

2022 IT Salary Survey (U.S.)

This survey gathers information on salaries for selected IT job positions. It should require less than 20 minutes to complete. We will use your responses as an important input to the *Computer Economics IT Salary Report*, which has been in publication annually since 1979.

What's in it for you?

Qualified respondents who provide average compensation for at least 10 positions will receive a free full copy of our *IT Salary Report* for the upcoming year (value \$495), when we publish it at the end of this year.

Who can participate?

This survey is for U.S.-based IT organizations only. If there is someone within your organization more qualified to take this survey, please feel free to forward the link to him or her.

Privacy policy

Computer Economics has been surveying IT organizations since 1979, and we value our reputation as a trusted source of data and metrics. As with all of our surveys, all responses are held in confidence and will not be revealed to any third party except in aggregate statistics.

Tips for Completing the Survey:

1. **IMPORTANT:** To see all the questions in advance, including **job descriptions/definitions**, please download and save a hard-copy version of this survey from either of these links:
[PDF Version](#)
[MS Word Version](#)
2. If you are interrupted, click "Save and Continue Survey Later" at the top of any page, and the system will email you a link to finish the survey later. Your answers on a given page will be saved once you click "NEXT" or "BACK." Don't worry: When paging back, you won't lose information you've already entered.

If you have questions, please email Tom Dunlap at tdunlap@computereconomics.com.

Contact Information

1) To receive a free copy of the final report, and in case we have questions about your responses, please provide the following contact information:

First Name: _____

Last Name: _____

Job Title: _____

Company Name: _____

City (Headquarters): _____

State: _____

Country: _____

Phone Number: _____

Email address: _____

2) Which of the following best describes your business?

Manufacturing, Process

Transportation

Manufacturing, Discrete

Life Sciences

Retail

Education

Wholesale

Real Estate

Banking/Finance

Government

Insurance

Public Sector and Charitable
Organizations

Healthcare Provider

IT Products

Energy and Utilities

IT Service Provider

Professional/Tech Services (other than
IT)

IT Consulting

Construction/Trade Services

Other - Write In (Required):

Telecommunications

About Your IT Organization

3) What is the current annual REVENUE of the business that is supported by your IT organization?

For public sector, use operating budget.

- Less than \$50 million
- \$50 million to \$350 million
- \$351 million to \$999 million
- \$1 billion or greater

4) How many IT workers does your organization have?

Include employees, contractors, temps, managers, and executives in your average annual IT head count. Count as full-time equivalents.

5) Please estimate the average salary increase or decrease IT employees will receive in the coming year.

For increase, enter positive percentage (e.g. 3.1%). For decrease, enter negative percentage (-2.5%). If no change, enter 0%.

6) What is your planned percentage increase or decrease in IT staff head count in the coming year?

For increase, enter positive percentage (e.g. 3.1%). For decrease, enter a negative percentage (e.g. -2.5%). If no change, enter 0%.

Current Trends in the Workplace

7) What percentage of your IT staff are currently working 100% in the office, 100% at home, or some combination of the two (hybrid)

100% in the office: _____

100% working from home: _____

Combination (Hybrid): _____

Comments:

8) What percentage of total company's employees are currently working 100% in the office, 100% at home, or some combination of the two (hybrid)

100% in the office: _____

100% working from home: _____

Combination (Hybrid): _____

Comments:

9) For existing IT staffing members working 100% from home, how do you adjust their salaries when they move to a home in a new metropolitan area in the U.S.?

No change in compensation

We adjust to reflect the cost of living in the new metro area

Not applicable

Comments:

10) How is your IT staff voluntary attrition rate changing this year?

Decreasing

About the same

Increasing

Comments:

11) If your organization is having difficulty filling some open positions, please identify which positions are difficult to fill, and why.

This will help us in our analysis when we point out the job positions facing the most difficulty in hiring.

12) Looking forward, are there any positions you feel you will be eliminating, or that are at least will be in less demand? If so, please list them below, and explain why.

IT Management Salaries

13) What is the median salary (including bonuses, but not benefits) for each IT management job function?

Do not include the same employee in more than one job function. Skip job functions for which you do not have salary information.

- Chief Information Officer (CIO): _____
- Chief Information Security Officer (CISO/CSO): _____
- Chief Technology Officer (CTO): _____
- VP/Director, Information Technology (IT Director): _____
- Director, Application Development: _____
- Director, Enterprise Architecture: _____
- Manager, Applications Development: _____
- Manager, Data Center Operations: _____
- Manager, Data Warehouse: _____
- Manager, Database Administration: _____
- Manager, Help Desk: _____
- Manager, IT Procurement: _____
- Manager, IT Finance: _____
- Manager, Network Operations: _____
- Manager, Operating Systems Programming: _____
- Manager, Telecommunications: _____
- IT Auditor: _____
- IT Auditor, Senior: _____

Other jobs, or alternative titles, or comments

IT Management Job Descriptions

- **Chief Information Officer (CIO)**—The chief information officer is responsible for directing all of the information technology functions of the organization and establishing leadership for the IT department. The CIO ensures the IT organization's strategic goals and objectives are aligned with those of the enterprise and participates with executive management in establishing IT strategy for the enterprise. CIOs typically will have a bachelor's or master's degree in computer science or related subject area and at least 10 years of experience in an IT managerial role. The CIO typically reports to the company president or chief executive officer.
- **Chief Information Security Officer (CISO)**—The chief information security officer is responsible for determining, implementing, and enforcing all of an organization's information security standards, technologies, and procedures. The CISO also is responsible for executive guidance in the area of IT risk management. This individual will continually identify security threats and vulnerabilities in an organization's information systems, reassess the amount of risk present as well as the cost and value of implementing controls and preventative measures. The CISO will create new policies and implement systems changes where necessary. The CISO also is responsible for promoting security awareness in the organization and managing access privileges. The position requires a bachelor's degree and often requires an advanced degree in computer science or information systems. Ten or more years of experience in systems management is generally a requirement. The CISO typically reports to the CIO.
- **Chief Technology Officer (CTO)**—The chief technology officer provides leadership in evaluating and deciding on the technologies that the organization will deploy to carry out the organization's mission, vision, and business strategy. The CTO stays abreast of the latest technology and constantly evaluates them for potential application within the organization to give competitive advantage. He or she is also responsible for maintaining the road map for the development of new products and services that use information technology and plays a critical role in digital transformation of the enterprise. This position requires a bachelor's degree and may require an advanced degree in business or technology; 10 or more years of experience in the IT field is generally a minimum requirement. The CTO typically reports to the CIO, CEO, or other top executive.
- **Vice President/Director, Information Technology (IT Director)**—The vice president/director of information technology is responsible for a regional or divisional information technology organization. This individual also functions as the ranking technologist in companies that do not have a CIO. The director of information technology is responsible for planning and directing the IT organization's strategic goals and objectives. This individual participates with corporate management in maintaining a close alignment of technology with the overall company business plan. The IT director approves and recommends hardware and software acquisitions and plays a major role in setting policies and procedures affecting information technology. This position requires a bachelor's degree and may require an advanced degree in business or technology; 10 or more years of experience in the information technology field is generally a

minimum requirement. The IT director typically reports to the CIO or other top executive.

- **Director, Application Development**—The director of application development is responsible for all systems analysis and development functions under the control of the IT organization. This includes reviewing, planning, directing, and reporting on all systems development projects for each business unit. Significant knowledge of and experience in project management and systems development tools and techniques are required. This individual provides overall management and direction to all application development personnel and is a key executive member of the senior IT staff. This position requires a bachelor's degree in a related area and a minimum of 10 years of experience in the IT field, with at least six years in a management capacity. The director of application development typically reports to the CIO or vice president of IT.
- **Director, Enterprise Architecture**—The director of enterprise architecture establishes systems and application architecture for the entire organization. This individual is responsible for analyzing needs and overseeing improvement and development of the IT systems, as well as keeping track of updates and trends within the information technology market. The director of enterprise architecture also establishes communication within the organization necessary to carry out the task of implementing new architecture. This position requires a bachelor's degree and may require an advanced degree in computer science or information systems and 10 or more years of experience in the information technology field. The director of enterprise architecture typically reports to a top IT executive such as the CIO.
- **Manager, Application Development**—The manager of application development is responsible for directing systems analysis and development activities for one or more business units. This individual must have significant knowledge of and experience in project management and the design, coding, testing, debugging, and implementation phases of the application development process. The manager of application development must have formal training in software development languages and a thorough understanding of application programming tools. This position requires a bachelor's degree in a related area and eight years of experience in the IT field, with at least six years in a systems analyst or programming capacity. The manager of application development typically reports to the director of application development or, in some organizations, may report directly to the CIO.
- **Manager, Data Center Operations**—The manager of data center operations is responsible for the ongoing management of the corporate data center environment. This individual ensures that production schedules are met and service levels maintained. The manager of data center operations establishes operational policies and procedures and is responsible for the physical security of all information and equipment housed in the data center. This position typically requires a bachelor's degree in a related area and at least eight years of experience in computer operations, with four years in a supervisory capacity. The manager of data center operations typically reports to the director of IT or, in some organizations, directly to the CIO.
- **Manager, Data Warehouse**—The data warehouse manager oversees a team responsible for designing, implementing, and supporting large-scale data

warehouse systems. This individual coordinates the planning and design of the data warehouse and ensures that it meets business criteria. The data warehouse manager also is responsible for testing and upgrading the data warehouse as needed. The position usually requires a bachelor's or master's degree in a related area and at least four years of experience in data warehouse management. This position may report to the IT director, application development director, or CIO.

- **Manager, Database Administration**—The manager of database administration oversees a team responsible for designing, implementing, and maintaining an organization's database systems. This individual identifies ways to improve and update the database and ensures that the database interacts properly with the system and applications. The position typically requires a bachelor's degree in a related area and eight years of experience in the field of database design. The manager of database administration typically reports to the IT director.
- **Manager, Help Desk**—The help desk manager is responsible for the effective operation of the IT help desk environment. This individual manages personnel who provide Tier 1 support for all incoming IT issues, as well as working in a proactive manner to minimize potential problems before they become an issue. The help desk manager implements policies and procedures associated with the entire problem management life cycle including identification, recording, receipting, documenting, corrective actions, and post-mortems. This individual must have a significant background in a variety of IT specialties. This position typically requires a bachelor's degree in a related area and at least six to eight years of experience in computer operations or another IT discipline, with four years in a supervisory capacity.
- **Manager, IT Procurement**—The manager of IT procurement is responsible for acquisition of IT products and services. This individual works with project teams and senior IT executives in sourcing vendors and service providers, developing requests for proposals, evaluating vendor proposals, negotiating contracts, and overseeing vendor performance. This individual also works closely with legal counsel when negotiating licensing and service provider contracts. This position typically requires a bachelor's degree and four to six years of experience in a senior IT staff or management capacity, professional procurement certification, and at least two years of procurement experience. The position usually reports to a senior IT director or the manager of IT finance.
- **Manager, IT Finance**—The IT finance manager assists senior management in the preparation and administration of IT budget and business plans. This individual ensures that all departments are adhering to specific budgets and business plans and reports on variances to senior management on a regular basis. The IT finance manager also may be responsible for reviewing, negotiating, writing, and administering vendor contracts, as well as interfacing with corporate finance and legal staff members. This position typically requires a bachelor's degree in accounting or finance and six to eight years of experience in a senior staff or management capacity in a large organization. Experience in a multiplatform IT environment also may be required. The manager of IT finance typically reports to a senior IT director.
- **Manager, Network Operations**—The network operations manager oversees a team responsible for daily network performance, upgrades and changes, and

incident records. The network operations manager develops and implements standards, procedures, and processes for the network operations group and plans and manages support of new technologies. This individual also participates in strategic network planning, tactical operation planning, and the development of contingency operation plans. A bachelor's degree in a related field and four to eight years of experience in network operations is usually required. The network operations manager usually reports to a senior IT director.

- **Manager, Operating Systems Programming**—The manager of operating systems programming is responsible for the overall management of all production and test operating systems, as well as all supporting systems utilities and tools. This individual reviews, approves, and directs any modifications to the OS environments. The systems programming manager also is responsible for directing all recovery efforts related to OS failures. This individual must be an expert in all aspects of managing complex OS environments. This position typically requires a bachelor's degree in a related area and eight years of experience in systems programming, with four years in a supervisory capacity. The operating systems programming manager typically reports to the director of IT operations or data center manager.
- **Manager, Telecommunications**—The manager of telecommunications is responsible for the ongoing management of voice, data, and video communications systems under the control of the organization. This individual reviews and approves all modifications to telecommunications systems and provides guidance and input on new technologies. The telecommunications manager must have significant knowledge and experience across a broad spectrum of telecommunications technologies and services. This position typically requires a bachelor's degree in a related area and eight years of experience in the IT field, with at least four years in a senior telecommunications analyst role. The telecommunications manager usually reports to a senior director. In some organizations, this individual may report directly to the CIO.
- **IT Auditor**—The IT auditor tests and evaluates IT systems for efficiency, accuracy, and security, provides verification of compliance with corporate policy and government regulations, and makes recommendations on improving systems and processes. IT auditors should be familiar with the organization's technology platforms, infrastructure, and architecture. They should possess strong communications and leadership skills. The position typically requires a bachelor's or master's degree in computer science or a related field, and may require accreditation. The IT auditor reports to a senior auditor or senior IT manager or director.
- **IT Auditor, Senior**—The senior IT auditor plays a lead role in establishing audit controls to monitor information systems standards. This individual is responsible for the ongoing monitoring and reporting of audit information to senior IT management. The senior IT auditor also is responsible for analyzing audit information and providing recommendations for improvement. This position typically requires a bachelor's or master's degree in computer science or a related field and at least six years of experience in technical audits. The senior IT auditor typically reports to a senior IT manager or director.

Cloud and Data Center Operations Salaries

14) What is the median salary (including bonuses, but not benefits) for each data center job function?

Do not include same employee in more than one job function. Skip job functions for which you do not have salary information. Please provide any alternative titles for similar job functions in the comments box.

Cloud Administrator: _____

Cloud Architect: _____

Cloud Engineer: _____

Computer Operator I: _____

Computer Operator II: _____

Computer Operator III: _____

Disaster Recovery Administrator: _____

Operating Systems Programmer I: _____

Operating Systems Programmer II: _____

Operating Systems Programmer III: _____

Systems Administrator: _____

Systems Administrator, Sr. (Level III): _____

Systems Engineer I: _____

Systems Engineer II: _____

Systems Engineer III: _____

Other jobs, or alternative titles, or comments.

Cloud and Data Center Operations Job Descriptions

- Cloud Administrator**—The cloud administrator is responsible for the day-to-day monitoring and maintenance of the operation of cloud computing resources, including network connectivity. This position monitors the network for performance, disruptions, security incidents, and other alerts, and takes corrective action to restore and optimize cloud services. This position typically requires prior work experience in administration of cloud services, along

with certifications by various cloud platform providers, such as Amazon, Microsoft, Google, Oracle, or others.

- **Cloud Architect**—The cloud architect is responsible for setting up and maintaining the infrastructure for public, private, and/or hybrid cloud environments. This individual establishes requirements for performance, monitors performance, and takes corrective action when service levels are not achieved. This position requires a strong understanding of cloud technologies and the various programming tools used to develop systems on them, including platform-as-a-service tools. It generally requires certification for one or more major cloud provider platforms such as Amazon, Microsoft, or Google and at least two years' experience working with them.
- **Cloud Engineer**—The cloud engineer is responsible for the development and maintenance of the architecture for the organization's cloud-based applications and infrastructure. The scope of the job includes cloud security and privacy, reliability, scalability, network performance, and integration with systems hosted on-premises. This position typically requires a bachelor's degree in computer science or equivalent work experience, along with certifications by various cloud platform providers, such as Amazon, Microsoft, Google, Oracle, or others.
- **Computer Operator I**—The computer operator I assists senior personnel in the proper functioning of all production job streams, operating system environments, hardware platforms, and peripherals. This individual monitors systems and peripherals and may participate in production job stream and system recovery efforts. The computer operator I must have working knowledge of a variety of data center OS environments and utilities. This position typically requires some coursework or technical training and one to two years of experience in the IT field.
- **Computer Operator II**—The computer operator II assists senior shift personnel in the proper functioning of all production job streams, OS environments, hardware platforms, and peripherals. This individual monitors and operates systems and peripherals and participates in production job stream and systems recovery efforts. The computer operator II must be knowledgeable in a variety of data center OS environments and utilities. This position typically requires coursework or technical training and at least three years of experience in the IT field.
- **Computer Operator III**—The computer operator III is responsible for the proper functioning of all production job streams, OS environments, hardware platforms, and peripherals. This individual monitors and operates systems and peripherals and plays a lead role in production job stream and systems recovery efforts. The computer operator III must be adept in a variety of data center OS environments and utilities and be capable of coordinating recovery efforts with personnel from various internal and external organizations. This individual may have training and supervisory responsibilities. This position typically requires significant coursework or technical training and at least six years of experience in the IT field.
- **Disaster Recovery Administrator**—The disaster recovery administrator develops, implements, and maintains disaster recovery plans, policies, and procedures for IT systems. The main focus of the disaster recovery administrator is preparing to maintain business continuity in the wake of a disaster, by ensuring both the preservation of information and the ability to quickly recover and continue imperative business operations. This individual also assesses potential future risks

and the value of planning to avoid them. The disaster recovery administrator typically needs a bachelor's degree in business or information systems and four to eight years of related work experience. This position reports to a senior IT director or sometimes the CIO.

- **Operating Systems Programmer I**—The operating systems programmer I assists senior personnel in the proper functioning of all operating systems, including all utilities and tools required to maintain the production and test environments. This individual also assists in the review of proposed modifications to the OS environments and participates in the testing and implementation of all changes. Under general direction, the operating systems programmer I provides technical support during recovery efforts involving failures related to the OS environments. This individual must have a good understanding of complex OS environments. This position typically requires an associate's degree in a related area and two to three years of experience in the IT field, with some formal training in systems programming. The operating systems programmer I usually reports to a lead operating systems programmer or the systems programming manager.
- **Operating Systems Programmer II**—The operating systems programmer II is responsible for the proper functioning of all operating systems, including all utilities and tools required to maintain the production and test environments. This individual will assist in the review of proposed modifications to the OS environments and will participate in the testing and implementation of all changes. The operating systems programmer II provides senior (Level 2 or 3) technical support during recovery efforts involving failures related to the OS environments. This individual must be adept in all aspects of managing complex OS environments. This position typically requires a bachelor's degree in a related area and four years of experience in the IT field, with at least three years in systems programming. The operating systems programmer II usually reports to the manager of systems programming or the data center manager.
- **Operating Systems Programmer III**— The operating systems programmer III is responsible for the proper functioning of all operating systems, including all utilities and tools required to maintain the production and test environments. This individual reviews all proposed modifications to the OS environments and leads the testing and implementation of all changes. The operating systems programmer III provides Level 3 technical support during recovery efforts involving failures related to the OS environments. This individual must be an expert in all aspects of managing complex OS environments and may have training and supervisory responsibilities. This position typically requires a bachelor's degree in a related area and eight years of experience in the IT field, with at least four to six years in systems programming. The operating systems programmer III usually reports to the systems programming manager or data center manager.
- **Systems Administrator**—The systems administrator is responsible for maintaining a variety of server and midrange system environments, including Windows Server, Unix, and/or Linux platforms. This individual installs and configures new operating system environments and implements system upgrades and patches as required. The systems administrator participates in system recovery efforts and performs system backups and restorations. This individual must have strong working

knowledge of a variety of server environments. This position typically requires a bachelor's degree and typically reports to a supervisor or manager.

- **Systems Administrator, Senior**—The systems administrator III, or senior systems administrator, is responsible for maintaining a variety of server and midrange system environments, including Windows Server, Unix, and/or Linux platforms. This individual installs and configures new operating system environments and implements system upgrades and patches as required. The systems administrator III participates in system recovery efforts and performs system backups and restores. This individual must be an expert in all aspects of managing server environments and may have training and supervisory responsibilities. This position typically requires a bachelor's degree in a related area and eight years of experience in the IT field, with at least four to six years in systems administration. The systems administrator III usually reports to the systems programming manager or data center manager.
- **Systems Engineer I**—The systems engineer I is responsible for the development and maintenance of an organization's IT systems infrastructure. This individual designs hardware and software implementations as well as makes necessary updates to ensure system continuity. This position usually requires a bachelor's degree in computer science or a related field and zero to two years of experience in the field. The systems engineer I typically reports to a supervisor or manager within the IT department.
- **Systems Engineer II**— The systems engineer II is responsible for the development and maintenance of an organization's IT systems infrastructure. This individual designs hardware and software implementations as well as makes necessary updates to ensure system continuity. This position usually requires a bachelor's degree in computer science or a related field and two to four years of experience in the field. The systems engineer II typically reports to a supervisor or manager within the IT department.
- **Systems Engineer III**— The systems engineer III is responsible for the development and maintenance of an organization's IT systems infrastructure. This individual designs hardware and software implementations as well as makes necessary updates to ensure system continuity. This position usually requires a bachelor's degree in computer science or a related field and four to six years of experience in the field. The systems engineer III typically reports to a supervisor or manager within the IT department.

Application Development and Support

15) What is the median salary (including bonuses, but not benefits) for each application development and support job function?

Do not include same employee in more than one job classification. Skip job functions for which you do not have salary information. Please provide any alternative titles for similar job functions in the comments box.

- Application Architect: _____
- Application Developer I: _____
- Application Developer II: _____
- Application Developer III: _____
- Mobile App Developer: _____
- Business Systems Analyst I: _____
- Business Systems Analyst II: _____
- Business Systems Analyst III: _____
- DevOps Engineer: _____
- ERP Administrator: _____
- Quality Assurance Analyst/Tester: _____
- Project Coordinator: _____
- Project Manager: _____
- Scrum Master: _____
- User Interface Developer: _____
- Web Administrator: _____
- Web Designer: _____
- Web Developer: _____
- Web Developer, Senior: _____

Other jobs, or alternative titles, or comments.

Applications Development and Support Job Descriptions

- **Application Architect**—The application architect is responsible for ensuring that consistent and cost-effective technology and technical processes are developed and followed throughout the IT organization. This individual often participates in the design of new systems and may be required to approve new development projects from a technical standards perspective. This position requires a broad background in technology including hardware, software, networking, security, and planning. The application architect often will have responsibility for training and supervision. This position typically requires a bachelor's degree in a related area and five to eight years of experience in the IT field, with four years in an application development position or similar technical job. The application architect usually reports to a director and may report directly to the CIO in smaller organizations.
- **Application Developer I**—This position is responsible for assisting in the customization and development of applications under direct guidance from a senior developer or manager. This individual assists in the design, coding, testing, debugging, and implementation phases of the application systems development process. The individual functioning in this capacity must have formal training in software development languages and techniques. This entry-level position requires at least an associate's degree in computer science or related area and will often require a bachelor's degree. One to two years of experience in the IT field is often required as well. The application developer I typically reports to a lead developer or manager.
- **Application Developer II**—This position is responsible for the customization and development of applications under general guidance from a senior developer or manager. This individual must be proficient in the design, coding, testing, debugging, and implementation phases of the application systems development process. This position requires formal training in software development languages and techniques and typically requires a bachelor's degree in computer science or related area and four to seven years of experience in the IT field, with at least three years as a developer. The application developer II typically reports to a lead developer or manager in the systems development group.
- **Application Developer III**—This position is responsible for leading the development and customization of applications. This individual must be an expert in the design, coding, testing, debugging, and implementation phases of the application systems development process. This position requires formal training in software development languages and techniques and a bachelor's degree in computer science or related area and seven-plus years of experience in the IT field, with at least five years as a developer. The application developer III may be called upon to function as a team lead and may have ongoing supervisory responsibilities. This position typically reports to a systems development manager.
- **Mobile App Developer**—The mobile app developer specializes in the development and customization of mobile business applications. This individual is responsible for the design, coding, testing, debugging, and implementation phases of the mobile app development life cycle. In the cases where they are

working on mobile versions of desktop applications, they must coordinate with the development team to maintain a smooth and consistent experience across all platforms. The individual functioning in this capacity must have formal training in software development languages used for both device-native apps as well as cross-platform development using tools such as HTML5. This position usually requires a bachelor's degree in computer science or prior mobile app developer experience.

- **Business Systems Analyst I**—The business systems analyst I is responsible for working directly with business unit personnel under direct supervision from a senior analyst or manager. The business systems analyst I assists in defining and establishing business and end-user requirements for existing and new application systems. This individual will develop a good working relationship with end-user organizations and assist senior business analysts in acting as the end users' representative on technology issues. The business systems analyst I must have good working knowledge of programming techniques and systems development life-cycle processes. Formal project management training is a plus. At a minimum, this position typically requires an associate's degree in computer science or a related field and two to three years of experience in the information technology field, preferably in a programming or technical support role. The business systems analyst I typically reports to a supervisor or manager within the systems development department or business systems analyst group.
- **Business Systems Analyst II**—The business systems analyst II works directly with business unit personnel under general guidance from a senior analyst or manager. The business systems analyst II plays a role in defining and establishing business and end-user requirements for existing and new application systems. This individual has a good working relationship with end-user organizations and will function as their representative on technology issues. The business systems analyst II must have strong working knowledge of programming techniques and systems development life-cycle processes. Formal project management training usually is required. At a minimum, this position typically requires a bachelor's degree in computer science or related field and three to five years of experience in the information technology field, with at least two years in a programming or a business analyst role. The business systems analyst II typically reports to a supervisor or manager within the systems development department or business systems analyst group.
- **Business Systems Analyst III**—The business systems analyst III works directly with business unit personnel with minimal guidance. This senior-level analyst plays a key role in establishing business and end-user requirements for existing and new application systems. This individual is responsible for developing strong working relationships with end-user organizations and will function as their lead representative on technology issues. The business systems analyst III must have a thorough understanding of programming techniques and systems development life-cycle processes. Formal project management training usually is required. At a minimum, this position requires a bachelor's degree in computer science or related field and five to seven years of experience in the information technology field, with at least four years in a programming or business analyst role. The business systems analyst III may perform supervisory functions and typically

reports to a manager within the systems development department or business systems analyst group.

- **DevOps Engineer**—The DevOps engineer is responsible for establishing the software development and automated change management infrastructure for application development, automated testing, integration, and deployment that allows the organization to frequently or continually implement changes to production systems. A DevOps engineer bridges the worlds of application developers and IT operations and generally has expertise in both areas, along with technical knowledge of cloud infrastructure and services. Note that the DevOps engineer refers to individuals who implement and maintain the tools to support DevOps, not the software developers who merely use those tools. The DevOps engineer often reports to an IT executive within the applications group or in some cases to an IT operations executive.
- **ERP Administrator**—The ERP administrator is responsible for administrative maintenance of the organization's ERP system, including maintaining user access rights, maintaining various system tables and parameters, setting up user reports and inquiries, monitoring ERP system performance, resolving exception messages, and other non-development administrative activities. The ERP administrator may also evaluate, and coordinates user change requests and participates in acceptance testing for new releases of the system. The ERP administrator usually reports to a manager within the applications group or in some cases to a line-of-business manager.
- **Project Coordinator**—The project coordinator is responsible for providing a variety of support tasks to aid in managing projects. The coordinator, under the direction of the project manager, assists with the planning, scheduling, documenting, and communication of project activities. By handling these routine project tasks, the project coordination role allows the project manager to focus on higher-value activities. The project coordinator may be part of a project management office or may report to an application development manager or other IT manager.
- **Project Manager**—The project manager is responsible for developing plans and overseeing IT projects across a broad spectrum of disciplines. This individual sets deadlines, assigns responsibilities, and monitors progress of projects. This individual must possess excellent communication skills and make judgments based on experience. The project manager must have a well-rounded background in the IT field and stay abreast of new technologies—including new project management techniques and tools. This position typically requires a bachelor's degree and training in project management methodology. The project manager typically reports to an IT manager or senior project manager.
- **Quality Assurance Analyst**—The quality assurance analyst is responsible for quality assurance and testing. This individual uses creative problem-solving skills to develop methods for testing software and gathering data on testing procedures and efficiency. This position requires a bachelor's degree in computer science or a related field and two to four years of experience in software development. The quality assurance analyst typically reports to a manager within the software development department.
- **Scrum Master**—The scrum master serves as a coach to agile development teams. This individual is responsible for planning and estimating sprints, facilitating

daily scrums, monitoring delivery, removing impediments to progress, and conducting retrospective meetings. This position requires strong interpersonal skills in dealing with internal team members as well as external project stakeholders. This position requires formal training in agile development and at least two years' experience as an agile team member. The scrum master typically reports to a manager of application development.

- **User-Interface Developer**—The UI developer works with software development teams to design and develop the front-end user interface, to make systems intuitive, easy to understand, and visually appealing. This individual is skilled at creating storyboards, process flows, heat maps, and wireframes to communicate the intended UI design. The UI designer may also conduct focus groups or other means of testing the effectiveness of the UI design. This position requires creativity and design sensibilities as well as formal training in UI design. It generally reports to a manager of application development.
- **Web Administrator**—The web administrator is responsible for managing the organization's website. This individual is responsible for maintaining website performance, upgrading hardware and software, and collecting statistics relevant to website usage. This position usually requires a bachelor's degree and four years of experience in web management. The web administrator typically reports to a manager in the web and e-commerce department.
- **Web Designer**—The web designer is responsible for the layout, design, and construction of web pages and sites. This individual must be adept in web and graphic design and have a good understanding of web usage and customer preferences. The web designer must be an expert in the use of a variety of software tools and techniques related to web environments. This position typically requires coursework leading to a bachelor's degree in a related area.
- **Web Developer**—The web developer assists in designing, developing, and supporting web-based applications. These applications include systems developed solely for the web environment as well as development efforts designed to web-enable end-user applications. This individual also may assist in the creation and ongoing management of corporate websites and intranet communities. The web developer will have a thorough understanding of programming techniques and tools, web development, and systems management tools. This position typically requires a bachelor's degree in computer science or a related field.
- **Web Developer, Senior**—The senior web developer is responsible for designing, developing, and supporting web-based applications with minimal direction. These applications include systems developed solely for the web environment as well as development efforts designed to web-enable end-user applications. The senior web developer also may play a key role in the creation of corporate websites and intranet communities. The senior web developer will have expert-level understanding of programming techniques and tools, web development, and systems management tools. This position requires a bachelor's degree in computer science or a related field and five to seven years of experience in programming, with at least five years in web development. The senior web developer may be called upon to function as a team lead and may have ongoing supervisory responsibilities. This position typically reports to a manager in the systems development department within the IT organization.

Data Management

16) What is the median salary (including bonuses, but not benefits) for each data management job function?

Do not include same employee in more than one job classification. Skip job functions for which you do not have salary information. Please provide any alternative titles for similar job functions in the comments box.

Data Scientist: _____

Data Analyst: _____

Senior Data Analyst: _____

Data Architect: _____

Database Analyst I: _____

Database Analyst II: _____

Database Analyst III: _____

Database Administrator: _____

E-Commerce Administrator: _____

Other jobs, or alternative titles, or comments.

Data Management Job Descriptions

- **Data Scientist**—The data scientist combines mathematical skills, industry/domain knowledge, and experience with data modeling tools to extract knowledge and insights that enable business decisions. This individual uses tools and techniques that range from simple data aggregation to statistical analysis to complex data mining and even artificial intelligence. The data scientist typically works within a cross-functional team that includes business analysts and domain-specific experts within the business. This position typically requires an advanced degree in mathematics, computer science, or a related area. The data scientist typically reports to a senior executive or director within the data management group or may report into the business function that is primarily served.
- **Data Analyst**—The data analyst is responsible for developing methods related to data collection and analysis. This individual works with the business intelligence team to meet data needs and develop models. This position requires a bachelor's degree in computer science or a related field and two to four years of experience in data management. The data analyst typically reports to a manager within the data management group.
- **Senior Data Analyst**—The senior data analyst is responsible for collecting, organizing, and interpreting statistical information. Once the data is collected, the senior data analyst is responsible for forming conclusions about what it means and advising business leaders in their decisions. This position requires a bachelor's degree in computer science or a related field and at least four years of experience in data analysis. The senior data analyst typically reports to a manager within the data management group.
- **Data Architect**—The data architect is responsible for developing information architectures and complex data models and approves the modification and new implementation of database systems. This individual works closely with end users and IT development staff to ensure that new and existing data models and databases are consistent with approved data architecture standards. The data architect must have expert-level knowledge and experience in data modeling and database design. This position requires a bachelor's degree in a related area.
- **Database Analyst I**—The database analyst I is responsible for the management and maintenance of large-scale database environments under direct supervision from senior database personnel. This individual also assists in the design and implementation of database systems and may provide guidance on the selection of appropriate database software. The database analyst I also assists in identifying data sources and the development of data flow diagrams and related documentation. This individual must have a good working knowledge of database management and programming techniques. At a minimum, this position requires an associate's degree in computer science or related area and may require a bachelor's degree. Two to three years of experience in the IT field is required as well. The database analyst I typically reports to a manager in the systems development department.
- **Database Analyst II**—The database analyst II is responsible for the management and maintenance of large-scale database environments under general direction from senior database personnel. This individual also aids in the design

and implementation of database systems and in providing guidance on the selection of appropriate database software. The database analyst II also assists in identifying data sources and is responsible for the development of data flow diagrams and related documentation. This individual must have strong working knowledge of database management and programming techniques. At a minimum, this position requires an associate's degree in computer science or related area and often requires a bachelor's degree. Four to seven years of experience in the IT field is required as well, with at least three years in a database analyst role. The database analyst II typically reports to a manager in the systems development department.

- **Database Analyst III**—The database analyst III is responsible for the management and maintenance of large-scale database environments. This individual plays a lead role in the design and implementation of database systems and provides guidance on which database software is appropriate for specific applications. The database analyst III identifies data sources and oversees the creation of data flow diagrams and related documentation. This individual must have expert knowledge of database management and programming techniques. This position usually requires a bachelor's degree in computer science or a related area and seven to 10 years of experience in the IT field, with at least five years in a database analyst role. The database analyst III typically reports to a manager in the systems development department.
- **Database Administrator**—The database administrator is responsible for the design, implementation, and ongoing management of corporate database systems. This individual must have expert knowledge and experience in all aspects of database management, including advanced software design and management tools. The database administrator resolves performance issues and ensures data integrity. This person may have a bachelor's degree or advanced training and typically reports to a manager within data center operations.
- **E-Commerce Administrator**—The e-commerce administrator establishes and maintains the e-commerce side of web stores, the use of web APIs, as well as other e-commerce capabilities, such as Electronic Data Interchange (EDI) systems. This individual is responsible for establishing electronic connections with new trading partners and resolving issues or exceptions with data transmissions. He or she also maintains interfaces between e-commerce systems and back-end systems, such as ERP, supply chain management, CRM, and other systems. This individual is well-versed in the technical infrastructure and protocols required for e-commerce as well as the business meaning of the data transferred. This position requires a bachelor's degree in a related area and a minimum of four years of experience in the IT field.

Network and IT Security

17) What is the median salary (including bonuses, but not benefits) for each network, information security, and web job function?

Do not include same employee in more than one job classification. Skip job functions for which you do not have salary information. Provide alternative titles for similar job functions in the comments box.

Information Security Analyst I: _____

Information Security Analyst II: _____

Information Security Analyst III: _____

Messaging Engineer: _____

Network Administrator I: _____

Network Administrator II: _____

Network Administrator III: _____

Network Engineer: _____

Telecom Analyst I: _____

Telecom Analyst II: _____

Telecom Analyst III: _____

Other jobs, or alternative titles, or comments.

Internet/Networking/Security Job Descriptions

- **Information Security Analyst I**—The information security analyst I is responsible for maintaining or assisting in maintaining the security of networks and computer systems, including the protection of data from unauthorized use or access. This individual oversees the monitoring of various security systems and resolves security violations. This position typically requires a bachelor's degree in a related area.
- **Information Security Analyst II**—The information security analyst II is responsible for tasks designed to ensure security of an organization's systems. This individual develops controls to protect against unauthorized access, modification, or destruction and develops IT security standards and policies. A bachelor's degree in computer science or a related field is usually required, as well as two to four years of related experience.

- **Information Security Analyst III**—The information security analyst III is responsible for enterprise information security strategy, governance, and risk management. The information security analyst III must have advanced, expert knowledge of data, network, user access, and system security techniques and tools. This individual understands Internet architecture and firewall configuration to protect system security. He or she may also have responsibilities for training other individuals in security practices and may also have supervisory responsibilities. A bachelor's degree in computer science or a related field is usually required, as well as four to seven years of related experience.
- **Messaging Engineer**—The messaging engineer designs, implements and helps maintain an organization's messaging systems. This individual provides maintenance, support, and enhancements to systems. The messaging engineer also monitors and analyzes the systems to make sure they are consistently running and provides troubleshooting and support to users within the company. A bachelor's degree in computer science or a related field is usually required, as well as four to six years of experience with messaging systems. The messaging engineer typically reports to the network operations or telecommunications manager.
- **Network Administrator I**—The network administrator I assists senior personnel in maintaining the corporate local- and wide-area networks. Under general direction, this individual installs and configures new network systems and implements network upgrades and software as required. The network administrator I participates in network system recovery efforts and assists security personnel in monitoring and reporting network access violations. This individual must be knowledgeable about managing complex network environments. This position typically requires coursework leading to a bachelor's degree in a related area and two to three years of experience in the IT field. The network administrator I usually reports to a lead network administrator or the telecommunications manager.
- **Network Administrator II**—The network administrator II is responsible for maintaining the corporate local- and wide-area networks. This individual installs and configures new network systems and implements network upgrades and software as required. The network administrator II participates in network system recovery efforts and assists security personnel in monitoring and reporting network access violations. This individual must be highly skilled in managing complex network environments. This position typically requires coursework leading to a bachelor's degree in a related area and four to six years of experience in the IT field, with at least two to three years in network administration.
- **Network Administrator III**—The network administrator III is responsible for maintaining the corporate local- and wide-area network environments. This individual installs and configures new network system components and implements network upgrades and software as required. The network administrator III participates in network system recovery efforts and assists security personnel in monitoring and reporting network access violations. This individual must be an expert in all aspects of managing complex network environments and may have training and supervisory responsibilities. This position typically

requires a bachelor's degree in a related area and eight years of experience in the IT field, with at least four to six years in network administration.

- **Network Engineer**—The network engineer helps design, implement, and maintain enterprise voice and data communications networks. This individual designs and maintains secure, optimized data and voice networks while also providing technical expertise and support to others. Job requirements include a bachelor's degree in computer science or electrical engineering. Certification may be required. This person typically reports to a supervisor or manager.
- **Telecommunications Analyst I**—The telecommunications analyst I assists senior personnel in maintaining, evaluating, and supporting corporate telecommunications environments, including data, voice, and video communications systems. This individual also assists in providing technical support during recovery efforts involving failures related to telecommunications. This individual must have working knowledge of a variety of telecommunications disciplines. This position typically requires coursework leading to an associate's degree or bachelor's degree in a related area and two to three years of experience in the IT field, with at least one year in a technical support role. The telecommunications analyst I usually reports to a lead support analyst or telecommunications manager.
- **Telecommunications Analyst II**—The telecommunications analyst II is responsible for maintaining and supporting corporate telecommunications environments, including data, voice, and video communications systems. This individual provides Level 2 or 3 technical support during recovery efforts involving failures related to telecommunications. This individual must have good working knowledge of a variety of telecommunications disciplines. This position typically requires a bachelor's degree in a related area and four to six years of experience in the IT field, with at least three years in telecommunications. The telecommunications analyst II usually reports to the manager of telecommunications.
- **Telecommunications Analyst III**—The telecommunications analyst III is responsible for maintaining and supporting corporate telecommunications environments, including data, voice, and video communications systems. This individual provides Level 3 technical support during recovery efforts involving failures related to telecommunications. The telecommunications analyst III must have expert knowledge of a variety of telecommunications disciplines and may have training and supervisory responsibility. This position typically requires a bachelor's degree in a related area and eight years of experience in the IT field, with four to six years in telecommunications. The telecommunications analyst III usually reports to the manager or director of telecommunications.

Technical Support, Help Desk, and Other Functions

18) What is the median salary (including bonuses, but not benefits) for each technical support, help desk, and other job function?

Do not include same employee in more than one job classification. Skip job functions for which you do not have salary information. Please provide any alternative titles for similar job functions in the comments box.

Help Desk Representative I: _____

Help Desk Representative II: _____

Help Desk Representative III: _____

PC Technician: _____

IT Trainer: _____

Technical Support Analyst I: _____

Technical Support Analyst II: _____

Technical Support Analyst III: _____

Technical Writer: _____

Other jobs, or alternative titles, or comments.

Technical Services and Other Functions Job Descriptions

- **Help Desk Representative I**—The help desk representative I assists senior help desk personnel in providing Level 1 support to users on a wide range of IT problems and issues. This requires good communication skills and the ability to take direction regarding incident resolution. This individual must have working knowledge of IT systems, processes, and terminology. This position typically requires some coursework in IT or one year of experience in the IT field. The help desk representative I usually reports to a supervisor within the technical services organization.
- **Help Desk Representative II**—The help desk representative II is responsible for providing Level 1 or 2 support to end users on a wide range of IT problems and issues. This requires strong communication skills and the ability to categorize, research, resolve, and, when required, escalate incidents to the appropriate support personnel. This individual must have working knowledge of IT systems,

processes, and terminology. This position typically requires some coursework in IT and three to four years of experience in the IT field. The help desk representative II usually reports to a lead manager or supervisor within the technical services organization.

- **Help Desk Representative III**—The help desk representative III is responsible for providing Level 1 or 2 support to end users on a wide range of IT problems and issues. This position requires exceptional communication skills and the ability to categorize, research, resolve, and, when required, escalate incidents to the appropriate support personnel. The help desk representative III may have training and supervisory responsibilities. This individual must have a strong understanding of IT systems, processes, and terminology. This position typically requires significant coursework in IT and six years of experience in the IT field. The help desk representative III usually reports to a data center supervisor or manager.
- **PC Technician**—The PC technician is responsible for the maintenance and repair of computer systems within an organization. This individual troubleshoots and repairs software and hardware problems and performs necessary upgrades. This position usually requires a technical associate's degree and two to five years of experience in a related field. The PC technician typically reports to a project leader or manager within the technical services department.
- **IT Trainer**—The IT trainer develops and conducts technical training programs for IT staff members. This individual is responsible for the accurate and timely content of training curriculums and for establishing training objectives and certification requirements. Duties may include writing course outlines, text, and test materials. This individual also may be responsible for coordinating external training programs with vendors for IT and other departmental staff members. This position typically requires a bachelor's degree and at least four to six years of experience in a large, multiplatform IT environment. A background in training or teaching is a plus.
- **Technical Support Analyst I**—The technical support analyst I assists senior personnel in ensuring that all hardware platforms, operating systems, utilities, and related tools and devices are available to successfully maintain production schedules and service levels. This individual assists in analyzing and evaluating system malfunctions and takes appropriate action as directed. The technical support analyst I must have working knowledge of a variety of operating systems, hardware platforms, and technical disciplines. This position typically requires an associate's degree in a related field and two to three years of experience in the IT field.
- **Technical Support Analyst II**—The technical support analyst II assists in ensuring that all hardware platforms, operating systems, utilities, and devices are available to successfully maintain production schedules and service levels. This individual evaluates all system malfunctions and takes appropriate action. The technical support analyst II must have significant knowledge of a variety of operating systems, hardware platforms, and technical disciplines. This position typically requires a bachelor's degree in a related field and four to six years of experience in the IT field.
- **Technical Support Analyst III**—The technical support analyst III is responsible for ensuring that all hardware platforms, operating systems, utilities, and devices are

available to successfully maintain service levels. This individual analyzes and evaluates all system malfunctions and takes appropriate action. The technical support analyst III may have training and supervisory responsibilities. This individual must have expert knowledge of a variety of operating systems, hardware platforms, and technical disciplines. This position typically requires a bachelor's degree in a related field and eight years of experience in the IT field.

- **Technical Writer**—The technical writer is responsible for assisting in the development of all programs, operations, and technical documentation for the IT organization. This requires the ability to translate complex technical information into user-friendly documentation. This individual must be adept in the use of a variety of documentation tools and management concepts. This position typically requires an associate's degree in a related area. A technical writer usually reports to a manager in the systems development or data center operations group.

Final Question

19) What grade would you give to this survey, and why?

We will use your feedback to improve this survey in the future.
