

Computer Network Architects

SOC: 15-1241 • Career Profile Report

■ Key Facts

\$130,390

Median Salary

179,200

Employment

+12.0%

Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 11.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.0/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	7.4/10	Investigative	9.2/10
Artistic	4.6/10	Social	5.4/10
Enterprising	5.6/10	Conventional	6.8/10

■ Top Skills Required

Analytical skills, Detail oriented, Interpersonal skills, Leadership skills, Organizational skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Computer Network Architects are senior information technology professionals who design and build **data communication networks that support an organization's operations**. They create the underlying network structures—local area networks (LANs), wide area networks (WANs), intranets, and cloud-connected systems—that enable secure, reliable data flow across offices, data centers, and remote environments. Their work balances performance, security, scalability, and cost.

This career is well suited for individuals who enjoy systems thinking, advanced networking concepts, and designing resilient technology infrastructure.

What Do Computer Network Architects Do?

Computer network architects plan, design, and evolve complex network environments to meet business and technical needs.

Common responsibilities include:

- Designing network layouts and architectures
- Selecting networking hardware, software, and protocols
- Integrating on-premises networks with cloud services
- Evaluating network performance, capacity, and scalability
- Ensuring security, redundancy, and disaster recovery
- Collaborating with engineers, administrators, and vendors
- Documenting network designs and technical standards

Types of Network Architectures

Network architects may specialize by environment or technology:

- Enterprise Network Architects: Design large internal corporate networks.
- Cloud Network Architects: Build networks that integrate cloud platforms and services.
- Data Center Architects: Focus on high-availability and high-performance infrastructure.
- Security-Focused Architects: Design networks with advanced security controls.
- Telecommunications Architects: Work with carrier-scale or wide-area networks.

Skills and Abilities Needed

Computer network architects combine deep technical expertise with strategic planning.

Core Professional Skills

Personal Qualities That Matter

Education and Career Pathway

This role typically requires significant experience and formal technical education:

- Bachelor's Degree (common): Computer science, information systems, or engineering
- Progressive IT Experience: Network administration or engineering roles
- Professional Certifications (common): Advanced networking or cloud credentials
- Hands-On Design Experience: Building and maintaining enterprise networks
- Continuous Learning: Staying current with networking and security trends

Where Do Computer Network Architects Work?

Network architects are employed across technology-driven organizations:

- Large Corporations and Enterprises
- Technology and Cloud Service Providers
- Financial Institutions and Healthcare Systems

- Government and Defense Organizations
- Telecommunications and Infrastructure Firms

Work is typically office-based or hybrid, with some on-site infrastructure planning.

How Much Do Computer Network Architects Earn?

Earnings vary by experience, industry, and network complexity:

- Mid-Level Network Architects: Typically earn high IT professional salaries
- Senior or Enterprise Architects: Often earn significantly higher compensation
- Specialized or Cloud-Focused Architects: May earn more due to demand and expertise

Compensation often includes bonuses and strong benefits packages.

Is This Career Difficult?

This career is technically demanding and responsibility-heavy. Architects must design systems where downtime, security failures, or scalability limits can have major consequences. The challenge lies in balancing performance, cost, and security while planning for future growth and technology shifts.

Who Should Consider Becoming a Computer Network Architect?

This career may be a strong fit if you:

- Enjoy designing large-scale technical systems
- Have deep interest in networking and infrastructure
- Think strategically and long-term
- Are detail-oriented and security-conscious
- Want a senior-level role with high impact

How to Prepare Early

- Learn networking fundamentals and protocols
- Gain hands-on experience in network administration
- Study security, cloud computing, and virtualization
- Practice documenting and diagramming network designs
- Pursue advanced certifications and complex projects

Computer network architects design the digital highways that organizations depend on—transforming technical requirements into secure, scalable networks that keep data moving reliably across modern enterprises.

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Source: <https://www.bls.gov/ooh/computer-and-information-technology/computer-network-architects.htm>