

CAREER MAP

TECH SUPPORT & BEYOND

SUMMER 2016

CAREER MAP

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Technology is everywhere and so are tech jobs. With virtually everyone using computers, smartphones, tablets and other devices, there is more and more demand for people to answer user questions and make sure that everything is operating smoothly.

WHAT IS TECH SUPPORT?

Tech support staff help computer users.

- The job might be called **Help Desk Technician**, **Desktop Support Specialist**, or **IT Specialist**.
- Tech support staff set up and take care of computers, scanners, printers and other devices.
- They install software, troubleshoot problems with email, software or lost files, and make sure servers and networks are working the way they are supposed to.
- They keep track of everything they do so that they can build on what they have learned before.

WHO LIKES TO WORK IN TECH SUPPORT?

People who enjoy this work:

- Like working with technology and helping people.
- Are good at figuring out what the computer user is saying, calming him or her down, and communicating in non-technical language.
- Have patience and are positive and reassuring.
- Enjoy solving problems and can think out-of-the-box.
- Can document every step they take to solve the problem.

WHAT KIND OF PAY AND HOURS ARE INVOLVED IN THIS TYPE OF WORK?

- Most tech support people have full-time work schedules.
- While some facilities might offer 24/7 tech support, most employers offer support to computer users during the standard work day, typically 8 AM – 6 PM.
- In New York City in 2015, an entry-level tech support person earned approximately \$38,150.
- Pay increases with experience, education, and moving to higher level jobs on the career path.

WHERE DO TECH SUPPORT PEOPLE WORK?

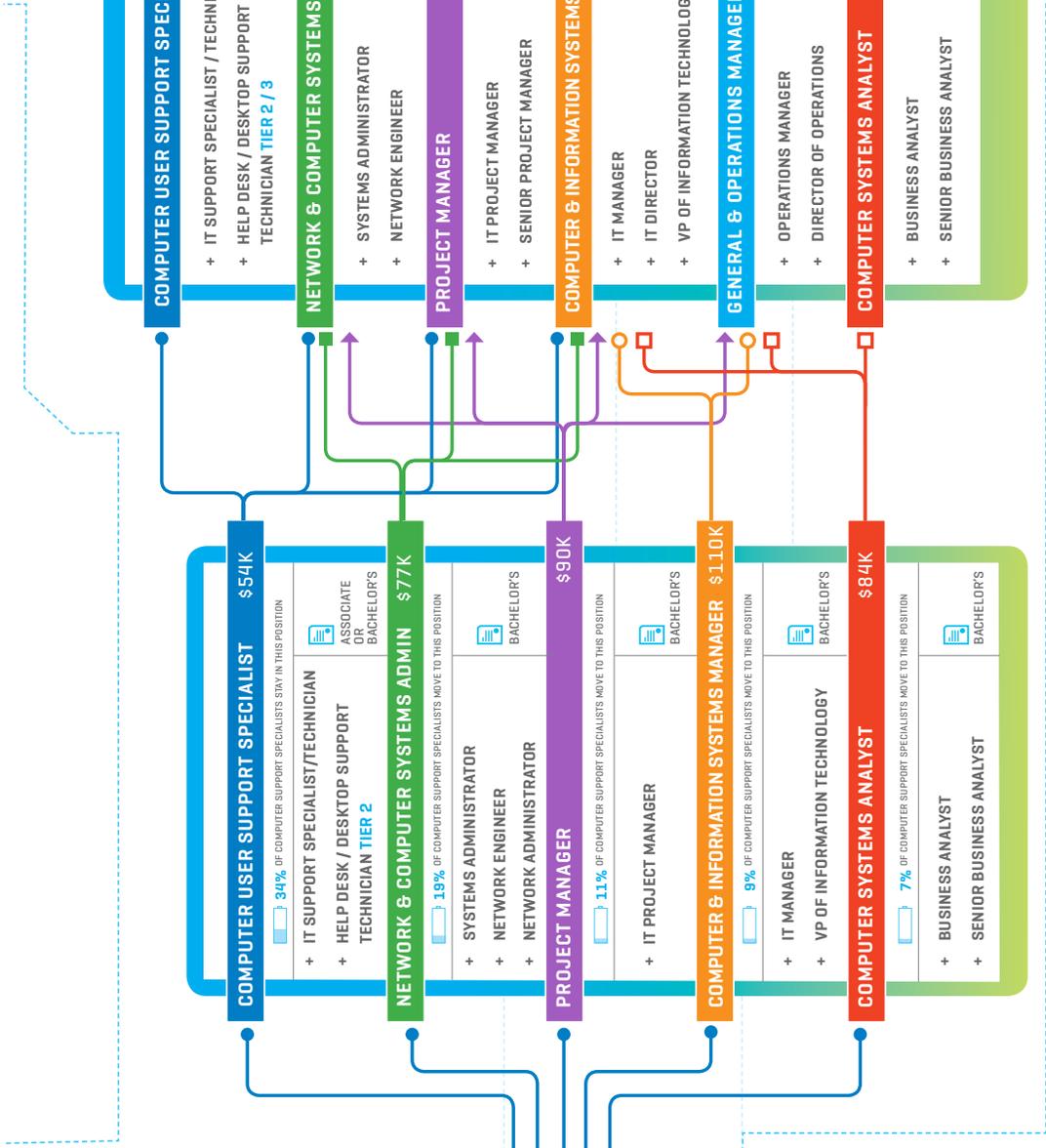
- Tech support people work for every type of employer.
- The top industries are computer companies, colleges and universities, and elementary and secondary schools.
- Corporate headquarters, government offices, legal services, non-profit organizations, and health care providers all hire tech support professionals.

HOW CAN I PREPARE TO WORK IN TECH SUPPORT?

- Entry level jobs in tech support require at least a high school diploma or equivalent and employers prefer an industry-recognized certification such as CompTIA's A+.
- Many employers prefer an associate degree.
- In addition to technical skills, employers are looking for good customer support and helping skills.
- Advancing to higher level positions in tech support usually requires an associate degree or a bachelor's degree.
- The typical major for tech support people is Computer Information Systems.

WHAT DOES THE FUTURE LOOK LIKE FOR TECH SUPPORT?

- Between 2012 and 2022, these jobs are projected to grow by 22 percent.
- There are thousands of online job advertisements for tech support positions every year.



COMPUTER USER SUPPORT SPECIALIST \$43K

- + IT SUPPORT SPECIALIST/TECHNICIAN
- + DESKTOP SUPPORT TECHNICIAN
- + HELP DESK ANALYST

HS + TECHNICAL CERTIFICATION OR ASSOCIATE DEGREE

COMPUTER USER SUPPORT SPECIALIST \$54K

34% OF COMPUTER SUPPORT SPECIALISTS STAY IN THIS POSITION

- + IT SUPPORT SPECIALIST/TECHNICIAN
- + HELP DESK / DESKTOP SUPPORT TECHNICIAN TIER 2
- + ASSOCIATE OR BACHELOR'S

NETWORK & COMPUTER SYSTEMS ADMIN \$77K

19% OF COMPUTER SUPPORT SPECIALISTS MOVE TO THIS POSITION

- + SYSTEMS ADMINISTRATOR
- + NETWORK ENGINEER
- + NETWORK ADMINISTRATOR

BACHELOR'S

PROJECT MANAGER \$90K

11% OF COMPUTER SUPPORT SPECIALISTS MOVE TO THIS POSITION

- + IT PROJECT MANAGER

BACHELOR'S

COMPUTER & INFORMATION SYSTEMS MANAGER \$110K

9% OF COMPUTER SUPPORT SPECIALISTS MOVE TO THIS POSITION

- + IT MANAGER
- + VP OF INFORMATION TECHNOLOGY

BACHELOR'S

COMPUTER SYSTEMS ANALYST \$84K

7% OF COMPUTER SUPPORT SPECIALISTS MOVE TO THIS POSITION

- + BUSINESS ANALYST
- + SENIOR BUSINESS ANALYST

BACHELOR'S

COMPUTER USER SUPPORT SPECIALIST \$60K

- + IT SUPPORT SPECIALIST / TECHNICIAN
- + HELP DESK / DESKTOP SUPPORT TECHNICIAN TIER 2 / 3

BACHELOR'S

NETWORK & COMPUTER SYSTEMS ADMIN \$86K

- + SYSTEMS ADMINISTRATOR
- + NETWORK ENGINEER

BACHELOR'S

PROJECT MANAGER \$107K

- + IT PROJECT MANAGER
- + SENIOR PROJECT MANAGER

BACHELOR'S

COMPUTER & INFORMATION SYSTEMS MANAGER \$131K

- + IT MANAGER
- + IT DIRECTOR
- + VP OF INFORMATION TECHNOLOGY

BACHELOR'S

GENERAL & OPERATIONS MANAGER \$109K

- + OPERATIONS MANAGER
- + DIRECTOR OF OPERATIONS

BACHELOR'S

COMPUTER SYSTEMS ANALYST \$98K

- + BUSINESS ANALYST
- + SENIOR BUSINESS ANALYST

BACHELOR'S

WHAT DOES A CAREER IN TECH SUPPORT LOOK LIKE?

Jobs in tech support vary by the type of job and from employer to employer. Usually, the Help Desk function is tiered, with people at higher tiers handling more complicated problems. With more experience, education, and certifications, tech support professionals can move from entry-level jobs such as **HELP DESK TIER 1**, **DESKTOP SUPPORT** or **IT SPECIALIST** to other jobs on this career map.

This career map is based on the real experiences of actual people. The information comes from real online work histories of people who have worked in tech support in the New York City Metropolitan Area. Payscale, Inc. and Monster Government Solutions supplied this data.

NETWORK AND COMPUTER SYSTEMS ADMINISTRATOR

Computer networks connect devices such as computers, smartphones, and printers. Network administrators manage the day-to-day operation of these networks. They make sure that email and data storage networks work properly. They help make decisions about buying new hardware and software for their organization's network. People who work in these jobs are a critical part of almost every organization. Popular certifications include: **Network+**, **CCNA**, and **MCSE**.

PROJECT MANAGER

There are many types of project managers. Some plan and manage IT projects like network design, while others may oversee software projects. They serve as a liaison between business and technical aspects of projects. They make sure that deadlines, standards, and cost targets are met. The most popular certification for this job is **Project Management Professional (PMP)**.

COMPUTER AND INFORMATION SYSTEM MANAGER

People in these jobs plan, direct or coordinate activities in technology fields. They help determine the IT goals of an organization and are responsible for implementing computer systems to meet these goals. People in these jobs often work more than 40 hours per week and are "on call" in case of IT emergencies.

COMPUTER SYSTEMS ANALYST

People in this role bring business and technology together. They understand the needs of users and potential problems. They may adapt computer systems to serve new purposes or improve work flow. People in these jobs may have backgrounds in technology and business administration. Many people have experience working in a specific industry like advertising, health care, or finance.

GENERAL AND OPERATIONS MANAGER

Some people move out of specializing only in IT. They oversee larger parts of an organization. People in these jobs plan, direct, or coordinate the operations of public or private sector organizations. They may be responsible for technology as well as other functions.

WHAT ARE SOME OTHER TYPES OF CAREERS IN TECH?

In addition to jobs in tech support, there are many other types of tech jobs. Most of these jobs have to do with creating and managing software, which may also be known as computer programming. Here are some of the major types of software jobs:

WEB DEVELOPMENT

Web development brings together the programming skills and communication skills needed to design appealing applications for consumers. There are many functions in web development. Depending on the company, people can carry out some or all of them. For example, some jobs in this field involve designing websites, and others involve developing content. There are jobs for people who monitor a website's performance, such as its speed and traffic. Some people specialize in making sure that the website makes sense and is appealing. Other people program the "back-end," like the databases that run in the background of sites like Amazon or Facebook. Typical education: Bachelor's degree. Typical major: Computer Science or Web Development.

DATABASE MANAGEMENT

Database managers or administrators use specialized software to collect, store, organize, and analyze data, such as financial information, customer shipping records, or student data. They make sure that data are well-documented, available to users, and secure from unauthorized access. Typical education: Bachelor's degree. Typical major: Computer Science or Data Science.

SOFTWARE DEVELOPMENT

Software includes operating systems like Windows, office applications like Excel, mobile "apps" and games. People who work in these jobs are the creative minds behind the computer programs. Some jobs focus on making sure the customers get what they want. Other jobs involve writing the programs that make the software run. People in this field usually know more than one programming language. While certain programming skills, such as JavaScript, Microsoft C#, Java, and C++ are in high demand, different industries demand different software skills. Typical education: Bachelor's degree. Typical major: Computer Science.

CYBERSECURITY

People who work in this field carry out security measures to protect computer networks, systems, and the information they hold. Their responsibilities are continually expanding as the number of cyberattacks increases. Cybersecurity jobs are in demand and growing across the economy. The fastest increases in demand are in industries that manage volumes of consumer data, such as Finance, Health Care and Retail Trade. Online job postings for cybersecurity have grown three times as fast as openings for IT jobs overall. Cybersecurity positions are more likely to require certifications than other IT jobs. Some also require a government security clearance. Typical education: Bachelor's degree and at least three years' experience and/or Masters of Business Administration (MBA) in Information Systems. Typical major: Computer Science.

FOR MORE INFORMATION

If you would like to request more career maps, please contact the Center for Economic & Workforce Development at Kingsborough Community College at cewd@kbcc.cuny.edu or (718) 368-4637.

If you would like to learn more about the research methodology or to create a map that focuses on a different occupation or field, please email NYCLMIS at nyclmis@gc.cuny.edu or (212) 817-2031.



WHAT PROGRAMS AT CUNY PREPARE PEOPLE FOR THE JOBS ON THIS CAREER MAP?

		CERTIFICATIONS						ASSOCIATE DEGREE			BACHELOR'S DEGREE			
		COMPTIA			CISCO			OTHER*	CIS	CS	IT	CIS	CS	IT
		A+	NETWORK+	SECURITY+	CCENT	CCNA	CCNP							
CIS = COMPUTER INFORMATION SYSTEMS CS = COMPUTER SCIENCE IT = INFORMATION TECHNOLOGY														
MANHATTAN	BARUCH COLLEGE													
	BOROUGH OF MANHATTAN COMMUNITY COLLEGE													
	GUTTMAN COMMUNITY COLLEGE													
	HUNTER COLLEGE													
	JOHN JAY COLLEGE OF CRIMINAL JUSTICE													
	SCHOOL OF PROFESSIONAL STUDIES													
	THE CITY COLLEGE OF NEW YORK													
BRONX	BRONX COMMUNITY COLLEGE													
	HOSTOS COMMUNITY COLLEGE													
	LEHMAN COLLEGE													
QUEENS	LAGUARDIA COMMUNITY COLLEGE													
	QUEENS COLLEGE													
	QUEENSBOROUGH COMMUNITY COLLEGE													
	YORK COLLEGE													
BROOKLYN	BROOKLYN COLLEGE													
	KINGSBOROUGH COMMUNITY COLLEGE													
	MEDGAR EVERS COLLEGE													
	NEW YORK CITY COLLEGE OF TECHNOLOGY													
SI	COLLEGE OF STATEN ISLAND													

*12-CREDIT CERTIFICATION PROGRAM IN COMPUTER INFORMATION SYSTEMS

NOTE: THIS TABLE IS ACCURATE FOR THE 2015-2016 ACADEMIC YEAR. CUNY SCHOOLS CONTINUALLY UPDATE THEIR DEGREE AND CERTIFICATE OFFERINGS. PLEASE CONSULT EACH SCHOOL'S WEBSITE FOR THE MOST CURRENT OFFERINGS.

TECH SUPPORT CERTIFICATIONS

COMPTIA (www.comptia.org) is a non-profit trade association that provides vendor-neutral professional certifications for the information technology (IT) industry. These are the certifications most requested by employers in online job ads:

CompTIA A+ tests competence as a computer technician. It includes many technologies and operating systems from such companies as Microsoft, Apple, Novell and Linux. In order to receive this certification, a candidate must pass two exams. It is intended for IT professionals with 500 hours of hands-on experience.

CompTIA Network+ measures skill as a network technician, understanding of network hardware, installation and troubleshooting. CompTIA recommends having the A+ certification and nine months of networking experience before taking the exam, but this is not required.

CompTIA Security+ deals with computer security topics such as cryptography, access control, disaster recovery and risk management. It is recommended that candidates have two years of security-related work experience before sitting for this exam.

CISCO SYSTEMS, INC. (www.cisco.com) designs, manufactures, and sells networking equipment. It is the largest networking company in the world. The company sponsors certifications at different levels for Cisco products. The certifications most commonly mentioned in online job ads are:

Cisco Certified Entry Networking Technician (CCENT). This certification was introduced relatively recently and validates skills required for entry-level network support jobs.

Cisco Certified Network Associate (CCNA). The basic CCNA certification focuses on routing and switching, and covers skills necessary for small or medium-sized networks. Cisco offers other, more

specialized CCNA certifications related to specific job roles and technologies.

Cisco Certified Network Professional (CCNP). This certification recognizes more advanced networking knowledge and skills. Like the CCNA, there are a variety of CCNP certifications that relate to different roles and job titles. A valid CCNA certification is required to obtain a CCNP certification.

MICROSOFT (www.microsoft.com/en-us/learning/default.aspx), offers certifications that can help a Windows Server administrator demonstrate expertise. These include the **Microsoft Certified Professional (MCP)**, the **Microsoft Certified Solutions Associate (MCSA)** and the **Microsoft Certified Solutions Expert (MCSE)**.

These organizations often update their certification options, so it is important to check with them before preparing for or deciding on a certification.