

CITY OF SOLANA BEACH

NETWORK SYSTEMS ENGINEER

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DEFINITION

Under general direction, provides support in the development, installation, implementation, testing, evaluation, and administration of the City's local and wide area networks; installs, configures, test and supports a variety of network components and devices; performs preventive maintenance on network segments and components; provides liaison and technical assistance to end users; installs and troubleshoots advanced software and hardware configurations; and consults with department representatives to determine hardware/software requirements and develops specifications.

ESSENTIAL JOB FUNCTIONS

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

- ◆ Performs a variety of duties in the development, installation, implementation, testing, evaluation and administration of local and wide area networks; responds to inquiries and provides technical assistance regarding all aspects of system design, installation, and troubleshooting.
- ◆ Installs and configures network hardware, software and peripheral equipment; troubleshoots, diagnoses, and resolves server and networked devices hardware and software problems.
- ◆ Installs and maintains network components including routers, switches, bridges, hubs, digital service unit/channel service unit, and other network equipment and software.
- ◆ Investigates, analyzes and resolves complex network-related problems; resolves compatibility problems across City networks; troubleshoots network failures, router problems and telecommunications problems; recommends and implements changes and improvements.
- ◆ Participates in the evaluation of network protocols, hardware and software to determine their applicability to City network needs; recommends and implements changes and improvements.
- ◆ Monitors network security and performance; identifies unauthorized access and potential security risks; participates in projects to enhance network security operations.

- ◆ Supports network server, administrative and maintenance operations; performs back-ups; installs and configures software; installs networked equipment including printers.
- ◆ Provides advanced desktop support to clients; installs and configures hardware and software, operating systems and peripherals; troubleshoots, diagnoses and resolves complex hardware and software problems.
- ◆ Performs technical writing duties in the development and production of system documentation, instructional and procedural manuals.
- ◆ Researches and recommends the purchase of computer related equipment and peripherals; orders equipment and software as necessary.
- ◆ Collaborates with customers to determine the best hardware and software for departmental technology projects.
- ◆ Performs system-wide or network-wide audits, and generates reports that include system performance, recommended changes, and any other possible data of interest, such as system security.
- ◆ Assists other departments in designing, and possibly authoring documents/programs; customizes installed software to the specific requirements of a department.
- ◆ Develops network and system topology maps that assist other staff members in the department or organization to understand the relationships between systems.
- ◆ Learn the day-to-day operation of all systems.
- ◆ Performs related duties as required.

QUALIFICATIONS GUIDELINES

Education, Experience and Training

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Education:

- Equivalent to a Bachelor's degree from an accredited college or university with major course work in computer science, information systems or related field. Comptia Certification or Microsoft Certification are highly desirable and may substitute for degree. (A+; Network+; Server+; MCSE; MCSA; MCDST)

Knowledge and Abilities

Knowledge of:

- ◆ Principles and practices of network system design, installation and maintenance.
- ◆ Principles of hardware and software configuration and installation.

- ◆ All operating systems/programs that are in use within the entire organization including Windows 2000/2003/XP, SCO Unix, Websense, networked Xerox copiers, Norton Antivirus, OWA (Outlook Web Access), Questys.
- ◆ All aspects of configuring and maintaining system security, network security, and site security for information systems.
- ◆ All available Wide Area Networking technologies currently in use within the organization, including installation and maintenance of routers and bridges, ISDN, T1/FT1, and RAS.
- ◆ Local Area Networking, including maintenance, installation, and troubleshooting techniques, especially dealing with the TCP/IP protocol and services, and managing a large diversified environment using TCP/IP.
- ◆ Methods and techniques of troubleshooting hardware and software problems. Cabling protocols, hardware and software.
- ◆ Technical specifications, standard performance, and possible configuration options for all common components and peripherals.
- ◆ Distributed database installation, structuring, maintenance, and troubleshooting.
- ◆ The Internet, WIFI, HTML, and CGI scripting, as well as desktop publishing or user interface design.
- ◆ The national telecommunications infrastructure and ability to work through problems with telecommunications provider to correctly diagnose problems, troubleshoot, and expedite orders, and minimize downtime.
- ◆ Phone and voicemail system
- ◆ Geographical Information System (GIS)
- ◆ Community Broadcasting/TV Production related to council meetings Principles of customer service.
- ◆ Pertinent Federal, State and local codes, laws and regulations.

Ability to:

- ◆ Evaluate hardware and software requirements.
- ◆ Implement hardware and software changes and enhancements.
- ◆ Analyze, troubleshoot and resolve highly technical networking issues.
- ◆ Install, configure, troubleshoot and/or repair hardware and software problems.
- ◆ Respond to requests and inquiries from network users and provide assistance as needed.
- ◆ Be adaptive towards new systems and technology that may be implemented in the organization. Understand the complex relationships between different components in a networked environment. Analyze and define problems and conceptualize feasible solutions, and present all practical solutions in a concise format to non-technical users.

- ◆ Develop and revise computer programs.
- ◆ Document and diagram existing code
- ◆ Coordinate meetings for product/project demonstrations for the managers of a department and other members of the Information Systems staff
- ◆ Evaluate existing systems and recommend possible enhancements to systems or network components.
- ◆ Make the necessary changes to any computer component within the organization. Lead and coordinate the activities of a computer user group.
- ◆ Train other employees on either a one-on-one basis, or in a group.
- ◆ Understand the complex relationships between various components of a distributed system. Understand the consequences of changes on individual systems with respect to the entire organizational system.
- ◆ Coordinate with other staff members to meet deadlines while minimizing downtime. Demonstrate an awareness and appreciation of the cultural diversity of the community. Communicate clearly and concisely, both orally and in writing.
- ◆ Establish and maintain effective working relationships with those contacted in the course of work.

Special Requirements

- ◆ Possession of a valid Class "C" California driver's license with a satisfactory driving record.

PHYSICAL AND MENTAL DEMANDS/WORKING CONDITIONS

The physical and mental demands herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform these essential job functions.

- ◆ Environment: Standard office environment. Occasional exposure to temperature swings from indoor to outdoor temperatures; exposure to dust from atmosphere and volumes of paper; infrequent exposure to extreme heat and humidity in unairconditioned facilities; extreme noise working at off-site locations; mechanical and electrical hazards of equipment; fumes and odors of burned wiring. Work environment is an 80-hour biweekly work period, with unscheduled breaks. Duties may require working varying hours and days. Work is performed in City Hall and at a number of off-site locations; some work may be performed by telecommuting. Work characteristics are both formal and informal; both autonomous and team-oriented; having both routine and variable tasks; with variable pace and pressure.
- ◆ Physical: Primary functions require sufficient physical ability to work in an office setting and operate office equipment. Continuous fine finger dexterity to manipulate small tools and equipment; Frequent walking, standing, sitting, side-to-side turning of neck; firm grasp to lift and move equipment; Occasional bending and stooping, squatting, reaching at and above shoulder height, pushing/pulling, twisting at waist,

upward and downward flexion of neck; lifting of objects weighing up to 25 lbs. from below waist to above shoulder level and transporting distances up to one city block; Infrequent kneeling; lifting of objects weighing 2650 lbs. from below waist to chest level with or without assistance and transporting distances up to 30 feet; lifting of objects weighing 51-75 lbs. from below waist to waist level with or without assistance and transporting distances up to 10 feet.

- ◆ Vision: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents and to operate equipment.
- ◆ Hearing: Hear in the normal audio range with or without correction.

Adopted: 07-13-2005

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[Associated Benefits](#)