

**SANTA CLARA COUNTY OFFICE OF EDUCATION**  
**Personnel Commission**

**CLASS TITLE: SYSTEMS ENGINEER**

**BASIC FUNCTION:**

Under the direction of the Manager - Security, Network & Systems Engineering, plans, designs, configures, implements, evaluates, tests, and troubleshoots server operating systems and hypervisors, server hardware, storage systems, virtualization infrastructures and enterprise applications of moderate to advanced complexity and difficulty to meet the needs of the Santa Clara County Office of Education (SCCOE) and school districts; provides escalated systems and administrative technical support for users; participates in project design and management, public relations, research and problem-solving activities.

**REPRESENTATIVE DUTIES:**

The following duties are examples of assignments performed by incumbents in this classification. It is not a totally comprehensive list of duties, nor is it restrictive regarding job assignments.

**ESSENTIAL DUTIES:**

Designs, installs, configures, and monitors storage devices and storage area networks (SANs), server hardware, virtual infrastructure and associated enterprise applications including database, messaging, and information archiving systems.

Designs, implements, and maintains complex systems for secure delivery of digital information; plans, configures and installs secure access connections to SCCOE servers and provides secure access for onsite and remote mobile workers and devices.

Designs, implements and maintains technical support systems to meet the requirements of internal departments.

Designs, implements and routinely tests system backup and disaster recovery strategies based upon established SCCOE policies and industry best practices.

Assists the Manager - Security, Network & Systems Engineering in designing and documenting system security architecture and develops detailed security designs; engineers, implements and monitors security measures for the protection of computer systems, networks and information; documents standard security operating procedures and protocols.

Collaborates with application owners across teams, departments and organizations to develop system design strategies accounting for support and growth needs.

Analyzes and resolves escalated Tier 2 and Tier 3 problems between LAN/WAN, SAN, servers, desktop computers and enterprise applications; works with server and storage equipment providers to ensure optimal efficiency in systems operations.

Trains and provides guidance to other technical support staff; oversees the work of outside contract workers on construction of systems design projects.

Collaborates with, coordinates with or assists other technical team members in systems-related tasks to support inter-team and inter-departmental projects and initiatives.

Prepares cost analyses of proposed and existing systems and hosted services; recommends contractual charges, service providers, and cost control measures; participates in the development of feasibility studies and cost/effectiveness studies for new servers, storage and associated enterprise applications.

Provides technical support for systems operations; performs diagnostic tests; compiles, organizes, and analyzes data to troubleshoot systems problems; analyzes and resolves problems with systems hardware and associated enterprise applications, networks and servers; works with support team members to assure timely response to problem calls.

Provides recommendations and support for the development of technical policies and strategies for system design and scaling, augmenting hosted services and broadening systems support capacities.

Ensures all enterprise systems conform to backup strategies, are updated and secure, and are accounted for in designing for growth.

Plans and oversees multiple projects to completion; identifies scope of work and objectives; facilitates the resolution of complex project problems by meeting with stakeholders, vendors and other technical staff to identify problems and potential solutions; assures projects are planned and delivered according to customer specifications and needs.

Coordinates service calls and schedules appointments between service providers and users experiencing problems and ensure satisfactory resolution; explains operational and installation procedures to users.

Manages user passwords and profiles; conducts routine audits of security procedures.

Maintains and operates network and server monitoring and diagnostic software and equipment for capacity planning and preventative maintenance; monitors system performance; conducts routine checks on disk and CPU usages; monitors system log files and nightly jobs; monitors backup jobs; prepares systems for system maintenance; contacts and works with hardware and software vendors for rapid resolution of critical problems.

Receives and reviews equipment installation requests from users and customers; ensures completeness, and contact users regarding discrepancies.

Trains users and customers in the proper use and operation of end-user systems applications and related equipment; trains and assists administrative support staff in department-specific software applications and hardware.

Prepares and updates operations documentation and guides; prepares documentation for the placement of equipment; maintains and monitors equipment inventory lists; maintains accurate records, logs, and files related to assigned systems and equipment inventory activities, servicing, operations, and functions; writes articles, newsletters, and technical documentation; prepares system and network diagrams, flow charts, graphic presentations, and narrative reports to recommend improvements or resolve problems.

Repairs or facilitates the repair of servers, storage and associated systems as needed.

Maintains current knowledge of emerging technologies and research in information technology; conducts research; assists with developing policies and strategic plans for the use and support of emerging technologies and assess the impact on current practices.

**OTHER DUTIES:**

Perform related duties as assigned.

**KNOWLEDGE AND ABILITIES:****KNOWLEDGE OF:**

Hypervisors, including VMware ESXi, Hyperv-V, vCenter, vOperations, VDI and associated applications.

Server operating systems, including Microsoft Server, UNIX and Linux.

Server hardware platforms, including Cisco UCS, Lenovo, Dell, and Fujitsu.

Storage systems, including Nimble and Datrium.

Enterprise applications, including Microsoft Active Directory, Microsoft SQL Server, DNS, and LDAP directory services.

Messaging systems, including Microsoft Exchange, Office 365, and Enterprise Information Archiving systems.

Cloud and hosted services, including Microsoft Azure and Amazon Web Services.

Backup and data replication systems, including BackupExec, Commvault, and Zerto.

Techniques for database performance monitoring and tuning, indexing, security, recovery, and data integrity.

Analytical, research and problem solving methods; systems analysis and project management procedures and techniques.

Project management concepts, procedures, and tools, including Microsoft Project.

State and Federal laws and regulations relating to data systems, particularly as related to data security and privacy.

Information systems and network terminology, policies, procedures, and vendors.

Desktop computer hardware and software.

Networking as it pertains to server and storage infrastructures.

Cyber security and firewall concepts and best practices.

Current trends, techniques, and general principles in enterprise technology.

Proper telephone etiquette and public relations skills.

Proper English usage, grammar, punctuation, and vocabulary.

**ABILITY TO:**

Apply specialized knowledge to LAN/WAN networks, firewalls, telecommunications systems, data communications, servers, hardware and software systems.

Identify and isolate systems or network related problems through the performance of diagnostics, and determine appropriate action for resolution.

Establish and maintain logs, records, lists, fact sheets, and files regarding specialized transactions, procedures, and policies.

Determine systems, servers, applications, and materials to meet user and customer requests and project requirements.

Install, configure, maintain, and support database systems including Microsoft SQL Server and PostgreSQL.

Diagnose database problems; tune databases for optimum performance.

Prepare user guides and a variety of statistical and narrative reports.

Work various shifts with minimal supervision to meet user and customer needs.

Operate a variety of computer and peripheral equipment including desktop and laptop computers as well as associated software.

Anticipate systems-related issues and develop effective strategies to mitigate problems before they arise or worsen.

Perform numerical calculations accurately.

Plan, organize, and prioritize assigned tasks and functions efficiently in stressful situations.

Coordinate and monitor systems activities with outside service providers/agencies.

Train users and customers in the proper use of end-user applications.

Establish and maintain effective work relationships with those contacted in the performance of required duties.

Communicate effectively orally and in writing.

**EDUCATION AND EXPERIENCE:**

Any combination equivalent to: Bachelor’s degree in Computer Science, Information Systems or related field, and five years of increasingly responsible experience in systems administration and engineering including the design, implementation and maintenance of servers and storage systems.

**LICENSES AND OTHER REQUIREMENTS:**

Valid California driver’s license.

Preference may be given to individuals who hold one or more of the following certifications:

Microsoft Certified Solutions Expert (MCSE): Cloud Platform & Infrastructure

Certified Information Systems Security Professional (CISSP)

VMware Certified Professional (VCP)

**WORKING CONDITIONS:**

**ENVIRONMENT:**

Indoor environment.

Evening or variable hours.

Driving a vehicle to conduct work.

**PHYSICAL DEMANDS:**

Hearing and speaking to exchange information and make presentations.

Dexterity of hands and fingers to operate computer keyboard.

Seeing to perform assigned activities.

Sitting for extended periods of time.

Bending at the waist, kneeling or crouching.

Approved by Personnel Commission: January 8, 2014

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Jonathan Muñoz  
Director – HR/Classified Personnel Services

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