DENVER
THE MILE HIGH CITY

Office of Human Resources
IT Network Engineer Specialist – CI3568

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General Statement of Duties

Performs specialized professional level information technology work planning and designing complex and specialized network systems, maintaining security measures, identifying network inefficiencies, and overseeing capacity planning and scaling of network systems.

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

Plans and designs complex and specialized 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, designs, and implements citywide information systems including operating systems, software and hardware, and implements information systems for an agency on a project basis.

Researches and evaluates new technological advancements and assess current practices for compliance with information systems requirements, anticipates future system needs, develop systems-wide solutions, and create process improvements and controls.

Works closely with client groups and colleagues to identify opportunities to utilize information systems to improve business processes, promote the strategic use of information, and enable seamless access to information.

Analyzes budget implications and technical requirements associated with implementing new technologies or upgrading existing network systems.

Works with client groups to assess and make recommendations on information systems needs and requirements, impact on the budget associated with implementing new technologies or upgrading existing network systems and developing alternatives to meet information system needs.

Coordinates disaster recovery plans which include designing, testing, and maintaining systems protocols.

Designs and builds prototypes and working models of complex and new elements of an information system then directs colleagues with the development, execution, and review of test plans and results.

Coordinates the monitoring and maintenance of network systems, to include tracking errors and data movements, configuring software and hardware, maintaining optimum system capacity levels, developing dependency models to be used in risk management, and ensuring consistent system wide.

Writes or modifies software programs including analysis, writing specifications and code, program installation and documentation for use with multi-application, multi-user database systems.

Coordinates with vendors to resolve network systems issues, to include documenting the application of systems solutions, establishing systems alerts and communications plan, and monitoring resolution and performance.

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.

Creative Thinking – Uses imagination to develop new insights into situations and applies innovative solutions to problems; designs new methods where established methods and procedures are inapplicable or are unavailable.

Planning and Evaluating – Organizes work, sets priorities, and determines resource requirements; determines short- or long-term goals and strategies to achieve them; coordinates with other organizations or parts of the organization to accomplish goals; monitors progress and evaluates outcomes.

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.

Knowledge & Skills

Knowledge of developments and new applications of information technology (hardware, software, telecommunications), emerging technologies and their applications to business processes, and applications and implementation of information systems to meet organizational requirements.

Knowledge of enterprise architecture principles, methods, and techniques.

Knowledge of the principles, methods, and techniques of information technology project planning, management, monitoring, and evaluation.

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

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 planning, coordination, and execution of business functions, resource allocation, and production.

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

Five (5) years of professional information technology experience installing, maintaining, and/or modifying operating system and/or network operating system software and associated hardware. Two of these years must include experience in designing and implementing enterprise level systems and scalable solutions.

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-15
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.