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# 1999 SANS

System, Network,  
and Security  
Administration  
**Salary Survey**

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# THE 1999 SANS SYSTEM, NETWORK, AND SECURITY ADMINISTRATION SURVEY

The positions held by administrators, auditors, and security professionals continue to become ever more critical as businesses increase their reliance on data processing and computer networking. These professionals ensure that computer systems continue to operate, that data is not lost (either through mismanagement or malicious breakins), that users have easy and continuous access to the resources they need to perform their jobs, and that electronic commerce operates smoothly, continuously, and securely. Their skill, perseverance, patience and creativity directly impact the productivity of every computer user in organizations from the smallest, one-site company to the largest global enterprise.

As organizations added computers over the last few years for enterprise resource management, electronic commerce, electronic mail, scientific analysis, and general office productivity, the relentless law of supply and demand has pushed systems, network, and security administrator salaries higher and higher. The average increase in salaries reported by almost 11,000 respondents was 11.47% from last year. The Northeast and Southwest continue to be the technological salary hotbeds.

This Sixth Annual SANS Salary Survey reflects data from 11,064 system, network, and security administrators from the entire gamut of industries. We hope you find it useful but must ask that it not be reproduced in whole or in part, in any way without specific prior written permission.

## ABOUT THE SANS INSTITUTE

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## 1. INTRODUCTION AND HIGHLIGHTS

While most of this document consists of tables, here are a few highlights in prose to point the way.

All salaries are reported in United States dollars.

Salary averages are reported in sub-groups only when the group contains at least four members. Otherwise, when the group is too small for statistical averaging, dashes are printed in the various tables.

Many tables report separate statistics for Windows NT and Novell Netware from the many brands of UNIX and other operating system such as MVS and Cisco IOS. In the tables, NT signifies the first group while UNIX signifies the second.

1. This year's survey response grew to 11,064 valid responses from 7,189 in 1998 and 1,608 in 1997. This large response enables more accurate salary breakdowns by industry and other measures.
2. Over 50% of the administrators report 1998 salaries from \$40,000 to \$69,999; see Section 3a. The average overall reported salary is \$56,441; the median is \$54,000. The average NT salary reported is \$53,598 while the average UNIX salary is \$62,907. Median for NT is \$50,000 while the median for UNIX is \$61,000.
3. Security consultants topped the heap with an average reported income of \$73,762; security auditors were next with \$66,193; then came security administrators at \$58,590, database administrators at \$55,641, then system administrators at \$54,660, and network administrators at \$51,133. See Section 3h.
4. The average reported raise was 11.47%. Men reported raises of 11.61% versus women at 10.40%. Security consultants reported raises of 11.4%; database admins 11.4%; security administrators 10.4%; security auditors 9.6%; system administrators 11.4%; and network administrators 12.0%.

In addition, there appears to be some wage compression by age as workers with more than 10 years of administrative experience received generally smaller raises percentage-wise than those with fewer years of experience. Paradoxically at the same time, very highly paid workers received raises that were, on average, higher than those earning less than average (see Section 3m for these counterintuitive results).

5. Experience counts. Those with less than three years of experience report incomes that average at least \$14,000 less than average. Those with twenty or more years of experience average almost \$20,000 or more above average. See Section 3b.
6. Education counts, too. Holders of Masters Degrees report salaries \$9,000 greater than average. Those without a bachelors degree report smaller than average salaries. See Section 3l.
7. Management responsibility is usually rewarded. Front line managers appear to earn more money for each subordinate. See Section 3n.
8. More than 83% (down from 88% last year) of the administrators reported that they did not work in homogeneous computer environments. Instead, they managed several different operating systems. On average, those managing more than three types of computers made more money. See Section 2g and 3k.
9. Amazingly, there are significant salary differences among those who concentrate on different OSES. For example, Solaris administrators report salaries \$8,000 above average while Windows NT administrators averaged \$2,000 below average. Novell Netware admins averaged another \$1,500 lower than that. See Section 3e for comparisons.
10. Women are catching up to men in experience; see Section 2f. Women's salaries continue to trail men's salaries for administrators with more than five years experience but have caught up with and pretty much equalled those of men for respondents with less than five years of experience; see Sections 3f and 3o.
11. Applications, chemical, biotech, security, and pharmaceutical industries continue to pay highest on average. Education is sadly among the lowest of payers, averaging over \$20K/year below the higher paying industries. Money isn't everything, of course. See Section 3f.
12. The US Northeast and US Southwest are the best places to make more money. See Section 3i.
13. Just under 22% of the respondents are paid extra for overtime.

The document includes demographics (in the next section) and a host of tables in Section 3. If you are in a hurry to see how your salary stands up, check out Section 3m to see salaries broken out by region, experience, position, and operating system.

## 2. DEMOGRAPHICS

More than 11,064 full-time administrators and auditors completed the survey this year, up over 50% from 7,189 last year. They completed a questionnaire on the world wide web with over 40 questions, including:

- Organization type and size
- Administrator Type
- Number of OS types supported
- Main operating system
- Number of users in organization
- Number of desktops and servers
- Number of subordinates
- Years of sysadmin experience
- Years of general computer experience
- Number of org's FTE sysadmins, netadmins, and security admins
- This year's and last year's salary
- Number of hours worked per week
- Whether overtime is paid
- Highest educational degree
- Gender
- Whether salaried, consultant, or contractor
- Why salary changed
- Region of world
- Favorite benefits
- Important reasons for job stability

This document summarizes some of their responses. While over 11,000 forms had responses deemed valid, many tables summarize fewer responses because not all respondents answered every question.

Throughout the document, standard security and system administration terminology will be used. Additionally, six abbreviations describe the various jobs held by respondents:

DB_ADM	Database Administrator
NET_ADM	Network Administrator
SEC_ADM	Security Administrator
SEC_AUD	Security Auditor
SEC_CON	Security Consultant
SYS_ADM	System Administrator

Furthermore, some tabular columns are marked with a dagger (†) that indicates that that column's percentages are percentages of items listed only in that column, not of the entire set.

All "years of experience" in this document refer to years of experience in administration of computers.

## 2A. WHERE ARE THEY FROM?

SURVEY RESPONDENT LOCATION		
LOCATION	COUNT	PERCENT
US-Northeast	2,604	23.4
US-Midwest	2,011	18.1
US-Southwest	1,890	17.0
US-Southeast	1,219	11.0
US-South	915	8.2
US-Northwest	579	5.2
Canada – Ontario	254	2.3
Eur: UK	224	2.0
Canada – Other	201	1.8
Australia	174	1.6
Eur: Scandinavia/Benelux	164	1.5
Canada – BC	121	1.1
Canada – Quebec	108	1.0
Eur: Germ/Aus/Switz	73	0.7
South America	70	0.6
Other Asia	69	0.6
East. Eur. & Soviet Repb's	59	0.5
Other West. Europe	54	0.5
Middle East	51	0.5
South Africa	49	0.4
Hawaii	45	0.4
Alaska	37	0.3
New Zealand	34	0.3
Asia/India	19	0.2
Mexico	18	0.2
Central America	15	0.1
Eur: Spain	15	0.1
Eur: France	12	0.1
Eur: Italy	12	0.1
Other South Pacific	11	0.1
Other Africa	8	0.1
All	11,115	100.0

The survey asked each respondent to indicate their region of the world. Approximately 84% were from the USA.

Here is how the states were assigned to regions.

**US-MIDWEST:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

**US-NORTHEAST:** Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia

**US-NORTHWEST:** Idaho, Montana, Oregon, Washington, Wyoming

**US-SOUTH:** Arkansas, Louisiana, Mississippi, Oklahoma, Texas

**US-SOUTHEAST:** Alabama, Florida, Georgia, Kentucky, North Carolina, South Carolina, Tennessee, West Virginia

**US-SOUTHWEST:** Arizona, California, Colorado, Nevada, New Mexico, Utah



## 2B. WHAT ARE THEIR PRIMARY DUTIES?

SELF-CLASSIFIED ADMIN TYPE			
TYPE	FEMALE % †	MALE % †	TOTAL %
DB_ADM	0.7	0.6	0.6
NET_ADM	20.1	24.3	23.8
SEC_ADM	7.8	4.3	4.7
SEC_AUD	5.3	3.3	3.5
SEC_CON	4.9	5.4	5.3
SYS_ADM	47.1	52.1	51.5
OTHER	14.0	10.1	10.6
All	12.0	88.0	100.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Respondents classified themselves as database administrators, network administrators, security administrators, security auditors, security consultants, or system administrators. Alternative selections (“OTHER”) were allowed. No formal job descriptions or rules were used to guide the respondents, so these demographics are informal.

## 2C. ARE RESPONDENTS SALARIED, CONTRACTORS, OR CONSULTANTS?

SALARY TYPE VS. GENDER			
SALARY TYPE	FEMALE % †	MALE % †	TOTAL
Contractor	8.1	10.6	10.3
Full-time consultant	1.0	2.0	1.9
Full-time employee	89.0	86.4	86.7
Part-time consultant	0.5	0.3	0.3
Part-time employee	1.0	0.4	0.5
Student/unemployed	0.4	0.3	0.3
All	12.0	88.0	100.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

About 87% of the respondents were full-time salaried employees; 10% were contractors.

## 2D. HOW MANY PEOPLE DO THEY MANAGE?

NUMBER OF SUBORDINATES VS. GENDER			
SUBORDS	FEMALE % †	MALE % †	TOTAL %
0	60.8	52.1	53.1
1	10.8	10.7	10.7
2	7.6	9.8	9.6
3-4	8.4	11.5	11.1
5-6	4.1	7.4	7.0
7-9	3.0	3.1	3.1
>9	5.3	5.4	5.4
All	11.8	88.2	100.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

This section details the number of subordinates reported by the respondents. This indication of supervisory responsibility is broken out by gender, experience, and admin type.

It appears that the male respondents are ahead a bit when it comes to becoming supervisors. This chart does not reflect years of experience in the field, though. The next chart does.

NUMBER OF SUBORDINATES VS. ADMIN EXPERIENCE, % RESPONDENTS							
EXP.	SUBORDINATES						TOTAL
	0	1	2	3-4	5-6	>9	
<1	2.1	0.2	0.2	0.1	0.1	0.1	2.9
1-2	9.9	1.7	1.3	1.0	0.5	0.4	14.8
3-4	14.2	3.2	2.4	2.6	1.6	1.2	25.1
5-6	9.4	2.1	2.0	2.4	1.7	1.2	18.8
7-8	5.1	1.1	1.3	1.5	0.9	1.0	10.9
9-10	4.7	0.9	0.9	1.3	1.2	1.2	10.2
11-15	4.9	1.1	1.1	1.4	1.3	1.5	11.3
16-20	1.6	0.3	0.4	0.4	0.4	0.6	3.8
>20	0.9	0.1	0.1	0.3	0.3	0.5	2.3
All	53.0	10.8	9.6	11.1	8.0	7.6	100.0

In this chart, respondents with higher numbers of subordinates are clustered just above the visual center and, to a lesser extent, on the right side of the 11-15 and 9-10 experience groups. One interpretation of this data is that more experienced managers of more people do not continue to fill out this survey.

The next chart shows supervisor responsibility by job description.

ADMIN TYPE VS. SUBORDINATES, % RESPONDENTS							
SUBORD	DB_ADM †	NET_ADM †	SEC_ADM †	SEC_AUD †	SEC_CON †	SYS_ADM †	TOTAL
0	74.6	53.3	54.0	48.3	53.6	53.7	53.6
1	9.0	11.3	10.8	11.3	5.7	12.0	11.3
2	7.5	10.3	9.4	9.7	7.8	10.0	9.9
3-4	4.5	12.1	10.0	12.5	10.6	10.8	11.1
5-6	1.5	7.2	7.9	9.0	8.7	7.4	7.5
>9	3.0	6.0	7.9	9.2	13.5	6.0	6.6
All	0.7	26.4	5.3	4.0	5.9	57.7	100.0

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

It appears that Security Auditor respondents supervise slightly more people than the other admin types, but the difference is not large.



## 2E. WHAT ARE THE MAIN OS PLATFORMS?

Respondents were asked to choose a single “main” operating system, which disgruntled some who wished not to choose just one platform. However, later info examines the relationship between “main” OS platform and salary with surprising results.

MAIN OS TYPE	
OS	%
Windows/NT	63.5
Solaris	13.8
Novell Netware	6.0
HP-UX	3.3
Cisco IOS	2.9
Linux	2.1
AIX	1.9
MVS	1.2
Silicon Graphics IRIX	1.0
BSD UNIX (open, BSDI, etc.)	0.8
Open VMS	0.7
Other	0.7
Digital/Compaq Ultrix	0.5
OSF/1	0.4
SCO	0.3
AS/400	0.3
DG-UX	0.1
Sequent	0.1
AT&T or NCR UNIX	0.1
Digital UNIX	0.1
OS/2	0.1
Vines	0.1
Tru64	0.1
Unicos	0.1
Windows	0.0
Compaq Unix	0.0

The big three (Windows/NT, Solaris, and Novell Netware) cover a whopping 83.3% of the primary operating system responses.

NT and Novell, the major systems whose respondents are often reported separately as a group, are cited by 69.5% of the respondents as their major OS.

This table also reflects a potential stagnation of the “Linux Movement” trend with same 2% of the respondents claiming Linux as their main platform as last year. Of course, the absolute number of Linux systems is growing at the same rate as the total number of systems, so the movement is far from dead. The Linux salaries (later) show a strong demand for skilled Linux administrators.

## 2F. HOW MUCH ADMIN EXPERIENCE DO THEY HAVE?

Two different charts highlight this section: experience in system administration vs. gender and system experience vs. admin type.

EXPERIENCE VS. GENDER			
YEARS EXP.	FEMALE % †	MALE % †	TOTAL
<1	4.8	2.7	2.9
1-2	16.0	14.7	14.9
3-4	23.5	25.5	25.3
5-6	16.4	19.1	18.7
7-8	10.1	11.0	10.9
9-10	9.8	10.1	10.1
11-15	13.1	11.0	11.2
16-20	4.7	3.6	3.7
>20	1.6	2.3	2.2
All	12.0	88.0	100.0

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The distributions were fairly similar in this table, though the differences that do exist (higher percentage of women respondents with high levels of computer experience) are explicable only by citing “statistical variations” inherent in surveys like this one.

ADMIN EXPERIENCE VS. ADMIN TYPE, % RESPONDENTS								
	DB_ADM †	NET_ADM †	OTHER †	SEC_ADM †	SEC_AUD †	SEC_CON †	SYS_ADM †	TOTAL
<1	8.8	3.8	5.7	3.0	3.5	1.8	2.0	2.9
1-2	16.2	18.1	13.6	15.5	10.8	7.5	14.6	14.9
3-4	26.5	28.3	19.8	22.3	17.1	18.7	26.4	25.3
5-6	13.2	19.3	15.8	16.0	18.3	15.2	19.8	18.8
7-8	5.9	11.2	10.9	10.2	9.5	11.7	10.9	10.9
9-10	10.3	8.5	9.8	10.9	10.8	12.9	10.4	10.1
11-15	14.7	7.8	13.8	12.8	15.1	18.4	11.0	11.2
16-20	4.4	2.0	5.3	6.0	8.8	7.4	3.2	3.7
>20	0.0	0.9	5.2	3.2	6.0	6.4	1.5	2.3
All	0.6	23.8	10.6	4.7	3.5	5.3	51.5	100.0

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Security auditors and security consultants seem to have an edge in experience over the others.

## 2G. HOW MIXED IS THE ENVIRONMENT?

NUMBER OF PLATFORMS AT SITE	
# OS PLATFORMS	% SITES
1	16.8
2	28.2
3	25.0
4	12.8
≥5	17.3

This table shows the prevalence of administrators who manage mixed environments with multiple operating system types.

One sixth of the respondents work in a single OS shop; over half have three or more platform types.

### 3. THE SALARIES

#### 3A. HOW MUCH DO THEY MAKE?

The average salary for all respondents was \$56,442/year. The 9,735 male respondents averaged \$56,779 while the 1,329 female respondents averaged \$53,971/year.

Breaking down by operating system, average NT salary was \$53,598/year with average UNIX salary at \$62,907/year. The NT male respondents averaged \$53,899/year; the NT female respondents averaged \$51,302/year. The UNIX male respondents averaged \$63,434/year; the UNIX female respondents averaged \$59,355. None of these averages takes experience into account.

The chart below shows how people fall into various salary ranges:

SALARY DISTRIBUTION BY GENDER AND MAIN OS						
SALARY RANGE	NT			UNIX		
	ALL %	MALES % †	FEMALES % †	ALL %	MALES % †	FEMALES % †
Under 20,000	1.6	1.7	0.6	0.9	1.0	0.5
20,000-29,999	5.8	5.7	6.4	2.5	2.5	2.5
30,000-39,999	16.2	15.7	19.8	7.2	6.9	8.7
40,000-49,999	23.2	22.9	25.8	15.5	15.1	18.6
50,000-59,999	19.1	19.1	19.2	19.3	18.7	23.2
60,000-69,999	14.9	15.1	13.1	19.6	19.9	17.2
70,000-79,999	8.7	9.0	6.7	16.2	16.2	16.1
80,000-89,999	5.0	5.0	4.9	8.5	8.7	7.3
90,000-99,999	1.9	2.0	1.2	4.7	4.8	3.4
100,000 & up	3.6	3.8	2.2	5.7	6.2	2.5

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The main conclusion this chart suggests is that working in computer administration in the late 1990s is surely a lucrative way to earn a living.

### 3B. HOW DOES LEVEL OF EXPERIENCE AFFECT SALARIES?

It is an American tautology that experience should increase salary. This chart examines whether such a widely held belief holds true.

Generally, salary does appear to increase with administration experience (which can be less than computer experience). But, in a fascinating demonstration of salary compression, salaries of experienced administrators are increasing less quickly than those with less experience. This is often due to departmental budgets with fixed-percentage raises. If a department has 6% for raises, for instance, that turns into a certain number of dollars. By giving 5% to the high-end earners, the remaining dollars enable giving 7%, 8%, or more to lower-end earners (since 7% is calculated from a smaller number).

This chart compares salary and raises for different levels of administrative experience. Furthermore, it quantifies the raises by converting the percentage to annual dollar increase.

ADMINISTRATIVE EXPERIENCE VS. SALARY INCREASE								
EXP. RANGE	NT				UNIX			
	SAL	INCR %	\$ RAISE	RESP % †	SAL	INCR %	\$ RAISE	RESP. % †
<1	40,056	14.1	5,648	2.8	44,685	12.5	5,600	1.1
1-2	41,545	14.3	5,932	17.0	45,585	13.9	6,326	7.3
3-4	49,405	13.8	6,832	28.0	53,968	13.1	7,096	18.4
5-6	54,206	11.3	6,104	19.4	60,954	11.0	6,721	18.5
7-8	60,930	10.7	6,520	10.6	65,148	10.5	6,822	13.0
9-10	61,049	9.1	5,530	8.9	68,240	9.2	6,264	14.2
11-15	68,094	9.0	6,127	8.8	71,513	8.4	6,029	17.9
16-20	71,818	7.8	5,620	2.5	73,981	6.5	4,842	6.8
>20	75,841	7.0	5,333	2.1	74,476	5.6	4,200	2.7

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

It appears that percentage raises decline with experience, as does the absolute dollar value of each raise. NT administrators do better at almost every experience level, probably because their salaries are behind their UNIX counterparts, except at the highest levels of experience.

### 3C. HOW FAST ARE SALARIES GROWING?

The average salary increase reported overall by 10,310 respondents for the last year was 11.47% (vs. 11.9% last year). The 9,067 male respondents reported a 11.6% increase (vs. 12.1% last year) while the 1,243 female respondents reported an average 10.4% increase (vs. 10.2% last year). Here's the breakdown of various increases by gender and OS:

SALARY INCREASE BY GENDER						
% INCREASE	NT			UNIX		
	OVERALL	MALE †	FEMALE †	OVERALL	MALE †	FEMALE †
0-1.99	13.2	13.5	10.4	12.2	11.9	14.7
2-3.99	9.2	8.7	13.6	12.7	12.7	12.8
4-5.99	13.1	12.9	14.6	17.8	17.5	19.3
6-7.99	9.8	9.9	9.3	10.5	10.9	8.0
8-9.99	8.1	8.0	8.5	7.8	7.8	7.7
10-11.99	8.8	8.7	9.8	7.8	7.7	8.2
12-13.99	5.1	5.1	4.7	5.7	5.7	5.8
14-15.99	5.0	4.9	5.3	4.4	4.3	5.1
16-17.99	4.2	4.2	4.2	3.0	3.0	3.1
18-19.99	2.9	2.9	2.9	2.0	2.1	1.7
≥20	20.6	21.2	16.6	16.0	16.4	13.7

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The raises are fairly comparable between the genders, except inexplicably in the experience range of 2-6 years.

### 3D. SALARY AND RAISES

This chart shows average percent raises vs. salary.

SALARY	SALARY INCREASE %					
	NT			UNIX		
	OVERALL	MALE	FEMALE	OVERALL	MALE	FEMALE
Under 20,000	13.30	12.79	20.62	14.27	14.27	14.29
20,000-29,999	11.27	11.81	7.35	10.60	10.79	9.44
30,000-39,999	11.45	11.56	10.75	10.65	10.88	9.44
40,000-49,999	12.04	12.19	11.02	10.12	10.03	10.57
50,000-59,999	11.93	12.10	10.65	9.67	9.82	8.82
60,000-69,999	12.31	12.37	11.80	10.54	10.50	10.88
70,000-79,999	12.26	12.28	12.13	10.44	10.63	9.22
80,000-89,999	11.09	11.10	11.02	10.24	10.70	6.66
90,000-99,999	11.49	11.91	6.59	9.34	9.82	4.89
100,000 & up	13.70	13.72	13.35	12.97	13.11	10.36

The top line and bottom lines of the chart are interesting. Why do females in the NT world get such big raises at low salaries? Why do females in the UNIX world fare so poorly at high salaries? This survey does not have enough data to provide speculation.

### 3E. DOES PAY LEVEL OR PAY INCREASE VARY ACROSS MAIN OSES?

This chart uses the data about “main operating system” to compare salaries. The sample sizes are small for many of the operating systems, but they are included anyway.

SALARY AND INCREASE BY OS TYPE			
MAIN OS	SALARY	INCREASE %	% RESP
Sequent	78,000	10.5	0.1
AT & T or NCR UNIX	68,583	8.0	0.1
Unicos	68,200	8.6	0.0
MVS	66,595	6.8	1.3
Solaris	64,738	10.8	13.9
Cisco IOS	64,587	12.2	3.0
Silicon Graphics IRIX	64,059	8.8	1.0
Other	61,860	9.5	0.7
HP-UX	61,281	9.9	3.4
AIX	61,207	9.0	2.0
Vines	61,125	8.5	0.1
Open VMS	60,961	7.0	0.8
Linux	60,927	12.2	1.9
DG-UX	60,846	10.7	0.1
BSD UNIX (open, BSDI, etc.)	58,986	10.5	0.7
OSF/1	58,333	10.6	0.4
Digital/Compaq Ultrix	56,816	10.7	0.5
OS/2	54,000	13.8	0.1
Windows/NT	53,949	12.2	62.9
AS/400	53,724	9.3	0.3
SCO	52,972	11.7	0.4
Novell Netware	52,613	9.7	6.1
Digital UNIX	49,000	10.1	0.1
Compaq Unix	48,000	13.4	0.0
Windows	47,500	2.2	0.0
Tru64	45,600	8.0	0.0

The top entries could be construed as fairly surprising, though the sample sizes are small. The bottom entries are interesting in that they are \$12K-\$19K in salary behind the top entries.



For one of the biggest surprises of the survey, check out this table – same data (salary and increase by “main” OS type) but sorted by salary increase:

INCREASE AND SALARY BY OS TYPE			
MAIN OS	SALARY	INCREASE %	% RESP
OS/2	54,000	13.8	0.1
Compaq Unix	48,000	13.4	0.0
Cisco IOS	64,587	12.2	3.0
Linux	60,927	12.2	1.9
Windows/NT	53,949	12.2	62.9
SCO	52,972	11.7	0.4
Solaris	64,738	10.8	13.9
DG-UX	60,846	10.7	0.1
Digital/Compaq Ultrix	56,816	10.7	0.5
OSF/1	58,333	10.6	0.4
BSD UNIX (open, BSDI, etc.)	58,986	10.5	0.7
Sequent	78,000	10.5	0.1
Digital UNIX	49,000	10.1	0.1
HP-UX	61,281	9.9	3.4
Novell Netware	52,613	9.7	6.1
Other	61,860	9.5	0.7
AS/400	53,724	9.3	0.3
AIX	61,207	9.0	2.0
Silicon Graphics IRIX	64,059	8.8	1.0
Unicos	68,200	8.6	0.0
Vines	61,125	8.5	0.1
AT & T or NCR UNIX	68,583	8.0	0.1
Tru64	45,600	8.0	0.0
Open VMS	60,961	7.0	0.8
MVS	66,595	6.8	1.3
Windows	47,500	2.2	0.0

Both Linux and Windows/NT are very high on this chart. Many of the entries have swapped their positions (high for low and vice-versa) in this chart relative to their positions in the previous chart. This might be a function of the relative ages of the operating systems' administrators.

### 3F. HOW DOES SALARY VARY BY INDUSTRY AND GENDER?

This chart shows the salary differences by industry and gender. There are many sets of dashes here (particularly for the female respondents); they indicate that an insufficient sample of the 11,000 respondents were members of a particular class.

AVERAGE SALARY BY GENDER AND INDUSTRY					
INDUSTRY	OVERALL	MALE		FEMALE	
		SALARY	%	SALARY	%
Accounting	52,230	53,416	0.1	—	—
Advertising	49,000	50,750	0.0	—	—
Aerospace	61,363	61,629	1.4	59,720	0.2
Agriculture	49,034	48,785	0.3	—	—
Applications	73,777	79,250	0.1	—	—
Architecture	42,571	41,333	0.1	—	—
Automotive	54,619	54,333	0.4	—	—
Banking/Ins./Secur.	59,370	59,235	8.0	60,242	1.2
Biotech	65,320	69,421	0.2	52,333	0.1
Business Services	56,428	56,000	0.0	—	—
Cable	50,200	50,200	0.0	—	—
Chemical	71,428	74,166	0.1	—	—
Const/Mining/Eng'g	53,004	52,882	1.9	54,250	0.2
Consulting/Prof. Svcs	64,309	64,431	13.8	62,951	1.2
Contractor	58,085	60,857	0.3	47,000	0.1
Data Processing	64,200	64,200	0.0	—	—
Direct Mktg & Sales	52,750	57,666	0.1	—	—
Distribution	54,285	54,285	0.1	—	—
E-Commerce	56,500	56,500	0.1	—	—
Educ. (Comm. Educ./Trng.)	52,884	51,263	0.5	60,583	0.1
Educ. (Public/Priv. Sch'ls/Coll.)	47,147	47,132	7.4	47,221	1.4
Electronic Indust's	56,857	49,200	0.0	—	—
Energy	54,571	54,571	0.1	—	—
Engineering	50,875	51,857	0.1	—	—
Entertainment and Mktg	60,816	61,975	0.7	48,932	0.1
Environmental	41,600	41,600	0.0	—	—
Financial	60,526	62,666	0.1	52,500	0.0
Food	50,200	49,500	0.1	—	—
Gaming	49,600	50,000	0.0	—	—
Govt (Fed): Civilian	59,086	59,245	3.2	58,461	0.8
Govt (Fed): Military	51,606	52,216	2.3	47,447	0.3

AVERAGE SALARY BY GENDER AND INDUSTRY					
INDUSTRY	OVERALL	MALE		FEMALE	
		SALARY	%	SALARY	%
Govt State/Local	48,397	48,920	3.5	46,017	0.8
Health Care	54,980	55,377	3.8	52,011	0.5
Hospitality and Travel	50,186	50,057	0.5	51,142	0.1
ISP	57,666	56,656	0.6	71,200	0.0
IT	56,796	55,612	0.4	62,600	0.1
Insurance	63,279	63,279	0.2	—	—
Internet Indust's	57,277	57,277	0.2	—	—
Legal/Real Estate	57,121	58,466	1.1	49,050	0.2
Mfg (computer-related)	59,952	60,108	4.8	57,951	0.4
Mfg (non-computer-related)	53,260	53,765	7.1	48,992	0.8
Not-For-Profit Association	48,905	49,677	1.4	45,931	0.4
Oil & Petro Indust's	60,820	60,555	0.3	—	—
Other	52,621	52,784	1.7	51,500	0.3
Outsource	55,909	55,909	0.1	—	—
Pharmaceutical	62,904	65,166	0.2	—	—
Printing	41,000	41,000	0.1	—	—
Publ'g/Adv/Web	56,777	57,315	2.0	53,047	0.3
Real Estate	42,500	42,500	0.1	—	—
Research organization	64,250	64,516	1.4	62,105	0.2
Retail	48,750	—	—	—	—
Security Indust's	66,235	68,400	0.1	—	—
Software Indust's	56,958	57,323	1.9	54,797	0.3
System Integ's and VARs	54,818	54,980	5.2	52,560	0.4
Telecommunications	58,450	58,785	5.2	55,507	0.6
Transportation	52,384	52,716	1.1	48,818	0.1
Utilities: Gas/Elec/Water/San	59,098	59,533	1.2	57,000	0.3
Web	50,857	54,333	0.1	—	—
Wholesale and Retail Trade	53,097	53,139	2.3	52,805	0.3

Some differences might have everything to do with experience rather than industry.

### 3G. HOW DOES INDUSTRY TYPE AND SIZE AFFECT SALARIES?

This chart shows salaries and population in various industries (also broken out by company size). When the “Overall” numbers do not match the previous table, it is because the previous table only summarizes those participants who reported a gender while this table only summarizes participants who reported an industry.

AVERAGE SALARY WITH % OF RESPONDENTS BY INDUSTRY TYPE AND SIZE

INDUSTRY ORGTYPE	NUMBER OF EMPLOYEES									
	<10		11-100		101-1,000		>1,000		ALL	
	AVG SAL	%	AVG SAL	%	AVG SAL	%	AVG SAL	%	AVG SAL	%
Accounting	—	—	48,714	0.1	—	—	57,400	0.0	54,428	0.1
Aerospace	49,500	0.1	52,593	0.3	52,333	0.1	65,770	1.1	61,534	1.6
Agriculture	38,200	0.0	47,800	0.1	56,800	0.0	52,111	0.1	49,034	0.3
Applications	79,000	0.0	—	—	—	—	—	—	73,777	0.1
Architecture	44,666	0.1	—	—	—	—	—	—	42,571	0.1
Automotive	43,400	0.0	57,125	0.1	43,888	0.1	61,250	0.2	54,619	0.4
Banking/Ins./Secur	48,679	1.1	56,479	2.0	53,030	0.9	64,262	5.2	59,645	9.2
Biotech Indust's	54,800	0.0	70,800	0.0	—	—	67,071	0.1	65,320	0.2
Chemical	—	—	—	—	—	—	81,333	0.1	71,428	0.1
Const/Mining/Eng'g	47,193	0.6	51,312	0.7	57,894	0.2	59,933	0.6	53,063	2.0
Consult'g/Prof. Svcs	63,355	4.3	61,348	3.3	66,780	1.1	66,121	6.0	64,275	14.8
Contractor	—	—	48,454	0.1	61,727	0.1	55,454	0.1	57,750	0.3
Direct Mktg & Sales	—	—	42,750	0.0	—	—	—	—	54,000	0.1
E-Commerce	54,250	0.0	58,750	0.0	—	—	—	—	56,500	0.1
Educ: Commerc/Trng	52,375	0.2	48,300	0.2	54,000	0.0	58,842	0.2	53,102	0.6
Educ: Sch'ls/Coll's	39,666	0.2	42,833	1.0	47,016	0.6	48,114	6.9	47,199	8.8
Energy	—	—	—	—	—	—	52,500	0.0	54,571	0.1
Engineering	48,500	0.1	55,000	0.0	—	—	55,714	0.1	53,000	0.2
Entert't and Mktg	46,600	0.1	58,608	0.2	59,250	0.1	67,336	0.4	60,859	0.8
Financial Indust's	—	—	44,333	0.1	—	—	68,818	0.1	60,526	0.2
Food Indust's	—	—	—	—	—	—	46,500	0.0	50,200	0.1
Govt (Fed): Civilian	49,516	0.3	54,457	1.0	60,666	0.4	62,525	2.4	59,462	4.1
Govt (Fed): Military	49,066	0.3	47,500	0.6	50,928	0.3	53,595	1.5	51,405	2.7
Govt State/Local	41,103	0.3	45,034	1.4	46,813	0.6	52,420	2.1	48,596	4.3
Health Care	51,492	0.5	54,193	0.9	50,355	0.5	57,310	2.5	55,201	4.3
Hospitality and Travel	40,857	0.1	43,090	0.1	46,818	0.1	59,225	0.3	51,850	0.6
ISP	52,833	0.1	63,692	0.1	78,875	0.1	53,131	0.4	57,915	0.7
IT	51,214	0.1	52,285	0.1	52,000	0.1	64,083	0.2	56,796	0.5
Insurance	42,687	0.0	71,800	0.0	—	—	69,285	0.1	63,279	0.2
Internet Indust's	44,000	0.1	102,750	0.0	—	—	36,250	0.0	58,294	0.2
Legal/Real Estate	43,392	0.3	58,511	0.4	60,250	0.2	62,469	0.5	57,121	1.3

**AVERAGE SALARY WITH % OF RESPONDENTS BY INDUSTRY TYPE AND SIZE**

INDUSTRY ORGTYPE	NUMBER OF EMPLOYEES									
	<10		11-100		101-1,000		>1,000		ALL	
	AVG SAL	%	AVG SAL	%	AVG SAL	%	AVG SAL	%	AVG SAL	%
Mfg (computer-related)	51,734	0.9	57,387	1.1	61,071	0.5	63,489	2.6	59,871	5.1
Mfg (non-comp.-related)	45,060	1.5	50,259	2.6	52,029	1.0	60,630	2.9	53,303	8.0
Not-For-Profit Assoc.	44,161	0.8	47,463	0.5	56,607	0.3	58,379	0.3	48,945	1.8
Oil & Petro Indust's	56,750	0.0	51,500	0.0	47,333	0.1	66,043	0.2	60,432	0.3
Other	48,045	0.4	48,743	0.6	52,529	0.2	57,537	0.9	52,703	2.0
Outsource	—	—	—	—	—	—	51,000	0.1	53,666	0.1
Pharmaceutical	—	—	—	—	—	—	68,428	0.1	62,904	0.2
Printing	—	—	45,333	0.1	—	—	—	—	41,000	0.1
Publ/Adv/Web	51,759	0.7	55,913	0.8	69,619	0.2	60,439	0.6	56,938	2.3
Real Estate	33,750	0.0	—	—	—	—	—	—	42,500	0.1
Research organization	56,206	0.3	62,131	0.4	60,095	0.2	70,734	0.7	64,916	1.5
Security Indust's	85,500	0.0	—	—	60,833	0.1	63,000	0.0	66,937	0.1
Software Indust's	53,023	0.8	55,438	0.7	60,043	0.2	60,921	0.6	56,504	2.3
Sys Integr's & Vars	52,488	2.0	52,038	1.5	53,808	0.3	61,626	1.7	55,255	5.5
Telecommunications	54,356	0.7	57,250	1.1	56,784	0.5	60,396	3.4	58,737	5.7
Transportation	46,972	0.2	46,150	0.3	52,222	0.1	58,000	0.6	53,106	1.2
Utils: Gas/Elec/H2O+	47,200	0.1	59,260	0.2	56,055	0.2	61,075	1.0	58,975	1.5
Whlsle and Retl Trade	48,482	0.5	47,408	0.7	47,156	0.3	60,771	1.1	53,144	2.6
All	52,695	18.3	53,575	24.0	55,618	9.5	59,658	48.3	56,544	100.0

One pattern of note in this table is that larger employers pay higher salaries, on average.

### 3H. HOW DOES JOB TYPE AFFECT SALARIES?

One might conjecture that security professionals, those on the leading edge of administrative abilities, could command a higher salary. This table breaks out salary ranges by admin type.

INCREASES BY SALARY AND ADMIN TYPE												
SALARY	DB_ADM †		NET_ADM †		SEC_ADM †		SEC_AUD †		SEC_CON †		SYS_ADM †	
	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT
20,000-29,999	—	—	6.7	3.1	2.4	1.9	1.8	2.4	1.1	1.7	6.3	2.6
30,000-39,999	10.9	—	20.4	8.6	9.9	9.6	10.7	5.9	3.7	3.8	16.7	7.2
40,000-49,999	16.4	—	27.1	18.3	24.2	16.7	12.4	9.4	12.2	5.1	24.4	17.2
50,000-59,999	20.0	—	19.6	21.2	17.9	20.0	16.4	16.5	12.2	12.4	20.9	20.4
60,000-69,999	16.4	—	13.0	20.5	21.8	18.5	18.2	17.1	15.9	16.2	15.2	20.9
70,000-79,999	20.0	—	6.0	12.9	9.5	14.4	13.8	20.0	14.7	21.4	8.5	16.0
80,000-89,999	—	—	3.1	6.4	11.1	6.7	12.0	10.0	14.2	14.5	3.1	7.8
90,000-99,999	—	—	0.8	3.3	—	6.3	7.6	9.4	9.3	9.4	1.2	3.4
100,000 & up	—	—	2.0	5.0	—	4.1	6.7	8.8	15.0	14.1	2.1	3.9
Average Salary	56,000	54,000	49,462	59,995	56,333	60,696	64,364	68,614	73,228	74,568	51,208	61,140

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Consultants report highest earnings (but we didn't ask about expenses; consultants usually pay their own benefits). Security auditors exceed all the other job types by over 10%. Security administrators are higher than their networking and system admin counterparts. Network administrators probably report lower salaries by 10 or 15% since they entered the field from LAN world.

### 31. HOW DOES REGION AFFECT SALARIES?

The cost of living varies across the world. This chart shows how compensation also varies.

AVERAGE SALARY AND INCREASE BY REGION						
REGION	NT			UNIX		
	SALARY	INCREASE %	% RESP †	SALARY	INCREASE %	% RESP †
US-Northeast	60,663	12.2	22.8	67,567	10.5	25.9
US-Southwest	58,926	12.1	16.0	69,930	10.1	20.1
Eur: Germ/Aus/Switz	59,187	10.9	0.6	56,500	6.7	0.6
US-South	52,975	11.8	8.2	64,546	10.7	8.4
US-Midwest	52,669	11.8	19.0	61,490	10.0	16.8
US-Southeast	52,751	12.0	11.8	61,562	11.3	9.7
Hawaii	50,840	15.2	0.4	60,214	8.2	0.4
US-Northwest	51,398	11.1	5.7	61,342	10.3	4.5
Eur: UK	49,841	14.0	2.2	67,930	13.2	1.4
Other Asia	47,611	12.4	0.5	66,400	13.4	0.5
Alaska	48,576	9.8	0.4	57,857	6.5	0.2
Eur: Scandinavia/Benelux	45,509	11.6	1.4	51,051	9.4	1.5
Australia	42,844	11.2	1.6	56,720	7.6	1.4
Other South Pacific	45,500	20.5	0.1	—	—	—
Asia/India	—	—	—	42,750	26.8	0.1
Eur: France	44,200	13.9	0.1	—	—	—
Canada - Ontario	42,788	9.8	2.3	43,055	9.2	2.3
Middle East	40,046	18.1	0.5	54,206	20.7	0.3
Eur: Italy	46,000	12.5	0.1	—	—	—
Other West. Europe	41,068	18.5	0.4	43,021	18.6	0.6
Canada - Quebec	39,666	10.8	1.0	42,233	11.4	0.9
Canada - BC	37,527	9.1	1.0	42,358	4.5	1.2
Canada - Other	37,429	8.3	2.0	41,976	8.2	1.4
South America	34,000	20.4	0.4	43,437	9.4	0.5
Other Africa	33,750	16.7	0.1	—	—	—
Central America	33,250	14.1	0.1	—	—	—
South Africa	34,918	19.9	0.3	24,333	10.0	0.2
New Zealand	32,527	12.6	0.4	24,333	3.5	0.2
Mexico	22,000	9.4	0.1	41,600	15.5	0.2
Eur: Spain	20,291	13.8	0.1	33,955	15.7	0.3
East. Eur. & Soviet Repb's	20,416	15.2	0.2	21,111	19.4	0.3

The US-Southwest (including California) and US-Northeast have significantly better payscales than other regions. Of course, they also have higher expenses. Some of the lower-level salaried countries appear to be giving raises to increase their pay levels to match the rest of the world.



### 3J. DO CONSULTANTS MAKE MORE THAN SALARIED EMPLOYEES?

One would imagine that consulting would be more lucrative than being a salaried employee. This chart illuminates that supposition.

EMPLOYMENT TYPE VS. SALARY FOR NT ADMINS						
TYPE	ALL		MALE		FEMALE	
	SALARY	%	SALARY	% †	SALARY	% †
Contractor	60,807	9.8	61,672	10.0	52,630	8.1
Fulltime consultant	75,820	1.9	77,354	2.0	56,727	1.2
Fulltime employee	52,524	87.3	52,709	87.0	51,148	89.0
Part-time consultant	47,136	0.3	37,125	0.2	73,833	0.7
Part-time employee	29,000	0.4	28,892	0.4	29,600	0.6
Student/unemployed	30,291	0.3	29,100	0.3	36,250	0.4

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

EMPLOYMENT TYPE VS. SALARY FOR UNIX ADMINS						
TYPE	ALL		MALE		FEMALE	
	SALARY	%	SALARY	% †	SALARY	% †
Contractor	70,894	11.6	71,216	12.1	67,628	8.0
Fulltime consultant	90,526	1.7	89,629	1.8	106,666	0.7
Fulltime employee	61,505	85.9	61,947	85.4	58,650	89.2
Part-time consultant	57,285	0.2	63,500	0.2	20,000	0.2
Part-time employee	39,111	0.5	34,700	0.3	44,625	1.8
Student/unemployed	22,750	0.1	22,750	0.1	—	—

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Unsurprisingly, independent consultants make dramatically more money than their salaried counterparts. Of course, they pay more expenses.

But look at those NT vs. UNIX pay rate gaps. Broken down this way, it appears that NT folks earn an average \$10K less per year (except students).

### 3K. DO MIXED OS SHOPS PAY MORE? GIVE BETTER RAISES?

As the complexity of an operating environment increases, one could conjecture that the financial reward should also increase.

OS TYPE	NT			UNIX		
	SALARY	INCREASE %	% RESP †	SALARY	INCREASE %	% RESP †
1	52,363	11.8	20.2	62,762	9.1	8.5
2	51,567	12.0	32.2	62,120	10.2	18.4
3	53,520	12.1	25.2	62,974	9.7	24.0
4	55,886	12.1	10.9	61,841	10.9	17.6
≥5	60,078	11.9	11.4	64,382	11.1	31.5

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

As expected, more complexity is an indicator of higher salaries, especially when one has more than than five different types of systems. This table also highlights the difference in salaries between the two groups. Intriguingly, the difference lessens with environmental complexity.

### 3L. HOW DOES LEVEL OF EDUCATION AFFECT SALARIES?

An old adage holds that Masters degrees are financially a big win while one can never earn back enough money to make up for the years lost while in school.

AVERAGE SALARY VS. EDUCATION FOR NT ADMINS									
EDUC LEVEL	OVERALL			MALE			FEMALE		
	SAL	INCR	%	SAL	INCR	% †	SAL	INCR	% †
HS	50,155	13.50	3.3	50,687	13.80	3.4	45,670	10.92	3.0
Tech/Trade	47,210	12.30	11.6	47,471	12.33	12.1	44,125	12.01	7.8
Assoc	49,419	11.75	11.2	50,080	12.00	10.9	45,415	10.20	13.7
Some College	50,734	12.69	20.2	51,143	12.92	20.5	47,110	10.69	17.6
BS	55,619	12.07	41.2	56,095	12.14	40.8	52,228	11.59	43.7
MS/MBA	63,363	9.84	11.7	63,412	9.93	11.4	63,048	9.25	13.6
PhD	70,815	9.79	0.9	69,403	9.74	0.9	87,200	10.47	0.6

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

AVERAGE SALARY VS. EDUCATION FOR UNIX ADMINS									
EDUC LEVEL	OVERALL			MALE			FEMALE		
	SAL	INCR	%	SAL	INCR	% †	SAL	INCR	% †
HS	55,320	13.31	2.3	54,895	13.32	2.3	58,000	13.28	2.4
Tech/Trade	57,060	11.32	5.2	57,564	11.03	5.3	52,944	13.73	4.4
Assoc	59,213	10.15	7.8	59,302	10.54	7.5	58,750	8.08	9.7
Some College	61,859	11.16	17.2	62,455	11.36	17.4	57,515	9.67	16.0
BS	63,002	10.35	48.0	63,572	10.54	48.0	59,176	9.08	47.9
MS/MBA	68,332	9.39	17.3	69,010	9.39	17.2	63,959	9.42	17.9
PhD	69,208	8.58	2.3	70,953	8.86	2.3	53,000	5.96	1.7

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Regrettably for those with Ph.D.s, it appears that the adage is correct. The Masters degree is a big win for salaries (though not for pay increases). The surprising result in this table is the high salary of the non-college attendees, which goes against conventional wisdom. Windows NT school respondents fare surprisingly poorly in this chart.

The salary gap between NT and UNIX shrinks for ever-increasing levels of education which must therefore be viewed as a sort of equalizer for salaries across different environments.

Maybe experience is causing the effects. Here are two charts that examine that:

AVERAGE SALARY BY EDUCATION & EXPERIENCE — NT RESPONDENTS									
	<1	1-2	3-4	5-6	7-8	9-10	11-15	16-20	>20
HS	—	38,340	46,477	53,360	57,473	53,733	64,516	—	—
Tech/Trade	33,741	36,155	45,233	50,373	55,441	57,046	55,460	49,777	68,700
Assoc	39,416	39,830	46,379	49,287	54,423	59,259	61,383	63,333	59,000
Some College	33,931	39,226	46,566	52,267	60,074	57,983	66,939	67,133	70,000
BS	43,154	44,328	50,982	55,630	62,360	62,057	70,239	73,550	75,094
MS/MBA	52,000	47,555	58,305	61,729	66,757	67,646	74,852	82,421	83,476
PhD	—	48,857	59,944	68,750	—	—	91,727	—	—

AVERAGE SALARY BY EDUCATION & EXPERIENCE — UNIX RESPONDENTS									
	<1	1-2	3-4	5-6	7-8	9-10	11-15	16-20	>20
HS	—	30,771	46,800	54,000	53,600	65,625	61,562	—	—
Tech/Trade	—	42,266	46,628	57,843	55,333	62,600	70,642	67,000	—
Assoc	—	43,227	49,906	54,805	64,692	65,098	65,377	68,809	—
Some College	—	45,500	51,790	60,491	63,197	74,029	71,065	68,066	70,461
BS	40,789	47,197	54,647	61,427	64,481	67,283	73,433	73,971	74,028
MS/MBA	—	44,035	61,720	64,112	73,720	68,860	72,558	79,250	76,807
PhD	—	—	59,875	70,000	65,250	64,545	66,562	80,285	—

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

### 3M. HOW DO I COMPARE MY SALARY?

Both institutions and employees are understandably interested in ensuring fairness and uniformity in salaries. The temptation to consult overall averages like those shown in table below is almost overwhelming:

SALARIES BY JOB DESCRIPTION						
TYPE	NT			UNIX		
	AVG SAL	INCR %	% RESP †	AVG SAL	INCR %	% RESP †
SEC_CON	73,711	11.7	4.5	75,645	11.1	6.8
SEC_AUD	64,377	9.1	2.9	68,865	10.1	5.0
OTHER	63,178	11.8	11.3	69,760	11.6	8.7
DB_ADM	56,615	12.5	0.7	54,000	6.9	0.4
SEC_ADM	56,797	11.7	3.4	60,808	9.1	8.1
SYS_ADM	51,529	12.0	48.7	61,106	10.3	58.7
NET_ADM	49,486	12.3	28.6	60,639	10.8	12.3

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

Unfortunately, this table says nothing about experience. Another table can include that data, as well:

SALARY BY EXPERIENCE AND POSITION: ALL REGIONS — NT ADMINS							
EXPER.	SEC_ADM	NET_ADM	SYS_ADM	SEC_AUD	SEC_CON	DB_ADM	OTHER
<1	37,800	36,559	36,255	50,800	43,000	46,250	50,386
1-2	46,075	39,950	41,151	44,038	46,077	41,889	45,951
3-4	51,271	46,794	48,715	60,500	69,295	53,429	54,016
5-6	59,784	50,894	53,262	64,000	67,870	62,857	60,368
7-8	60,087	56,319	59,160	61,500	76,907	59,750	72,216
9-10	62,565	59,038	58,036	69,739	73,767	—	70,059
11-15	64,750	62,543	62,122	75,000	81,800	77,286	81,295
16-20	70,143	67,485	64,172	72,688	83,292	—	84,688
>20	69,778	64,875	65,813	82,000	93,500	—	79,919

SALARY BY EXPERIENCE AND POSITION: ALL REGIONS — UNIX ADMINS							
EXPER.	SEC_ADM	NET_ADM	SYS_ADM	SEC_AUD	SEC_CON	DB_ADM	OTHER
<1	47,167	—	44,846	35,400	—	—	49,571
1-2	49,688	46,300	43,064	50,640	49,083	—	48,944
3-4	53,003	49,229	52,299	64,240	63,735	—	61,846
5-6	58,091	56,986	59,685	68,152	75,946	—	68,441
7-8	66,172	63,800	64,304	66,636	75,917	—	65,333
9-10	64,152	68,678	66,200	68,300	82,951	—	70,325
11-15	71,605	68,543	68,904	76,731	84,419	—	78,431
16-20	64,611	76,000	71,331	84,056	82,056	—	76,920
>20	86,286	62,500	66,600	78,750	77,000	—	85,222

But, this does not take into account the geographical variations that push New York City salaries into stratosphere while those in Norman, Oklahoma remain a bit more “grounded.”

The numbers above are relatively unchanged since last year. Either they must change next year or the numbers in Table 3c must change. People can not spend two years in a position, gain an average of \$12,000 in raises over that time, and maintain the numbers shown here! It will be interesting to see which numbers change.

The tables below are the most valuable in this publication for ascertaining salary comparisons. They show average salaries by region and job description. Find your region (they are in alphabetical order), and then check the position and experience levels to see the comparable salary. Some regions' tables are sparsely populated – or missing completely – because they had too few respondents.

**SALARY BY EXPERIENCE AND POSITION: ALASKA**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
3-4	—	—	44.2	—	—	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: AUSTRALIA**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	34.8	—	37.3	—	—	—	—	—	—	—	34.7	—
3-4	—	—	38.3	—	44.1	—	—	—	—	—	—	—	—	—
5-6	—	—	47.5	—	44.5	58.4	—	—	—	—	—	—	54.8	—
7-8	—	—	—	—	57.0	57.2	—	—	—	—	—	—	—	—
9-10	—	—	—	—	51.8	—	—	—	—	—	—	—	—	—
11-15	—	—	—	—	75.7	86.5	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: CANADA - BC**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	34.8	—	34.7	—	—	—	—	—	—	—	—	—
3-4	—	—	35.0	—	39.3	41.6	—	—	—	—	—	—	—	—
5-6	—	—	39.8	—	40.1	38.8	—	—	—	—	—	—	—	—
9-10	—	—	—	—	52.5	—	—	—	—	—	—	—	—	—
11-15	—	—	—	—	58.8	49.4	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: CANADA - ONTARIO**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	37.0	—	—	—	—	—	—	—	—	—	—	—
1-2	—	—	41.6	—	37.7	41.6	—	—	—	—	—	—	—	—
3-4	—	—	41.8	33.0	41.1	45.0	—	—	—	—	—	—	46.6	—
5-6	—	—	42.1	46.0	50.7	—	—	—	—	—	—	—	—	—
7-8	—	—	48.2	—	48.4	55.5	—	—	—	—	—	—	—	—
9-10	—	—	46.3	—	61.5	49.5	—	—	—	—	—	—	—	—
11-15	—	—	—	—	47.2	45.8	—	—	—	—	—	—	—	—
16-20	—	—	—	—	—	59.7	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: CANADA - OTHER**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	34.0	—	32.0	—	—	—	—	—	—	—	48.7	—
3-4	—	—	47.3	—	37.0	34.8	—	—	—	—	—	—	43.0	—
5-6	—	—	42.3	—	43.0	45.4	—	—	—	—	—	—	—	—
7-8	—	—	46.5	—	48.7	50.0	—	—	—	—	—	—	52.5	—
9-10	—	—	—	—	45.2	—	—	—	—	—	—	—	—	—
11-15	—	—	48.0	—	48.5	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: CANADA - QUEBEC**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	—	—	36.6	—	—	—	—	—	—	—	—	—
3-4	—	—	34.4	—	38.0	—	—	—	—	—	—	—	—	—
5-6	—	—	—	—	50.6	—	—	—	—	—	—	—	—	—
11-15	—	—	—	—	49.0	63.0	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: EUR: GERM/AUS/SWITZ**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	47.7	—	—	—	—	—	—	—	—	—	—	—
3-4	—	—	—	—	50.5	—	—	—	—	—	—	—	—	—
5-6	—	—	—	—	64.8	—	—	—	—	—	—	—	—	—
7-8	—	—	—	—	—	58.5	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: EUR: SCANDINAVIA/BENELUX**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	46.7	—	36.7	—	—	—	—	—	—	—	—	—
3-4	—	—	41.8	—	45.0	44.8	—	—	—	—	—	—	—	—
5-6	—	—	—	—	45.5	45.5	—	—	—	—	—	—	—	—
7-8	—	—	—	—	60.2	59.0	—	—	—	—	—	—	—	—
9-10	—	—	—	—	53.5	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: EUR: UK**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	—	—	32.5	—	—	—	—	—	—	—	—	—
1-2	—	—	40.5	—	39.7	—	—	—	—	—	—	—	48.6	—
3-4	—	—	45.2	—	50.6	61.5	—	—	—	—	—	—	—	—
5-6	—	—	54.8	—	64.6	76.2	—	—	—	—	—	—	58.8	—
7-8	—	—	—	—	63.1	—	—	—	—	—	—	—	—	—
9-10	—	—	—	—	57.2	87.5	—	—	—	—	—	—	—	—
11-15	—	—	—	—	75.8	72.0	—	—	—	—	—	—	114.5	—

**SALARY BY EXPERIENCE AND POSITION: HAWAII**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
3-4	—	—	—	—	42.5	—	—	—	—	—	—	—	—	—
11-15	—	—	—	—	—	69.2	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: MIDDLE EAST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
5-6	—	—	—	—	44.9	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: NEW ZEALAND**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	—	—	26.0	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: OTHER ASIA**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	—	—	44.0	—	—	—	—	—	—	—	—	—
3-4	—	—	—	—	52.6	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: OTHER WEST. EUROPE**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
1-2	—	—	—	—	33.4	—	—	—	—	—	—	—	—	—
3-4	—	—	—	—	41.8	35.8	—	—	—	—	—	—	—	—
5-6	—	—	—	—	43.5	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: SOUTH AMERICA**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
3-4	—	—	—	—	32.4	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: US-MIDWEST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	41.7	—	48.8	—	—	—	—	—	—	—	47.7	49.5
1-2	45.4	—	45.0	—	47.8	48.5	54.7	—	—	—	—	—	54.1	49.4
3-4	64.0	58.8	50.7	55.6	53.1	57.6	61.6	74.8	76.7	74.6	58.0	—	56.7	66.2
5-6	52.2	60.2	55.3	65.5	57.1	63.7	70.0	71.4	75.1	76.4	—	—	62.0	82.0
7-8	66.5	—	60.1	67.3	65.2	66.2	—	—	83.6	—	—	—	70.3	—
9-10	61.5	63.6	64.7	64.0	66.5	70.3	87.0	74.0	69.5	80.2	—	—	80.2	73.6
11-15	70.8	69.5	66.2	67.2	60.8	74.0	77.8	—	90.3	106.2	—	—	81.0	—
16-20	—	66.2	57.8	88.6	62.2	74.5	—	—	84.0	—	—	—	—	75.7
>20	—	—	—	—	68.4	76.0	—	—	—	—	—	—	79.0	—



**SALARY BY EXPERIENCE AND POSITION: US-NORTHEAST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	46.3	—	40.9	51.2	—	—	—	—	—	—	65.1	—
1-2	54.6	60.5	49.3	—	50.5	54.1	54.5	—	57.1	54.7	—	—	57.7	—
3-4	60.4	64.2	58.9	53.6	61.1	61.3	75.3	71.0	81.8	66.6	—	—	62.7	68.6
5-6	66.0	75.1	62.3	71.9	63.1	65.1	81.5	81.8	72.0	88.0	—	—	73.3	77.6
7-8	82.0	60.6	69.3	67.4	68.0	73.8	73.6	—	84.3	89.8	—	—	89.6	84.8
9-10	70.0	74.2	67.0	82.6	67.4	73.3	86.0	95.0	88.8	91.9	—	—	82.9	77.8
11-15	87.2	74.9	74.9	81.8	75.6	76.9	102.6	94.2	89.1	89.0	—	—	95.4	78.5
16-20	75.7	67.7	65.8	—	73.4	80.0	97.0	99.4	99.3	99.0	—	—	93.9	78.4
>20	—	99.8	—	—	70.9	75.2	98.4	—	105.4	93.6	—	—	80.3	102.3

**SALARY BY EXPERIENCE AND POSITION: US-NORTHWEST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	—	—	—	—	—	—	—	—	—	—	46.0	—
1-2	—	—	42.8	—	45.6	52.0	—	—	—	—	—	—	60.8	—
3-4	—	—	50.3	—	51.5	62.3	—	—	72.0	67.0	—	—	53.8	—
5-6	65.7	—	52.0	61.6	56.3	59.2	—	—	—	—	—	—	66.5	—
7-8	52.7	—	59.2	73.2	64.9	68.0	—	—	—	—	—	—	—	—
9-10	—	—	60.3	—	57.9	68.6	—	—	—	—	—	—	76.5	—
11-15	—	—	67.6	64.5	59.6	70.0	—	—	—	—	—	—	76.0	—
16-20	—	—	—	—	69.2	—	—	—	—	—	—	—	—	—
>20	—	—	—	—	70.7	—	—	—	—	—	—	—	—	—

**SALARY BY EXPERIENCE AND POSITION: US-SOUTH**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	42.0	—	—	—	—	—	—	—	—	—	—	—
1-2	—	52.2	43.2	46.2	46.9	44.5	—	—	—	—	—	—	44.8	—
3-4	52.6	—	49.4	50.8	53.9	56.7	—	—	80.5	74.2	—	—	49.8	—
5-6	—	—	54.3	67.8	58.8	67.1	61.6	—	84.1	90.4	—	—	53.9	70.7
7-8	61.5	—	62.7	71.6	68.9	70.5	—	—	86.0	—	—	—	74.6	80.5
9-10	79.0	—	58.3	81.7	64.5	74.1	—	—	—	92.8	—	—	73.8	—
11-15	—	69.7	67.7	—	63.2	76.5	—	—	80.5	—	—	—	78.5	—
16-20	—	—	73.5	—	—	74.9	—	—	—	—	—	—	—	98.5
>20	—	—	—	—	72.7	81.2	—	—	73.5	—	—	—	81.4	—

**SALARY BY EXPERIENCE AND POSITION: US-SOUTHEAST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	38.6	—	43.6	—	—	—	—	—	—	—	66.8	—
1-2	46.2	58.2	46.3	—	48.5	45.0	42.0	—	—	—	—	—	43.0	—
3-4	68.5	63.0	52.4	56.2	53.5	55.6	59.1	—	72.9	—	—	—	72.8	—
5-6	—	—	56.2	—	56.4	62.5	60.7	—	76.5	—	—	—	74.0	—
7-8	—	75.0	53.9	63.8	59.9	70.3	—	—	65.0	84.8	—	—	76.1	53.4
9-10	—	59.0	61.4	75.5	58.3	69.6	58.5	—	—	82.6	—	—	75.1	—
11-15	66.0	83.5	62.0	71.0	64.8	67.9	—	—	85.2	—	—	—	81.1	86.1
16-20	—	—	69.2	—	62.2	81.8	—	—	—	—	—	—	88.2	—
>20	—	—	—	—	58.2	—	—	—	—	—	—	—	92.7	—

**SALARY BY EXPERIENCE AND POSITION: US-SOUTHWEST**

EXPERIENCE	SEC_ADM		NET_ADM		SYS_ADM		SEC_AUD		SEC_CON		DB_ADM		OTHER	
	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX	NT	UNIX
<1	—	—	44.3	—	50.6	—	—	—	—	—	—	—	47.0	—
1-2	57.5	60.0	46.2	—	51.2	49.6	—	—	—	—	—	—	63.5	—
3-4	56.0	69.5	53.1	63.5	57.2	63.2	73.8	78.1	85.0	—	—	—	66.8	79.0
5-6	—	77.8	61.1	68.2	63.1	70.9	—	81.0	—	79.4	—	—	70.7	92.3
7-8	—	83.3	62.7	76.9	69.0	75.8	66.7	—	88.2	—	—	—	76.2	—
9-10	—	82.0	75.3	78.2	67.8	78.0	80.5	—	70.7	108.2	—	—	88.6	75.7
11-15	72.0	94.1	70.4	74.6	75.5	81.8	—	69.5	89.4	81.2	—	—	92.5	102.1
16-20	—	—	76.4	82.2	77.5	80.3	—	84.1	—	—	—	—	91.7	90.0
>20	73.5	—	—	—	90.2	72.5	—	—	—	—	—	—	93.8	93.5

**3N. HOW DOES MANAGEMENT RESPONSIBILITY AFFECT SALARIES?**

Supervising subordinates has long been a means to increase one's salary. This table examines that hypothesis.

**SUBORDINATES VS. SALARY AND INCREASE**

SUBORDS	NT			UNIX		
	SALARY	INCR %	% RESP †	SALARY	INCR %	% RESP †
0	50,495	11.7	51.7	60,696	10.3	54.5
1	50,174	11.8	11.7	57,941	9.8	8.8
2	53,695	13.0	10.1	61,097	10.5	8.6
3	56,200	12.4	6.8	64,857	10.9	6.3
4	59,099	12.1	4.8	69,673	9.9	4.4
5	60,961	12.7	4.7	68,145	11.8	5.0
6	65,267	12.2	2.1	69,623	10.3	2.5
7	65,558	11.2	1.2	72,666	8.7	1.2
8	66,725	13.7	1.2	71,226	8.1	1.5
9	64,650	7.7	0.6	74,233	12.7	1.0
≥10	72,408	11.5	5.2	76,437	10.0	6.1

Those with no subordinates include consultants and experienced technical wizards, so that pushes the average up. Note that management responsibility does not reduce the salary gap between the two groups. Each supervised subordinate seems to add substantially to the pay rate (though this table does not account for experience).

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

### 30. IS THERE A GENDER GAP IN SALARIES OR PAY INCREASES?

The notion of a “pink ceiling” for salaries has long been debated. This table examines the assertion that women with more than five years of experience can not move up past a certain point in salary.

SALARY BY GENDER AND YEARS OF EXPERIENCE FOR NT ADMINIS						
YEARS	ALL		MALE		FEMALE	
	AVG SAL	%	AVG SAL	% †	AVG SAL	% †
<1	39,094	3.5	38,980	3.2	39,641	5.2
1-2	41,335	17.8	41,262	17.6	41,838	19.3
3-4	49,550	27.9	49,547	28.1	49,576	26.3
5-6	54,573	18.9	55,020	19.1	50,857	17.5
7-8	60,969	10.2	61,968	10.3	52,931	9.8
9-10	61,471	8.6	61,737	8.7	59,202	7.7
11-15	68,299	8.6	68,705	8.5	65,463	9.3
16-20	71,894	2.5	72,168	2.4	70,433	3.4
>20	77,025	2.0	78,139	2.1	65,642	1.6

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

SALARY BY GENDER AND YEARS OF EXPERIENCE FOR UNIX ADMINIS						
YEARS	ALL		MALE		FEMALE	
	AVG SAL	%	AVG SAL	% †	AVG SAL	% †
<1	43,180	1.5	41,694	1.2	47,000	3.2
1-2	45,786	7.9	45,575	7.7	46,921	9.6
3-4	54,421	19.2	54,423	19.3	54,407	18.1
5-6	60,923	18.6	60,973	19.2	60,476	14.4
7-8	65,141	12.5	65,792	12.8	60,062	11.0
9-10	68,841	13.8	69,721	13.8	62,983	14.0
11-15	71,746	17.3	73,367	16.8	62,866	20.6
16-20	73,666	6.7	74,369	6.5	69,575	7.6
>20	74,406	2.5	74,200	2.7	77,166	1.4

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

These two tables suggest that female respondents are keeping up in salaries for the first four years of an administrative career but then tend to fall behind.

### 3P. DO DIFFERENT ADMIN TYPES GET HIGHER RAISES?

Are Security Administrators moving up the pay scale more rapidly than other administrators? This chart answers this and other questions.

INCREASES BY SALARY AND ADMIN TYPE — NT ADMINS												
SALARY	SEC_CON		SYS_ADM		NET_ADM		DB_ADM		SEC_ADM		SEC_AUD	
	INCR	% †	INCR	% †	INCR	% †	INCR	% †	INCR	% †	INCR	% †
< 20,000	10.0	0.3	12.9	1.1	8.3	1.0	5.6	1.9	36.9	1.7	0.0	0.5
20,000-29,999	16.2	1.3	11.5	5.9	11.1	6.2	10.4	3.8	11.4	2.5	20.0	1.9
30,000-39,999	11.9	3.8	11.2	16.5	11.5	20.4	19.4	11.5	13.8	9.1	9.6	10.6
40,000-49,999	11.8	11.9	11.7	24.8	12.8	27.8	10.4	15.4	10.1	23.7	11.4	12.6
50,000-59,999	10.3	12.5	11.9	21.4	12.4	20.0	10.3	21.2	10.1	18.3	8.5	15.5
60,000-69,999	11.7	16.6	13.0	15.5	12.1	13.1	8.2	17.3	12.1	21.6	9.5	19.3
70,000-79,999	14.7	14.7	11.9	8.5	13.1	6.2	15.6	21.2	10.9	10.0	8.1	13.5
80,000-89,999	10.6	14.4	11.9	3.2	11.9	2.9	6.0	3.8	11.4	11.6	8.2	11.6
90,000-99,999	10.0	9.7	13.6	1.2	14.5	0.7	—	—	8.1	0.8	9.7	7.2
100,000 and up	11.3	14.7	16.2	1.9	17.9	1.7	25.9	3.8	29.3	0.8	5.6	7.2
ALL	11.7	100.0	12.0	100.0	12.3	100.0	12.5	100.0	11.7	100.0	9.1	100.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

INCREASES BY SALARY AND ADMIN TYPE — UNIX ADMINS												
SALARY	SEC_CON		SYS_ADM		NET_ADM		DB_ADM		SEC_ADM		SEC_AUD	
	INCR	% †	INCR	% †	INCR	% †	INCR	% †	INCR	% †	INCR	% †
< 20,000	9.1	0.5	50.0	0.3	12.8	0.7	0.0	8.3	0.0	0.6	18.8	1.5
20,000-29,999	10.0	0.5	9.6	3.0	9.2	2.2	—	—	10.4	2.5	21.5	1.5
30,000-39,999	12.5	4.1	10.1	8.1	10.3	7.2	0.0	8.3	7.8	5.0	10.3	10.0
40,000-49,999	15.3	5.5	11.0	18.7	9.6	17.1	13.4	16.7	12.2	9.4	9.0	16.2
50,000-59,999	10.8	12.7	7.9	20.7	9.7	20.3	8.4	25.0	8.6	16.2	8.7	20.4
60,000-69,999	13.1	16.8	11.1	20.5	10.4	21.3	6.4	16.7	9.8	18.1	8.8	19.2
70,000-79,999	8.7	21.4	13.1	13.6	10.4	16.2	4.5	16.7	11.0	20.0	8.9	14.6
80,000-89,999	11.9	14.5	11.5	6.6	10.8	8.1	9.6	8.3	7.1	10.0	5.9	6.5
90,000-99,999	7.6	9.5	9.0	3.5	10.3	3.4	—	—	9.3	9.4	8.9	6.5
100,000 and up	12.4	14.5	13.8	5.1	14.0	3.4	—	—	15.3	8.8	9.0	3.5
ALL	11.1	100.0	10.8	100.0	10.3	100.0	6.9	100.0	10.1	100.0	9.1	100.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The counterintuitive result from this chart is that those few who are high up on the pay scale are increasing their pay at a higher rate than almost anyone else. This might be due to the scarcity of consultants or maybe to companies trying to keep their highly paid (“best”?) employees. Some other factor might also be operating.

## 4. INTERESTING FINDINGS

### 4A. ARE SAGE JOB CLASSIFICATIONS CORRELATED WITH SALARY?

CLASS	% NT	% UNIX
Novice	3.7	2.3
Junior	38.5	28.3
Senior	57.8	69.4

Respondents classified themselves according to SAGE's system administrator classification system:

Their reported salaries broke down like this:

#### COMPARATIVE PAYRATES FOR SAGE CATS FOR NT ADMINS

YEARS	NOVICE		JUNIOR		SENIOR	
	SAL	INCR %	SAL	INCR %	SAL	INCR %
<1	35,153	12.9	38,410	14.1	53,501	18.4
1-2	36,065	13.4	40,149	14.2	47,120	14.9
3-4	41,304	12.9	44,914	13.0	54,445	14.7
5-6	42,856	11.4	47,235	11.1	58,028	11.3
7-8	42,000	11.8	51,245	9.8	63,958	10.9
9-10	—	—	52,769	8.1	63,036	9.2
11-15	—	—	52,449	7.3	70,179	9.2
16-20	—	—	57,538	7.5	73,150	7.9
>20	—	—	52,063	6.4	78,895	6.8

#### COMPARATIVE PAYRATES FOR SAGE CATS FOR NT UNIX

YEARS	NOVICE		JUNIOR		SENIOR	
	SAL	INCR %	SAL	INCR %	SAL	INCR %
<1	39,286	19.0	46,111	9.1	—	—
1-2	42,762	18.5	42,087	13.8	55,000	12.6
3-4	45,692	18.8	49,462	12.5	58,975	13.6
5-6	—	—	52,569	9.9	64,788	11.5
7-8	—	—	56,202	8.7	67,654	11.0
9-10	—	—	57,766	6.7	70,295	9.6
11-15	—	—	59,680	7.1	72,642	8.6
16-20	—	—	57,615	6.2	75,436	6.6
>20	—	—	62,625	3.0	75,692	5.9

The progression of increasing salaries across the self-identified categories is quite amazing.

Likewise, the salary compression for those with more experience is shown strongly by this table.

## 4B. HOW MANY HOURS DO ADMINISTRATORS WORK EACH WEEK? DO LONGER-WORKER ADMINS GET BIGGER RAISES?

Computer professionals are always rumored to be long on time commitment. And maybe all that hard work pays off in bigger raises. This chart tests that idea.

HOURS WORKED PER WEEK				
HOURS PER WEEK	NT		UNIX	
	INCREASE	% RESP †	INCREASE	% RESP †
<30	10.12	0.3	23.59	0.2
30-39.99	10.51	3.7	8.93	3.4
40-44.99	11.25	29.6	9.70	30.5
45-49.99	11.69	27.3	9.84	27.3
50-54.99	12.47	24.0	10.85	23.5
55-59.99	13.12	7.2	12.07	7.2
≥ 60	13.82	7.9	11.16	7.8

† Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The average hours per week over all respondents comes to 46.850. NT Admins average 46.89 hours per week; the UNIX Admins average 46.76.

More than two thirds of the respondents work 45 or more hours per week. About 39% work 50 hours or more per week. About one in twelve reports working sixty or more hours per week. Part-time factors are at work in the higher increase for the works of less than 30 hours.

Those who work more than 55 hours – over 15% of respondents – did better for raises. This is a huge commitment, of course, to get a 1-2% higher raise (which works out to \$800 per year or so).

## 4C. DO PEOPLE WITH MORE SYSTEMS WORK MORE HOURS?

Maybe all that hard work is due to site complexity. This graph checks that assertion.

HOURS/WEEK BY NUMBER OF SYSTEMS				
# SYS	NT		UNIX	
	HOURS/WK	% RESP	HOURS/WK	% RESP
1	45.8	20.3	45.4	8.2
2	46.3	32.2	45.0	18.4
3	47.3	25.3	46.8	24.4
4	48.1	11.1	46.7	18.0
5 or more	49.0	11.1	48.3	31.0
All	47.0	100.0	46.8	100.0

While 46.9 hours is the overall average (same as last year), added complexity apparently results in more work hours.

#### 4D. DO MEN WORK MORE HOURS ON AVERAGE THAN WOMEN?

Years ago, there was a notion that women were simply not as dedicated to computer careers as their male counterparts. This chart looks at the data submitted to see if that notion holds water.

HOURS PER WEEK VS. GENDER				
HOURS PER WEEK	NT		UNIX	
	% MALE †	% FEMALE †	% MALE †	% FEMALE †
<30	0.3	0.5	0.2	0.3
30-39.99	3.6	5.0	3.5	3.4
40-44.99	28.5	36.9	30.3	33.2
45-49.99	27.3	25.2	26.4	29.5
50-54.99	24.4	21.6	23.8	20.0
55-59.99	7.5	5.7	7.4	7.4
≥60	5.0	0.0	6.3	0.0

†Numbers in this column are percentages of respondents in this column, not of the entire set of respondents.

The differences are fairly minimal, though men tend to be better represented than women in the higher parts of the distribution.

#### 4E. DO DIFFERENT JOB DESCRIPTIONS HAVE DIFFERENT VACATIONS?

It appears that three weeks is the norm for vacation.

VACATION VS. JOB DESCRIPTION	
JOB	AVG. VAC. WEEKS
DB_ADM	3.0
NET_ADM	2.6
SEC_ADM	3.1
SEC_AUD	3.4
SEC_CON	3.0
SYS_ADM	2.8

Network administrators seem to be getting the short end of the vacation stick. Consider the average vacation reported when broken down by job description and experience.

VACATION WEEKS, % RESPONDENTS						
EXP.	DB_ADM	NET_ADM	SEC_ADM	SEC_AUD	SEC_CON	SYS_ADM
<1	2.0	2.1	2.6	2.8	2.8	2.3
1-2	3.3	2.3	2.9	3.2	3.1	2.5
3-4	2.9	2.6	3.0	3.2	3.0	2.7
5-6	3.4	2.6	3.2	3.4	2.7	2.8
7-8	3.0	2.7	3.3	3.5	3.1	2.9
9-10	3.1	2.9	3.2	3.6	3.0	3.1
11-15	3.2	3.0	3.4	3.6	3.2	3.2
16-20	—	2.9	3.4	3.4	3.2	3.4
>20	—	3.3	3.6	3.5	2.6	3.3

This generally shows that people get more vacation as they gain experience. Security administrators and security auditors do report significantly more vacation than others.

#### 4F. FAVORITE BENEFITS

The survey asked people to list a few of their favorite benefits from their compensation packages.

BENEFIT	% LISTED
Health	83.3
Training	76.7
401K match	59.3
Tuition	52.2
Perfbonus	34.4
Stockpurch	23.3
Stock	19.8
Other bonus	19.6
Signbonus	6.4
Car	3.1
Daycare	1.9

Not surprisingly, health care came out #1. Training was mentioned by over three quarters of the respondents! Tuition was fourth on the list, mentioned by over half. This appears to be a group of people who really enjoy learning!

#### 4G. BONUSES

The survey also asked about bonuses. Here is a table that shows the distribution of bonuses (for those who reported more than 0% bonus):

BONUS%	% NT LISTED	% UNIX LISTED
0-1.99	3.2	1.9
2-4.99	10.0	7.1
5-9.99	21.8	19.3
10-14.99	23.4	21.2
15-19.99	12.8	14.2
20-29.99	17.6	20.7
30-49.99	8.4	10.8
50-up	2.9	4.7

Almost 75% of the respondents who received bonuses report 5%-29.99% as their bonus size.



#### 4H. TO WHAT DO THOSE WITH RAISES ATTRIBUTE THEIR SUCCESS?

TRAIT	% LISTED
Work hard	57.8
Good attitude	47.0
Maintain stable network	40.4
More active role mgmt	39.8
Upgrade skills	39.6
Meet obligations	33.6
Change jobs	31.4
Get certification	30.3
Improve skills	24.9
Publicize achievements	16.4
High profile project	15.9
Go into consulting	9.1
Go into mgmt	8.5
Proof of demand	8.4
College degree	6.9

Respondents were asked to list a few items they attributed to their successful raise.

Hard work won out (which is good!). Skill upgrades, certification, skill improvement were mentioned a fair number of times. These are clearly important markers for those yearning for more salary.

#### 4I. WHAT'S IMPORTANT ABOUT THE JOB?

TRAIT	% LISTED
Ability work with adv tech	64.8
Mgmt respects and trusts decisions	55.9
Education opportunity	53.0
Challenge of job	51.3
Base pay	48.5
Job atmosphere	40.7
Up to date tools	33.4
Flexible schedule	31.4
Benefits	23.7
Job stability	22.6
Casual attire	19.6
Vacation time	18.7
Potential for promotion	17.9
Bonus opportunities	14.4
Seeing how job helps company	13.0
Telecommuting	12.8
Effectiveness of supervision	11.8
Corporate culture	11.3
Financial stability of company	10.3
Company stock	8.4
Reputation of company	6.8
Company provided computer	6.7
Understanding company's business strategy	5.6
Workout facilities	2.4
Domestic partner benefits	1.6

Respondents were asked to choose a few of the most important facets of their work.

The high rates of pay were not mentioned by half the people. Instead, working with high tech, trust, education, and challenge were rated higher. This is certainly a group that enjoys technical challenge, independence, and growth.

## CONCLUSION

BY ROB KOLSTAD

Salaries are certainly doing extremely well for the administrator and auditor professions. The feverish pitch of job-changing seems to have abated somewhat, though the salary increases have not.

The gap between NT and UNIX salaries is a real one and seems to average about \$10K/year for those with similar experience levels. It will be interesting (especially in light of “The Free Software Movement” which promotes UNIX-like solutions) to see whether the salaries ultimately converge.

It is unknown either how long this phenomenon will continue or how high salaries can go. It is clear that a huge number of PCs continue to be sold and, sooner or later, they require administration (presuming we're talking about commercial sales, of course).

OS vendors are doing everything they can to reduce administrative costs, which now appear to be the dominant expense for keeping computers in a business. It is incumbent on admins to ensure that employers understand your value, though this lesson is apparently becoming universally understood.

Maybe someday computers will be tools that “just work.” Until then, keep on learning and let's build this profession into a great model for the modern work environment!

# ADDITIONAL OFFERINGS FROM THE SANS INSTITUTE

The SANS Institute is a cooperative research and education organization through which system administrators, security professionals, and network administrators share the lessons they are learning. It offers educational conferences and in-depth courses, cooperative research reports, and electronic digests of authoritative answers to current questions.

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Published annually, the survey reports salaries of sysadmin, networking, and security professionals based on their primary operating environment (UNIX, NT, Netware, or combination) where they live, the type and size of employer, the machines they manage, whether they are employees or consultants, and other characteristics. It also reports the size of their raises, by salary level, and the principal reasons reported for above-average raises. More than 11,000 people participated in the 1998 survey.

### *Windows NT Security: Step-by-Step*

A consensus of security professionals from seventy-seven large user organizations-who worked together to develop a list of 93 actions in eight phases that should be done to secure an NT server. 36 pages.

### *Computer Security Incident Handling: Step-by-Step*

A consensus of the leading incident handling agencies and experts plus fifty other experienced incident handling professionals. 44 pages.

### *Windows NT PowerTools: Administrators' Consensus*

This is a consensus report which 220 NT administrators shared their experiences in implementing and using twenty of the most popular tools for improving efficiency and security on Windows NT systems.

### *Solaris Security: Step-by-Step*

A SANS consensus report on how to create a secure Solaris system. Edited by Hal Pomeranz, the document lists everything you need to know.

For more information:

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