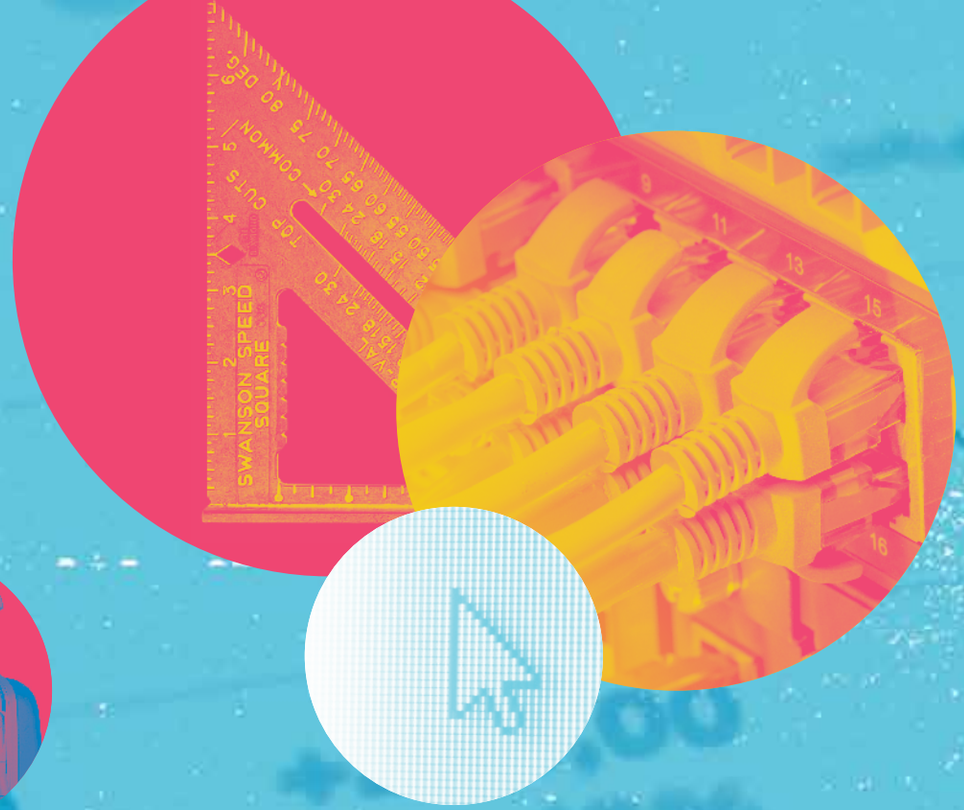


Department of Education

Career Exploration Guide

Careers in Computer Networking

Media Technology & Design Career Cluster

For more information about NYC Career and Technical Education, visit: **www.cte.nyc**

It is the policy of the New York City Department of Education to provide equal educational opportunities without regard to actual or perceived race, color, religion, creed, ethnicity, national origin, alienage, citizenship status, disability, sexual orientation, gender (sex) or weight and to maintain an environment free of harassment on the basis of any of these grounds, including sexual harassment or retaliation.

Fall 2019

What is Computer Network Administration & Support?

Computer networks are a central part of almost every modern organization, and are becoming even more important. They form the infrastructure that allows computers to communicate with each other and with other types of technology. Strong, effective computer networks make it possible for organizations to safely store their data and files on hard drives or in "the cloud" (which is a way of describing data storage accessed through an internet connection), allow people to share information and resources, and connect computers to tools like scanners and printers.

The professionals who maintain these networks make sure the systems are running properly, trouble-shoot when they're not, and make changes to them as an organization's needs change or new technology becomes available. Computer network staff are important to all kinds of different organizations—from hospitals to colleges to law firms—because they keep data and information accessible and flowing.

Snapshot: What's it like to work in Computer Networking?

The computer network field is one of the best paid, with a median salary of about $82,000 across the US, and the number of jobs in this area is growing as technology becomes more and more important to businesses.

Professionals in this field work in all kinds of office settings, as well as off-site from places like coffee shops, or even their living room couch! Some are full-time staff members at one company, while others consult for a number of different organizations at the same time. Their hours can be regular 9-5 office hours, but can sometimes be longer days.

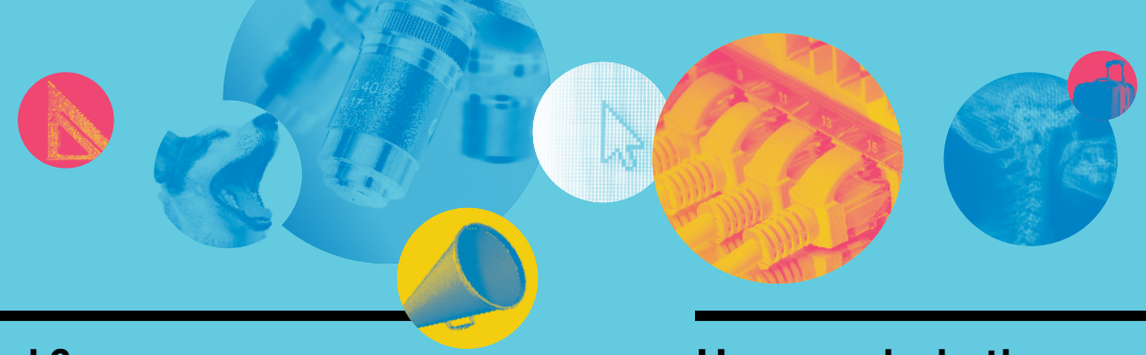
Because an organization's ability to function can depend on its computer network, these professionals often have to be available in the evenings or weekends in case something goes wrong with the network. People who work in this field describe the hours as flexible - but long.

In this brochure you'll learn about different jobs in this field, how much they pay, how much training you need, and how you can get started.

What do people working in this field do?

Here are four common jobs in this field and what they do:

Computer Network Architects	Design and build computer networks.
Computer Network Support Specialists	Provide technical assistance to ensure networks are functioning properly and support the people who use them.
Information Security Analysts	Plan and oversee security measures to protect an organization's computer networks and data. Their responsibilities are continually growing and changing to keep up with advances in technology and new kinds of cyberattacks.
Network and Computer Systems Administrators	Organize, install, and maintain an organization's computer networks.



Where do they work in New York?

Computer network professionals are so important that they work in almost every kind of setting in New York. The chart below shows the five most common industries for each of these jobs in NYC.

They span companies that focus on providing computer support, schools, employment firms, law firms, and many more.

Information Security Analysts

- Management of Companies and Enterprises
- Computer Systems Design and Related Services
- Employment Services
- Management & Technical Consulting Services
- Legal Services

Network & Computer Systems Administrators

- Computer Systems Design and Related Services
- Management of Companies and Enterprises
- Colleges and Universities
- Elementary and Secondary Schools
- Advertising and Related Services

Computer Network Architects

- Computer Systems Design and Related Services
- Management of Companies and Enterprises
- Colleges and Universities
- Data Processing and Related Services
- Employment Services

Computer Network Support Specialists

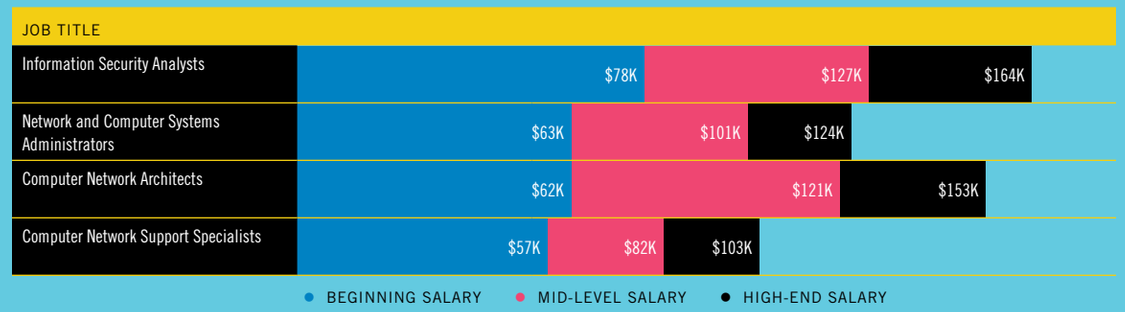
- Computer Systems Design and Related Services
- Management of Companies and Enterprises
- Data Processing and Related Services
- Colleges and Universities
- Employment Services

How much do they make?

Salaries in this field tend to be competitive for New York City—they offer better wages than at least half of all occupations in the City!

In the table below, you can see the median salaries for different jobs in computer networking, depending on if you're just starting out ("Beginning Salary"), earning the typical salary for the job in NYC ("Mid-level Salary"), or are an experienced expert ("High-end Salary"). For comparison, the median income in NYC is about $51,000.

NYC Salaries for Computer Network Jobs, 2018 (ordered by highest Beginning Salary)



What is the outlook for these jobs?

In NYC, the number of jobs available in this field is expected to grow. The table below shows how many more jobs we can expect to see by 2024 than there were 10 years before (in 2014).

OCCUPATION	2014 EMPLOYMENT	2014–2024 CHANGE
Network and Computer Systems Administrators	12.9K	+18% jobs ↑
Computer Network Support Specialists	4.7K	+13% jobs ↑
Computer Network Architects	3.8K	+16% jobs ↑
Information Security Analysts	3.3K	+16% jobs ↑

Is this the kind of career I would like?

People who work in this field point out that because technology is always changing, you're always learning new things. Understanding new security technology to keep computer networks safe from cyberattacks and information theft is especially important. If you like to learn and problem-solve, a career in computer networking may be a good fit for you! People in this field also say that it's helpful to be a creative person who likes to solve puzzles, and is persistent in figuring things out.

In terms of working with others, people in this field point out that you don't have to be overly social to be happy in this career, but you do have to be comfortable working with your team and staying calm when people are stressed because a network has gone down.

How do I qualify?

There's a growing demand for these jobs, but you do need some education credentials — most people who have these jobs in New York City also have a bachelor's degree. Many of these professionals are also certified in the specific products or technology they use, like Cisco and CompTIA Network+.

Below are examples of the kinds of programs being offered in NYC schools that can help you prepare for a career in this area, and there are also other kinds of "non-degree" programs in NYC to explore that can help you develop these skills. Some examples are Per Scholas, npower, and COOP.

"See more about these programs on their website:
Per Scholas: www.perscholas.org
npower: www.npower.org
COOP (Cooperate Inc): www.coop.cx

Where Would I Go to School to Prepare for a Career in Computer Networking?

There are several programs in New York City public schools and colleges that have programs to help you enter this field. Below is a list of some of those high schools and colleges.

New York City CTE High Schools and Programs

BRONX	
In Tech Academy (MS / HS 368)	CISCO Networking Academy
BROOKLYN	
George Westinghouse Career and Technical Education HS	CISCO Networking Academy
MANHATTAN	
Chelsea Career and Technical Education HS	CISCO Networking Academy
Urban Assembly Gateway School for Technology HS	CISCO Networking Academy
QUEENS	
Thomas Edison Career and Technical Education HS	CISCO Networking Academy
Queens Vocational & Technical HS	CISCO Networking Academy

City University of New York

BRONX		
Bronx Community College	Computer Information Systems	Associate Degree
Lehman College	Computer Information Systems	Bachelor's Degree
BROOKLYN		
Kingsborough Community College	Computer Information Systems	Associate Degree
Medgar Evers College	Computer Information Systems	Bachelor's Degree
New York City College of Technology	Computer Information Systems	Associate Degree
MANHATTAN		
Baruch College	Computer Information Systems	Bachelor's Degree
Borough of Manhattan Community College	Computer Network Technology	Associate Degree
John Jay College	Computer Science and Information Security	Bachelor's Degree
QUEENS		
LaGuardia Community College	Computer Network Admin and Security	Credit-bearing certificate
Queensborough Community College	Computer Information Systems	Credit-bearing certificate, Associate Degree

- Non-credit-bearing certificate
- Credit-bearing certificate
- Associate Degree
- Bachelor's Degree
- Graduate degree

See more about CTE High Schools focused on technology at: http://cte.nyc/site/content/information-technology

See more about CUNY programs focused on computer information systems and network technology at: http://www.cuny.edu/admissions/undergraduate/explore/programs/