:</b> 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.
29.83%	<b>SAGE Level 4:</b> 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.

3.93% of the respondents reported that these levels did not apply for them.

## Unemployment

Not everything is roses in the employment world. 15.3% of the respondents were unemployed for at least one week during 2002. Below is a chart showing how many weeks those 15% were out of work.

WEEKS OF UNEMPLOYMENT DURING 2002					
WEEKS	% UNEMPLOYMENT	WEEKS	% UNEMPLOYMENT	WEEKS	% UNEMPLOYMENT
1	4.17%	6	6.42%	15-19	9.25%
2	6.58%	7	[11]	20-29	17.67%
3	4.25%	8	8.25%	30-51	11.75%
4	7.17%	9	1.75%		
5	4.00%	10-14	17.83%		

A number in square brackets, e.g., [3] denotes an absolute number of respondents that is less than one percent of the total.

## Certifications

The survey asked respondents to name the certifications most important to them. Here are the most popular certifications by name:

POPULAR INDIVIDUAL CERTIFICATIONS					
931	MCSE	199	SCNA	140	CCSA
804	CCNA	172	CCNP	119	GSEC
615	SCSA	168	RHCE	111	CCSE
551	MCP	167	CNE	103	MCSA
405	CISSP	163	N+		
368	A+	153	CNA		

The huge number of certifications disguises what's really going on. By aggregating related vendors/products, the most popular certifications can be more easily understood:

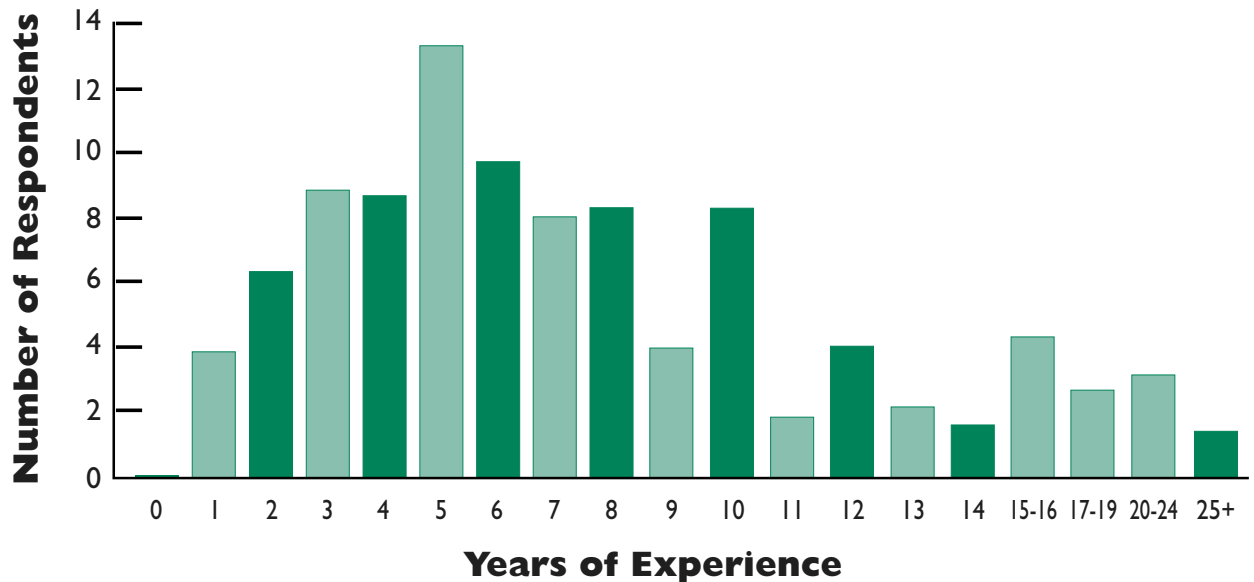
<b>POPULAR CERTIFICATIONS (BY PRODUCT/SERVICE/VENDOR)</b>			
<b># RESP.</b>	<b>CERTIFICATION</b>	<b># RESP.</b>	<b>CERTIFICATION</b>
<b>1959</b>	<b>Microsoft</b>	<b>420</b>	<b>(ISC)2</b>
	1160 Microsoft MCS*		405 CISSP
	625 Microsoft MCP/MCP+i		15 SSCP
	153 Microsoft other	<b>375</b>	<b>Novell</b>
	21 NT (generic)		167 CNE
<b>1181</b>	<b>Cisco</b>		208 CNA
	804 CCNA	<b>184</b>	<b>Red Hat</b>
	172 CCNP	<b>275</b>	<b>Checkpoint</b>
	80 CCDA		141 CCSA
	52 [unspec]		115 CCSE
	30 CCDP		19 Generic
	27 CCIE	<b>112</b>	<b>HP</b>
	8 CCNE	<b>99</b>	<b>OCP (Oracle)</b>
	8 CCSP	<b>92</b>	<b>Brainbench (all kinds)</b>
<b>1113</b>	<b>Sun/Solaris (scsa/scn*)</b>	<b>87</b>	<b>IBM</b>
<b>659</b>	<b>COMPTIA</b>	<b>83</b>	<b>Citrix</b>
	383 A+		51 CCA
	164 Network+		24 Generic
	38 Linux+		8 CCEA
	29 Security+	<b>78</b>	<b>CISA (ISACA)</b>
	15 Server+	<b>71</b>	<b>Relevant Bachelors Degree</b>
	19 I-Net+	<b>59</b>	<b>Veritas</b>
	6 IT Project+	<b>57</b>	<b>Unix</b>
	3 CTT+	<b>55</b>	<b>LPI</b>
	2 E-Biz+	<b>48</b>	<b>AIX</b>
<b>434</b>	<b>SANS/GIAC</b>	<b>35</b>	<b>Linux (generic)</b>
	52 GCFW	<b>29</b>	<b>Lotus (all prods)</b>
	63 GCIA	<b>26</b>	<b>SAIR certified Linux administrator</b>
	43 GCIH	<b>23</b>	<b>Compaq</b>
	22 GCUX	<b>19</b>	<b>CSage</b>
	23 GCWN	<b>17</b>	<b>Learning Tree</b>
	17 GIAC	<b>15</b>	<b>Apple</b>
	5 GISO	<b>14</b>	<b>ISS</b>
	1 GSAE	<b>13</b>	<b>EMC</b>
	190 GSEC	<b>13</b>	<b>SCO</b>
	2 GSNA		
	16 Other		

About 50 (out of almost 10,000) respondents felt that certification was not a great thing and entered negative comments.



## Experience

Respondents had a mean of 7.83 years of experience, with a standard deviation of 5.22 years. The median was 7. Only 10% had more than 15 years of experience. Below is a graph of years of experience in sysadmin (or very similar work). It is interesting to speculate about the peak at five years - was it from the dot-com boom?



This chart examines experience levels broken down by gender:

YEARS OF RELEVANT EXP. VS. GENDER			
Exp.	FEMALE	MALE	TOTAL
0	0.0%	0.0%	0.0%
1-2	10.8%	9.9%	9.9%
3-4	15.3%	17.6%	17.4%
5-6	17.3%	22.9%	22.5%
7-8	14.9%	17.1%	17.0%
9-15	26.8%	24.8%	24.9%
16-19	7.4%	3.4%	3.7%
20+	7.5%	4.3%	4.6%
Total	100.0%	100.0%	100.0%

## Education

Experience is often backed by education. Over half (57.6%) of those responding have a college degree (in some field). This is interesting in that it hints at the huge debate among sysadmins about university education. 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."

Here's how generic education breaks down:

HIGHEST EDUCATIONAL ACHIEVEMENT	
TYPE	% RESP.
Less than High School Diploma	1.01%
High School Diploma	5.63%
Technical Certificate(s)	3.93%
Some College or Technical School	24.64%
Associates Degree	7.62%
Bachelors Degree	43.53%
Masters Degree	12.07%
Ph.D./D.Sc.	1.59%

The subjects studied in these degrees break down along these general lines:

POST-HIGH-SCHOOL SUBJECTS	
SUBJECT	% RESP.
Computers, math, or engineering	68.26%
Business	7.44%
Science	7.30%
Liberal arts	6.32%
Other	4.21%
Fine arts	1.60%
Library science	0.36%

Some college degrees are arguably more relevant (in the technical sense, anyway) to computer administration. The chart below takes this into account and shows the highest 'relevant' degree. About 47% of those surveyed have earned a Bachelors degree (or more) in a relevant field.

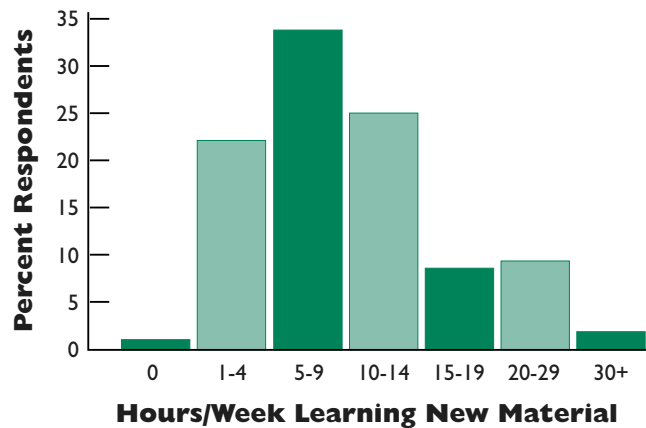
HIGHEST RELEVANT EDUCATIONAL ACHIEVEMENT	
SUBJECT	% RESP.
Less than High School Diploma	3.43%
High School Diploma	7.14%
Technical Certificate(s)	14.73%
Some College or Technical School	21.99%
Associates Degree	5.93%
Bachelors Degree	34.52%
Masters Degree	9.92%
Ph.D./D.Sc.	2.34%

But universities don't really teach system administration. How do people really learn system administration? Over 85% of them were able to attribute much of their knowledge to on-the-job training or self-instruction:

LEARNING STYLES				
	NOT AT ALL	A BIT	SOMEWHAT	A LOT
On the job	3.57%	2.51%	14.91%	79.01%
Taught myself (books, web, practice, etc.)	3.32%	3.36%	14.96%	78.36%
Mentor of any kind	44.03%	21.32%	22.10%	12.55%
Univ./college educ. (CS/IS/IT degree program)	46.31%	21.82%	20.09%	11.78%
Certification program courses	49.90%	22.26%	18.50%	9.35%
Vendor-specific training courses	46.01%	25.81%	19.95%	8.24%
Conferences/commercial training	53.54%	26.53%	16.20%	3.74%
Non-degree tech school, coll., or univ. courses	81.35%	9.19%	6.75%	2.71%
Military	93.11%	2.32%	1.97%	2.60%
Other	98.86%	0.25%	0.31%	0.58%

## Continuing Education

In the world of computer administration, learning and growing are absolute requirements. Admins must also keep up to date on new developments. The weekly expenditure of time for keeping up is quite dramatic; see the chart below. The average is 9.02 hours/week (and the standard deviation is 7.6 hours/week) - almost a quarter-time job for "40 hour" workers. More than 40% report five hours or less per week; more than 20% report a staggering 12 hours or more per week.



## Industries Represented

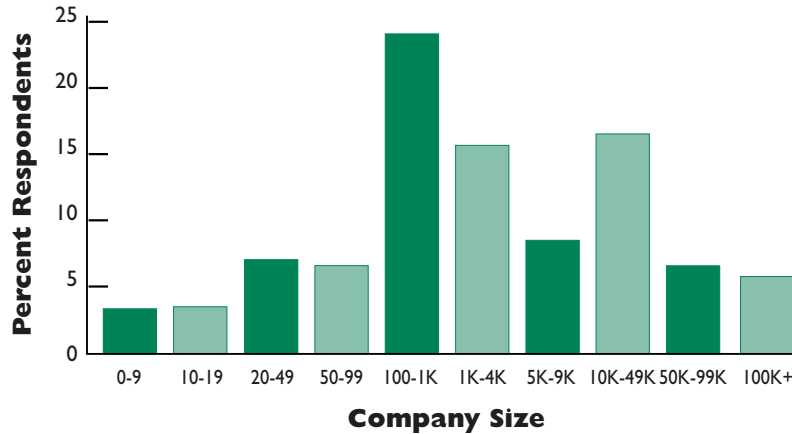
Roughly 83.96% of the respondents work at a single job; 16.04% have multiple employers (e.g., would have more than one employer). Education led the way; for some reason they came out in force for the survey this year.

Over 98% were able to categorize their employment into these industries:

EMPLOYMENT CATEGORIES			
INDUSTRY	% RESP.	INDUSTRY	% RESP.
Education - College or University	11.31%	Education - Elementary or Secondary	1.44%
Banking, Insurance, Securities, Stock Exchange, or Finance	9.17%	Publishing	1.31%
IT: Internet Service Provider/Internet Application Service Provider	8.35%	Research	1.26%
IT: Software Development	7.91%	Aerospace	1.25%
Telecommunications	6.98%	Not-for-profit	1.23%
Manufacturing	5.71%	Utility	1.10%
IT: Consulting	5.62%	Transportation	1.09%
Other	5.29%	Mining or Energy Production (oil, coal, etc.)	[76]
Health Care, Medicine	3.67%	Biotechnology	[73]
Federal Government - Non-Military	3.61%	Wholesale	[65]
IT: Other	3.21%	Pharmaceuticals	[63]
State or Local Government	3.02%	Legal	[57]
Consulting and Business Services	2.49%	Travel/Recreation	[53]
Military	2.33%	Education - Commercial, training, etc.	[52]
Engineering	2.16%	Construction	[34]
Retail	1.87%	Real Estate	[32]
Entertainment	1.56%	Agriculture or Environmental Services	[32]
Advertising, Public Relations, Communication, or Marketing	1.50%		

A number in square brackets, e.g., [3] denotes an absolute number of respondents that is less than one percent of the total.

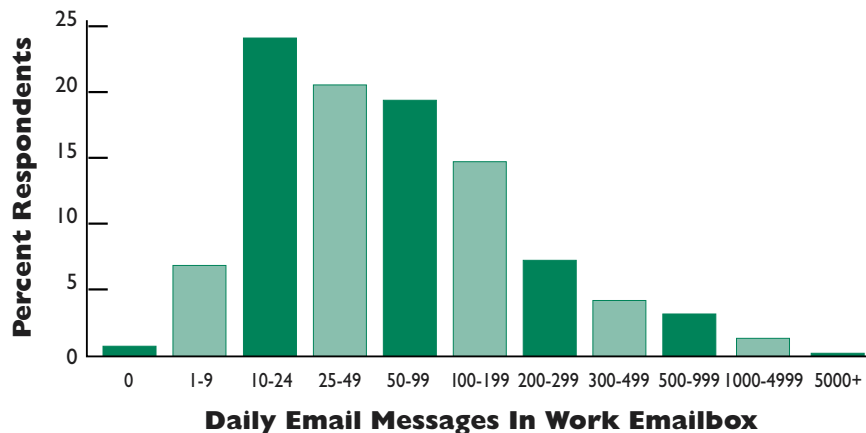
Company sizes vary. Most respondents work for medium-size and larger companies:



## Email Usage

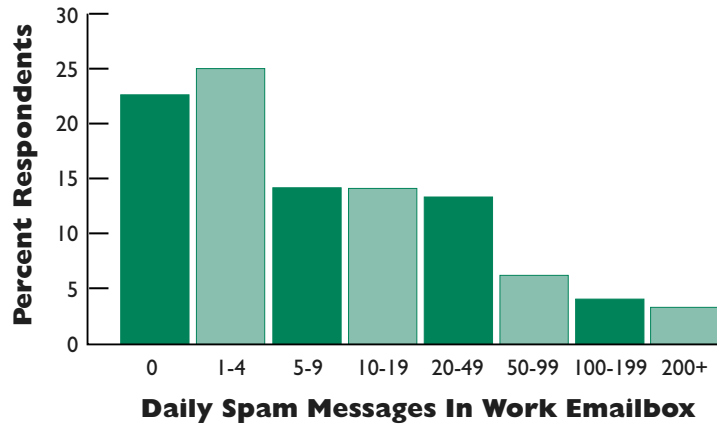
These surveys enable the collection of interesting demographic data that is not commonly analyzed. This section discusses email.

Email is a popular method of communication. Respondents were asked how many email messages enter their work-oriented mailbox (vs. personal mailbox) on a daily basis. The amazing thing about the chart is the number of people who get 500, 1000, or even 5,000 messages per day in their mailbox! Those who reported more than 500 email messages/day were asked to verify the number; most of those who responded reported an increase in the last few months.



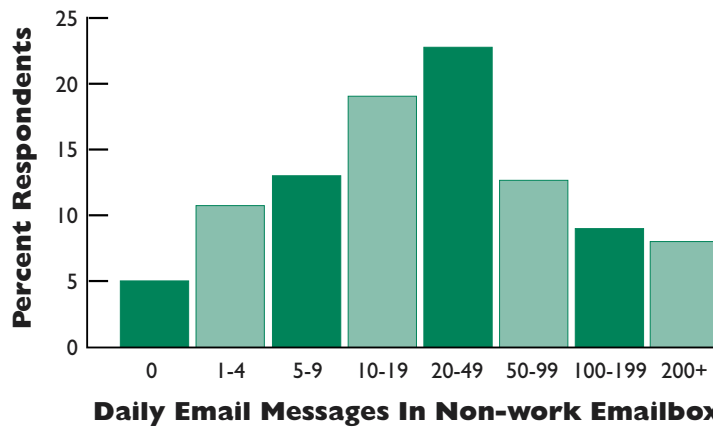
The huge email volume is almost always processed with a sorting program like procmail that puts machine-generated reports (i.e., “The web server is still up.”) and mailing lists into special folders. Likewise, those who are postmasters, listmasters, or webmasters get huge amounts of mail for those duties.

Huge volumes of email are one problem; huge volumes of spam email are an even worse problem. Respondents were asked how much spam appears in the work mailbox (even if filters are in place to remove such email):

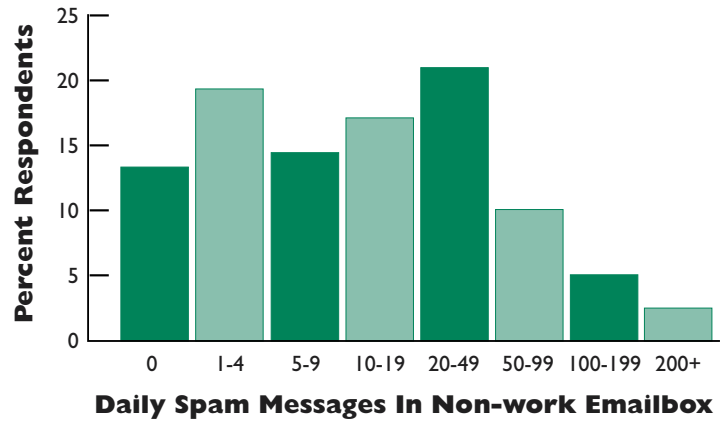


Several respondents still get a lot of spam in their mailbox. These are often those who must see every single email because their intolerance of false positives (non-spam email filed away as spam) is low. In the confirmation of high email volume, several respondents revised their spam numbers way down since they had since implemented spam filters.

Over 85% of the respondents also report a second mailbox (often called the “personal mailbox”). The chart below summarizes the traffic there. Almost a third of respondents get 50 or more messages in their personal mailbox (over whatever they get in their work mailbox):

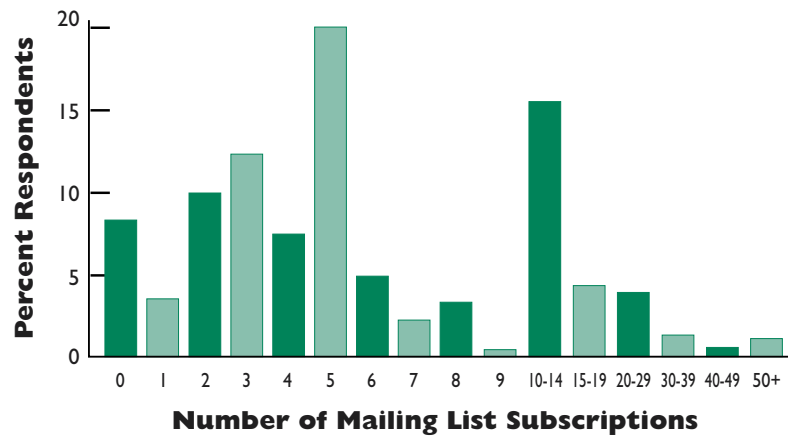


As for work emailboxes, respondents also reported the spam level of their personal emailboxes:



Note that many are inundated with spam in their second mailbox.

Finally, the survey asked the number of mailing lists to which each respondent was subscribed. Some people have a lot of subscriptions:

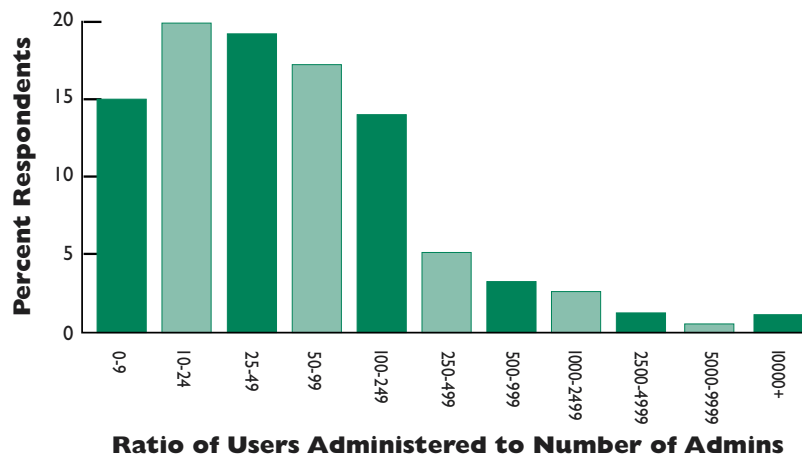


## Users per Admin

It seems everyone wants to know how many total users a single administrator can service. This number turns out to be difficult to calculate because:

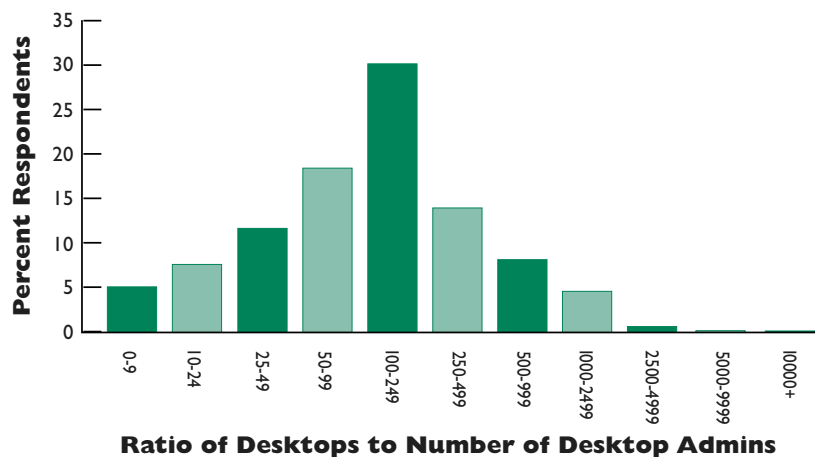
- The definition of ‘user’ is unclear to people (e.g., should one count one’s customers if they are really ‘users’? What about database administrators’ users?)
- The definition of ‘admin’ is unclear to people (e.g., are help-desk employees ‘admins’?)
- The level of service is by no means held constant over such calculations at different organizations
- And this goes on through lots of details that make huge differences in the counts.

That being said, here’s a chart of the ratio of reported users administered (which, by supplemental phone interview, sometimes includes what others might think of as ‘customers’) to admins who service them. This chart does not break the values out by industry (e.g., web hosting services have few users on-site, but require many admins), so it’s a bit suspect for most purposes. The main result is that different businesses have dramatically different requirements for administrators.



**Ratio of Users Administered to Number of Admins**

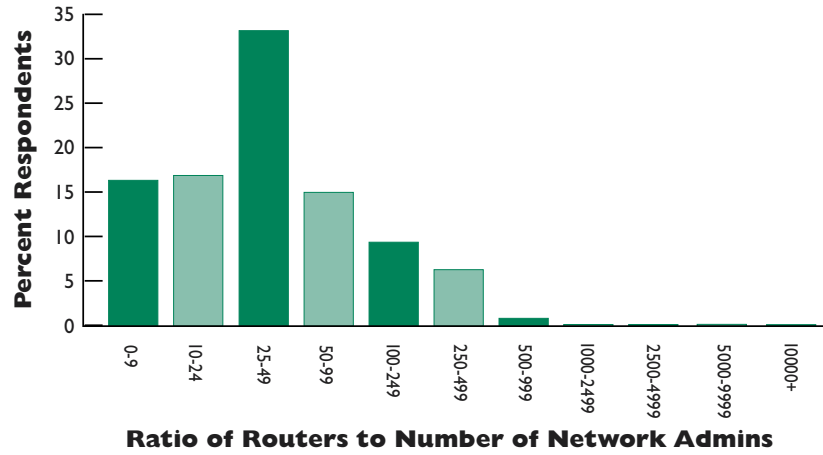
The survey asked respondents to count the various types of admins and users at their site. Thus it is possible to chart the ratio of desktops to desktop administrators:



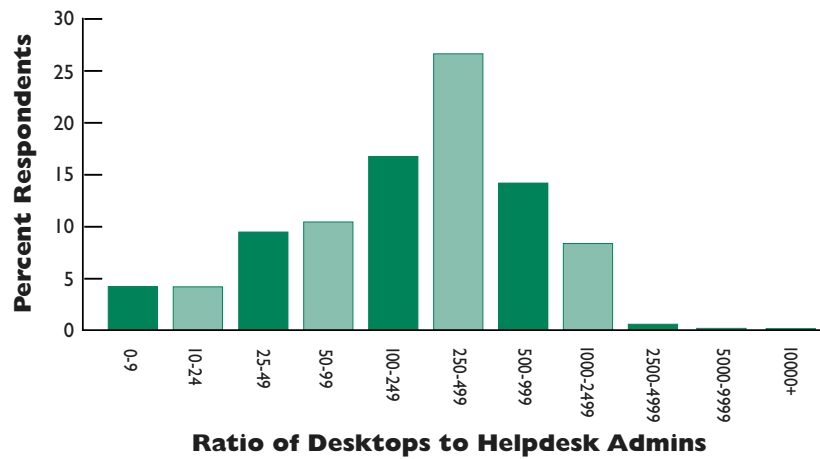
**Ratio of Desktops to Number of Desktop Admins**



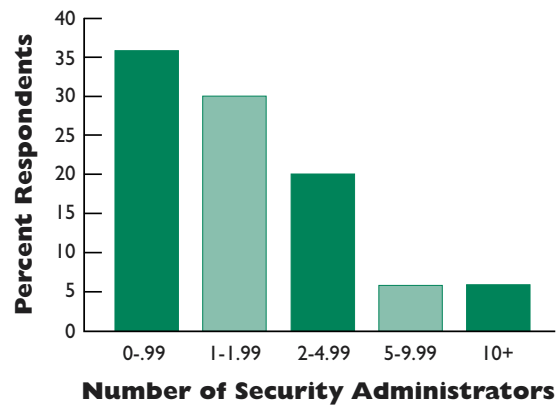
And the number of routers per network administrator:



And the ratio of desktops to help desk administrators:



And the number of security administrators at a site:



Some sites, like the stock trading firms, had 100 or more admins devoted to security.

## Operating Systems in Use

This year the survey asked how much time was spent administering various operating systems. The interesting result of this table is not the actual times themselves, but rather the incredible diversity and deployment of a surprisingly large set of operating systems. About 81% of the respondents deal with Windows XP/NT/2000 at some level; almost two thirds deal with Linux, and over half deal with Solaris.

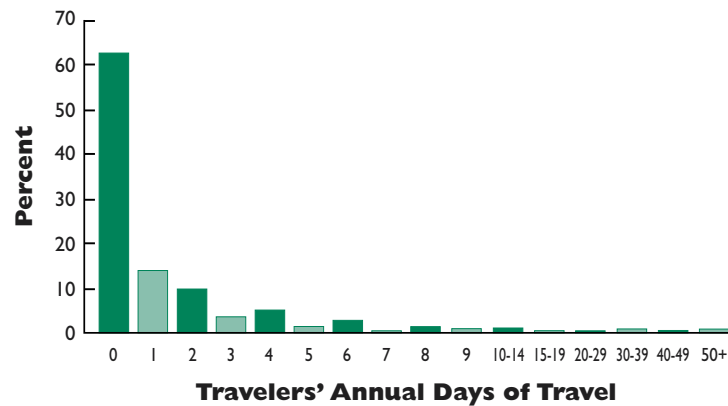
PERCENT TIME SPENT ON VARIOUS OSES					
OS	<5%	≥5%	≥15%	≥33%	≥50%
Windows XP, NT, 2000	18.87%	12.30%	14.12%	15.96%	38.75%
Solaris	48.84%	9.21%	8.99%	10.90%	22.05%
Linux (all types)	36.51%	15.81%	15.21%	14.92%	17.54%
Windows 95/98, ME	73.67%	11.07%	6.89%	4.77%	3.61%
FreeBSD, NetBSD, OpenBSD, BSDI	84.26%	6.29%	3.77%	3.05%	2.63%
SunOS	91.28%	3.34%	1.85%	1.20%	2.33%
Cisco/IOS	78.60%	10.73%	5.19%	3.14%	2.33%
HPUX	87.93%	4.88%	2.74%	2.16%	2.30%
MacOS X	86.34%	6.43%	3.07%	2.08%	2.07%
AIX	88.71%	4.97%	2.77%	1.67%	1.89%
Netware	91.29%	3.74%	2.26%	1.48%	1.23%
Novell	94.21%	2.46%	1.41%	0.95%	0.97%
Other	96.75%	1.18%	0.73%	0.58%	0.77%
Domain/OS	97.67%	0.58%	0.62%	0.53%	0.60%
PalmOS	89.55%	7.17%	2.21%	0.56%	0.52%
Other Unix	97.03%	1.50%	0.55%	0.46%	0.47%
IRIX	95.53%	2.26%	1.12%	0.68%	0.40%
Network Appliance/Ontop	96.04%	2.13%	0.90%	0.54%	0.38%
TruUnix	96.49%	1.68%	0.89%	0.59%	0.35%
MacOS (not X)	94.88%	3.16%	1.05%	0.59%	0.32%
SCO Unix	97.10%	1.53%	0.70%	0.36%	0.30%
AS/400	97.06%	1.77%	0.56%	0.35%	0.26%
VMS (all flavors)	97.47%	1.67%	0.50%	0.13%	0.23%
OS/390, OS/400	98.33%	0.92%	0.29%	0.26%	0.20%
DOS/Windows 3.1	94.68%	3.92%	0.93%	0.31%	0.16%
MVS/VM	98.83%	0.64%	0.24%	0.20%	0.09%
OS/2	99.29%	0.54%	0.10%	0.01%	0.06%
QNX	99.43%	0.42%	0.08%	0.03%	0.03%
GCOS	99.87%	0.07%	0.04%	0.00%	0.02%
Lynxos	99.85%	0.09%	0.04%	0.00%	0.01%
BeOS	99.52%	0.37%	0.07%	0.02%	0.01%
Guardian	99.74%	0.12%	0.08%	0.04%	0.01%

## 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); 53.7% of respondents don't travel at all. Of the remaining 46% who do travel, two thirds are out of the office for three weeks or less annually.

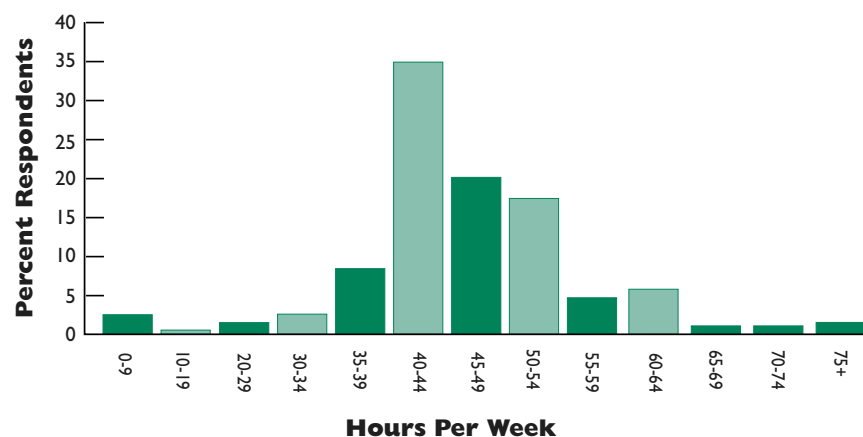
DAYS OF TRAVEL PER YEAR			
DAYS/YEAR	% RESP.	HOURS/YEAR	% RESP.
0	53.66%	8-9	0.93%
1	1.62%	10-14	9.88%
2	3.35%	15-19	2.67%
3-4	3.68%	20-29	4.60%
5-7	12.43%	30+	7.17%

Below is a more graphical representation of the same data:



## Workweek Characterization

Sysadmins have long complained about drawn out work weeks. The survey asked how many hours per week each respondent worked. The graph below tells the tale (and includes part-timers; most charts in this document do not). About half reported 44 or fewer hours per week; half reported 45 or more. Those reporting 60 hours or more numbered 5.5%. For full-timers, the average work week was 46.65 hours (vs. 47.73 hours for the previous year). This is 16% more than the oft-cited "USA average 40-hour week." About 27.8% of the respondents – more than one in four – worked more than 50 hours/week.



## Working from Home

Telecommuting is a big buzzword in the technical community. The chart below illuminates interesting facts:

- Over one third of respondents work at home at least eight hours/week
- Less than 5% work at home 30 hours/week
- Almost 95% of respondents have internet at home
- 75% of respondents have full-time internet at home
- Over 80% have connectivity of about 500Kb/second or better
- Over 75% fund this connectivity themselves . . .
- . . . and over half are not happy about that

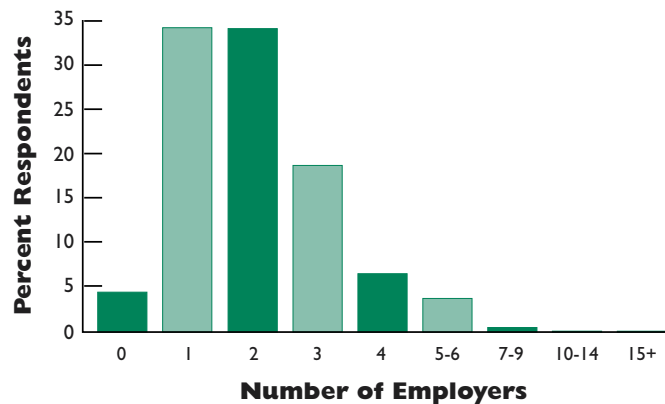
INTERNET AT HOME		
QUERY	No	Yes
Internet at home?	5.41%	94.59%
Network on full-time?	25.01%	74.99%
Dialup connection?	81.05%	18.95%
ISDN connection?	97.29%	2.71%
Cable modem or *DSL?	25.83%	74.17%
T-1 or faster?	92.67%	7.33%
Company pay for ANY of connection costs?	74.68%	25.32%
Company pay for ALL of connection costs?	80.51%	19.49%
Satisfied with company financial support for home internet?	57.27%	42.73%
Work more than 8 hours/week at home?	66.06%	33.94%
Work more than 30 hours/week at home?	95.16%	4.84%

## Longevity

Current 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 4.32 years. Half have been at their job for three years or less; half three years or more. Only 12.15% (vs. last year at 18.4%) of those who responded say they have been with their currently employer for seven years or more.

Only 10 respondents reported being in their job less than one year.

Looked at another way, it's clear that these days admins move around to different jobs. Below is a chart that reveals the number of primary employers respondents report having had over the previous five years. Note that, as before, only about a third have stayed with the same employer for the full half-decade.



As far as loyalty, the survey asked what would make people wish to change jobs:

REASONS TO CHANGE JOBS	
WHY	% RESP.
Pay/compensation	80.43
Location/commuting issues	44.65
Job security	38.92
Challenge, type of work and responsibilities	34.98
Benefits	27.74
Organizational atmosphere, culture, or management	24.31
Training, learning, tuition reimbursement, certification programs	23.65
Hours or schedules (good or bad)	22.83
Vacation time	19.56
Organization's reputation, size, potential, stability, or mission	18.66
New technology	17.99
Ability to advance/be promoted more quickly	17.93
People (friendlier, more competent, etc.)	16.14
Telecommuting	10.65
Workload	9.22
Ability to work with or contribute to open source projects	9.00
Physical environment (e.g., offices vs. cubicles)	6.67
On-call/pager/mobile phone issues	6.30
'Family-friendly'	6.19
Conference attendance	4.75
Travel issues (want more or want less)	4.66
Ability to avoid a given brand or vendor	2.32
Visa/work permit	2.21
Other	1.43
Child care	0.93

As to longevity expectations: 79.44% (vs. 75.8% last year) of respondents report that they expect to be in system administration in five years. The other 20.6% answered 'No'; this number increased to more than 25% for smaller companies. Both genders responded at approximately the same level. The chart below shows the differences in expectations for members of various sized organizations:

FUTURE PROSPECTS VS. COMPANY SIZE								
STAY?	0-9	10-49	50-99	100-499	500-999	1000-4999	5000+	TOTAL
No	25.3%	23.8%	21.1%	19.0%	17.1%	20.9%	20.3%	20.6%
Yes	74.7%	76.2%	78.9%	81.0%	82.9%	79.1%	79.7%	79.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

What else is there besides system administration? 1,800 respondents had plans beyond their current position, even though some of them were 'staying in the field'. These goals boiled down to 238 different fields/keywords.

20% of respondents suggested they'd like to be in management and another 1.8% wanted to be a CTO/CIO/CSO, etc. 3.0% more cited project management, product management, program management, or technical management as their five year plan.

Fully 13% have plans for development (programming, software, etc.); 9.5% intend to focus more on security with an additional 0.8% specializing in auditing.

7.2% had no idea what they intended to do, with a quarter of those saying they wanted "any other field but this one"

5.6% of the respondents intended to own their own business or start/run their own company. 6.1% wanted to be consultants (one fifth of them indicating specialization in security).

4.2% wanted more design/architecture duties.

3.8% intend to return to school for learning, 2.6% intend to go into teaching or training. 1.9% hope to enter research in either the academic or industrial settings.

3.1% intend to be retired.

1.5% want to get more into networking; an additional 0.9% want to be in the network security field.

1.2% are interested in moving more toward database administration.

The remainder broke down into a myriad of different fields, many of them dramatically less technical than system administration:

- 0.9% sales/pre-sales support
- 0.8% some sort of legal field
- 0.7% authors
- 0.4% medicine/health care
- 0.3% music performance; 0.3% more in audio production
- 0.3% real estate
- 0.3% Java programming
- 0.3% graphic design
- 0.3% bioinformatics
- 0.3% web development
- 0.3% development of software for networking
- 0.3% marketing, technical marketing, marketing support
- 0.3% integration
- 0.3% game development, game industry
- 0.3% film industry
- 0.3% electrical engineering
- 0.3% artist (in the fine-arts sense)
- 0.3% agriculture

A plethora of other categories rounded out the crystal ball gazing. These included: other web activities, telecomm, storage management, network architecture, religious activities, skill growth, journalism, military, finance, stock trading, winter sports, travel, non-profit work, jobs “for the great good of mankind,” lawn care, goat herding, GIS, firefighting, construction, zen, and zoology.

## Organization Membership

Professionally, 17.58% of the respondents report belonging to SANS; 13.01% belong to USENIX/SAGE; 5.68% belong to IEEE; and 4.36% belong to ACM. Many other organizations were also represented. This breakdown is not surprising, since SAGE and SANS were among the survey’s promoters.

The table below shows not only membership but also opinions on ‘helpfulness’ for the total set of respondents. Respondents could check one box for each organization so “Belong & Helpful” means not only do they belong but also they think the organization is helpful.

TECH. ORGS AND JUDGED UTILITY				
ORG	DO NOT BELONG	BELONG	BELONG & HELPFUL	BELONG & VERY HELPFUL
SANS	82.41%	3.35%	7.09%	7.16%
USENIX/SAGE	87.00%	3.14%	5.86%	4.00%
Other #1	89.05%	3.51%	4.19%	3.25%
IEEE	94.31%	2.57%	2.24%	0.88%
Other #2	96.83%	1.09%	1.31%	0.78%
ACM	95.63%	2.27%	1.59%	0.52%
Other #3	99.31%	0.28%	0.24%	0.18%



## Traditional Time Off

Like most working folk, system administrators usually get some paid vacation. While 3.5% of those reporting say they get no paid vacation, the mean of those who do is about 15.5 days (not counting those who report more than 30 annual days off). The median is 15 days.

Experience in the field can yield increased vacation days:

EXPERIENCE AND VACATION			
YEARS EXPERIENCE	DAYS VACATION	YEARS EXPERIENCE	DAYS VACATION
0	25.00	6	16.10
1	13.84	7..9	15.99
2	14.65	10-14	16.50
3	15.11	15-19	17.56
4	15.91	20+	17.32
5	15.92		

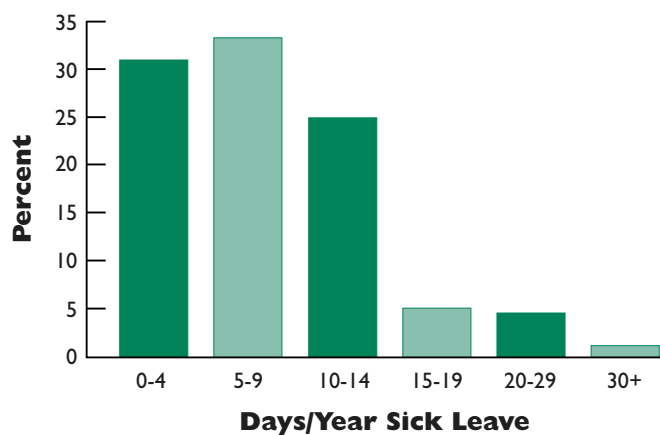
The large number for zero years experience was not investigated.

However, staying with a single employer longer can yield even greater vacation:

LONGEVITY AND VACATION			
YEARS AT EMPLOYER	DAYS VACATION	YEARS AT EMPLOYER	DAYS VACATION
0	13.87	6	17.36
1	14.16	7-9	17.54
2	15.03	10-14	19.95
3	15.34	15-19	21.25
4	16.53	20+	22.39
5	16.95		

Sick days are another standard way of using time off. Of those responding, 11.97% receive no sick days. The mean was 7.11 days; the median was 5 days. Here is how sick day allocation breaks down:

About 5.8% of respondents reported no paid holidays. The mean was 8.15 days, with a median of 8. Here's the breakdown graphically:



## Benefits

The chart below describes insurance coverage this for the survey's respondents. The survey still has a bit of a problem in integrating Euro-style and other non-USA insurance programs. We'll try next year to do an even better job.

INSURANCE COVERAGE				
COVERAGE	NOT OFFERED OR NOT USED	UNPAID	PARTLY PAID	FULLY PAID
Health insurance	11.40%	3.64%	56.99%	27.98%
Life insurance	22.58%	9.30%	40.48%	27.63%
Disability insurance	25.18%	9.84%	39.42%	25.56%
Dental insurance	18.18%	7.22%	53.97%	20.62%
Vision care insurance	27.09%	10.34%	46.02%	16.56%

Respondents also reported on receiving these extra benefits:

BENEFITS REPORTED	
BENEFIT	% RESP.
401(k) matching (retirement fund)	52.08
Tuition support; certification cost support	44.20
Family medical insurance	41.75
Food/drink at work (i.e., Friday bagel program, cheap lunch, cheap soda)	26.34
Flextime (e.g., 9 x 80, 4/40 schedules)	25.48
Stock options or stock purchase plan	24.25
Conference attendance (including tutorials)	24.23
Discounts of various kinds	22.85
Gym, health club membership	21.52
Telecommuting	21.04
Employee stock ownership plan	19.66
Hardware or telecomm assistance, discounts for home	17.66
Flexible/cafeteria plan for benefits	17.08
Performance or signing bonus	14.95
Donation matching	13.86
Domestic partnership benefits	12.23
Association memberships	8.90
Commuting assistance	8.35
Special pensions	6.53
Childcare assistance	6.18
Child care	4.07
Company car	3.94
Other	3.14

# 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:

- 53.92% of respondents are not compensated for overtime
- 65.21% of respondents are not paid extra for “night” work
- 69.89% of respondents are occasionally required to be “on-call,” wear a pager, or carry a cell phone
- Of those required to be on call, 62.80% receive no extra compensation; 15.06% receive extra money; 6.83% receive comp time)
- 27.84% of respondents never carry a pager/cell phone; 44.16% wear a pager/cell phone all the time. The rest are on call at various frequencies: 6.05% are on call one week out of two or more; 3.85% are on call one week out of three or so; 5.06% are on call one week out of four or so; 3.35% are on call one week out of five or so; 3.41% are on call one week out of six or so; 6.28% are on call sometimes, but less than one week out of six.
- 30.26% of respondents receive some sort of stock bonus

## Salary Change Summary

The average salary change for 7,532 respondents from all nations and currencies was +8.15%. A total of 1,810 people (24.03%) received a zero or negative salary change. Of the 5,264 people who increased their salaries 0-30%, the average increase was +8.88%. Those in the lower brackets (US\$20K-50K) got larger percentage salary increases on average. The small number of folks in the very high brackets did very well, too. Note that while the percentages vary a lot in the US\$20K-90K range, the absolute increase in dollars is not so very different.

INCREASES BY SALARY RANGE			
RANGE	% IN RANGE	AVG % INCREASE	AVG INCREASE (US\$)
< 20,000	1.6	5.6	982
20,000-29,999	4.7	13.5	3,545
30,000-39,999	10.6	9.6	3,379
40,000-49,999	14.0	8.4	3,750
50,000-59,999	16.8	9.3	5,026
60,000-69,999	14.7	7.7	4,915
70,000-79,999	13.3	6.6	4,899
80,000-89,999	9.8	6.6	5,562
90,000-99,999	6.0	5.8	5,494
100,000-124,999	6.2	6.9	7,591
125,000-149,999	1.6	8.9	11,964
150,000-174,999	0.5	11.6	18,430
175,000-199,999	0.2	12.1	22,278

Here's an overall chart of last year's salary changes, calculated against base salary. It does not show experience or job categories and thus must be viewed as no more than an overall big picture. It does suggest, however, that little if any gender-gap exists on the overall generality of salary changes.

SALARY RAISES FROM YEAR-TO-YEAR							
% INCREASE	OVERALL	MALE	FEMALE	% INCREASE	OVERALL	MALE	FEMALE
< (-10)	6.0	6.1	5.1	<(-10)	6.0	6.1	5.1
(-9.99)-(-5)	2.8	2.8	2.4	(-9.99)-(-5)	2.8	2.8	2.4
(-4.99)-0	3.2	3.3	2.2	(-4.99)-0	3.2	3.3	2.2
0-1.99	15.6	15.8	13.5	0-1.99	15.6	15.8	13.5
2-3.99	12.3	11.7	20.4	2-3.99	12.3	11.7	20.4
4-5.99	14.8	14.4	19.7	4-5.99	14.8	14.4	19.7
6-7.99	9.7	9.7	9.9	6-7.99	9.7	9.7	9.9
8-9.99	6.9	7.0	5.5	8-9.99	6.9	7.0	5.5

## Bonuses

Some companies give one-time rewards to people in lieu of changing their salary. The respondents were asked whether they received such a bonus/incentive and why:

REASONS FOR BONUS/INCENTIVE	
REASON	% RESP.
Did not receive a bonus/incentive	38.13
Bonus/incentive based on your individual performance	25.42
Bonus/incentive based on how well your organization performed	19.75
Regular annual bonus/incentive	13.47
Bonus/incentive based on how well your group, department, or unit performed	13.19
Holiday bonus	8.02
Bonus/incentive for a special project	5.42
Bonus/incentive for special work (e.g., on-call, pager/cell-phone duty)	4.29
Sign-on or recruiting bonus	3.08
Bonus/incentive for staying with the organization	2.45
By exercising stock options	2.33
Bonus/incentive for obtaining a certification	1.39
Other	1.30
Bonus/incentive for travel	1.07
Bonus/incentive for relocation	0.93
Bonus/incentive for assisting with hiring	0.80
Bonus/incentive dictated by a union or legislation	0.40
Bonus/incentive for receiving a degree	0.29

## Working More

Does working more imply getting a bigger salary change? The table below suggests that such a thing is potentially possible. There is a 0.71 correlation between hours worked and salary change. While that is not statistically high (0.90 would be high enough for a comment), maybe hard workers are rewarded.

HOURS PER WEEK VS. SALARY INCREASE		
HOURS	% INCREASE	% RESP.
30-39	8.01	10.4
40-44	8.31	40.2
45-49	7.47	21.7
50-54	8.25	18.3
55-59	8.60	3.9
60-64	9.37	4.1
65+	8.61	1.4

## 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 experience - but the next ten years brings only a \$4,200 average gain (thus demonstrating salary compression). The charts below show total compensation (after last year's salary change) vs. experience.

This table summarizes the experience vs. salary numbers for those reporting in US currency. The graphs below, 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.

COMPUTER EXPERIENCE VS. SALARY AND INCREASE				
EXP RANGE	AVG SALARY	% INCREASE	\$ INCREASE	% IN RANGE
1-2	50,613	19.8	10,011	6.9
3-4	53,192	12.3	6,564	15.4
5-6	61,973	8.6	5,351	22.5
7-8	70,444	6.1	4,301	18.1
9-10	76,225	5.7	4,347	13.4
11-15	80,580	4.0	3,205	14.3
16-19	83,178	2.9	2,451	4.2
20+	84,742	4.7	3,979	5.2

Here is a table with decreases limited to -20%:

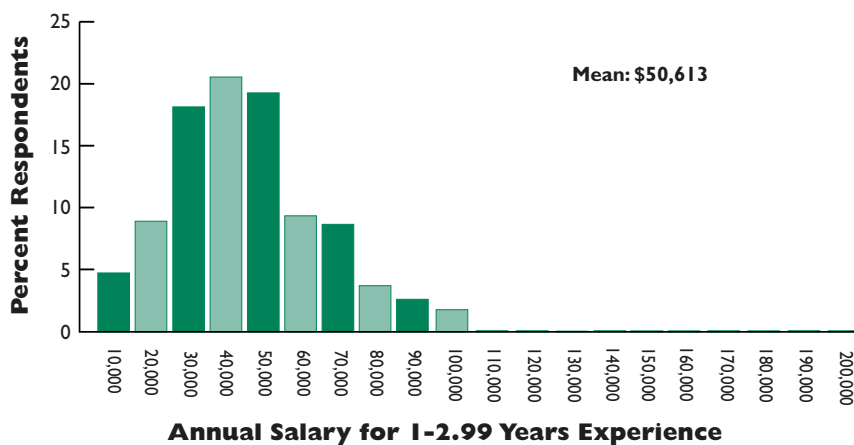
COMPUTER EXPERIENCE VS. SALARY AND INCREASE				
EXP RANGE	AVERAGE SALARY	% INCREASE	\$ INCREASE	% IN RANGE
1-2	50,982	21.2	10,808	6.9
3-4	53,368	13.6	7,261	15.4
5-6	62,198	9.5	5,882	22.7
7-8	70,569	7.3	5,136	18.1
9-10	76,382	6.9	5,255	13.4
11-15	80,731	5.3	4,284	14.2
16-19	83,600	4.3	3,563	4.1
20+	84,743	5.6	4,731	5.2

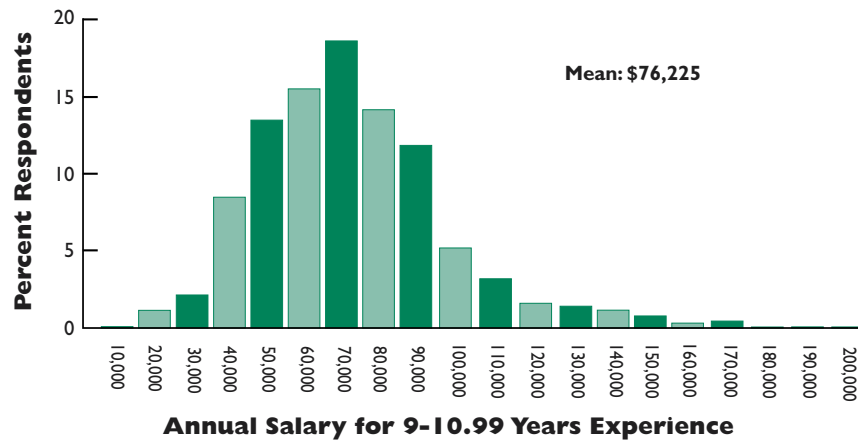
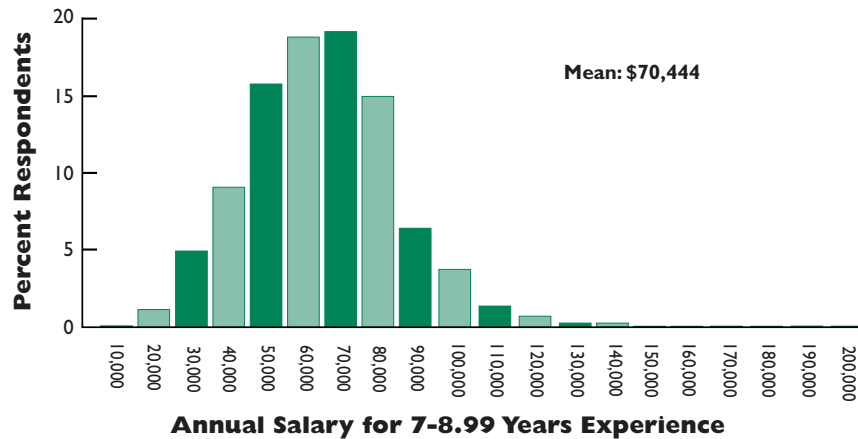
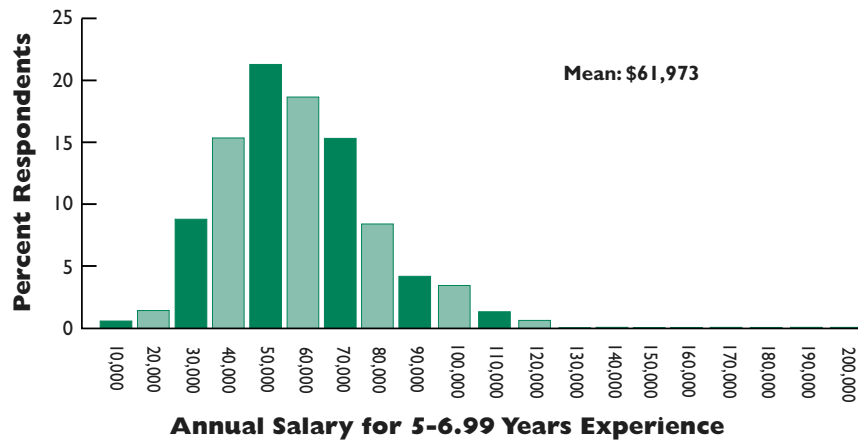
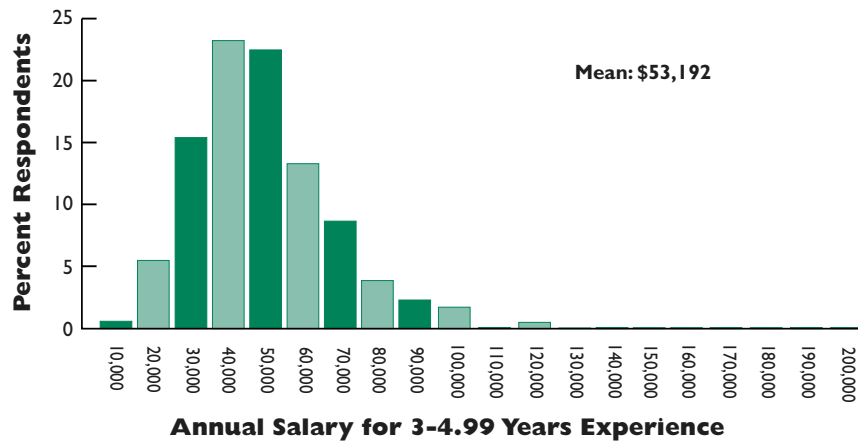
And finally here is a table with only those who did not decrease their salary:

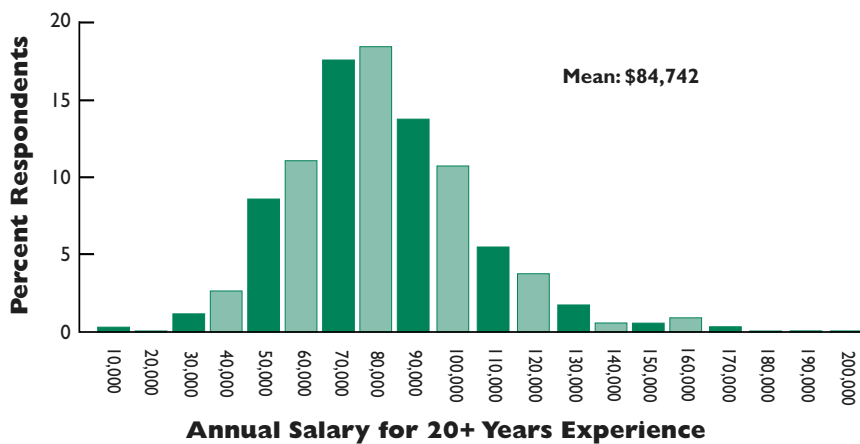
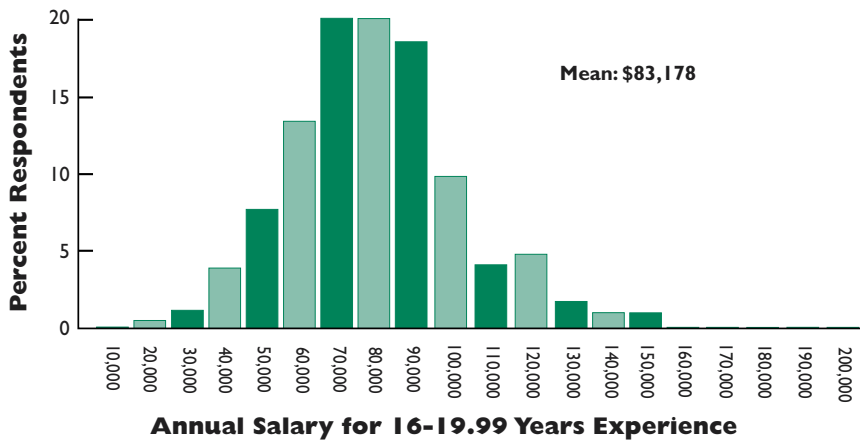
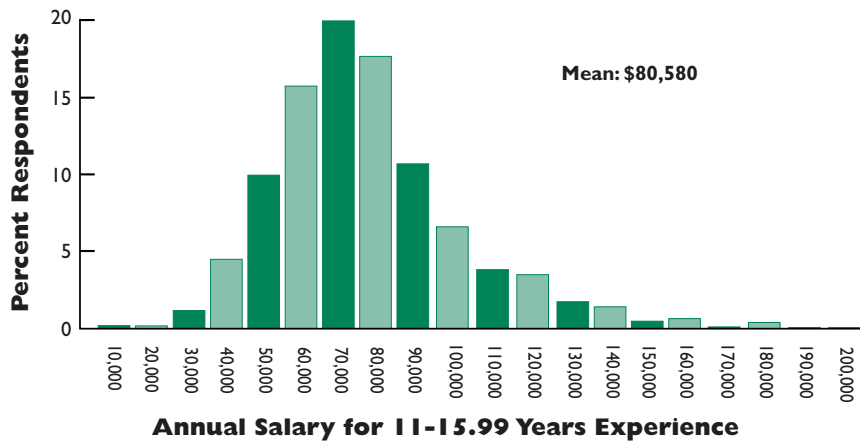
COMPUTER EXPERIENCE VS. SALARY AND INCREASE				
EXP RANGE	AVERAGE SALARY	% INCREASE	\$ INCREASE	% IN RANGE
1-2	51,218	23.3	11,940	7.1
3-4	52,917	15.3	8,106	15.8
5-6	61,878	11.3	6,968	22.9
7-8	69,809	9.2	6,445	17.7
9-10	76,035	8.8	6,666	13.2
11-15	79,930	7.2	5,717	13.9
16-19	82,417	6.0	4,949	4.0
20+	84,382	6.9	5,852	5.3

The curiosity of increasing mean salary when certain respondents are omitted is due to the omitted respondents having a salary lower than the mean. Of course, some of those in the lowest experience range saw huge salary increases from having no salary at all the year before.

Below are the overall distributions for salary vs. experience, though they do not factor in geography:









## Salaries vs. Work Experience - By Gender

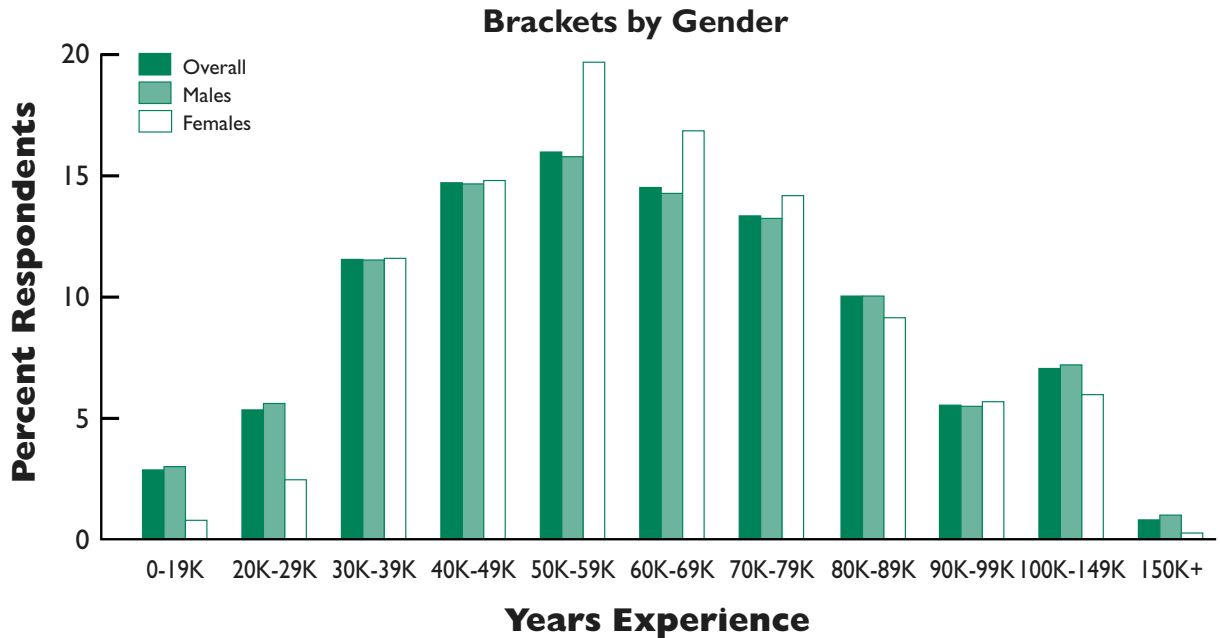
As time goes on, women are, in general, catching up to men in experience (years ago, computer professions were truly male-dominated). The chart below shows the spread and average compensation for males and females broken out by experience. Women are ahead in salary in the 1-6 year levels and behind after that.

SALARY VS. YEARS OF EXPERIENCE						
YEARS	OVERALL		MALE		FEMALE	
	AVERAGE SALARY	% RESP.	AVERAGE SALARY	% RESP.	AVERAGE SALARY	% RESP.
1-2	44,763	8.7	44,273	8.6	50,000	10.4
3-4	49,255	16.5	48,966	16.7	53,494	14.7
5-6	57,126	22.7	57,113	23.2	57,370	16.7
7-8	65,648	17.5	65,800	17.7	63,329	15.0
9-10	71,637	12.9	71,974	12.9	67,095	12.4
11-15	76,627	13.1	77,167	12.9	70,876	15.7
16-19	78,641	3.8	79,327	3.5	74,312	7.3
20+	81,605	4.7	82,633	4.5	74,063	7.9

Looking at the way the genders fall into various salary ranges, it's hard to find much of a complaint for gender equity except in the bottom two brackets (under US\$30K) where men outnumber women by two- and three-to-one. Women are under-represented compared to men at the US\$65K level and at the highest (US\$150K+) level.

SALARY RANGES BY GENDER			
TOTAL SALARY	MALE	FEMALE	TOTAL
0-19,999	2.8%	1.0%	2.7%
20,000-29,999	5.7%	2.4%	5.5%
30,000-39,999	11.2%	11.3%	11.2%
40,000-49,999	14.1%	14.3%	14.1%
50,000-59,999	16.3%	20.0%	16.6%
60,000-69,999	14.0%	16.7%	14.2%
70,000-79,999	12.8%	14.0%	12.9%
80,000-89,999	9.3%	8.4%	9.3%
90,000-9,9999	5.6%	5.7%	5.6%
100,000-149,999	7.4%	6.0%	7.3%
150,000+	0.8%	0.2%	0.7%
Total	100.0%	100.0%	100.0

Here is a graphical representation of the same data:



All in all, women pretty much keep pace with men throughout. This is good news for former victims of the “pink ceiling.”

## Increases vs. Salary Range

One would expect that salary increases (which, after all, are percentages) would average out across the various salary ranges. The chart below, however, shows that some of highest earners seem to be gaining a greater share of the available compensation.

INCREASES VS. SALARY RANGE		
RANGE	% IN RANGE	AVG % INCR
0-19,999	1.5	10.0
20,000-29,999	4.6	15.2
30,000-39,999	10.6	10.6
40,000-49,999	13.9	9.2
50,000-59,999	16.8	10.0
60,000-69,999	14.8	8.1
70,000-79,999	13.4	6.9
80,000-89,999	9.8	7.0
90,000-99,999	6.0	6.5
100,000-109,999	3.7	6.7
110,000-119,999	1.7	6.5
120,000-129,999	1.3	8.8
130,000-139,999	0.7	13.1
140,000-149,999	0.4	8.4
150,000-174,999	0.5	11.6
175,000-199,999	0.2	12.1

## Education

Education is often said to enhance salaries. Holders of Masters Degrees report salaries \$9,000 greater than average. Those without a bachelors degree report smaller than average salaries. Here is the chart for general education:

AVERAGE SALARY VS. EDUCATION			
EDUCATION LEVEL	AVG SAL	ANG INCR	% RESP
Ph.D./D.Sc.	70,830	12.1%	3.0%
Masters Degree	69,739	7.2%	13.7%
Bachelors Degree	64,029	8.1%	44.3%
Less than High School Diploma	61,045	8.2%	[48]
Some College or Technical School	60,853	8.3%	23.4%
Associates Degree	57,776	7.8%	7.1%
High School Diploma	53,900	8.8%	3.5%
Technical Certificate(s)	50,905	8.4%	4.4%

And here is the chart for “relevant” education:

AVERAGE SALARY VS. RELEVANT EDUCATION			
EDUCATION LEVEL	AVG SAL	ANG INCR	% RESP
Masters Degree	70,219	7.0%	9.7%
Ph.D./D.Sc.	69,599	13.4%	2.1%
Bachelors Degree	65,125	8.0%	35.2%
Less than High School Diploma	62,900	9.5%	3.2%
Some College or Technical School	61,352	8.3%	22.3%
Technical Certificate(s)	58,402	7.9%	14.5%
Associates Degree	57,897	7.1%	6.0%
High School Diploma	57,822	9.3%	7.0%

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

AVERAGE SALARY AND INCREASE BY EDUCATION & EXPERIENCE							
EDUCATION LEVEL	0-1	2	3-4	5-9	10-14	15-19	20+
Ph.D./D.Sc.	54,927 20.2#	72,533 7.2	62,799 10.5	62,795 9.7	82,975 5.2	84,166 3.5	94,469 6.7
Masters Degree	66,381 13.2	58,434 9.3	53,351 11.1	66,598 6.6	79,396 4.3	84,166 1.7	86,670 5.9
Bachelors Degree	50,558 8.5	45,846 8.7	53,690 9.8	63,893 7.0	77,780 5.0	79,359 2.6	81,012 3.3
Associates Degree	38,820 26.7	37,069 7.9	44,558 9.5	56,539 5.0	70,501 5.2	72,501 3.1	74,510 4.3
Some College or Technical School	46,160 14.9	42,014 14.9	46,253 11.7	61,958 7.4	69,437 4.7	77,726 3.5	84,144 2.4
Technical Certificate(s)	42,323 21.8	42,192 10.6	49,024 12.7	58,126 7.1	68,234 1.5	75,829 6.3	75,195 4.4
High School Diploma	52,499 5.7	40,106 17.9	46,355 7.2	61,048 8.1	68,235 5.5	76,322 3.4	84,760 7.3
Less than High School Diploma	39,818 5.9	38,325 23.3	51,350 12.2	63,180 6.9	75,630 3.6	87,744 2.9	71,390 6.6

The # means that the sample is probably too small to believe the numbers. Generally, it appears that both education and longevity pay off.

## Salary in USA Metro Areas

The cost of living varies in different cities (e.g., New York City is very expensive; Kansas City is less so). This chart shows how compensation varies in some of the larger tech cities. All salary reports are converted dollars using 27 Jun 2003 exchange rates.

AVERAGE SALARY BY METRO AREA			
METRO AREA	SALARY	% INCR	% RESP
San Francisco/San Jose/ Silicon Valley, CA Metro Area	87,238	6.2	11.4
New York Metro Area	85,010	8.3	8.1
Boston, MA, Metro Area	77,211	4.7	6.7
Washington, DC Metro Area	75,614	10.3	12.6
Philadelphia, PA, Metro Area	74,343	5.5	3.6
Dallas, TX Metro Area	73,390	7.4	4.7
Los Angeles/ Orange Co., CA Metro Area	73,285	9.4	7.7
Atlanta, GA Metro Area	70,809	7.0	4.8
Chicago, IL Metro Area	70,448	8.5	7.5
Denver, CO Metro Area	69,493	5.1	4.6
London, England Metro Area	69,486	6.5	1.3
Seattle/Redmond, WA Metro Areas	69,082	7.6	5.6
San Diego, CA Metro Area	68,969	11.0	3.5
Houston, TX Metro Area	68,194	7.7	2.7
Research Triangle, NC Metro Area	67,261	6.8	2.5
Austin, TX Metro Area	65,606	9.3	2.6
Ottawa, ON Metro Area	52,520	4.0	2.2
Toronto, ON Metro Area	50,506	9.8	2.9
Sydney, Australia Metro Area	50,503	10.6	1.2
Vancouver, BC Metro Area	44,451	6.9	2.2
Montreal, QC Metro Area	43,616	10.9	1.6

This chart factors in both self-reported (vs. derived) geography and experience; all salaries are converted to US\$.

AVERAGE SALARIES AND RAISES BY METRO AREA AND EXPERIENCE						
AREA	0-1	2-4	5-9	10-14	15-19	20+
San Francisco/San Jose/ Silicon Valley, CA Metro Area	91,625 –	67,190 10.6	85,660 4.4	98,256 2.2	113,131 2.6	105,382 7.6
New York Metro Area	50,750 14.4	60,526 19.2	82,780 7.9	101,441 6.1	112,297 4.0	104,357 5.9
Boston, MA, Metro Area	65,118 6.6	63,121 9.6	76,093 4.5	83,467 3.4	88,720 3.9	91,283 1.3
Washington, DC Metro Area	69,125 19.2	60,036 21.2	74,161 9.5	83,424 4.1	96,644 4.4	91,098 6.1
Philadelphia, PA, Metro Area	106,000 0.0#	47,921 12.5	76,105 6.3	78,958 3.7	84,166 1.3	85,838 3.0
Los Angeles/Orange Co., CA Metro Area	61,090 25.8	58,999 17.1	69,955 7.8	86,433 5.3	99,694 4.2	95,880 4.7
Dallas, TX Metro Area	59,500 17.1	55,662 11.1	69,518 6.7	79,308 8.0	87,640 8.8	90,631 8.2
Atlanta, GA Metro Area	43,938 40.7	55,655 9.8	70,651 8.5	74,290 2.7	86,832 3.2	85,203 2.8
Chicago, IL Metro Area	38,654 49.1	54,369 10.8	68,486 9.8	85,493 5.2	89,500 2.8	86,471 1.5
Denver, CO Metro Area	52,000 10.7#	56,080 7.2	65,725 5.7	79,183 4.2	92,300 -1.1	88,645 6.7
London, England Metro Area	– –	56,255 5.2	64,646 13.4	89,775 5.6	73,542 -3.2	– –
Seattle/Redmond, WA Metro Areas	57,166 7.5	53,232 12.4	69,039 8.5	79,175 4.1	85,866 2.9	87,526 5.1
San Diego, CA Metro Area	105,000 -4.5#	58,6333 10.1	64,055 6.8	79,894 22.6	70,058 6.9	104,193 6.0#
Houston, TX Metro Area	36,942 16.8#	49,593 17.2	64,609 6.1	80,108 8.2	84,950 2.2	90,212 7.8
Research Triangle, NC Metro Area	41,000 5.1#	46,440 24.4	68,092 6.4	75,104 6.8	71,163 -0.7	71,266 0.9
Austin, TX Metro Area	– –	53,266 23.8	63,102 8.7	82,214 2.8	69,065 2.8	85,333 5.4#
Ottawa, ON Metro Area	47,267 7.8#	37,917 12.6	50,899 4.2	55,012 5.6	65,880 4.6	71,586 -4.8
Toronto, ON Metro Area	51,874 7.7#	40,282 23.6	49,451 8.2	58,088 3.4	55,991 0.8	62,672 5.2
Sydney, Australia Metro Area	66,005 6.5#	37,688 18.8	50,341 10.0	63,815 6.6	55,835 -7.7#	53,176 0.0#
Vancouver, BC Metro Area	30,013 4.5#	37,012 6.9	44,590 9.8	50,011 3.0	54,097 6.7#	70,956 2.8
Montreal, QC Metro Area	22,232 87.5#	31,454 19.8	40,075 8.1	54,992 6.9	52,615 10.5#	62,249 2.4#

The # symbol means the sample size is small and not to be trusted too much.

The boxes with “–” mean the sample size was too small.

## SAGE Job Classifications vs. Salary

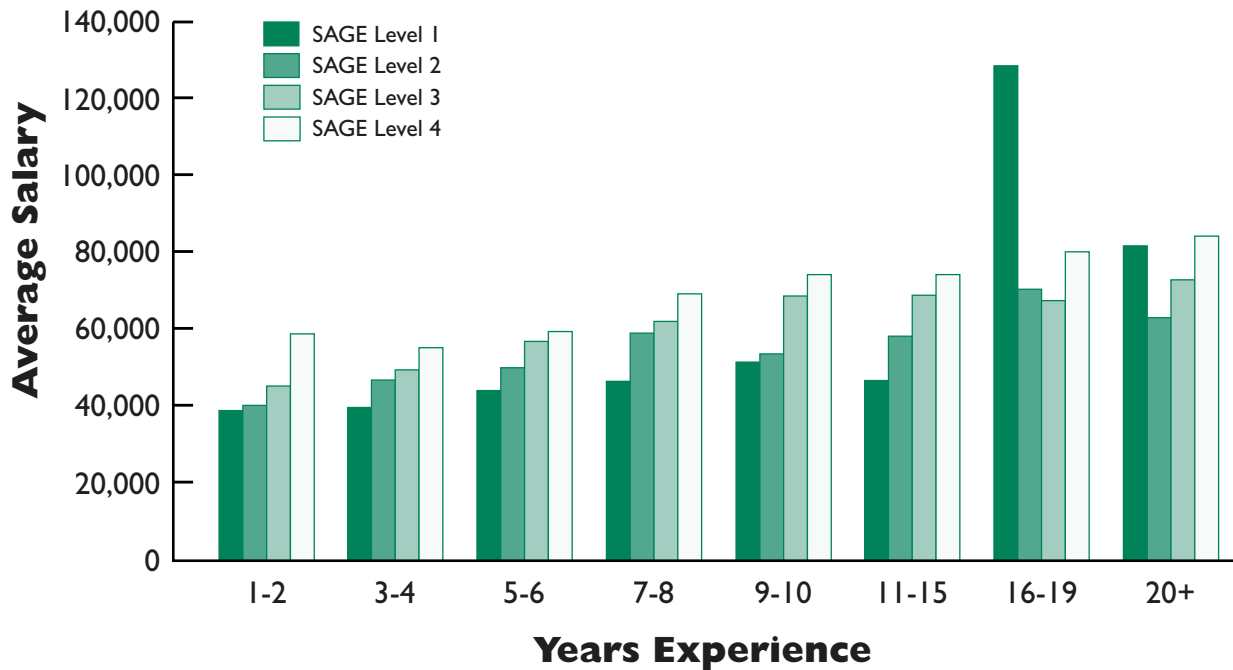
The SAGE job classifications are detailed above. Here is how classification and experience affect salary. Generally, higher numbers seem to yield exactly what one would expect.

INCREASE/SALARY FOR SAGE JOB CLASSIFICATIONS AND EXPERIENCE										
YEARS EXP	LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4		N/A	
	SALARY	% INCR	SALARY	% INCR	SALARY	% INCR	SALARY	% INCR	SALARY	% INCR
1..2	36,700	13.3	40,417	20.3	47,899	18.4	57,823	14.6	53,261	15.7
3..4	39,184	14.6	47,344	14.3	50,199	12.2	54,804	10.4	50,718	11.2
5..6	45,517	7.2	52,434	10.2	57,779	9.0	61,089	8.6	53,386	4.2
7..8	47,553	10.4	59,362	7.2	64,202	6.1	71,174	7.3	66,554	6.2
9..10	54,158	6.4	57,099	3.5	70,104	4.8	76,336	7.1	69,151	2.8
11..15	49,241#	-11.3#	59,582	1.7	72,442	3.8	82,415	4.7	85,438	2.0
16..19	130,000#	4.0#	73,594	-0.6	70,995	2.6	83,611	3.5	95,950	0.2
20+	85,500#	3.6#	66,929	1.0	77,027	3.5	87,407	4.8	86,223	16.6

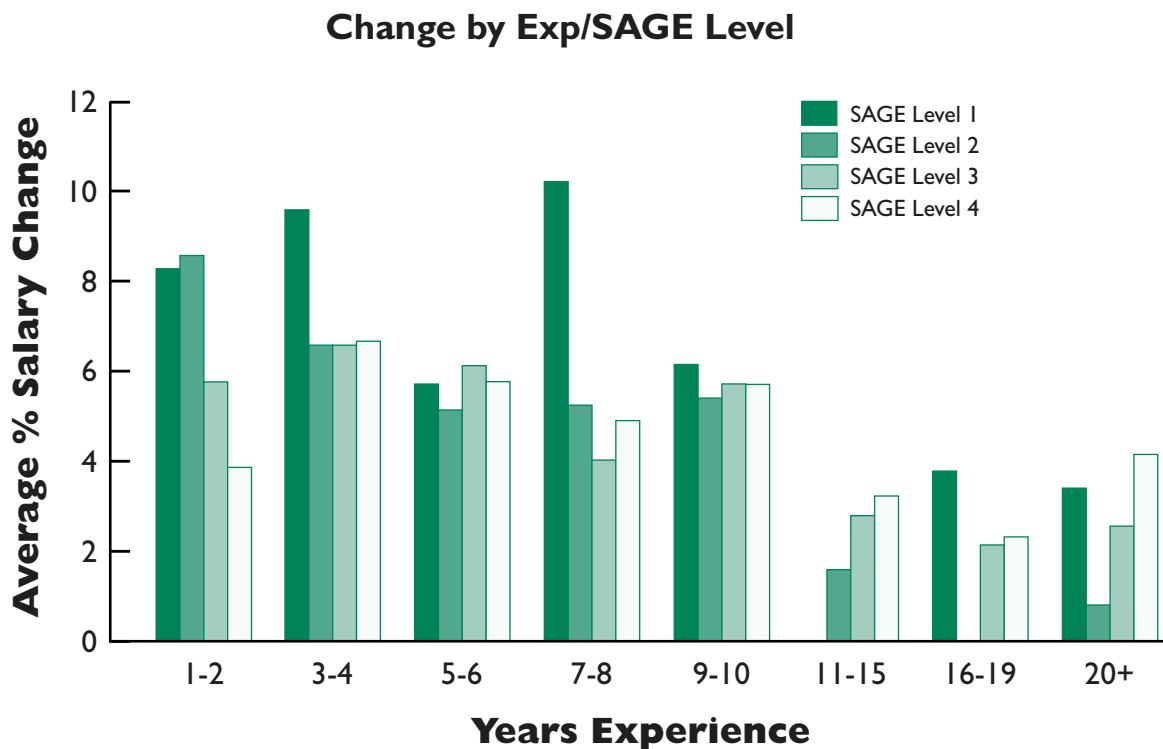
The # symbol means the sample size is small and not to be trusted too much.

Here's a graphical chart of the salary:

**Salary by Exp/SAGE Level**



Here's a graphical chart of the salary changes:



## Salary by Title, Experience, and Region

Sometimes it is easier to compare salaries and increases by “title.” The chart below explores that possibility. Titles are sorted roughly in descending order of apparent earning power.

SALARY AND % CHANGE BY TITLE AND YEARS OF EXPERIENCE						
TITLE	0-1	2-4	5-9	10-14	15-19	20+
People management	60,000 22.8#	73,927 7.0	77,432 7.8	94,480 3.0	105,669 3.5	103,343 4.2
Project management	60,193 7.5	54,271 8.1	68,200 9.6	83,754 6.9	79,854 -1.0	80,727 1.9
Security	66,681 33.3	57,179 15.7	67,376 7.6	76,129 5.4	78,627 3.8	82,257 6.3
Databases	34,760 21.9	48,342 16.9	62,090 8.0	70,630 3.1	71,898 8.2	63,186 3.5
Other	62,578 -1.9	52,789 9.4	62,148 10.8	73,408 5.1	83,489 4.0	86,102 9.9
Server management	42,168 20.1	49,314 13.2	62,167 .0	73,916 4.0	77,855 2.3	79,224 3.4
Generalist	48,135 21.6	47,937 13.5	60,715 6.9	73,589 5.7	80,099 3.8	83,424 2.3
Networking	42,717 27.6	42,708 13.0	57,89 8.7	67,095 5.7	73,973 4.1	74,665 3.2
Help desk	30,658 21.5	39,095 11.2	50,773 .4	55,402 7.1	81,189 -6.1#	—

The # symbol means the sample size is small and not to be trusted too much.

Refining data to ever smaller subsets sometimes yields sample sizes that are too small. However, it is very useful to explore the salary and salary changes for regions, specialties, and experience. It is the tables below that can make it easy to compare salaries. These regions were derived from reported zip codes.

SALARIES (K\$)/% CHANGE BY REGION AND EXPERIENCE								
TITLE	1-2	3-4	5-6	7-8	9-10	11-15	16-19	20+
Akron	38.6 34.2	50.4 16.4	54.3 6.6	58.4 10.6	63.7 21.6	78.4 2.1	— —	— —
Albany	— —	53.2 13.1	56.3 5.0	59.5 4.2	64.5 16.5	76.0 4.8	— —	— —
Arlington	71.5 24.9	54.8 8.8	68.1 9.1	80.5 3.1	78.2 12.3	89.3 3.7	100.3 11.4	85.5 9.6
Atlanta	57.6 24.8	62.5 11.4	72.4 10.8	82.4 5.8	84.1 7.7	87.0 2.9	98.6 1.9	107.3 7.5
Austin	— —	59.6 31.1	65.5 14.2	71.8 5.9	87.5 4.6	80.5 0.0	88.8 0.2	— —
Balt/WashDC+	65.8 18.4	67.5 22.2	75.0 8.9	79.4 10.7	87.7 4.7	90.4 5.1	106.1 3.7	91.4 6.4
Boston+Area	62.4 9.1	64.4 9.0	72.0 8.8	84.0 4.6	85.5 4.5	87.4 2.8	88.3 2.5	95.3 2.4
Chapel Hill	— —	52.9 7.4	61.6 4.4	79.9 11.6	74.1 4.9	76.5 0.4	— —	81.3 1.5
Charlotte	49.2 9.6	54.0 13.4	78.5 8.1	— —	— —	75.1 6.1	— —	— —
Chattanooga	— —	— —	51.7 11.5	49.8 3.7	— —	— —	— —	— —
Chicago	59.1 32.9	61.0 13.5	76.0 16.4	77.6 4.0	90.0 4.0	93.6 4.7	— —	87.5 1.1
Cincinnati	— —	45.8 9.7	60.4 8.0	61.2 2.5	— —	76.7 3.7	— —	— —
Columbus	— —	55.1 8.4	63.9 26.0	62.3 6.6	76.0 7.7	86.6 4.0	— —	— —
Denver/Front Range	60.5 8.2	60.6 5.5	66.9 7.5	74.1 4.6	83.4 5.1	85.7 2.9	85.1 -1.0	91.6 6.1
Detroit	49.7 1.9	60.1 5.8	60.7 9.9	71.1 4.6	74.5 2.1	77.9 14.6	— —	88.7 4.7
Eugene	— —	— —	52.2 8.6	— —	— —	— —	— —	— —
Grand Rapids	46.4 3.4	— —	56.1 12.7	60.8 7.5	— —	75.3 1.0	— —	— —
Houston	46.9 22.5	58.3 16.3	64.3 4.1	75.9 6.7	75.9 7.4	99.8 3.6	91.4 4.1	95.9 8.7
Indianapolis	39.0 20.1	49.5 23.5	52.7 12.5	68.4 -3.5	— —	70.5 2.9	— —	— —
Kansas City	59.5 48.6	68.0 6.4	70.4 8.8	69.4 8.3	74.1 7.5	80.1 1.3	90.8 3.1	— —
Los Angeles	67.2 26.3	61.0 16.1	68.4 8.4	77.3 7.8	85.7 5.6	97.2 5.8	102.6 4.4	102.0 4.8



**SALARIES (K\$)/% CHANGE BY REGION AND EXPERIENCE**

TITLE	1-2	3-4	5-6	7-8	9-10	11-15	16-19	20+
Miami/Ft.Laud.	— —	— —	71.1 6.0	75.9 23.4	73.0 5.2	63.0 6.4	— —	— —
Milwaukee	48.1 13.1	55.4 4.7	57.9 7.5	71.6 7.5	68.9 3.4	66.7 5.7	72.0 4.8	71.2 3.8
Mpls./St. Paul	48.1 7.1	58.6 7.4	65.7 10.1	74.7 9.3	77.9 7.2	77.0 -0.8	— —	89.2 4.6
Nashville	— —	54.6 0.6	52.7 9.2	71.0 9.0	84.2 5.5	73.6 7.1	— —	— —
New York	63.8 19.5	63.0 20.4	83.1 10.0	92.0 6.1	110.8 7.3	115.0 4.2	114.0 2.2	111.6 11.2
Orlando/Tampa	50.6 12.6	43.4 15.0	63.9 9.3	69.2 5.6	75.5 3.9	78.2 10.0	— —	79.9 0.9
Philadelphia	60.5 12.2	53.9 10.8	72.5 5.8	81.7 8.1	91.1 5.2	91.2 5.3	94.5 0.0	93.1 0.2
Phoenix	46.4 10.8	50.6 16.0	65.5 10.5	69.9 9.8	87.5 10.1	73.9 7.4	— —	89.2 2.0
Pittsburgh	36.4 26.3	57.3 9.5	46.6 9.9	72.1 6.9	70.1 5.7	71.0 5.5	— —	— —
Portland	55.8 11.8	57.8 4.7	64.9 9.9	73.8 4.5	82.9 11.4	84.0 8.0	92.5 5.1	— —
Richmond/Norfolk	— —	52.9 11.5	59.1 5.6	79.1 5.3	62.6 14.6	84.2 2.8	73.2 3.4	— —
Rochester/Bufalo	42.9 8.0	50.3 14.3	67.1 4.5	63.5 2.9	— —	85.9 1.8	— —	110.0 7.6
Sacramento	— —	64.6 5.9	78.8 10.0	76.1 6.1	69.1 4.4	— —	— —	93.3 2.7
SaltLake/Ogden	49.3 10.2	42.7 14.5	61.7 7.2	68.0 7.2	74.6 -0.5	83.1 2.6	— —	— —
San Diego	67.0 16.0	65.4 9.6	65.4 7.2	73.6 2.8	80.6 30.7	82.9 7.4	— —	— —
San Jose	71.8 55.7	77.5 8.4	85.3 6.9	96.8 3.9	105.3 3.5	105.1 1.7	74.5 11.0	110.6 7.3
Savannah	— —	— —	58.6 8.5	— —	— —	— —	115.7 1.8	— —
Seattle	55.7 7.4	60.0 12.4	68.6 12.4	78.6 6.5	77.7 2.8	86.2 3.4	— —	90.9 5.3
St. Louis	57.6 6.2	46.5 8.5	72.8 10.6	71.7 6.9	68.7 3.3	78.2 4.0	97.1 9.0	80.2 8.2
Tucson	— —	— —	44.4 12.4	— —	72.7 5.6	65.4 4.7	— —	— —

**REGION: ARLINGTON**

Yrs Exp	GENERALIST	NETWORKING	SECURITY	SERVER MANAGEMENT
3-4	— / —	— / —	— / —	55.0 / 4.2
5-6	71.7 / 5.5	71.0 / 7.4	— / —	67.3 / 5.8
7-8	— / —	— / —	67.1 / 0.1	84.5 / 4.2
9-10	81.4 / 5.5	— / —	— / —	78.0 / 19.3
11-15	88.6 / 0.4	— / —	93.3 / 14.3	86.6 / -0.8
16-19	— / —	— / —	— / —	99.0 / -1.2

**REGION: ATLANTA**

Yrs Exp	GENERALIST	NETWORKING	SECURITY	SERVER MANAGEMENT
1-2	62.7 / 25.1	— / —	— / —	— / —
3-4	— / —	— / —	— / —	62.0 / 10.8
5-6	72.3 / 20.1	62.5 / 12.1	82.7 / 8.7	74.4 / 6.7
7-8	85.2 / 6.7	75.8 / 4.9	86.5 / 3.2	75.1 / 5.9
9-10	— / —	— / —	— / —	76.7 / 6.3
11-15	— / —	— / —	— / —	90.3 / -1.0

**REGION: BALTIMORE / WASHINGTON DC+**

Yrs Exp	DATABASES	GENERALIST	NETWORKING	OTHER	PEOPLE MANAGEMENT	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	— / —	70.3 / 21.4	50.1 / 23.7	— / —	— / —	— / —	74.3 / 9.6	58.2 / 26.9
3-4	— / —	65.0 / 29.0	61.0 / 10.0	61.2 / 9.1	— / —	— / —	70.9 / 26.5	67.2 / 16.1
5-6	83.4 / 2.8	73.4 / 5.3	61.1 / 8.6	— / —	— / —	80.5 / 7.7	84.7 / 14.0	71.2 / 12.9
7-8	— / —	76.8 / 7.3	77.4 / 20.0	90.9 / 7.2	— / —	80.8 / 9.0	79.9 / 12.7	79.6 / 7.4
9-10	83.0 / 0.2	104.7 / 11.1	84.3 / 4.4	90.2 / -1.8	— / —	— / —	75.8 / 7.5	85.0 / 3.5
11-15	— / —	99.2 / 6.2	85.8 / 6.4	96.6 / 3.1	107.6 / 5.5	— / —	90.5 / 7.8	85.0 / 3.5
16-19	— / —	95.4 / 1.9	122.3 / -0.2	111.2 / 4.7	— / —	— / —	102.7 / 5.0	— / —
20+	— / —	90.7 / 5.0	— / —	— / —	— / —	— / —	95.9 / 7.1	81.2 / 3.6

**REGION: BOSTON+AREA**

Yrs Exp	GENERALIST	NETWORKING	OTHER	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
3-4	65.2 / 7.5	— / —	— / —	60.7 / 5.1	64.3 / 6.8	66.9 / 15.2
5-6	70.0 / 8.7	70.8 / 13.2	79.6 / 4.8	— / —	73.7 / 9.0	70.9 / 7.7
7-8	84.1 / 2.4	92.9 / 2.5	— / —	— / —	85.9 / 5.4	78.0 / 6.4
9-10	90.8 / 4.9	88.1 / -0.9	— / —	— / —	— / —	83.1 / 3.1
11-15	91.5 / 6.1	— / —	— / —	88.9 / 4.6	88.9 / 1.4	80.8 / 0.5
20+	97.5 / 3.1	— / —	— / —	— / —	— / —	90.5 / 2.6

**REGION: CHICAGO**

Yrs Exp	GENERALIST	NETWORKING	SECURITY	SERVER MANAGEMENT
1-2	50.8 / 40.6	— / —	— / —	— / —
3-4	60.9 / -2.1	— / —	69.4 / 6.9	60.4 / 29.5
5-6	72.4 / 6.8	77.1 / 27.1	67.4 / 12.2	80.9 / 5.9
7-8	80.9 / 3.8	64.7 / 0.7	— / —	83.6 / 4.8
9-10	— / —	82.5 / 4.2	— / —	94.0 / 3.3
11-15	82.3 / 1.2	96.7 / 7.3	87.4 / 7.8	93.9 / 7.0
16-19				
20+	79.0 / 0.5	— / —	— / —	— / —

**REGION: DENVER / FRONT RANGE**

Yrs Exp	GENERALIST	NETWORKING	SECURITY	SERVER MANAGEMENT
1-2	— / —	— / —	— / —	54.5 / 16.0
3-4	— / —	71.1 / 6.7	— / —	55.3 / 4.9
5-6	73.1 / 14.0	77.3 / 11.2	— / —	64.0 / 5.2
7-8	— / —	64.5 / 3.1	— / —	75.4 / 5.8
9-10	97.4 / 8.0	— / —	— / —	79.7 / 2.0
11-15	83.4 / 2.9	74.1 / 2.6	— / —	82.1 / 2.7
16-19	73.8 / 5.3	— / —	— / —	96.7 / -10.4
20+	— / —	— / —	84.3 / 9.8	— / —

**REGION: LOS ANGELES**

Yrs Exp	GENERALIST	NETWORKING	OTHER	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	75.5 / 54.8	— / —	— / —	— / —	80.0 / 12.5	— / —
3-4	58.8 / 18.3	67.5 / 14.2	77.0 / 25.7	— / —	— / —	60.4 / 16.4
5-6	67.9 / -0.8	— / —	65.0 / 23.1	— / —	69.0 / 15.2	70.9 / 8.8
7-8	84.1 / 9.4	57.4 / 18.3	— / —	— / —	79.7 / 7.4	77.3 / 4.9
9-10	95.5 / 7.0	66.5 / 7.7	— / —	90.1 / 8.6	— / —	85.6 / 1.3
11-15	98.8 / 5.2	— / —	— / —	— / —	103.0 / 10.7	89.5 / 0.7

**REGION: MILWAUKEE**

Yrs Exp	GENERALIST	NETWORKING	SECURITY	SERVER MANAGEMENT
1-2	37.9 / 32.6	— / —	— / —	— / —
3-4	52.5 / 4.4	— / —	— / —	— / —
5-6	56.4 / 3.4	— / —	58.7 / 12.4	59.6 / 7.1
7-8	— / —	68.7 / 8.3	— / —	72.2 / 6.2
9-10	64.5 / -0.8	— / —	— / —	67.7 / 2.9
11-15	68.6 / 4.1	— / —	— / —	67.5 / 5.2

**REGION: MINNEAPOLIS / ST. PAUL**

Yrs Exp	GENERALIST	SECURITY	SERVER MANAGEMENT
3-4	60.8 / 10.7	— / —	60.2 / 7.0
5-6	— / —	65.7 / 19.5	68.4 / 8.1
7-8	66.4 / 10.5	— / —	76.2 / 8.1
9-10	64.3 / 9.4	92.4 / 0.5	80.1 / 13.1
11-15	65.3 / -3.4	— / —	— / —
20+	— / —	79.6 / 4.1	97.0 / 5.0

**REGION: NEW YORK**

Yrs Exp	DATABASES	GENERALIST	HELP DESK	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	57.2 / 4.6	69.9 / 39.9	— / —	— / —	— / —	— / —	61.1 / 26.8
3-4	— / —	53.8 / 10.2	— / —	— / —	— / —	77.8 / 8.7	62.1 / 29.8
5-6	— / —	80.1 / 7.6	70.2 / 5.2	65.5 / 5.3	73.8 / 12.1	89.1 / 8.0	85.4 / 10.5
7-8	— / —	100.7 / 5.0	— / —	69.7 / 7.7	— / —	81.5 / 4.4	96.5 / 6.0
9-10	— / —	97.7 / 8.8	— / —	— / —	— / —	112.8 / 13.2	117.3 / 7.6
11-15	— / —	105.6 / 5.0	— / —	93.4 / 6.3	— / —	128.2 / -2.6	128.6 / 4.2
20+	— / —	— / —	— / —	— / —	— / —	117.7 / 13.6	— / —

**REGION: PHILADELPHIA**

Yrs Exp	GENERALIST	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	— / —	— / —	71.2 / 8.2	— / —	— / —
3-4	— / —	44.7 / 3.5	— / —	65.5 / 15.3	51.5 / 10.9
5-6	82.6 / 1.6	84.7 / 3.9	— / —	60.7 / 8.5	67.1 / 7.5
7-8	67.0 / 7.4	87.5 / 7.1	— / —	80.7 / 14.5	85.3 / 6.7
9-10	— / —	— / —	— / —	91.7 / 7.5	91.6 / 2.0
11-15	— / —	— / —	78.6 / 10.9	— / —	99.8 / 2.9
16-19	— / —	— / —	— / —	— / —	86.7 / 3.5
20+	86.0 / -7.0	— / —	— / —	— / —	— / —

**REGION: SAN JOSE+ BAY AREA**

Yrs Exp	GENERALIST	HELP DESK	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	71.8 / 14.1	— / —	— / —	— / —	— / —	61.5 / 40.1
3-4	81.6 / 9.5	— / —	75.0 / 12.8	— / —	88.0 / 8.4	73.3 / 5.8
5-6	85.0 / 9.2	82.2 / 19.3	85.9 / 11.7	80.7 / 4.3	91.8 / 6.0	85.1 / 2.4
7-8	98.5 / 5.7	— / —	90.4 / 9.1	— / —	101.9 / 6.6	96.2 / 0.8
9-10	105.9 / 1.3	— / —	113.6 / 17.2	101.8 / 5.0	— / —	100.9 / 1.8
11-15	107.1 / 0.5	— / —	93.7 / 3.5	— / —	109.7 / 2.8	108.0 / 2.3
16-19	123.7 / 2.4	— / —	— / —	— / —	— / —	— / —
20+	108.8 / 5.6	— / —	— / —	106.4 / 24.4	— / —	111.8 / -3.3

REGION: SEATTLE					
Yrs Exp	GENERALIST	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	— / —	— / —	— / —	— / —	53.0 / 1.2
3-4	59.2 / 12.3	42.6 / 10.5	71.4 / 5.1	— / —	62.3 / 16.7
5-6	55.5 / 6.4	72.9 / 12.9	75.9 / 26.7	72.7 / 8.1	65.5 / 14.2
7-8	82.9 / 11.3	— / —	— / —	78.0 / 0.7	74.9 / 5.6
9-10	71.7 / 6.4	— / —	— / —	78.5 / 5.4	77.5 / -1.7
11-15	83.5 / 8.8	— / —	— / —	— / —	80.5 / -1.6

These charts show more aggregated areas, such as whole countries or large regions of the USA. All numbers are converted to USA dollars, since members of some countries reported their incomes in more than one currency. The boxes show salary in thousands and change in percent

REGION	YEARS EXPERIENCE							
	1-2	3-4	5-6	7-8	9-10	11-15	16-19	20+
New England (CT, ME, MA, NH, RI, VT)	61.3 10.8	64.9 9.0	70.7 7.5	82.3 4.3	84.4 4.3	86.2 3.4	87.3 2.9	94.6 2.9
Middle Atlantic (NJ, NY, PA)	54.4 23.9	56.2 14.5	73.6 8.0	79.4 6.9	93.0 6.5	93.4 4.5	96.5 1.3	100.7 5.7
East North Central (IL, IN, MI, OH, WI)	50.0 18.3	54.3 10.3	62.4 12.4	68.4 6.0	73.5 5.1	78.4 5.7	80.1 3.2	79.6 3.6
West North Central (IA, KS, MN, MO, NB, ND, SD)	52.9 21.0	53.4 7.8	63.2 10.0	68.0 6.8	71.6 6.8	75.9 3.4	88.1 8.2	82.1 2.0
South Atlantic (DE, DC, FL, GA, MD, NC, SC, VA, WV)	56.2 21.8	60.4 16.8	67.9 8.9	77.0 9.8	79.2 4.7	84.8 4.6	92.8 2.8	86.1 5.8
East South Central (AL, KY, MS, TN)	39.1 37.5	51.9 15.4	59.2 7.0	60.0 4.0	72.0 6.0	74.1 6.8	64.7 3.5	87.4 4.2
West South Central (AR, LA, OK, TX)	54.8 16.0	52.8 14.2	62.0 9.9	73.4 5.7	73.7 8.7	84.7 2.7	90.5 5.6	85.5 7.7
Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)	56.4 10.3	53.3 14.6	62.1 8.1	67.8 6.9	80.0 6.5	80.7 6.2	82.3 2.7	88.2 6.3
Pacific (AK, CA, HI, OR, WA)	64.9 29.3	63.5 11.3	71.6 8.7	83.0 5.6	86.9 8.1	93.6 4.7	97.3 5.6	99.3 6.3
Afghanistan	— —	45.8 12.0	69.4 7.5	73.8 9.8	— —	83.6 1.3	— —	— —
Albania	— —	— —	64.7 6.6	— —	— —	87.6 8.7	— —	— —
Algeria	— —	— —	— —	— —	— —	71.7 6.9	78.0 -1.5	91.8 4.4
Australia	40.3 14.0	42.5 15.6	45.2 12.1	51.5 10.4	59.2 4.6	58.0 5.0	52.4 1.7	55.9 6.3
Belgium	44.6 12.5	36.7 15.1	54.1 7.8	— —	— —	— —	— —	— —
Brazil	— —	— —	36.2 11.1	— —	— —	— —	— —	— —
Canada	39.9 14.7	41.8 15.0	47.9 7.1	50.7 6.8	56.3 5.9	59.3 4.3	55.9 3.0	64.9 2.3
Denmark	— —	63.2 38.6	— —	58.2 15.0	— —	— —	— —	— —

REGION	YEARS EXPERIENCE							
	1-2	3-4	5-6	7-8	9-10	11-15	16-19	20+
Finland	52.1 10.8	40.6 9.9	48.6 8.5	54.1 16.1	— —	— —	— —	— —
France	52.2 20.2	— —	56.3 10.9	— —	— —	— —	— —	— —
France, Metro	— —	50.6 11.9	— —	— —	— —	— —	— —	— —
Germany	51.5 13.3	52.0 11.2	62.5 9.7	74.3 15.4	71.1 2.3	77.7 1.5	— —	— —
Ireland	72.9 12.1	40.0 6.1	54.3 7.4	65.0 6.1	54.9 4.7	55.8 6.3	— —	— —
Italy	— —	30.0 8.9	39.2 14.5	— —	— —	— —	— —	— —
Japan	— —	— —	66.6 17.5	100.3 26.1	— —	— —	— —	— —
Netherlands	32.6 11.9	42.3 7.5	46.2 8.4	72.5 3.3	78.5 14.0	60.9 7.0	— —	— —
New Zealand	32.3 24.4	39.6 18.1	37.1 14.7	51.0 11.9	— —	— —	— —	— —
Norway	— —	— —	63.1 3.5	63.9 8.4	63.6 2.6	— —	— —	— —
Portugal	— —	— —	34.0 13.3	— —	— —	— —	— —	— —
Singapore	33.4 6.8	25.2 4.6	41.4 16.4	— —	— —	— —	— —	— —
South Africa	— —	38.2 26.6	28.4 26.8	39.6 22.0	— —	— —	— —	— —
Spain	— —	34.5 25.4	38.0 13.8	— —	— —	— —	— —	— —
Sweden	— —	43.9 15.5	52.2 16.0	— —	— —	— —	— —	— —
Switzerland	— —	70.2 17.1	80.2 11.7	81.7 1.4	98.2 12.1	— —	— —	— —
United Kingdom	42.7 16.5	53.8 9.9	62.8 11.0	60.9 8.3	74.8 5.3	75.2 3.6	77.4 5.1	88.1 0.7

REGION: NEW ENGLAND (CT, ME, MA, NH, RI, VT)						
YRS EXP	GENERALIST	NETWORKING	OTHER	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	— / —	— / —	— / —	— / —	— / —	55.3 / 13.8
3-4	65.0 / 7.1	— / —	— / —	60.7 / 5.1	64.3 / 6.8	66.9 / 14.6
5-6	67.1 / 6.7	68.1 / 8.2	79.6 / 4.8	— / —	73.7 / 9.0	70.1 / 7.8
7-8	80.6 / 3.9	85.6 / 2.9	— / —	— / —	85.5 / 4.5	78.7 / 5.2
9-10	90.8 / 4.9	88.1 / -0.9	— / —	— / —	— / —	83.1 / 3.1
11-15	93.7 / 5.8	— / —	— / —	— / —	82.7 / 2.0	82.5 / 2.4
16-19	— / —	— / —	— / —	— / —	— / —	87.8 / 2.9
20+	92.5 / 3.0	— / —	— / —	— / —	— / —	90.5 / 2.6

**REGION: MIDDLE ATLANTIC (NJ, NY, PA)**

Yrs Exp	DATABASES	GENERALIST	HELP DESK	NETWORKING	OTHER	PEOPLE MANAGEMENT	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	57.2 / 4.6	54.1 / 42.2	35.8 / 18.8	— / —	72.4 / 9.3	— / —	— / —	— / —	50.2 / 22.6
3-4	— / —	50.4 / 8.2	— / —	58.5 / 5.5	63.1 / 13.8	— / —	— / —	73.9 / 12.1	56.0 / 22.0
5-6	— / —	76.2 / 5.4	64.5 / 6.4	66.0 / 4.9	75.7 / 12.8	— / —	92.2 / 13.1	75.2 / 6.4	72.6 / 9.2
7-8	— / —	80.4 / 5.3	— / —	72.1 / 7.8	67.5 / 9.3	— / —	— / —	81.7 / 9.2	81.0 / 6.3
9-10	— / —	88.7 / 4.5	— / —	69.8 / 6.2	— / —	111.7 / 2.4	99.3 / 25.4	94.2 / 7.4	99.4 / 5.6
11-15	— / —	97.1 / 3.3	— / —	77.9 / 5.5	83.8 / 10.6	— / —	— / —	94.8 / 3.3	97.7 / 2.9
16-19	— / —	— / —	— / —	— / —	— / —	— / —	— / —	111.1 / -7.3	86.9 / 2.8
20+	— / —	106.6 / -1.3	— / —	— / —	79.8 / 3.5	— / —	— / —	129.9 / 15.2	93.0 / 5.7

**REGION: EAST NORTH CENTRAL (IL, IN, MI, OH, WI)**

Yrs Exp	DATABASES	GENERALIST	HELP DESK	NETWORKING	OTHER	PEOPLE MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	45.5 / 53.1	47.9 / 22.8	38.3 / 12.1	37.9 / 35.1	53.5 / 9.2	— / —	71.2 / 5.0	48.8 / 2.7
3-4	54.3 / 17.6	50.0 / 8.1	49.6 / 16.7	48.4 / 9.7	— / —	— / —	61.9 / 8.7	56.6 / 12.1
5-6	— / —	58.9 / 6.8	46.1 / 7.4	63.5 / 14.3	58.3 / 39.5	65.4 / 10.8	63.6 / 15.3	65.3 / 10.2
7-8	67.2 / 8.7	66.6 / 4.7	60.3 / 6.6	60.6 / 5.8	61.1 / 15.5	66.7 / 7.5	73.2 / 4.4	72.5 / 5.6
9-10	69.6 / 5.4	71.6 / 1.5	— / —	61.8 / 4.8	69.2 / 6.6	— / —	74.6 / 6.8	79.8 / 6.0
11-15	— / —	78.2 / 3.0	— / —	74.0 / 6.0	74.1 / 5.4	93.0 / 2.5	78.2 / 5.3	78.0 / 8.8
16-19	— / —	74.9 / 2.6	— / —	86.5 / 7.1	— / —	— / —	77.6 / -5.1	86.0 / 6.0
20+	— / —	80.2 / 2.8	— / —	62.4 / 5.1	— / —	— / —	— / —	80.0 / 4.0

**REGION: WEST NORTH CENTRAL (IA, KS, MN, MO, NB, ND, SD)**

Yrs Exp	GENERALIST	NETWORKING	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	53.5 / 25.0	46.0 / 5.9	— / —	60.0 / 2.7	45.7 / 48.5
3-4	55.1 / 10.0	39.1 / 10.8	— / —	57.6 / 6.1	56.3 / 5.8
5-6	52.7 / 5.9	65.1 / 9.0	64.8 / 19.5	68.7 / 10.9	63.4 / 11.7
7-8	65.3 / 11.1	67.7 / 9.5	— / —	71.9 / 4.0	67.6 / 5.5
9-10	64.4 / 6.2	68.8 / 6.5	— / —	85.9 / 1.3	69.4 / 11.9
11-15	66.3 / 3.5	83.5 / 4.9	— / —	81.1 / 1.1	76.2 / 4.8
16-19	— / —	— / —	— / —	89.0 / 10.6	98.6 / 7.7
20+	— / —	— / —	— / —	75.2 / 0.9	91.0 / 2.8

**REGION: SOUTH ATLANTIC (DE, DC, FL, GA, MD, NC, SC, VA, WV)**

Yrs Exp	DATABASES	GENERALIST	HELP DESK	NETWORKING	OTHER	PEOPLE MANAGEMENT	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	— / —	63.9 / 20.6	— / —	43.7 / 22.5	56.9 / 5.6	— / —	56.2 / 12.5	62.8 / 14.2	49.7 / 40.6
3-4	57.8 / 21.7	60.0 / 21.9	47.3 / 14.6	48.0 / 14.9	59.5 / 6.6	— / —	— / —	68.4 / 22.5	59.4 / 13.2
5-6	66.7 / 10.9	69.9 / 8.4	52.4 / 6.2	58.7 / 7.3	60.7 / 4.3	79.0 / 1.2	78.1 / 8.6	76.2 / 11.0	66.9 / 10.4
7-8	— / —	78.5 / 7.6	— / —	76.7 / 16.9	81.3 / 14.7	— / —	81.2 / 7.2	79.6 / 10.5	73.8 / 8.1
9-10	79.8 / 5.0	86.9 / 7.8	— / —	74.6 / 3.5	73.6 / 1.5	— / —	76.7 / 1.1	76.8 / 7.1	79.3 / 3.3
11-15	— / —	80.7 / 5.5	— / —	80.8 / 5.9	95.3 / 5.9	103.4 / 4.8	81.3 / 2.4	82.2 / 6.9	85.4 / 2.2
16-19	— / —	86.4 / 2.5	— / —	122.3 / -0.2	94.2 / 6.4	— / —	— / —	94.9 / 6.9	85.0 / 0.2
20+	— / —	87.6 / 2.3	— / —	— / —	82.0 / 10.1	— / —	— / —	88.4 / 7.6	78.7 / 5.0

**REGION: EAST SOUTH CENTRAL (AL, KY, MS, TN)**

Yrs Exp	GENERALIST	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	36.4 / 4.1	44.6 / 57.6	— / —	— / —	— / —
3-4	48.9 / 33.7	— / —	— / —	— / —	50.7 / 5.3
5-6	53.4 / 3.9	51.9 / 8.8	61.1 / 9.3	59.5 / 8.2	65.9 / 7.3
7-8	49.8 / 4.2	65.2 / 5.4	— / —	— / —	60.0 / 2.2
9-10	64.7 / 6.5	63.5 / 1.4	— / —	76.1 / 8.5	81.0 / 14.3
11-15	72.1 / 11.4	— / —	— / —	77.3 / 3.5	71.8 / 2.9
20+	95.7 / 2.6	— / —	— / —	— / —	— / —

**REGION: WEST SOUTH CENTRAL (AR, LA, OK, TX)**

Yrs Exp	GENERALIST	NETWORKING	OTHER	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	62.2 / 12.5	47.6 / 17.3	— / —	— / —	58.7 / 27.0	55.3 / 16.3
3-4	49.9 / 10.9	44.4 / 14.0	61.4 / 13.7	— / —	57.7 / 43.2	58.1 / 2.5
5-6	57.8 / 7.5	60.5 / 10.3	69.9 / 45.9	66.8 / 16.1	65.3 / 3.9	63.8 / 5.2
7-8	73.7 / 12.5	57.8 / 4.7	68.9 / 9.0	— / —	76.3 / 0.9	77.9 / 5.2
9-10	80.4 / 6.2	66.5 / 8.8	76.9 / 9.2	— / —	76.9 / 3.0	73.2 / 12.2
11-15	90.8 / -0.0	80.8 / 9.1	94.1 / 0.9	81.2 / 5.0	88.7 / 6.7	80.3 / 1.0
16-19	92.4 / 6.5	— / —	— / —	— / —	— / —	89.7 / -1.4
20+	90.0 / 4.5	— / —	— / —	— / —	91.0 / 15.1	86.2 / 4.0

**REGION: MOUNTAIN (AZ, CO, ID, MT, NV, NM, UT, WY)**

Yrs Exp	DATABASE	GENERALIST	HELP DESK	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1..2	— / —	59.4 / 16.4	39.5 / 17.3	— / —	— / —	81.0 / 8.2	48.6 / 6.9
3..4	— / —	49.5 / 19.2	— / —	52.1 / 14.8	48.2 / 11.1	63.9 / 15.5	54.9 / 13.5
5..6	— / —	60.6 / 9.7	39.7 / 10.8	61.3 / 6.9	59.2 / 2.4	69.4 / 3.7	61.6 / 8.7
7..8	— / —	62.3 / 7.1	— / —	62.3 / 5.2	— / —	71.5 / 13.4	69.4 / 5.9
9..10	— / —	87.5 / 5.7	— / —	74.9 / 7.4	— / —	80.0 / 13.7	76.6 / 5.4
11..15	88.7 / 3.9	89.5 / 4.8	— / —	68.5 / 9.8	— / —	92.3 / 4.6	77.2 / 4.7
16..19	— / —	73.0 / 5.0	— / —	— / —	— / —	— / —	80.2 / -0.7
20+	— / —	95.5 / 2.2	— / —	— / —	— / —	86.6 / 11.6	79.1 / 4.5



**REGION: PACIFIC (AK, CA, HI, OR, WA)**

Yrs Exp	DATABASE	GENERALIST	HELP DESK	NETWORKING	OTHER	PEOPLE MANAGEMENT	PROJECT MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	— / —	65.1 / 21.8	— / —	56.7 / 21.9	73.9 / 8.9	— / —	— / —	86.1 / 101.8	55.4 / 17.1
3-4	58.8 / 10.3	61.5 / 11.3	57.3 / 16.0	59.5 / 8.9	68.0 / 11.6	— / —	60.5 / 2.2	77.3 / 7.2	64.1 / 12.5
5-6	67.1 / 8.5	65.5 / 3.9	70.0 / 13.8	64.4 / 12.3	73.6 / 15.1	88.3 / 9.1	86.7 / 23.2	79.4 / 12.3	73.8 / 6.8
7-8	84.9 / 6.0	85.4 / 8.0	— / —	75.7 / 11.3	82.5 / 6.8	— / —	77.7 / 6.0	88.6 / 1.7	81.9 / 4.2
9-10	80.5 / 3.7	85.4 / 17.0	— / —	82.5 / 9.4	90.0 / 4.2	— / —	93.9 / 1.5	83.8 / 5.0	88.7 / 3.2
11-15	80.0 / 4.6	94.2 / 6.7	— / —	83.9 / 6.2	98.5 / 14.7	— / —	110.8 / 5.1	97.8 / 6.0	92.5 / 1.4
16-19	— / —	105.9 / 3.5	— / —	— / —	— / —	— / —	— / —	86.2 / 12.4	93.5 / 4.2
20+	— / —	104.7 / 5.0	— / —	94.1 / 0.4	106.3 / 21.7	112.0 / 2.1	— / —	78.4 / 4.2	101.4 / 3.7

**REGION: AUSTRALIA**

Yrs Exp	DATABASE	GENERALIST	HELP DESK	NETWORKING	SECURITY	SERVER MANAGEMENT
1-2	36.7 / 16.2	— / —	— / —	31.6 / 20.2	— / —	36.2 / 39.0
3-4	— / —	40.0 / 8.3	27.8 / 5.6	— / —	55.6 / 33.1	40.3 / 12.0
5-6	— / —	41.4 / 11.6	— / —	50.4 / 8.9	48.0 / 19.3	46.2 / 12.3
7-8	— / —	51.8 / 15.0	— / —	48.3 / 5.2	55.8 / 5.5	50.3 / 10.2
9-10	— / —	48.3 / -0.0	— / —	— / —	64.6 / 4.8	60.0 / 8.1
11-15	— / —	59.6 / 4.9	— / —	— / —	65.6 / 2.3	56.2 / 5.4
16-19	— / —	51.6 / 0.4	— / —	— / —	— / —	55.0 / 2.2

**REGION: CANADA**

Yrs Exp	DATABASE	GENERALIST	HELP DESK	NETWORKING	OTHER	PEOPLE MANAGEMENT	SECURITY	SERVER MANAGEMENT
1-2	— / —	39.2 / 27.2	27.3 / 8.3	39.6 / 3.6	— / —	— / —	48.6 / 10.4	36.8 / 17.9
3-4	42.5 / 15.6	42.2 / 15.1	— / —	45.3 / 20.3	— / —	— / —	44.4 / 12.9	41.1 / 12.7
5-6	— / —	47.3 / 8.1	41.9 / 10.1	46.5 / 5.9	40.3 / 3.8	52.0 / 14.3	60.2 / 14.7	46.8 / 3.8
7-8	— / —	49.4 / 3.3	— / —	51.1 / 6.8	48.0 / 8.4	43.2 / 4.6	57.1 / 8.0	49.7 / 8.1
9-10	— / —	54.8 / 5.0	— / —	53.2 / 11.5	— / —	— / —	58.5 / 4.6	54.8 / 5.5
11-15	— / —	60.0 / 4.3	— / —	53.7 / 3.2	— / —	61.1 / 2.1	59.0 / 5.8	59.1 / 1.8
16-19	— / —	58.5 / 6.0	— / —	— / —	— / —	— / —	55.5 / -2.5	— / —
20+	— / —	53.9 / -0.9	— / —	— / —	— / —	— / —	73.2 / 3.7	57.4 / 4.2

**REGION: UNITED KINGDOM**

Yrs Exp	GENERALIST	NETWORKING	OTHER	SECURITY	SERVER MANAGEMENT
1-2	41.3 / 16.0	45.0 / 12.3	45.8 / 13.8	— / —	36.6 / 7.0
3-4	49.7 / 7.8	— / —	— / —	78.9 / 14.4	52.5 / 9.4
5-6	61.0 / 5.4	72.3 / 34.6	63.9 / 21.3	66.6 / 15.0	59.8 / 8.5
7-8	62.6 / 13.6	40.4 / 3.7	74.6 / 8.1	87.7 / -0.1	57.3 / 9.1
9-10	76.8 / 5.4	— / —	— / —	82.4 / 4.6	71.4 / 5.7
11-15	75.3 / -2.0	— / —	— / —	80.7 / 7.8	68.4 / 4.6

## Do Large Companies Pay More?

The chart below shows how salaries are distributed at companies of various sizes. It appears that larger companies not only have more admins (something you can't tell from the chart) but also have more admins in the higher pay brackets (something the chart shows very clearly). Each box shows the percentage of people at a company in that range.

SALARY DISTRIBUTION VS. COMPANY SIZE								
SALARY	0-9	10-49	50-99	100-499	500-999	1000-4999	5000+	TOTAL
0..29,999	22.1	16.0	11.6	9.1	9.3	6.1	4.8	8.2
30,000..39,999	17.9	16.7	14.1	12.3	13.5	9.6	8.7	11.2
40,000..49,999	13.3	15.5	17.0	16.6	13.0	14.4	12.3	14.1
50,000..59,999	12.1	15.3	13.2	16.2	19.4	16.2	17.6	16.6
60,000..69,999	10.0	8.8	13.4	14.7	14.6	14.9	15.3	14.2
70,000..79,999	6.7	9.9	12.3	12.0	9.9	14.1	14.6	12.9
80,000..89,999	7.5	5.9	6.9	6.9	8.2	9.3	11.8	9.3
90,000..9,9999	5.0	5.5	3.6	5.2	4.7	6.4	6.1	5.6
100,000..149,999	5.0	5.4	7.3	6.3	6.4	8.0	8.2	7.3
150,000+	0.4	0.9	0.6	0.6	1.0	1.0	0.6	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

## Certifications and Salary

Often, a certification means a higher salary. Sometimes, though, this isn't true. Gray shaded boxes are those for which those with certs earned, on average, less than those without. Los Angeles, Boston, and Seattle, for example, don't seem to value certs much at all! This chart is skewed a bit by people changing jobs, but does have interesting data to suggest that certifications are not a good way to predict salary (since sometimes they help earning power and sometimes they don't).

Many respondents were certified on one or more technologies or products. The chart below shows regional mean salaries (by experience) for those without a certification (before the slash) and those with (after the slash). A bracketed number, if present, shows the statistical significance level of the means. A level of 0.05 means "95% of the time this is not a statistical coincidence."

REGION	YEARS EXPERIENCE						
	1-2	3-4	5-6	7-8	9-10	11-15	16-19
Arlington	—	—	57.6 / 66.2 [0.1]	74.5 81.5	67.3 73.5	86.1 81.6	—
Atlanta	—	51.0 57.1	65.3 70.7	72.4 / 82.6 [0.1]	—	—	—
Balt/WashDC+	58.0 59.6	61.9 63.3	68.2 69.8	71.4 / 78.6 [0.025]	80.9 83.9	86.5 87.7	93.7 / 106.3 [0.1]
Boston+Area	—	58.4 58.7	63.9 68.2	79.4 78.2	78.6 81.4	84.3 78.8	—
Chicago	—	50.6 / 60.3 [0.05]	71.7 69.0	71.4 75.4	83.4 86.8	89.5 88.0	—
Denver/Front Range	—	—	61.6 62.2	—	73.9 / 90.4 [0.1]	76.5 / 86.9 [0.1]	—
Los Angeles	52.6 61.5	56.4 / 48.4 [0.1]	64.0 59.3	75.0 69.5	80.7 77.3	94.5 92.5	—
Milwaukee	—	—	—	67.8 63.0	—	62.9 61.1	—
Mpls./St. Paul	—	—	63.6 58.7	63.3 / 75.2 [0.025]	68.2 79.2	—	—
New York	—	55.5 63.2	77.6 75.4	90.4 80.7	98.8 / 115.6 [0.1]	—	—
Orlando/Tampa	—	—	55.0 59.2	—	—	—	—
Philadelphia	—	—	63.8 71.0	75.7 76.4	85.6 86.8	—	—
Portland	—	—	—	—	76.3 78.9	—	—
San Diego	—	—	59.4 60.9	—	—	—	—
San Jose	—	71.3 71.3	80.2 78.8	92.7 88.7	99.2 105.3	103.8 / 92.7 [0.05]	—
Seattle	—	56.3 53.3	67.8 / 58.1 [0.025]	74.0 73.3	—	77.5 88.7	—

# 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.

## Why Did Salary Change?

Respondents were asked why their salary changed. They could choose from a list and also enter extra information. Almost two thirds believe that hard work and/or good work ethic was the cause of their salary change. Just over a third believed tangible results (stable environment, achieving goals) was responsible. Here's the whole chart:

WHY SALARY CHANGED	
% CITED	SALARY CHANGE REASON
64.91%	Worked hard with a positive attitude and ethic
37.92%	Maintained a stable network or system environment
34.46%	Achieved your goals on time and on budget
20.75%	Grew into a more active planning/management role
20.51%	Became involved in a high-profile project
13.36%	Upgraded skills via education
11.77%	Publicized your achievements
10.83%	Earned a certification (i.e., SANS/GIAC, MCSE, CCNA, CISSP, etc.)
10.69%	Other
4.31%	Used a salary survey to educate your management/HR
3.98%	Changed to management
3.80%	Improved speaking, writing, and/or presentation skills
2.76%	Earned a college/advanced degree
1.48%	Went into consulting

## Jobs: The Good Part

What do people like about their jobs? It turns out that the #1 property cited by respondents was a casual work environment, cited by just under one third of those who answered this question. Second place was 'challenge,' with quality of coworkers, environment flexibility, and job stability rounding out those marked by more than 20% of the survey participants. The table below shows the entire set of standard responses:

## FAVORITE JOB PROPERTIES

% CITED	JOB PROPERTIES
33.06%	Casual dress, atmosphere, environment
25.86%	Challenge
22.29%	Co-workers
22.15%	Flexible working environment, freedom
21.06%	Stability, job security
17.89%	Flexible hours
15.98%	Job satisfaction
15.77%	Technology, fast internet
11.48%	Company location
10.58%	Compensation
10.53%	Projects
10.22%	Use of open source
10.09%	Standard workweek
9.35%	Academic environment
8.97%	Benefits
8.80%	Respect, trust
8.66%	Small company environment
7.84%	Dynamic environment
7.10%	Education, tuition, training, incl. conferences
7.04%	Good management
6.86%	Special hardware (e.g., laptop, supercomputer)
5.56%	Culture
5.32%	Fun
4.04%	Commuting
4.04%	Telecommuting
3.76%	Walled offices
2.92%	Vacation/sabbatical policy
2.46%	Good pension
2.22%	Subsidy for cell, home telecomm, hardware
2.13%	I'm my own boss or it's my company
1.80%	Enlightened policies
1.70%	Other
1.70%	Free or cheap food, drink at work
1.63%	Comp time
1.62%	Gym or health club membership (or on-site)
1.48%	Stock purchase, grant plans
1.03%	Facilities, phys. environment
0.80%	Discounts, free merchandise
0.70%	Transportation (company car, free parking, bus subsidy, carpooling, etc.)
0.65%	Social activities
0.64%	Travel, cruises
0.64%	Smoking policy
0.39%	Dogs allowed at company
0.33%	Sabbaticals
0.30%	Movies, entertainment
0.14%	Child care
0.10%	Special rewards (e.g., cruises)

The 'Other' category included these items (with the number of citations in parentheses):

- It's a job/paycheck (16)
- learning opportunities (7)
- variety (6)
- Company's mission/purpose (5)
- Future potential (4)
- like the product (3)
- loafing (3)
- I make a difference (3)
- Beer (2)
- No on-call at night/weekends (2)
- Low stress (2)
- technology
- benefits for children
- NASA rocks
- green card
- Own office
- I'm recognized
- Sense of achievement
- Four months at sea
- Human interaction
- No politics
- Help people
- No Microsoft
- I get to blow stuff up (military job)
- Weekly pay cycle
- New contacts in field
- No overtime
- Short workweek

## Jobs: The Bad Part

What about the other side of the coin? What are the most disliked features of sysadmin jobs?

Corporate management issues! Look at the breakdown: bad management decisions (first at 28.9%), bureaucracy (second 20%), leadership issues (sixth at 14.9%), politics (ninth at 12.8%).

Money is third (bad compensation: 18.5%), fifth (salary/benefit issues: 15%), and eighth (infrequent raises: 13.1%). Staff shortage complaints round out the top five at 15.3%.

Several respondents noted in the comments section that they wanted to check far more than three "dislikes." Here's the complete chart:

## LEAST FAVORITE JOB PROPERTIES

% CITED	JOB PROPERTIES
28.91%	Bad or slow management decisions (including flip-flopping)
19.99%	Bureaucracy, paperwork, "Corporate B.S."
18.49%	Bad compensation
15.33%	Not enough staff
15.04%	Salary, benefit issues
14.93%	Leadership issues, poor or poorly communicated vision
14.55%	Budgets, funding
13.16%	Infrequent salary increases
12.82%	Politics
11.00%	Ceiling on advancement or low advancement speed
10.99%	Corporate stability, layoffs
10.97%	Poorly communicated or differentiated priorities
10.55%	Poor respect or low value placed on my job; poor visibility in org.
9.90%	Boredom
8.94%	Vision, future planning (lack thereof)
7.85%	Commute
7.42%	Continuous interruptions
7.22%	Co-worker, user quality issues
7.20%	Lack of peers
6.86%	Conflicting demands
6.55%	Bad infrastructure
6.48%	Cost of living
5.93%	Interruptions
5.69%	Coping with growth or force reduction
5.69%	Infrequent salary reviews
5.30%	On-call or pager/mobile phone issues
5.26%	Work hours
5.11%	Lack of accountability
5.11%	Inability to see reality
4.84%	Working outside general job description
4.81%	Management stability
4.48%	Keeping up with advances
4.48%	Unrealistic job performance expectations
3.32%	No conference attendance
2.86%	Location
2.63%	Other
2.43%	Culture
2.22%	Ethical issues
1.97%	Inflexibility
1.23%	Specific vendors (or lack of specific vendors)
1.12%	Travel
0.84%	Discrimination, tolerance issues (age, race, creed, orientation, etc.)

236 people (2.64%) wrote an extra comment for the 'Other' category. These included (with the number of citations in parentheses):

- Lack of training/professional development (41)
- Bad management [a repeat of the category from the regular list] (15)
- Cubicles/office physical layout (14)
- Microsoft culture; no open source (9)
- Lack of security awareness (4)
- No/bad advancement prospects (4)
- Bad telecommuting policy/implementation (4)
- Not enough vacation (3)
- Respect (3)
- Enforced dress code (2)
- Job security (2)
- Dislike of sysadmin work/job satisfaction (2)
- Outsourcing (my job; jobs near me) (2)
- Responsibility without authority
- No raises with promotions
- Smoking policy in practice
- Academic environment
- Too much "moral flexibility" in marketing department
- Decisions based on politics vs. technology
- High work load
- Dangerous
- Turf wars and infighting
- Low morale
- Bad human resources
- Compensation decreases
- Security Policies (Clearance required)
- Lack of opportunities to improve certain skills
- Ergonomic/Health environment
- 24 hour/day on call
- Bad respect
- Salary increases unrelated to work performance
- That my company HAS domestic partner benefits
- Health Benefits

The huge number of comments about training is surely an eye-opener. The comments about cubicles cannot be printed in a family salary survey!

## What is Important?

Over 5,900 respondents answered a question as to what properties are going to be important in the future. Below are the results, roughly ordered by respondents' recommendations. The numbers speak for themselves.

WHAT SKILLS ARE NEEDED						
	No OPINION	No VALUE	SOME VALUE	MEDIUM VALUE	HIGH VALUE	SUPREME VALUE
Professional certification	13.36%	10.22%	35.28%	23.34%	14.81%	2.99%
Membership in a professional society	23.53%	23.53%	37.27%	11.44%	3.49%	0.74%
Expertise in computer security	9.46%	0.54%	7.12%	20.02%	45.95%	16.92%
Expertise in storage and file systems	12.01%	1.18%	12.65%	30.96%	35.78%	7.42%
Expertise in communications, including wireless	14.07%	1.18%	13.52%	29.18%	34.07%	7.99%
Expertise in Linux	11.29%	2.16%	16.54%	27.40%	30.53%	12.08%
Expertise in .NET	24.87%	23.73%	27.10%	15.40%	7.61%	1.28%
Expertise in user support	14.16%	2.97%	18.41%	26.29%	27.16%	11.01%
Expertise in database management	13.93%	1.85%	17.37%	29.66%	29.84%	7.35%



## Mailing lists

Respondents were asked to list their favorite mailing lists. Many replied with enthusiasm, though some were a bit more curmudgeonly: “Who has time?”, “What’s a sysadmin mailing list?”, “Just one step up from spam.” Nevertheless, two big winners, each with almost 1,000 respondents were:

- bugtraq
- SANS Newsbites

Both of these, of course, report problems with systems. Down at the 300 level were:

- CERT (more problem reporting)
- Sun BigAdmin
- sage-members@sage.org (assistance and help)

At the next tier:

- Sun Manager
- NT bugtraq
- slashdot (not strictly a mailing list)
- Security Focus
- nanog

The specific mailing lists above are interesting, but the general focus of subscriptions is also enlightening (note that no single Microsoft list appeared above). When examined for ‘area of focus,’ the list looks like the table below (where the number indicates how many total subscriptions exist for a news list relating to that topic/vendor/organization as reported on the survey. People with multiple subscriptions are counted more than once.

POPULAR MAILING LIST TOPICS			
# SUBS	LIST	# SUBS	LIST
964	SANS	37	sage-au, et al.
956	Bugtraq	37	Mac*
499	Solaris/Sun	37	Cisco
316	Security Focus	36	OpenBSD
315	CERT	36	HP
304	Sage/Usenix	36	Firewall Wizards
281	Microsoft and MS Products	34	perl
179	Linux (many lists, vendors not included)	33	sysadmin
121	NT Bugtraq	32	phoneboy
118	nanog	32	UGU
118	FreeBSD	32	ComputerWorld
105	TechRepublic	30	Snort
98	Slashdot (not really a mailing list)	29	Network World
81	Debian Linux	28	alt.sysadmin.recovery
79	Redhat	26	isp-* lists
72	vuln*	23	samba
66	CNET	23	ZDNET
65	Full-disclosure	23	Security Wire Digest
60	Search*	22	Sys Admin Mag (might be underreported)
54	Veritas	21	Tru64
45	Unisog	21	Network Computing
44	CryptoGram & Counterpane	21	CISSP
38	Unix*		

## 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 skill sets seem to be the growth path of choice (at least as far as increasing the midpoint of the salary bell curves goes).

## About SAGE

SAGE is the technical and professional organization for the entire gamut of computer administrators. With thousands of members and an international membership base, SAGE's goal is to advance the profession of system administration. SAGE distributes a light yet densely packed weekly e-mail newsletter that's all meat and no fat (see <http://sageweb.sage.org/newsletter.html>). SAGE fosters professional development, sponsors a mentoring program, recognizes outstanding administrators with awards, and strives to improve communication with and among administrators of all kinds. See SAGE's website (<http://www.sage.org>) for discussion forums, news, and information for the entire administration community. SAGE is a special technical group of The USENIX Association.

## About SANS

SANS is the trusted leader in information security certification, education, and research. The SANS (SysAdmin, Audit, Network, Security) Institute was established in 1989 as a cooperative research and education organization and today enables more than 156,000 security professionals, auditors, system administrators, and network administrators to share the lessons they are learning and find solutions to the challenges they face. Last year, more than 12,000 security professionals spent a week or more in immersion training programs on the most up to date techniques for protecting and auditing information systems. At the heart of SANS are the many security practitioners in government agencies, corporations, and universities around the world who invest hundreds of hours each year in research and teaching to help the entire information security community.

Many SANS resources, such as news digests, research summaries, security alerts and award-winning papers are free to all who ask. See the website at <http://www.sans.org> for a host of free resources.

## About BigAdmin

The BigAdmin site at <http://www.sun.com/bigadmin> focuses on helping system administrators solve day-to-day problems by providing the latest resources, articles, FAQs, scripts, and discussion forums. While the bulk of the content covers the Solaris OS and Sun systems, the site is of general interest to all system administrations regardless of their operating platform.



