DENVER
THE MILE HIGH CITY

Office of Human Resources
IT Network Engineer Senior – CI3567

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General Statement of Duties

Performs full-performance professional level information technology work designing and building network systems, installing and configuring equipment, maintaining security measures, and repairing complex problems involving hardware and software related to network systems, which involves the modification of operating systems to increase network performance.

Distinguishing Characteristics

The Staff IT Network Engineer performs entry-level professional information technology work assisting with the setup, maintenance, and repair of network systems and associated hardware and software.

The Associate IT Network Engineer performs standard professional level information technology work setting up, maintaining, and repairing network systems and associated hardware and software.

The Senior IT Network Engineer performs full-performance professional level information technology work designing and building network systems to increase network performance.

The IT Network Engineer Specialist performs specialized and complex professional level information technology work planning and designing network systems and overseeing capacity planning and scaling of network systems.

Essential Duties

Designs and builds network systems regarding local and wide area networks involving wireless and virtual private networks, which include installing and configuring equipment like routers and servers and maintaining firewall security measures.

Monitors and installs patches to repair complex problems involving hardware and software related to network systems, to include troubleshooting and testing connectivity, network capacity and functionality, and modifying operating systems to increase network performance.

Investigates network systems inefficiencies to enhance network performance to include assisting with capacity planning and scaling.

Plans and coordinates the network systems setup, installation, and configuration of the operating system involving hardware and software, to include new software releases and upgrades.

Monitors, tunes, diagnoses, and resolve complex operating system and bandwidth problems, and 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.

Works with client groups to identify existing system problems, identify business requirements, and evaluates and recommends various software and hardware solutions to meet end-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.

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

Performs other related duties as assigned.

Employees may be re-deployed to work in other capacities in their own agencies or in other City agencies to support core functions of the City during a City-wide emergency declared by the Mayor.

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

Decision Making – Specifies goals and obstacles to achieving those goals, generates alternatives, considers risks, and evaluates and chooses the best alternative to decide, 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.

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

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

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

Level of Supervision Exercised

By position, performs lead work.

Education Requirement

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

Additional appropriate education may be substituted for the minimum experience requirements.

Licensure & Certification

By position requires a valid driver's license at the time of application.

By position, must obtain Criminal Justice Information Services (CJIS) clearance within the probationary period.

Working Environment

Work is performed in an office setting and at other locations for meetings.
Handles absentee replacement on short notice.
Subject to long and irregular hours.
Subject to pressure from multiple calls, inquiries, and interruptions.

Level of Physical Demand

3-Medium (20 - 50 lbs.)

Physical Demands

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

Agility: Ability to move quickly and easily.
Balancing: Maintaining equilibrium.
Carrying: Transporting or moving an object.
Color vision: Ability to distinguish and identify different colors.
Crawling: Moving about in a low or crouched position.
Crouching: Positioning body downward and forward.
Depth Perception: Ability to judge distances and space relationships.
Eye/Hand/Foot Coordination: Performing work through using two or more body parts or other devices.

Feeling: Perceiving attributes of objects by means of skin receptors, communication, or otherwise.
Field of Vision: Ability to sharply detect or perceive objects peripherally.
Fine Dexterity: Sufficient coordination to operate a vehicle and manipulate objects.
Fingering: Picking and pinching, through use of fingers or otherwise.
Handling: Seizing, holding, grasping, through use of hands, fingers, or other means.
Hearing/Talking: Perceiving and comprehending nature and direction of sounds/ability to communicate ideas.
Hearing: Perceiving and comprehending the nature and direction of sounds.
Kneeling: Assuming a lowered position.
Lifting: Moving objects weighing no more than 10 pounds from one level to another.
Neck Flexion: Perceiving objects located above or below.
Oral Comprehension: Ability to discern the meaning of oral speech.
Pulling: Exerting force upon an object so that it is moving to the person.
Pushing: Exerting force upon an object so that it moves away from the person.
Reaching: Extending the hands and arms or other device in any direction.
Repetitive motions: Making frequent or continuous movements.
Sitting: Remaining in a stationary position.
Standing: Remaining in a stationary position.
Stooping: Positioning oneself low to the ground.
Talking: Communicating ideas or exchanging information.
Vision Far Acuity: Ability to perceive or detect objects clearly at 20 feet or more.
Vision Near Acuity: Ability to perceive or detect objects at 20 inches or less.
Vision: Ability to perceive animal behavior, comprehend signs, and detect color.
Walking: Ability to move or traverse from one location to another.
Written Comprehension: Ability to discern the meaning of written words.

Background Check Requirement

Criminal Check
Education Check
Employment Verification
By position, must obtain Criminal Justice Information Services (CJIS) clearance within the probationary period.

Assessment Requirement

None

Probation Period

Six (6) months.

Class Detail

Pay Grade: EX-13
FLSA Code: Y
Established Date: 03/01/2026
Established By: JFH
Revised Date: 9/9/2026
Revised By: JFH
Class History: 9/9/26 – Revised Level of Physical Demand.