County of Orange

Class Code: 7964 & 7966

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INFORMATION TECHNOLOGY SYSTEMS ENGINEER I (7964)
INFORMATION TECHNOLOGY SYSTEMS ENGINEER II (7966)

DEFINITION

Performs professional duties pertaining to the analysis, development, maintenance and administration of servers to meet business needs; implements server configurations; analyzes server systems/structures for stability and reliability, monitors server traffic, performance and security; investigates, analyzes and resolves server-related problems; recommends server changes to enhance services; provides professional support on server-related projects that are small or medium in size and scope and required limited staff and resources; performs other related duties as assigned.

These positions may be assigned to independently administer agency network operating systems, directory services, distributed server systems and storage solutions. The duties emphasize server administration, maintenance and problem analysis/resolution. Incumbents may also maintain and administer devices such as SANS (Storage Area Networks) and peripheral equipment and may provide professional support for network and application development projects.

CLASS CHARACTERISTICS

IT System Engineer I - This is the entry-level class in the professional IT System Engineering series. Positions in this class are distinguished from IT System Engineer II by the performance of less than the full range of duties assigned to the System Engineer II level. Incumbents work initially under general supervision while learning job tasks, progressing to reduced direction as the procedures and processes of the assigned areas of responsibilities are learned.

IT System Engineer II - This is the journey-level class in the IT System Engineer series. Positions in this class are distinguished from IT System Engineer I by the performance of the full range of duties, which may include serving as a project lead over routine technology projects. Incumbents receive occasional supervision while working toward a definite objective that requires use of a wide range of procedures and involves planning and/or determining specific procedures or equipment required to meet assigned objectives and solve routine problems. Incumbents in this class may perform lead duties.

This class is distinguished from the class of Senior IT System Engineer because incumbents in that class may perform supervisory and/or advanced professional duties that include coordinating, administering or managing network and platform projects that are large in size and scope, requiring the support of multiple staff and the procurement/utilization of significant resources.

EXAMPLES OF DUTIES

Both Class Levels:

1. Analyzes, develops, maintains and administers server infrastructures and systems; plans, determines and implements server hardware/software configurations including domain controllers, email and file servers, distributed application systems, software and security patch distribution servers, terminal services servers, and virtual servers.

2. Plans and implements server upgrades; tests hardware and software to ensure optimal functionality.

3. Monitors server performance, reliability and security using a variety of evaluation tools; analyzes server usage patterns; checks server logs to detect intruders; writes scripts to support server administration tasks.

4. Identifies and resolves server security issues; provides recommendations to improve server performance and security.

5. Researches and responds to customer complaints regarding server and application functionality; investigates, analyzes and resolves a wide variety of server-related problems; troubleshoots server failures and problems and re-establishes server functionality to ensure business continuity.

6. Helps implement security for file sharing, sensitive data access, and password issues; performs and/or coordinates activities pertaining to business continuity and disaster recovery; performs critical server configuration backup, server database backup, and server recovery; stays up to date on security issues such as threats, vulnerabilities, technology and vendors.

7. Assists with server design, development and maintenance projects by researching resources, timelines and other issues; analyzes potential issues pertaining to geographic location, capacity, technology/knowledge resources, and interface requirements for connectivity with other systems; plans and coordinates work in conjunction with other teams that may be affected; executes project implementations.

8. Coordinates assigned server activities with vendors; maintains effective communications with users regarding vendor activities, problems, status, timelines and other details.

9. Prepares reports, correspondence and other documents; participates on committees and task forces; attends meetings, conferences and training sessions.

10. Prepares technical documentation and procedural manuals including detailed project plans, server diagrams, and user training materials.

11. Performs other related duties as assigned.

IT System Engineer II

In addition to the duties listed above:

1. Works on server projects of greater size and complexity.

2. May provide more advanced professional support for server-related projects that are medium in size and scope. Helps develop and monitor project budgets and resources; assists in monitoring vendor performance to ensure compliance with County standards and specifications; interfaces with clients to define project scope and review project activities, recommendations and outcomes; coordinates the use of project resources based on project specifications; designs and implements project testing and quality assurance processes.

MINIMUM QUALIFICATIONS

Knowledge Of:

- Information technology operating systems, hardware and software components similar to those being used by the hiring department.

- Principles, best practices, standards, and terminology in system engineering and server administration within large complex organizations.

- Distributed systems, single servers, mass storage and virtual server design and solutions that address high availability, fault tolerance and load balancing requirements.

- Server hardware and software such as blade servers, mass storage solutions, tape libraries, and server virtualization and monitoring software.

- Server operational requirements including configuration, documentation, hardware and software upgrade, backup and restore operations.

- Technologies pertaining to various types of server connectivity solutions (e.g., fiber and Ethernet).

- Server hardware and software security.

- Principles of server administration.

- Internet service infrastructure; Internet and Intranet architectures.

- Network operating system, directory services and web application protocols, documentation, configuration, maintenance and diagnostic procedures/techniques; standard server security policies, techniques and procedures.

- Directory services and network operating system concepts, principles, and operational characteristics.

- Principles and practices of computer hardware and software testing and troubleshooting.

- Principles and practices of customer service in an information technology environment.

- Basic project management principles and techniques such as organizing and managing a project, developing schedules, identifying critical paths, and breaking down a project into individual tasks.

- Methods and techniques of developing and presenting technical documentation and training materials.

Ability to:

- Analyze, develop, maintain and administer server-related systems, equipment and software similar to that being used by the hiring department.

- Configure, test, maintain, troubleshoot, and repair complex server, storage and peripheral equipment.

- Troubleshoot a variety of technical server hardware and software problems, identify and recommend alternative technical solutions, and respond appropriately to customer service requests.

- Plan and evaluate new systems and equipment.

- Plan, organize, prioritize and process work to ensure that deadlines are met.

- Learn and utilize specialized terminology if needed by the specific assignment.

- Read, understand and apply technical information pertaining to computer and network systems.

- Adapt quickly to changes in policies, procedures, assignments and work locations.

- Communicate effectively both in orally and in writing for technical and non-technical audiences.

- Establish and maintain effective working relationships with those encountered during the course of the work.

IT System Engineer I

Experience: Two years of directly related experience that demonstrates the competencies and attributes listed above; OR

Education: Possession of a bachelor's degree from an accredited college or university with major coursework in computer science, information systems or a closely related field that has provided the candidate with a sound conceptual understanding of information technology concepts.

Special Requirement: Depending upon assignment, demonstrated professional level competency and/or certification pertaining to the information technologies used by the County may be required.

IT System Engineer II

Experience: Two years of experience that is comparable to a County of Orange IT System Engineer I

Education: College level education or training directly related to the competencies and attributes required of the position may be substituted for up to one year of the required experience at the rate of three semester units or the equivalent, equaling one month of experience and one hour of training equaling one hour of experience. College level education or training beyond a bachelor's degree, which is directly related to the competencies and attributes required of the position, may be substituted for up to an additional year of required experience at the same rate identified above.

Special Requirement: Depending upon assignment, demonstrated professional level competency and/or certification pertaining to the information technologies used by the County may be required.

ADDITIONAL REQUIREMENTS

Depending upon assignment, some positions in this class may require possession of a valid California driver's license, Class C or higher.

PHYSICAL AND MENTAL REQUIREMENTS

Frequent standing or sitting for extended periods; frequent walking; occasional driving may be required, depending upon assignment; occasional pushing/pulling; occasional bending, kneeling, squatting and crawling; occasional lifting up to 25 pounds; infrequent lifting up to 50 pounds; constant use of good overall vision for reading/close up work; infrequent use of color perception and occasional use of eye/hand coordination; frequent repetitive motion from writing and using a computer keyboard; occasional grasping, holding and reaching; frequent hearing/talking to others on the telephone and in person; frequent decision making and concentration; occasional public contact; occasional working alone.

Additional physical/mental requirements or frequencies may be required, depending upon assignment.

ENVIRONMENTAL CONDITIONS

Work is typically performed in an indoor office environment, but occasionally requires travel to other locations. Work environments may include high levels of noise, dust and/or unpleasant odors. Occasional early morning, evening, holiday and/or weekend work may be required.