

Lucent Technologies
Bell Labs Innovations

Network Professionals Job Satisfaction

By Rick Blum, Senior Research Programs Manager

Highlights

- Since 1998, job satisfaction has risen consistently. Currently, more than 70 percent of network professionals are satisfied with their jobs, compared to only 56 percent in 1998.
- Job hopping is a double-edged sword; respondents who have worked for three or more companies in the last six years are either most likely to be very satisfied or most likely to be completely dissatisfied with their jobs.
- Experience helps: professionals with more than 15 years of networking experience are most likely to be very satisfied with their jobs.
- The opportunity to learn new skills, achievement opportunities, type of work, and professional growth opportunities are the most important factors influencing job satisfaction. However, satisfaction with all of the factors lags significantly behind their rated importance.
- Respondents who have the opportunity to grow professionally on their jobs are most likely to be satisfied with their jobs overall. But this factor has the largest gap between importance and satisfaction.
- Only 30 percent of respondents say their companies' formal training programs meet their professional needs. However, most (79 percent) believe that they are learning and growing professionally.
- Nearly six out of ten respondents do not think their organizations are well managed and also say that communications between them and senior management are not clear and timely. Moreover, 55 percent of respondents say their employers do not do a good job of motivating employees, and 56 percent feel their total compensation does not compare favorably to the market for someone with their experience.

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About Lucent Technologies Worldwide Services

Lucent Technologies Worldwide Services offers service providers and enterprises a comprehensive portfolio of network consulting and software solutions for the full lifecycle of a network, including planning and design, implementation, and operations. Lucent provides professional services as well as sustaining services such as management and maintenance, for complex, multivendor environments, and software solutions for network and application performance management. The VitalSoft product family forms the software division of Lucent Worldwide Services. Lucent Technologies is headquartered in Murray Hill, New Jersey, USA. Visit the Lucent Worldwide Services Web site at **http://www.lucentservices.com.**

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About Lucent Worldwide Services Network Industry Surveys

Lucent Worldwide Services conducts monthly industry survey projects intended to provide IT managers with insight into key issues impacting the ability to develop and deploy network-centric business applications. Previous survey reports include:

- Virtual Private Networks
- Network Challenges and Opportunities in Uncertain Times
- Network Operations Centers
- Performance Management and Engineering
- Network Quality of Service
- ASP Network Infrastructure
- Service Level Management
- Network Security
- Convergence and New World Services Providers
- E-Business Network Architecture/Infrastructure
- Network Professionals Job Satisfaction
- Network and Systems Management Total Cost of Ownership
- Networking in the 21st Century
- Network Operations Centers
- Enterprise Operating Systems and Directory Services
- Management Intranets
- Network Prospects for the New Millennium
- Web/Java-based Management
- Remote Access Services

To see the results of these surveys or to participate in the latest Lucent network industry survey, visit our Web site at:

http://www.lucentservices.com/surveys

If you would like to learn how Lucent Worldwide Services can help you implement or improve your networking capabilities, please call us at 1-888-767-2988 in the U.S., or 1-650-318-1020 outside the U.S., or email: networkcare@lucent.com.

Introduction

Rapid evolution of broadband communications, wireless access, external service provider solutions, voice/data convergence, mobile computing, and many other network-oriented business solutions continue to exacerbate finding and retaining the people who can conceive, design, and implement a stable network infrastructure. Even with the demise of many dot-coms and the general slowing of the economy, the limited supply of networking professionals who can work in these complex internetworking environments creates significant challenges for many organizations. Hopefully, this survey report will help IT managers appreciate some of the nuances of job satisfaction among this group of specialized technology experts, enabling organizations to better address their networking staffing requirements.

From February 1 through February 28, 2001, Lucent Technologies Worldwide Services conducted a Web-based survey on job satisfaction of network professionals, which was completed by 262 people around the globe. Previous surveys on the job satisfaction of network professionals were conducted in January 1998, February 1999, and February 2000. Taken together, these four surveys yield valuable insight into how well companies are addressing the needs of networking professionals and what steps can be taken to improve job satisfaction in the coming year. It also provides networking professionals with a benchmark against which to assess their own job experiences and rewards. The complete results of these surveys are available at: **www.lucentservices.com/surveys**.

The Bottom Line

Despite the recent downturn in the fortunes of many technology companies, the demand for skilled networking professionals continues to be an issue that network managers need to address. In the crush of budget re-evaluations, heightened attention on project goals, and sharper focus on marketing strategies, it is too easy to dismiss the importance of job satisfaction. However, the network professionals planning, designing, and implementing increasingly complex enterprise networks are the very people who can help ensure future growth.

Even though we have seen improving job satisfaction over the past four years, progressive networking organizations will want to address the concerns identified in this survey in order to maximize overall job satisfaction among their network professionals. Based on our survey results, the following ideas and suggestions may engender greater enthusiasm and improve morale among the workforce, helping to increase productivity and minimize job turnover.

- Providing employees with challenging jobs, along with learning and growth opportunities, should receive the most attention from management.
- Offering professional training programs that provide ambitious employees with greater opportunities to sharpen their skill sets and be eligible for promotions can help reduce turnover.
- Better attention to the way decisions and goals are communicated from senior management to network professionals can improve attitudes and engender greater enthusiasm.
- Ensuring that compensation is appropriate to experience and directly reflects each employee's contribution to the organization is critical.

Overall Job Satisfaction

Over the past four years there is a clear trend toward higher levels of job satisfaction. In this year's job satisfaction survey, nearly three-quarters of network professionals indicate satisfaction with their current jobs. This result compares favorably with the past two years, when less than 70 percent of respondents were satisfied, and even more favorably with 1998, when only 56 percent of respondents were satisfied overall with their jobs. Considering the turmoil in the industry during the months preceding the survey, this is a surprisingly positive result.

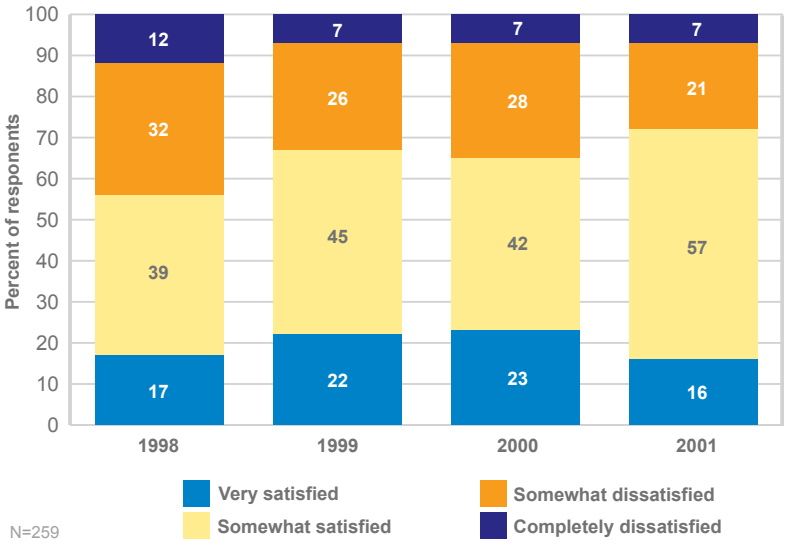
In spite of this notable improvement, dissatisfaction remains quite high, with 28 percent of respondents somewhat or completely dissatisfied overall with their jobs. Fortunately, however, most of these fall into the *somewhat dissatisfied* category, with the percentage of respondents saying they are completely dissatisfied being quite small (seven percent). Later in our report we will discuss other details of job satisfaction and identify some of the areas where network organizations can make significant changes to help improve overall job satisfaction among their network professionals.

Having scoped overall job satisfaction in the industry, the next five charts will dissect respondents into multiple, discrete categories, which will provide further insights into factors that influence overall job satisfaction.

Length of experience in the networking industry is not a strong indicator of overall job satisfaction. Most networking professionals (78 percent) in the survey with less than one year of experience are satisfied with their jobs overall. About an equal percentage of respondents with 4-6 years or more than 15 years experience are also satisfied with their jobs.

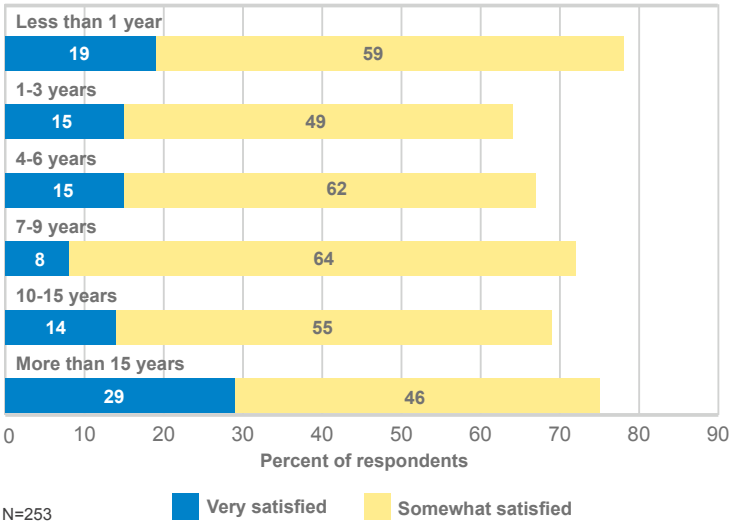
Looking just at respondents who are very satisfied with their jobs, there is the highest percentage of satisfaction among those with the least (less than one year) and most (more than 15 years) experience. This is fairly consistent with last year's results. Overall, the most important

Overall Job Satisfaction



N=259

Overall Job Satisfaction by Networking Experience



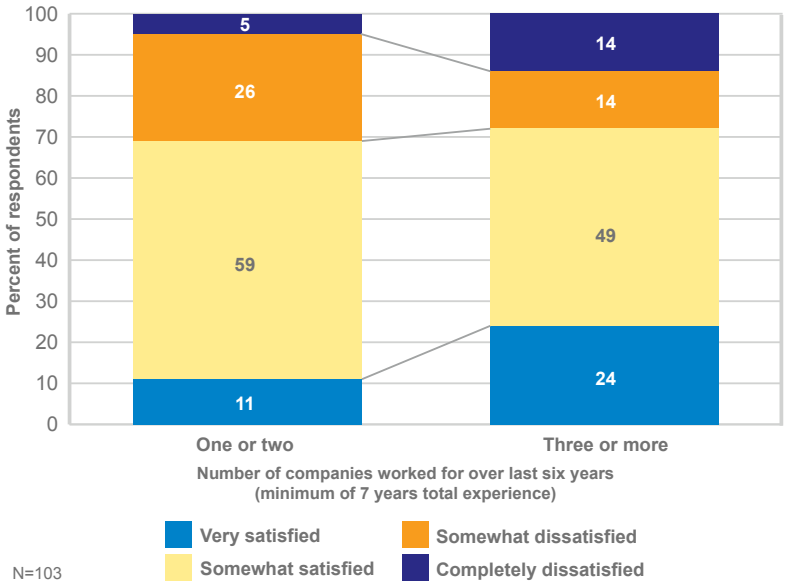
N=253

observation is that job satisfaction has improved at virtually all levels of networking experience.

When we look at job stability (the number of companies worked for over the last six years) satisfaction is not significantly different for respondents who have worked for three or more companies than for those who have worked for only one or two companies. However, for those respondents who have worked for three or more companies, the percentage who are very satisfied overall with their jobs is significantly higher (24 percent) than for those who have worked for only one or two companies (11 percent). However, the percentage of those who are completely dissatisfied is also higher for those who have had more jobs. In other words, people who do more job hopping are more likely to have strong feelings about their satisfaction — positive or negative. Obviously, frequent job hopping is a double-edged sword: it may mean workers feel they have found the perfect jobs; it may also mean they feel continually frustrated.

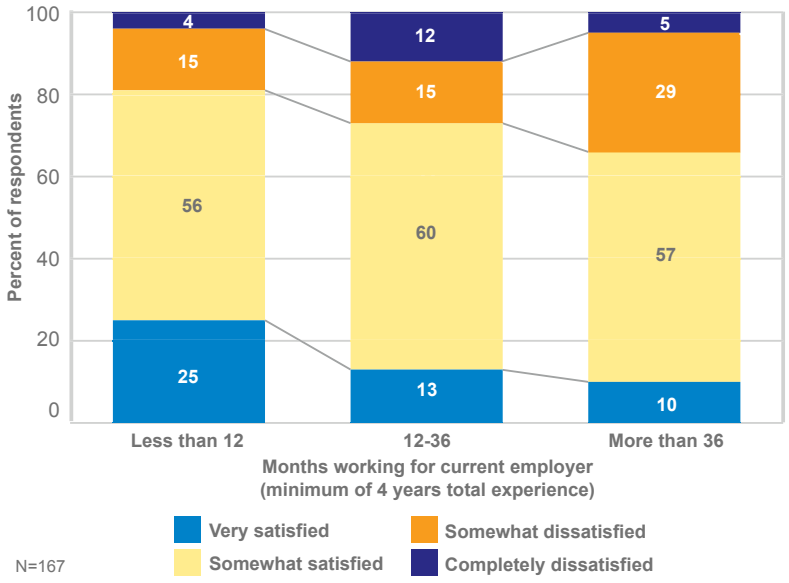
Looking at overall job satisfaction from the perspective of length of time with the respondent's current employer, there is a pattern of slightly diminishing satisfaction with job duration. Eighty percent of respondents who have been with their employer less than 12 months are satisfied with their jobs, 73 percent of respondents at the same employer for one to three years are satisfied, while only 67 percent of respondents with more than three years working for the same employer are satisfied with their jobs. We will see later that opportunities to learn new skills and advance are among the most important factors affecting job satisfaction. These are less likely to have a negative affect on new employees, tending to become important only after several years on the job. This could be among the root causes of diminishing satisfaction levels over time.

Overall Job Satisfaction by Job Stability



N=103

Overall Job Satisfaction by Job Longevity

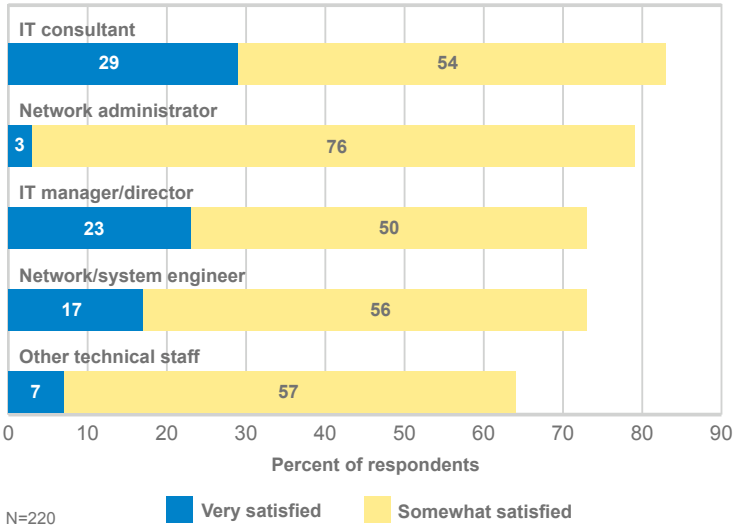


N=167

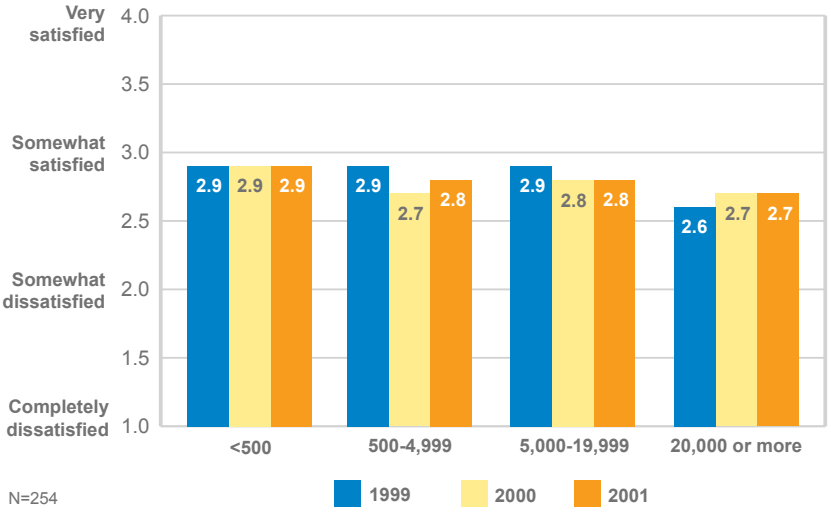
Although it may not be as markedly obvious as other factors, job function also affects overall job satisfaction. In this survey, IT consultants have the highest percentage of satisfaction with their current jobs overall (83 percent), but network administrators are not far behind. The network administrator job function presents a bit of a dichotomy; it has by far the highest percentage of respondents who are somewhat satisfied with their jobs overall (76 percent), but the lowest percentage (three percent) who are very satisfied with their jobs. This pattern is similar to last year, although much more dramatic this year. If this pattern continues in 2002, it would confirm this dichotomy and distinguish network administration from other job functions in its potential to provide only moderate job satisfaction for most people.

Looking at job satisfaction for the last three years by company size, it is becoming clear that company size influences overall job satisfaction. Although the absolute differences are small, the consistency of results over the last three surveys indicates that network professionals who work for companies with fewer than 500 employees are more likely to be satisfied with their jobs than those who work for companies of 20,000 or more people. Medium-sized companies (500-19,999 employees) are likely to fall in the middle on the job satisfaction scale.

Overall Job Satisfaction by Job Function



Overall Job Satisfaction by Company Size



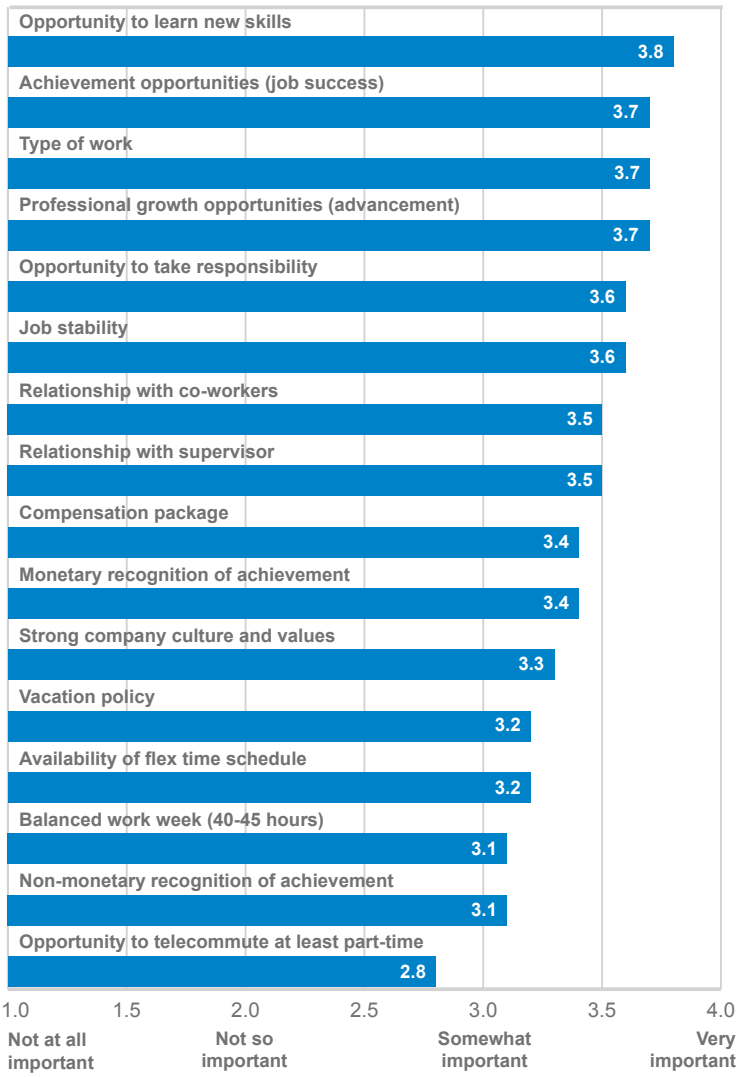
Factors That Influence Job Satisfaction

In order to assess what has the greatest and least influence on job satisfaction, we asked respondents to rate the importance of 16 factors to their overall job satisfaction. Then we went on to ask respondents to indicate their levels of satisfaction with each of these 16 factors. Unfortunately, comparing the two results shows that significant gaps exist between importance and satisfaction on all 16 factors.

Over the past three surveys, the top four factors in importance have been: the opportunity to learn new skills, achievement opportunities, type of work, and professional growth opportunities. In fact, the top factor—opportunity to learn new skills—is deemed very important by 84 percent of respondents. Since none of these top factors directly relate to monetary rewards (which are farther down the importance list), managers should note that respondents feel overall job satisfaction is more closely related to being provided challenging jobs, along with learning and growth opportunities, than it is to being highly paid.

A new factor introduced this year is job stability, which respondents rate fairly high in importance. Because such a large segment of our survey respondents come from the telecommunications and computer services provider markets, perhaps they are feeling more concerned about job stability than in a typical year. It remains to be seen how this factor plays out in future surveys.

Importance of Various Job Factors



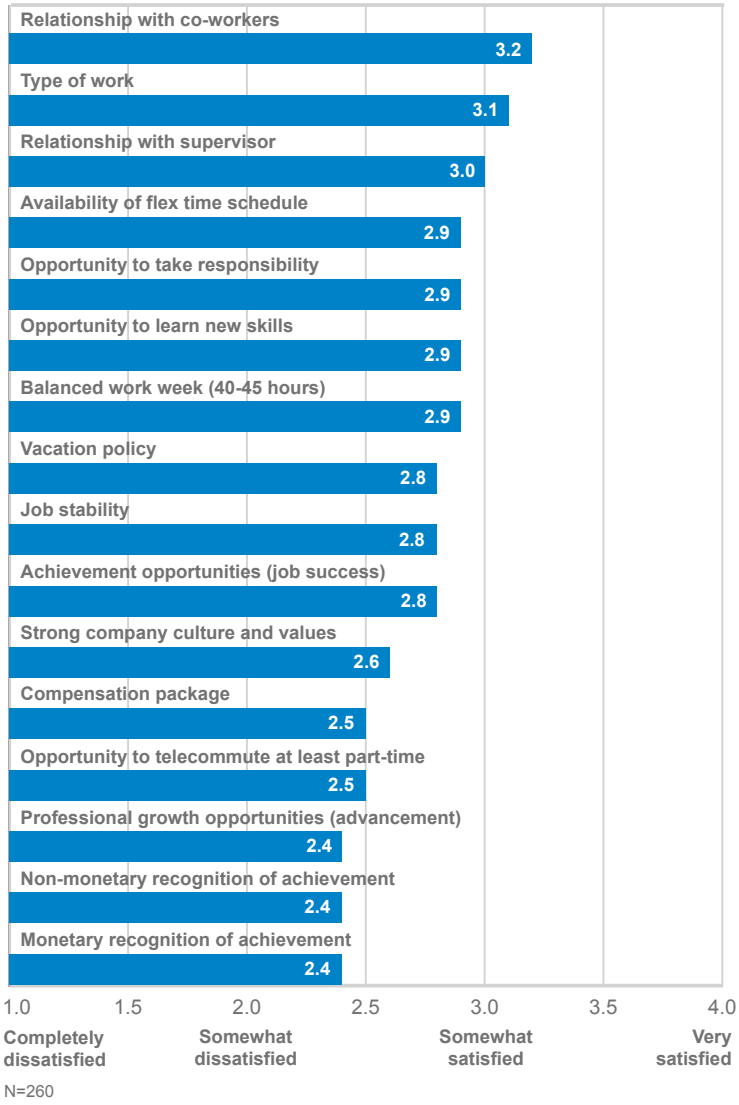
N=262

In every job factor category, satisfaction lags significantly behind importance, a result that is similar to last year's survey. Considering the top four factors in importance, only type of work is near the top in satisfaction ratings. Paralleling last year's results, relationship with co-workers has the smallest gap between satisfaction rating (3.2) and importance rating (3.5). The new job stability category ranks in the middle of the pack in terms of relative satisfaction.

It is interesting that both monetary recognition of achievement and non-monetary recognition of achievement are at the very bottom of the list in terms of satisfaction. Clearly, companies should be doing a better job of recognizing the contributions of network professionals.

Identifying the job factors with the highest disparity between importance and satisfaction can help network managers focus on those that have the most impact on job satisfaction. Overall, the disparity between satisfaction and importance has not changed much over the surveys during the past three years. Except for type of work, the factors ranked tops in importance are on this list, and the factor that clearly needs the most improvement is professional growth opportunities.

Satisfaction with Various Job Factors



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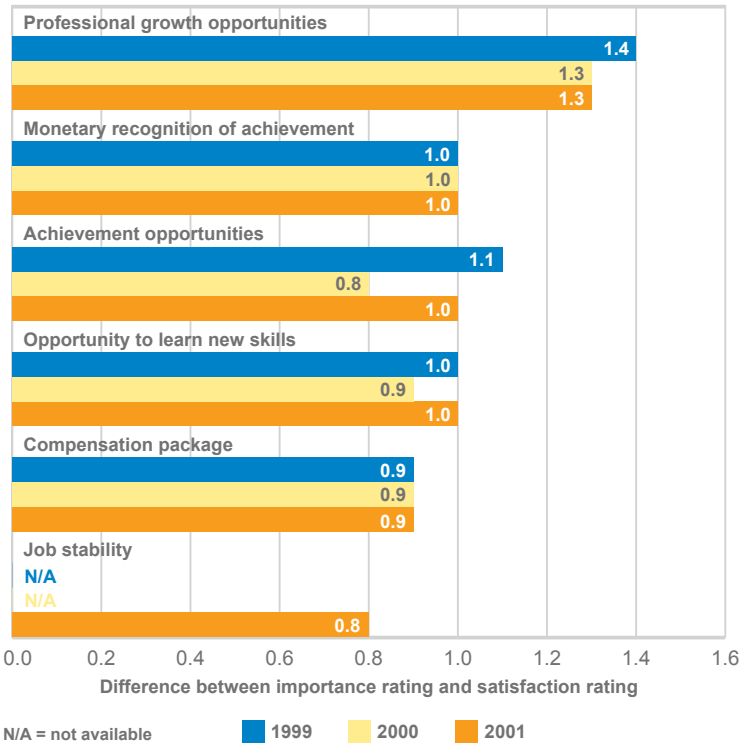
Job Factors with Highest Disparity Between Importance and Satisfaction



Job Factors with Strongest Correlation Between High Satisfaction and High Overall Job Satisfaction



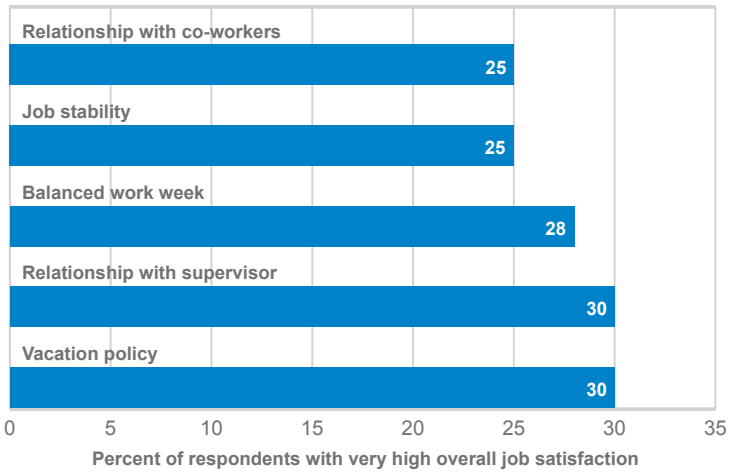
(Note: percentage is based on respondents who are very satisfied with each individual job factor)

Organizations that want to stabilize their roster of network professionals in a market with high turnover might want to consider ways to give ambitious and restless employees more opportunities to hone their skills and move up in the organization. At the same time, it's important to note that monetary factors, both recognition of achievement and compensation package, also show high disparity between importance and satisfaction. In today's softer economy, demand for qualified networking professionals still exceeds supply, keeping monetary rewards at the forefront of significance, and emphasizing the importance of maintaining competitive salaries.

Another way to analyze job satisfaction is to examine each factor to determine how strongly it correlates with high overall job satisfaction. The six factors with the highest correlation this year also topped the list last year.

Professional growth opportunities showed the strongest correlation, with 52 percent of the people who say they are very satisfied with their professional growth opportunities are also very satisfied with their current job overall. Non-monetary recognition of achievement again shows it also has a strong influence on job satisfaction. Although monetary recognition of achievement and compensation packages are well down the list of job factor importance, they should not be dismissed because both have a strong correlation to high overall job satisfaction

Job Factors with Weakest Correlation Between High Satisfaction and Overall High Job Satisfaction



(Note: percentage is based on respondents who are very satisfied with each individual job factor.)

Similarly, when we look at job factors with the weakest correlation between high satisfaction and overall job satisfaction, vacation policies and relationships with co-workers and supervisors come to the fore. Although most respondents consider these to be important characteristics , they are not nearly as critical in creating very satisfied overall job ratings.

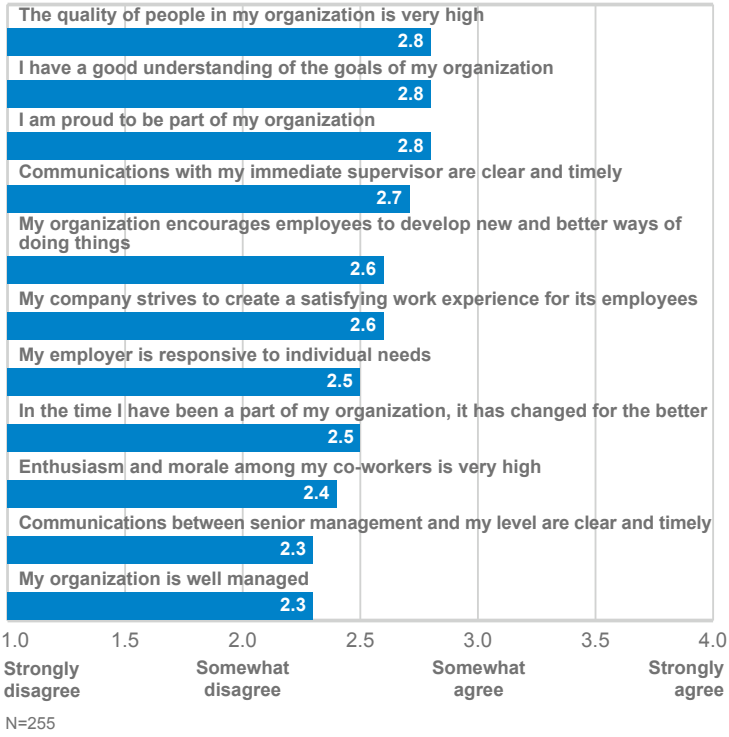
By comparing the factors with a strong correlation and those with a weak correlation with overall job satisfaction, network managers can concentrate on those that will produce the biggest bang for the buck.

Work Environment Ratings

Responses to work environment assessment questions are remarkably similar to results from the past two surveys for nearly every factor examined. As in last year's survey results, two-thirds of respondents agree that the quality of people in their organizations is very high, and nearly two-thirds agree that they have a good understanding of the goals of their organizations and are proud to be part of them. On the downside, however, nearly six out of ten respondents do not agree that their organizations are well managed and an equal number say that communications from senior management are not clear and timely. Almost as many (54 percent) disagree with the statement that enthusiasm and morale among co-workers is very high.

Overall, networking professionals seem to feel their work environments are satisfactory in terms of their immediate work activities and goals, but they express an emphatically lower opinion of how well senior management runs the company and communicates goals to the rest of the organization. One area that bears watching is apprehension over job security, where 55 percent of respondents agree with the statement, "There is a lot of concern about pending layoffs in the coming year." (Previously, we noted the fairly high importance of job stability to overall job satisfaction.)

Work Environment Ratings



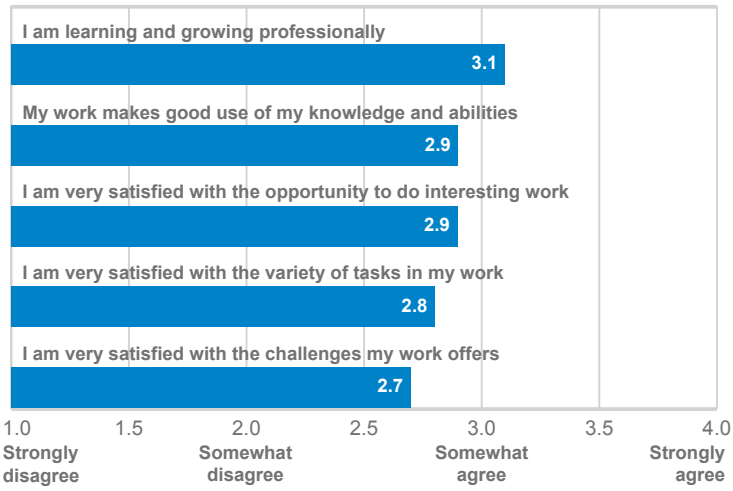
N=255

…two-thirds of respondents agree that the quality of people in their organizations is very high…

Work Experience Ratings

We asked respondents to indicate their agreement with six positive work experience statements. Overall, a clear majority of respondents agreed with all six statements. At the top, 78 percent of respondents agree that they are learning and growing professionally. This correlates well with the previous finding that respondents consider the opportunity to learn new skills the most important factor in their overall job satisfaction. Similarly, 67 percent of respondents say their work makes good use of their knowledge and abilities, which ties back nicely to the third most important job factor they identified, namely, the type of work they do. However, similar to what we noted last year, more than two out of five respondents would like their work to be more challenging.

Work Experience Ratings



N=256

Job Performance Ratings

Considering six characteristics of job performance, respondents in this year's survey gave very similar answers to the last two years' surveys. In fact, both the actual rating numbers and the relative order of important are virtually identical. A substantial majority of respondents (81 percent) agree that they have a clear understanding of job responsibilities, and 61 percent agree that they have been given clear performance objectives. However, a majority of respondents are dissatisfied with the way performance is evaluated, do not agree that performance reviews help improve job performance, and do not have a clear understanding of the career paths for advancement. Since all three of these factors can be controlled significantly by management, these are areas that savvy network managers may want to focus on in order to improve overall job satisfaction for their employees.

Job Performance Ratings



N=259

Reward System Ratings

Looking at the ratings for six positive reward systems characteristics, respondents' agreement with all six is fairly low. The greatest disagreement (62 percent) is with the statement, "Employees who contributed the most to my employer are the most highly rewarded." Moreover, 55 percent of respondents say their employers do not do a good job of motivating employees, and 56 percent feel their total compensation does not compare favorably to the market for someone with their experience.

These rather disturbing results all appear to be interrelated. It would seem that network managers need to be more careful in ensuring that compensation of their employees directly reflects each employee's contribution to the organization.

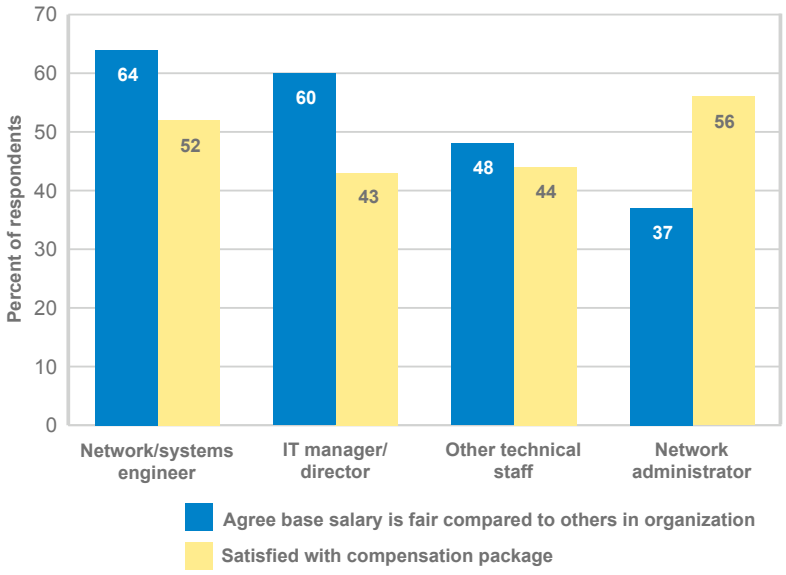
Even in the highest-rated reward system measure, only slightly more than half (57 percent) of respondents think they are paid (base salary) fairly compared to others in their organization. However, this measure—along with satisfaction with compensation package—varies by job function. Network/systems engineers are most likely to agree that their base salaries are fair compared to others in the organization (64 percent), followed by IT managers/directors (60 percent). But respondents in both of these job functions are significantly less likely to be satisfied with their compensation packages, which could include things such as a quarterly bonuses or stock options.

Just as network administrators' overall job satisfaction earlier presented a dichotomy, here also they veer from the pattern of their peers in the organization. Whereas network administrators' peers are more likely to be satisfied with their base salaries compared to others, and less likely to be satisfied with their compensation packages, network administrators display the opposite tendencies. They are both the least likely to believe that their base salaries are fair compared to others in the organization, but most likely to be satisfied with their compensation packages. This finding may be a critical factor in the very low (3 percent)

Reward System Ratings



Correlation Between Pay and Job Function



percentage of network administrators who are very satisfied with their jobs overall.

Correlating pay with company size shows that respondents in both small and large organizations are least likely to be happy with their compensation packages and how their salaries compare to others in the organization. Although slightly more than half of the employees in mid-size organizations are satisfied with their compensation packages, in companies with fewer than 100 employees, only 40 percent of respondents indicate satisfaction. In small to mid-size organizations, there is a higher level of agreement that base salaries are fair compared with others in the organization.

Correlation Between Pay and Company Size



Training and Skills Ratings

As with previous surveys, a substantial majority of network professionals are encouraged by their employers to learn new skills, but only three in ten respondents agree that the formal training programs being offered meet their professional needs. Moreover, fewer than half of respondents are satisfied with on-the-job training, which should be a warning sign that training programs may need to be reexamined.

In spite of concerns over the adequacy of training programs, the majority of respondents believe their employers consider training important and say they are given opportunities to learn new skills. Similar to last year, more than half (57 percent) of respondents continue to believe in the importance of vendor certification for career advancement.

Training and Skills Ratings



N=259

Best and Worst Job Characteristics

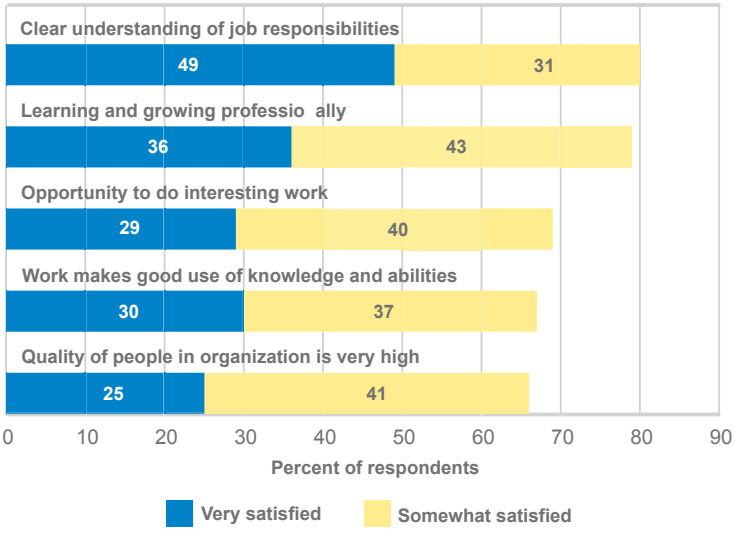
The consistency in the ratings respondents gave over the past three years to our survey questions about training and skills, job performance, reward systems, work experience, and work environment reinforces their validity as true reflections of network professionals' views on job satisfaction. Looking at all five categories, we selected those positive job statements that the largest percentage of respondents agree with, and those with the high level of disagreement.

The highest percentage of respondents agree that: they have a clear understanding of their job responsibilities (80 percent), they are learning and growing professionally (79 percent), and they have the opportunity to do interesting work (69 percent). These last two characteristics are critical because, as we noted previously, professional growth opportunities and the type of work are both very important in determining overall job satisfaction.

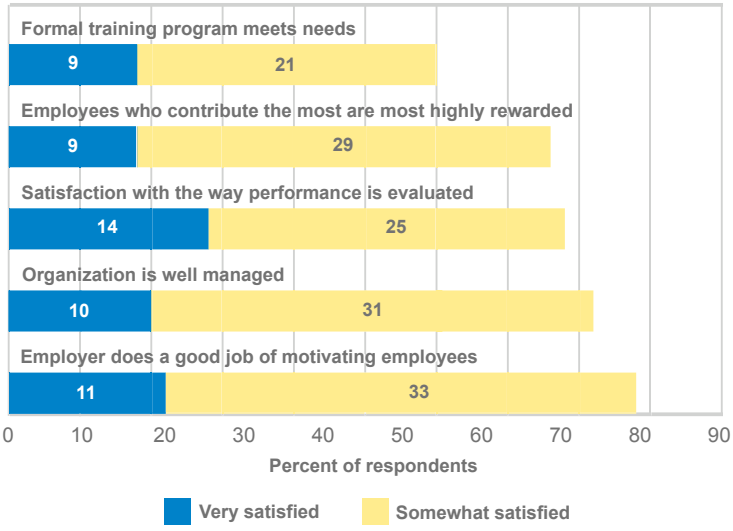
On the other side of the coin, the least well implemented job characteristics point to areas where companies need to improve. Only 30 percent of respondents say their company's formal training programs meet their professional needs. This is in direct opposition to the 84 percent who believe that the opportunity to learn new skills is very important in their overall job satisfaction. Furthermore, while 73 percent of respondents say that achievement opportunities (job success) are very important to job satisfaction, we see very low satisfaction levels with the way employees are rewarded for their contributions (38 percent) and with the way performance is evaluated (39 percent).

In summary, network executives can be grateful for the areas where respondents feel they're doing a good job. However there are clearly some formidable issues that need to be addressed to ensure proper training and evaluation of network professionals, whose skills are critical to the success of the enterprise.

Best Implemented Job Characteristics



Least Well Implemented Job Characteristics



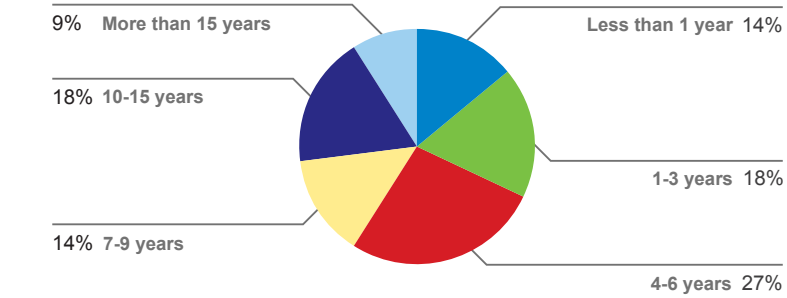
Respondent Demographics

In this survey, 14 percent of respondents have been employed in the networking profession for less than one year, and a typical respondent has just under seven years experience in the field. Nearly six in ten respondents have been in the industry for six years or less, and only nine percent for more than 15 years. Continuing a movement observed over the past four years, the percentage of respondents with less than four years experience is steadily going up. As overall networking needs continue to grow and salaries remain high, this trend is likely to continue.

During the last six years, the typical respondent has had two or three employers. Over 80 percent of survey respondents have been employed at more than one organization over a six-year period, and 15 percent have had four or more employers. None of these high rates of change should be a surprise, given the continued strong demand for networking skills across industries.

While the majority of respondents (53 percent) have been with their current employer for less than two years, 24 percent have been with their current employer for more than four years. The average length of time respondents have been with their current employer is 32 months—about the same as last year's survey, which also underscores the strong demand for network experts and the consequent high turnover.

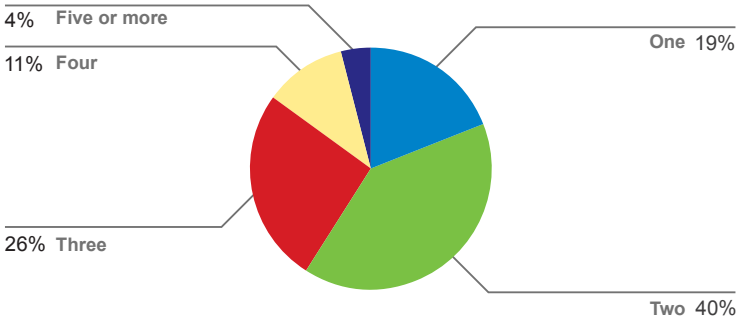
Length of Time in Networking Profession



N=256

Mean=6.7 years

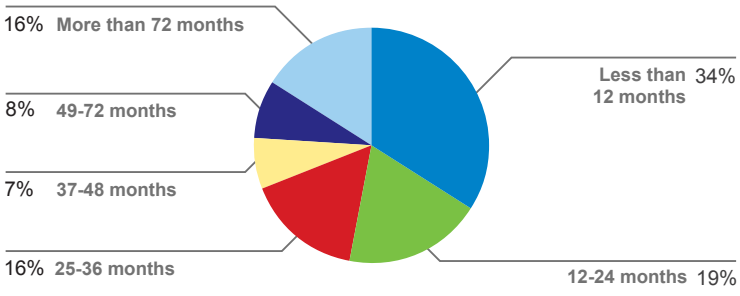
Number of Employers During Last Six Years



N=257

Mean=2.4

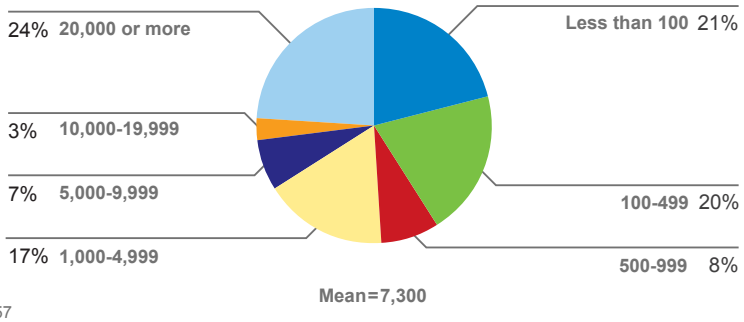
Length of Time with Current Employer



N=256

Mean=32 months

Respondents' Company Size (Employees)



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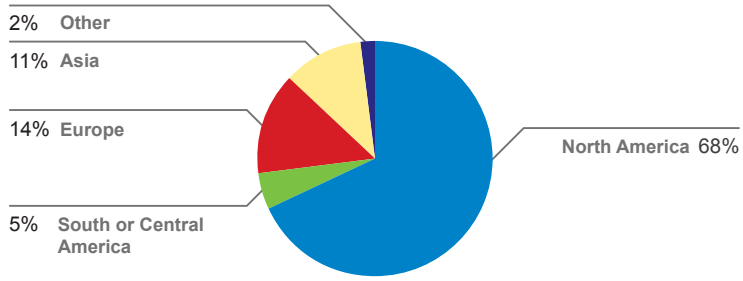
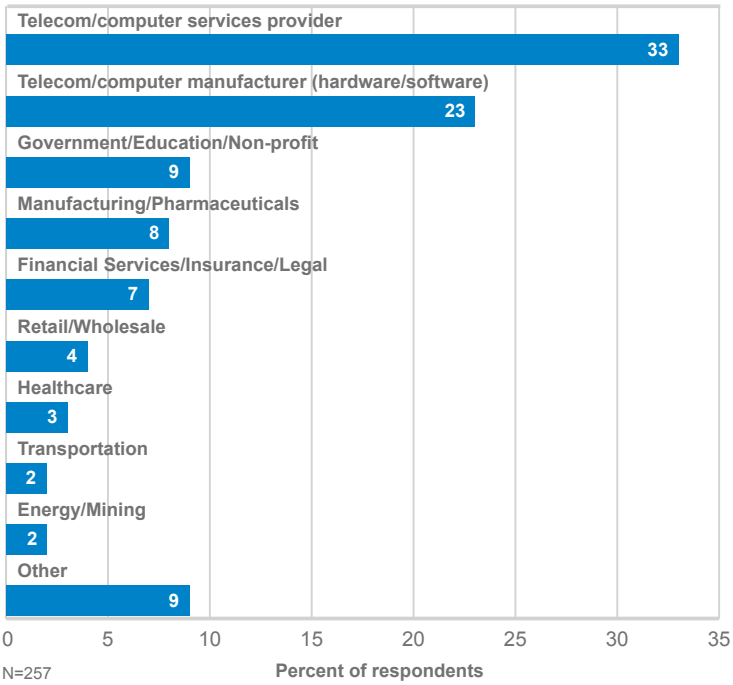
Respondents' Location



N=256

Respondents' Industry



N=257

Slightly more than one in five respondents work for small companies (less than 100 employees), while 24 percent work for very large companies (20,000 or more employees). The average size of respondents' companies is 7,300 employees.

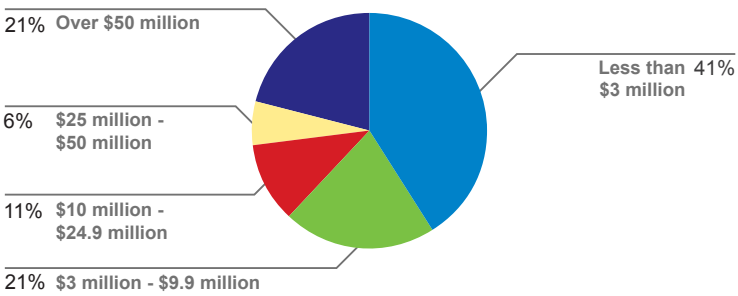
Sixty-eight percent of respondents are located in North America, while Europe (14 percent), Asia (11 percent), and South or Central America (five percent) account for most of the remaining respondents.

Survey respondents represented a fairly broad cross-section of industries, led strongly by telecom/computer services providers, which represent one-third of respondents. Other industries well represented include telecom/computer manufacturers (23 percent), government/education/non-profits (nine percent), manufacturing/pharmaceuticals (eight percent), and financial services/insurance/legal (seven percent).

Approximately one in five respondents' companies enjoy a data-networking budget in excess of $50 million, while another 41 percent have budgets under $3 million. The majority of companies represented work with budgets under $10 million.

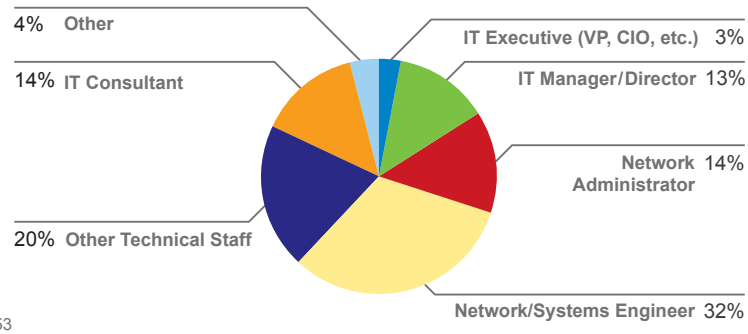
The highest percentage of respondents' job title/function was network/systems engineer (32 percent), followed by IT consultants (14 percent) and network administrators (14 percent). IT executives and manager/director titles together comprised another 16 percent of job titles represented.

Respondents' Companies' Data Networking Budget



N=183

Respondents' Job Title/Function



N=253

Respondent Comments

MANAGEMENT

- *Feedback to management helps.*
- *We are not given opportunities by management to improve our skills, because they are afraid we will then ask to be paid more (and they are right on this).*
- *Like many IT exec's, I'm overworked and under appreciated. However, the pay and benefits are good.*
- *Defining and publishing strategic plans, all the way down to the lowest worker in the organization, is a good way of letting each employee know where they stand in the organization. Job satisfaction goes out the window when there seems to be no direction from senior management and no definition of where the company is going.*
- *Management seems to operate in crisis mode only.*
- *Many managers do not understand IT. But worse, they do not want to change their minds toward the technology optimization global process.*
- *My manager does not understand technical concepts, thus it is hard to communicate to him the problems and solutions that I have. He cannot recognize the accomplishments that we make, which affects my reviews.*
- *There is very little direction or understanding of company goals handed down through the ranks, leading to miscommunication and unclear objectives.*

STABILITY

- *I was forced to take early retirement as a result of an RIF action. I really was disgusted at the age discrimination by many of the companies for which I was either consulting or working for temporarily. I only wish that businesses in the US were more stable, long-range, and not so very much dependent on every cough and sneeze of the economy and customer desires.*
- *Outsourcing has negatively affected job satisfaction and opportunities.*
- *Nothing erodes morale better than bringing in a succession of wunderkinds from outside, each of whom tries to remake the business in the image of his last employer. There are experienced, knowledgeable people working here whose input is ignored more often than not. Surprise, surprise when they wind up going out the door after a few years of this nonsense.*
- *Personal and professional growth is very important. When these are denied, or not happening anymore, it's time to move on and make a change for the better.*
- *We've been bought out twice since I started 18 months ago and each new set of policy changes has been for the worse. I feel as though we have gone from valuable employees of a small, privately held company to a minor revenue-generating operation barely worth the trouble of continuing to support in a much larger company.*
- *Due to the traffic situation in Atlanta, not having the ability to telecommute has forced a lot of talented people to move on to other companies.*

PERSONAL RELATIONS

- *I've always looked for a corporation that knows the value of human relations and demonstrates, or at least makes an attempt to have trust, consideration, and respect for their human resources. At the top of my list is to be with a group of friendly, open-minded, competent professionals.*
- *Professional attitude, values, esteem, and communications are the most important factors for me. I strongly believe that that's what makes or breaks a company - its trust in its employees, level of communications, and the way employees feel about the employer.*

REWARDS

- *Recognition after a successful job completion means the most when it is monetary.*
- *Freedom with responsibilities is the key to job satisfaction, along with the right recognition and rewards.*
- *Professional and knowledge-base enhancements . . . keep the employees at higher motivational levels. These and an industry-comparable compensation package would reduce employee churn to a large extent.*

ENRICHMENT

- *Everyday is a challenge when your job is in IT.*
- *I feel very satisfied on my job. It's enjoyable and full of chances to grow my skills and learn many new things related to computer technology.*
- *My staff is excellent, and that contributes positively to my job satisfaction.*

Methodology

This survey was conducted over the World Wide Web from February1, 2001—February 28, 2001 at:
http://www.lucentservices.com/surveys

All Web survey responses were automatically collected into a survey tool. Any questions skipped or incorrectly answered by survey respondents were not included in the tabulations. Not-applicable responses were also not included in the tabulations.

Each chart includes the number of valid responses for that particular question (e.g., N=100 indicates 100 responses). Percentages shown in charts may not equal 100 percent due to rounding.

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