



**Code: 06E2**  
Family: IT-Engineer  
Service: Administrative  
Group: Clerical, Accounting, and General Office  
Series: Information Technology

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## **CLASS TITLE: NETWORK ENGINEER**

### **CHARACTERISTICS OF THE CLASS**

Under direction, responsible for the implementation and maintenance of network services software and the analysis of network performance, and performs related duties as required.

This class is assigned to the City's Engineering Information Technology Job Family which consists of engineers and developers responsible for designing, building, testing, deploying, and supporting IT products and solutions.

### **ESSENTIAL DUTIES**

- Plans and designs the network infrastructure and enterprise network solutions
- Creates innovative strategies and solutions for sustainable outcomes
- Configures and maintains physical and logical network components
- Works on the most complex network tasks, projects or support issues that involve the highest level of risk, or impact departmental and/or citywide performance
- Leads the innovation, design, and selection of new technologies in support of business and IT network engineering initiatives and priorities
- Works on highest priority business-critical network projects/tasks
- Strategizes, designs, and manages the operation of the platform
- Provides support for network issues that come through the Service Desk
- Makes recommendations and influences long-term planning
- Participates in workstream planning process including inception, technical design, development, testing and delivery of network solutions
- Develops work plans or reviews and approves other work plan timelines
- Manages workflows to meet timeframes
- Manages and plans for service demand forecasts
- May participate in the development of business cases to support IT projects
- Influences the design of innovative solutions using new technologies
- Directs the design and development of innovative network solutions
- Identifies and evaluates inefficiencies and recommends optimal solutions
- Reviews proposed designs at key milestones and makes recommendations as needed
- Ensures the conceptual completeness of the technical solution
- Leads, creates, and collaborates with cross-functional teams to produce, build, and design documents that can be implemented
- Determines requirements impact on existing architecture, work processes, and systems
- Designs and supports inter-network analysis including the physical and logical configuration documentation, and traffic management
- Collaborates in the overall implementation of cloud networking solutions
- Evaluates and certifies unified communications hardware and software

- Designs and implements network security
- Explains to non-SMEs how the proposed solution will support their requirements
- Certifies the functionality of components and services and ensures deployment meets the business customers' expectations
- Drives and oversees the implementation of solutions
- Assesses network performance to ensure that it meets the present and future needs

**NOTE:** *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

## **MINIMUM QUALIFICATIONS**

### **Education, Training, and Experience**

- Graduation from an accredited college or university with a Bachelor's degree in Computer Science, Information Systems, or directly related field plus two (2) years of work experience in IT networking or migrating and/or extending on-premises networks to the cloud

### **Licensure, Certification, or Other Qualifications**

- Preferred: Cisco CCNA, CCNP, and/or CCIE certification(s)

## **WORKING CONDITIONS**

- General office environment

## **EQUIPMENT**

- Standard office equipment (e.g., phone, printer, copier, computers, mobile devices)
- Standard productivity suites (e.g., Microsoft Office Suite, OpenOffice, Google Workspace)

## **PHYSICAL REQUIREMENTS**

- No specific requirements

## **KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS**

### **Knowledge**

Considerable knowledge of:

- \*cloud technologies (e.g., such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and other emerging technologies)
- \*design and implementation of enterprise network solutions
- \*computer network infrastructure and network technologies
- \*application transport and network infrastructure protocols

Moderate knowledge of:

- \*industry-leading practices in technical administration of on-premises/virtualization and cloud solutions
- \*application transport and network infrastructure protocols

Knowledge of applicable City and department policies, procedures, rules, and regulations

### **Skills**

- **ACTIVE LEARNING** - Understand the implications of new information for both current and future problem-solving and decision-making

- **ACTIVE LISTENING** - Give full attention to what other people are saying, take time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times
- **CRITICAL THINKING** - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- **COMPLEX PROBLEM SOLVING** - Identify complex problems and review related information to develop and evaluate options and implement solutions
- **TIME MANAGEMENT** - Manage one's own time or the time of others
- **COORDINATION WITH OTHERS** - Adjust actions in relation to others' actions
- **JUDGEMENT AND DECISION MAKING** - Consider the relative costs and benefits of potential actions to choose the most appropriate one
- **SYSTEMS ANALYSIS** - Determine how a system should work and how changes in conditions, operations, and the environment will affect outcomes

### **Abilities**

- **COMPREHEND ORAL INFORMATION** - Listen to and understand information and ideas presented through spoken words and sentences
- **SPEAK** - Communicate information and ideas in speaking so others will understand
- **COMPREHEND WRITTEN INFORMATION** - Read and understand information and ideas presented in writing
- **WRITE** - Communicate information and ideas in writing so others will understand
- **CONCENTRATE** - Concentrate on a task over a period of time without being distracted
- **RECOGNIZE PROBLEMS** - Tell when something is wrong or is likely to go wrong
- **REASON TO SOLVE PROBLEMS** - Apply general rules to specific problems to produce answers that make sense
- **COME UP WITH IDEAS** - Come up with a number of ideas about a topic
- **MAKE SENSE OF INFORMATION** - Quickly make sense of, combine, and organize information into meaningful patterns
- **REACH CONCLUSIONS** - Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)

### **Additional Competency Requirements**

- **COMMUNICATION FOR RESULTS** – Writes, speaks and presents effectively. Explains the immediate context of the situation, asks questions with follow-ups and solicits advice prior to taking action. Develops presentations to influence others by using graphics, visuals or slides that display information clearly. Listens and asks questions to understand other people's viewpoints.
- **GROWTH MINDSET** – Takes ownership of personal growth. Identifies knowledge gaps. Asks questions of subject matter experts and seeks help when needed. Keeps abreast of information, developments and best practices within a field of expertise (e.g., by reading, interacting with others or attending learning events).
- **INITIATIVE** – Volunteers to undertake tasks that stretch his or her capability. Identifies who can provide support and procures their input. Identifies problems and acts to prevent and solve them.

- **OWNERSHIP AND COMMITMENT** – Volunteers to undertake tasks that stretch his or her capability. Checks the scope of responsibilities of self and others. Monitors day-to-day performance and takes corrective action when needed to ensure desired performance is achieved. Identifies problems and acts to prevent and solve them. Identifies who can provide support and procures their input.
- **ANALYTICAL THINKING** – Gathers and links data. Breaks down tasks and problems into manageable components. Reviews for nonconformity and gathers further information in response to routine problems. Solicits guidance as needed to assess importance and urgency.
- **CREATIVITY** – Participates in problem-solving discussions and suggests ideas as opportunities arise. Accepts that new ways of doing things can improve individual and team results.
- **CUSTOMER SERVICE** – Assumes responsibility for meeting customers' needs and holds self accountable for follow-up. Provides courteous, timely and professional service even in difficult situations. Instructs customers on products and services and how to apply them to their business processes. Escalates to appropriate parties as needed. Makes customers and their needs a primary focus of one's actions. Performs tasks according to quality and output standards. Takes initiative to ensure that outcomes meet internal and external customer requirements.
- **PROBLEM SOLVING** – Issues may not have clearly prescribed solutions and require interpretation of policies or analysis to resolve. Solicits input in gathering data that help identify and differentiate the symptoms and root causes of defined problems. Suggests alternative approaches that meet the needs of the organization, the situation and those involved. Escalates issues with suggestions for further investigation and options for consideration.
- **SYSTEMS THINKING** – Investigates the critical relationships between primary business, technology and system platforms. Devises approaches that recognize the interdependencies of key system components.
- **STRATEGIC TECHNOLOGY PLANNING** – Investigates technology practices, priorities and direction. Uses the strategic technology plan to set objectives and action plans for a specific work area.
- **NETWORK TECHNOLOGY KNOWLEDGE** – Utilizes a range of tools and techniques for setting up and reconfiguring data and voice communications networks to meet changing business needs. Draws and presents detailed diagrams to explain the needs of the organization and implementation plans to peers, vendors and contractors. Offers advice and assistance on local problems escalated to second tier.

Other competencies as required for successful performance in the lower-level series.

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All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

\* May be required at entry.

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