

PRINCIPAL SYSTEMS ENGINEER

Salary Range: 18 (Management Salary Schedule)

DEFINITION

Under general direction, to perform a variety of professional, technical, and systems programming and/or network administration duties involving the design, development, testing, implementation and maintenance of the software and hardware infrastructure and connectivity capability between different platforms that manage information technology resources and/or support the execution of automated applications; to coordinate the work of subordinate staff as assigned; provide technical assistance and training to IT support personnel and City users; to work with vendors to resolve hardware and software issues, and perform software and hardware upgrades; to participate in the maintenance and security of City web sites; to provide direct administrative and technical support to the IT Manager; to act as IT Manager in his/her absence; and to perform related work as required.

DISTINGUISHING CHARACTERISTICS

This single position classification that provides the highest level of technical expertise and knowledge in performing network design, administration and tuning, operating systems programming, and cross-platform system security.

SUPERVISION EXERCISED AND RECEIVED

The incumbent receives general direction from management personnel, and exercises general and direct supervision over assigned staff.

EXAMPLES OF DUTIES, KNOWLEDGE, AND ABILITIES

Duties may include, but are not limited to the following:

- Provides lead supervision to assigned staff including assigning, directing and evaluating work.
- Identifies and manages Citywide and/or large scale network needs through workload forecasting, response time evaluation, and LAN/WAN throughput analysis.
- Defines, designs and implements LAN/WAN connectivity solutions to meet departmental and citywide business needs.
- Writes system level programs and micro-code as needed; performs systems software installation, debugging, testing, and maintenance.
- Integrates system software and conducts integration testing for internal and external interfaces.
- Develops and monitors Citywide security programs; implements and monitors security tools.
- Supports departmental database applications and configures appropriate computing platform.
- Configures, troubleshoots and performs maintenance on server and disk storage systems, routers, switches, and related equipment.
- Evaluates and recommends vendor hardware and software products for purchase; coordinates problem resolution with outside vendors including outside consultants; tracks and documents software product licensing agreements; manages maintenance contracts.

- Develops project plans, defines project scope and timeline, identifies potential risks, develops contingency plans, provides cost estimates, identifies resource needs, tracks project progress, reviews milestones, resolves issues and conflicts, monitors and manages change, and prepares and presents status reports to management.
- Manages users and groups, e-mail accounts, logon scripts, group policies, and access permissions.
- Monitors server logs and performance data, and configures servers and networks to maximize performance.
- Provides technical support, leadership and training for IT staff and other users.
- Ensures security of network devices, servers and workstations.
- Assists in establishing standards for the use of network system resources.
- Prepares clear and concise program documentation, user procedures and instructions.
- Assists City users in implementing new or modified programs and applications.
- Supports desktop hardware and software applications.
- Documents new and existing systems and coordinates system development activities with others.
- Participates in the maintenance and security of City web sites and web-based applications, working with outside consultants as assigned.
- Troubleshoots issues with existing or developed systems; works with the appropriate resources to resolve them.
- Prepares and/or develops comprehensive written reports; maintains complete files, records and documentation of work performed.
- Serves as a liaison with other divisions, departments or program representatives.
- Responds to IT related inquiries from outside agencies regarding City activities.
- Develops and maintains technical expertise in assigned areas including awareness of current hardware, software, laws, regulations and rules.
- Attends meetings and may serve on various committees or boards relative to division activities.
- Assists with the development and administration of the IT division budget and other administrative tasks.
- May coordinate programs which cross division or department lines.
- Administers server and network monitoring and response system.
- Administers voicemail system including auto-attendants and holiday and furlough greeting schedules.
- Acts as IT Manager in his/her absence.
- Performs related or other duties as assigned.

EMPLOYMENT STANDARDS

Knowledge of:

- Principles of and current trends in information technology design and implementation across all platforms from PCs to mainframes
- Microsoft Server Operating Systems, Cisco Network Operating Systems, and HP Procurve Network Operating Systems

- Network routing and switching protocols; and virtual private networking systems
- Storage Area Networks, Network Attached Storage, and network file systems
- Microsoft Active Directory
- Infrastructure services including Domain Authentication, DNS, WINS, DHCP, SNMP, Distributed File System, VSS, etc
- Web servers and traffic analysis
- FTP servers; and Microsoft Exchange servers and SPAM firewalls
- Enterprise antivirus solutions and enterprise backup solutions
- Internet monitoring, filtering and reporting
- Microsoft SQL database servers, and File, Print, and Application servers
- Microsoft database applications and MS Office
- Web development and implementation, and Web-based application development and database integration
- Technical support techniques
- Current computer industry technology, practices and trends, including system development and administration
- Principles and practices of systems analysis and programming
- Principles and practices of project management
- Principles and practices of employee supervision, including work planning, assignment, review and evaluation, discipline, and the training of staff in work procedures
- Administrative principles and methods, including goal setting, program and budget development, implementation and control, personnel management and supervision
- Operational characteristics, services, and activities of an information technology program
- Principles and practices of project management
- Applicable Federal, State and local laws, ordinances, regulations, and guidelines relevant to assigned duties
- Occupational hazards and standard safety practices necessary in the area of computer operations
- Modern office practices, methods, and equipment, including personal computer hardware and software
- English usage, grammar, spelling, vocabulary, and punctuation
- Techniques for dealing effectively with the public, vendors, contractors and City staff, in person and over the telephone
- Techniques for providing a high level of customer service to public and City staff, in person and over the telephone

Ability to:

- Install and perform routine maintenance on various computer and network equipment.
- Automate network drive mappings, printer installation, time synchronization, application installation, user creation, file management etc. using logon scripts and utilities.
- Troubleshoot complex technical problems.
- Develop and implement complex technical solutions on multiple hardware and software

platforms.

- Communicate effectively and explain software usage to computer users of all skill levels.
- Respond appropriately, effectively and promptly to the needs of internal and external customers using principles of good customer service.
- Train and instruct others in work procedures.
- Utilize discretion in the handling and disclosure of confidential information.
- Organize and set priorities for a variety of projects and tasks in an effective and efficient manner to ensure meeting of deadlines.
- Prepare clear and concise program documentation, user procedures, reports of work performed, and other written materials.
- Exercise sound independent judgment within established guidelines.
- Assist in the development and implementation of goals, objectives, practices, policies, procedures, and work standards
- Supervise, train, plan, organize, schedule, assign, review and evaluate the work of assigned staff to most effectively meet the needs of the City
- Understand, interpret, and apply general and specific administrative and departmental policies and procedures
- Participate in the preparation and administration of assigned budgets
- Analyze, interpret, apply and enforce Federal, State and local policies, procedures, laws and regulations
- Understand, interpret, and successfully communicate both orally and in writing pertinent department policies and procedures
- Utilize discretion in the handling and disclosure of confidential information
- Prepare clear and concise program documentation, user procedures, reports of work performed, and other written materials
- Learn the functions of various City departments and divisions
- Organize and prioritize work, and meet critical time deadlines
- Operate modern office equipment including computer equipment and software programs
- Use tact, initiative, prudence and independent judgment within general policy, procedural and legal guidelines
- Use English effectively to communicate in person, over the telephone and in writing
- Establish maintain, and foster effective working relationships with those contacted in the course of work
- Meet the physical requirements necessary to safely and effectively perform the assigned duties

Minimum Qualifications:

Equivalent to a Bachelor's degree from an accredited college or university with a Bachelor's degree in computer science, information technology, MIS, business, management or a closely related field and six (6) years of up to date, increasingly responsible operating systems programming experience in an IT environment consisting of multiple platforms, large-scale applications with multiple operating systems with a minimum of two years of supervisory or project leader experience. Additional experience may substitute for the education on a year for year basis.

GENERAL QUALIFICATIONS

License Requirements:

A valid California Class C driver license or higher with a satisfactory driving record is required at the time of appointment. Individuals who do not meet this requirement due to a disability will be reviewed on a case-by-case basis.

Physical Requirements:

The incumbent appointed to this class must be physically able to perform the duties of this position, including the mobility to work in a standard office setting and use standard office equipment, including a computer; the ability to operate a motor vehicle and to visit various City sites and attend off-site meetings; vision to read printed materials and a computer screen; hearing and speech to communicate in person, before groups and over the telephone; finger dexterity to access, enter and retrieve data using a computer keyboard, typewriter keyboard or calculator and to operate standard office equipment; ability to bend, stoop, kneel, reach, push and pull drawers open and closed to retrieve and file information; occasionally lift and carry computer and other equipment, reports and records that typically weigh less than 50 pounds; may move heavy and/or awkward objects to gain access to computer networks.

Working Conditions:

Incumbents work in an office environment with moderate noise levels, controlled temperature conditions and no direct exposure to hazardous physical substances, and may interact with upset staff and/or public representatives in interpreting and enforcing departmental policies and procedures. Employees may be required to work on evenings, weekends and holidays, and participates in afterhours on-call assignments.

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This job specification should not be construed to imply that these requirements are the exclusive standards of the position. Not all duties are necessarily performed by each incumbent. Additionally, incumbents may be required to follow any other instructions and to perform any other related duties as may be required by their supervisor.