



## Office of Human Resources

### IT Network Engineer

#### General Statement of Duties

Performs full performance professional information technology work planning and coordinating the installation and configuration of wired and wireless network system hardware and software; maintaining and repairing complex problems with system hardware and software; and modifying operating system hardware and software to increase performance and meet technical design requirements.

#### Distinguishing Characteristics

The Network Engineer is distinguished from the Network Administrator I, which performs entry level professional information technology (IT) work installing and configuring wired and wireless network system hardware and software; assists with the maintenance and repair of routine problems with system hardware and software.

The Network Engineer is also distinguished from the Network Administrator II, which performs standard level professional information technology work installing and configuring wired and wireless network system hardware and software; maintains and repairs routine to complex problems with system hardware and software.

Finally, the Network Engineer is distinguished from the IT System Architect, which performs full performance information technology work in the planning, designing, developing, and monitoring of information systems utilized within an agency or throughout the city. Additionally, the IT System Architect possess knowledge, skills, and abilities in highly specialized areas (such as Windows, UNIX, Telecommunications, Data Network, Network Security and/or Storage Area Network), which provides strong support for the planning, designing, and developing functions performed by the position.

#### Guidelines, Difficulty and Decision-Making Level

Guidelines are generally but not always clearly applicable, requiring the employee to exercise judgment in selecting the most pertinent guideline, interpret precedents, adapt standard practices to differing situations, and recommend alternative actions in situations without precedent.

Duties assigned are generally complex and may be of substantial intricacy. Work assignment is performed within an established framework under general instructions but requires simultaneous coordination of assigned functions or projects in various stages of completion.

Employee is responsible for determining time, place, and sequence of actions to be taken. Unusual problems or proposed deviations from guidelines, practices, or precedents may be discussed with the supervisor before being initiated.

#### Level of Supervision Received & Quality Review

Under general supervision, the employee receives assignments and is expected to carry them through to completion with substantial independence. Work is reviewed for adherence to instructions, accuracy, completeness, and conformance to standard practice or precedent. Recurring work clearly covered by guidelines may or may not be reviewed.

#### Interpersonal Communication & Purpose

Contacts with the public or employees where explanatory or interpretive information is exchanged, defended, and gathered and discretion and judgment are required within the parameters of the job function.

**Level of Supervision Exercised**

By position, performs lead work.

**Essential Duties**

Plans and coordinates the setup, installation, and configuration of the operating system (including hardware and software), new software releases, and upgrades.

Monitors, tunes, diagnoses, and resolves complex operating system and bandwidth problems; monitors network performance to determine future requirements.

Troubleshoots, maintains, and repairs complex problems, typically related to system failures, with servers, hardware, operating systems, security, and data protection.

Implements and documents a backup and recovery process and leads capacity planning for a specific data system.

Plans, configures, installs, and maintains video security and video conferencing systems.

Implements, monitors, and maintains network security including firewalls, web filtering, and traffic shaping.

Plans, coordinates, and implements security measures to protect data, software, and hardware.

Develops, tests, and implements complex scripts to automate common functions or network operations.

Consults with users to identify existing system problems then evaluates and recommends various software and hardware solutions to meet user needs.

Analyzes equipment performance records to determine the need for repair or replacement. Recommends changes to improve systems and network performance, and determines hardware or software requirements related to such changes.

Participates in working with users to identify new business requirements then evaluates and recommends software and hardware solutions to meet user needs.

By position, performs lead work over subordinate employees or project management duties.

Performs other related duties as assigned or requested.

Any one position may not include all of the duties listed. However, the allocation of positions will be determined by the amount of time spent in performing the essential duties listed above.

**Competencies**

Attention to Detail – Is thorough when performing work and conscientious about attending to detail.

Decision Making – Specifies goals and obstacles to achieving those goals, generates alternatives, considers risks, and evaluates and chooses the best alternative in order to make a determination, draw conclusions, or solve a problem.

Customer Service – Interacts with customers in a friendly and professional manner, works to resolve issues quickly and effectively, and is knowledgeable about products and services.

Oral Communication - Expresses information to individuals or groups effectively; taking into account the audience and nature of the information; makes clear and convincing oral presentations; listens to others, attends to nonverbal cues and responds appropriately.

Technical Competence – Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one's job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Technical Problem Solving - Troubleshoots, diagnoses, analyzes, and identifies system malfunctions to determine the source and cause of the problem.

Technology Application – Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.

### **Knowledge & Skills**

Knowledge of data processing hardware, monitors, operating system software, application programming and system configuration sufficient to be able to perform the duties related to the work assignment.

Knowledge of current networking and computer trends and technology.

Knowledge of database function and design sufficient to be able to implement network databases.

Knowledge of network system hardware, network operating system software, data communications equipment and user-oriented application software packages sufficient to be able to troubleshoot and solve problems.

Knowledge of data processing sufficient to be able to review program specification, design programs, and write or modify code.

Knowledge of computer network, desktop, server, and mainframe operating systems and their applications.

Knowledge of specifications, uses, and types of computer or computer related equipment.

Knowledge of electronic circuit boards, processors, chips, and computer hardware and software, including applications and programming.

### **Education Requirement**

Bachelor's Degree in Computer Science, Information Systems, Business Administration, Mathematics or a directly related field.

### **Experience Requirement**

Three (3) years of professional Information Technology experience installing, maintaining, and/or modifying network operating systems to include both software and hardware.

### **Education & Experience Equivalency**

One (1) year of the appropriate type and level of experience may be substituted for each required year of post-high school education.

A combination of appropriate education and experience may be substituted for the minimum education and experience requirements.

### Licensure & Certification

By position, may require a Colorado Class "R" Driver's License by the completion of probation.

Licenses and certifications must be kept current as a condition of employment.

### Working Environment

Handles absentee replacement on short notice.  
 Occasional pressure due to multiple calls and inquiries.  
 Pressure due to multiple calls and inquiries.  
 Subject to long, irregular hours.  
 Subject to many interruptions.  
 Subject to pressure for multiple calls, inquiries, and interruptions.

### Level of Physical Demand

1-Sedentary (0-10 lbs.)

### Physical Demands

(Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs.):

Agility: bends, stretches, twists, or reaches out with the body, arms, or legs.  
 Balancing: maintaining body equilibrium to prevent falling over.  
 Carrying: transporting an object; usually by hand, arm, or shoulder.  
 Color vision: ability to distinguish and identify different colors.  
 Crawling: moving about on hands and knees or hands and feet.  
 Crouching: bending body downward and forward by bending legs.  
 Depth Perception: ability to judge distances and space relationships.  
 Eye/Hand/Foot Coordination: performing work through the use of two or more.  
 Feeling: perceiving attributes of objects by means of skin receptors.  
 Feeling: perceiving attributes of objects by means of spoken word.  
 Field of Vision: ability to adjust vision to bring objects into focus.  
 Field of Vision: ability to see peripherally.  
 Fine Dexterity: Coordinate eye-hand to operate a vehicle, reach, hold, grasp and turn objects.  
 Fingering: picking, pinching, or otherwise working with fingers.  
 Handling: seizing, holding, grasping, or otherwise working the hand(s).  
 Handling: seizing, holding, grasping, or otherwise working with fingers.  
 Hearing/Talking: Hear and determine direction of sound.  
 Hearing: perceiving the nature of sound by the ear.  
 Kneeling: bending legs to come to rest on one or both knees.  
 Lifting: raising or lowering objects weighing no more than 10 pounds, from one level to another.  
 Mathematical reasoning  
 Memorization  
 Mental Demands: mathematical reasoning, memorization, oral comprehension, spatial orientation, and written comprehension.  
 Neck Flexion: Moving neck upward/downward.  
 Oral Comprehension  
 Pulling: Exerting force upon an object so that it is moving to the person  
 Pushing: exerting force upon an object so that the object is moving away from the person.  
 Reaching: extending the hand(s) and arm(s) in any direction.  
 Repetitive motions: Making frequent movements with a part of the body.

Sitting: remaining in the normal seated position.  
Standing: remaining one one's feet in an upright position.  
Stooping: Bending the body by bending the spine at the waist.  
Talking: Expressing or exchanging ideas by means of spoken words  
Vision Far acuity: ability to see clearly at 20 feet or more.  
Vision Near acuity: ability to see clearly at 20 inches or less.  
Vision: To observe animal behavior, read signs, and reading colors.  
Walking: moving about on foot on uneven surfaces.  
Walking: moving about on foot.  
Written Comprehension.

### Background Check Requirement

Criminal Check  
Education Check  
Employment Verification  
By position, Motor Vehicle Record

### Assessment Requirement

None

### Probation Period

Six (6) months.

### Class Detail

**FLSA Code:** Y  
**Management Level:** 10  
**Established Date:** 8/1/2018  
**Established By:** Lori Schumann  
**Revised Date:**  
**Revised By:**  
**Class History:**