

KERN COUNTY SUPERINTENDENT OF SCHOOLS
APPROVED APRIL 2025
RANGE: 58.5
CLASSIFIED
CODE: 2, 7

LEAD INFRASTRUCTURE SYSTEMS ENGINEER

DEFINITION

Under general direction, the Lead Infrastructure Systems Engineer will lead design efforts of enterprise technology infrastructure and systems that support the technology needs of the organization, ensure systems and applications are operational and available, and ensure system efficiency and integrity by assisting with creation of department standards and procedures, as well as research and support for new technologies used in the environment.

EXAMPLES OF DUTIES

Lead the design of infrastructure solutions for KCSOS and districts that provide high availability, reliability, and security consistent with expectations and service level agreements;

design, setup, and maintain core infrastructure such as SAN, hypervisors, and servers, and support the interconnectivity of LAN/WAN networks and connections to infrastructure components;

setup, configure, and manage enterprise applications and their dependent systems both local and cloud-hosted;

lead efforts in troubleshooting systems issues and assume engineering responsibility for restoration of services and data;

maintain accurate inventory documentation of infrastructure to assist in maintaining support, life-cycle management, vendor management, spare inventory, and budget planning for expenses;

design and implement data backup and disaster recovery systems and strategies that minimize downtime and data loss, including intermittent restore testing;

utilize help desk software for ticket and project functions, maintain infrastructure and business process relationships within a CMDB, and change management including review, impact analysis, and approvals;

lead tool selection and processes creation for infrastructure management, monitoring and alerting, and standardized device configurations;

monitor systems performance and recommend, implement, and document process/procedure improvements that will enhance performance and reduce costs;

setup, monitor, and maintain servers on Linux and Windows utilizing hypervisors;

assist with efforts in supporting, updating, and troubleshooting technology network and security issues;

lead the design and administration of directory services including data integrity, interoperability, policies, and accounts and authentication methods for elevated access to technology systems;

conduct incident response for infrastructure-related issues including remediation and root cause analysis, and conduct risk assessments regarding infrastructure systems;

create and update maps and diagrams of technology infrastructure locations and other details;

administration of common network services such as DNS, DHCP, HTTP/S, SNMP, and other TCP/IP services;

available for after-hours and weekend work as required to minimize user impact for projects and tasks, as well as troubleshoot and resolution of technical issues;

lead regular discussions regarding process improvement for technology needs as well as the needs of other departments and customers including emerging technologies and concerns;

maintain cleanliness of technology spaces and ensure proper procedures and standards are applied in those spaces;

serve as a mentor and provide technical training and guidance to others on infrastructure-related projects and issues, customer service, and business operations;

create dashboards and reports for leadership regarding infrastructure-related metrics as instructed;

communicate with appropriate organization, department, and district contacts regarding planned and unplanned service impacts;

assist with managing and assigning support tickets to ensure staff is being utilized efficiently to achieve high levels of both quality and quantity of work;

perform other related technology engineering duties as assigned.

QUALIFICATIONS

Knowledge of:

Designing and implementing complex infrastructure environments to support enterprise applications and services that are built for cost effective performance and high-availability;

server operating systems and distributions such as Windows Server and Linux, hypervisors, and storage network systems;

performance tuning for various infrastructure components, operating systems, and application environments;

scripting and programming tools and systems such as SQL, Powershell, and use of APIs;

wireless networking technologies, including Wi-Fi standards (802.11a/b/g/n/ac/ax) and wireless security protocols;

firewall configuration and management of NGFW appliances such as Palo Alto, Cisco, and Fortinet;

disaster planning including performing business impact analysis and recovery time objectives related to regulatory and compliance requirements.

Ability to:

Communicate effectively in public, in conference, and in written materials;

work at various locations and be able and equipped to communicate as necessary with supervisor regarding whereabouts and task updates;

maintain the knowledge and ability to provide coverage for other engineers for brief periods as required;

stay current on industry trends, emerging technologies, and best practices in network engineering;

maintain knowledge of applicable funding sources and the rules and procedures to utilize them;

develop and maintain relationships with department, organization, and district leaders;

prepare and present network administration training sessions to lay and professional audiences;

delegate tasks when directed, follow-up with coworkers, and communicate expectations;

excellent organizational skills and the ability analyze, troubleshoot, and apply critical thinking skills in high-pressure situations;

follow department policies, procedures, and standards both technical and behavioral;

maintain a professional appearance and punctuality and communicate effectively both verbally and in writing.

lift 50 pounds, climb ladders, stoop, bend, kneel, squat, crawl, stand for long periods of time, and see and hear sufficiently to safely perform the duties listed above.

Experience:

Combined seven (7) years' experience in an engineer role designing and implementing enterprise-level datacenters, including supporting systems such as cooling and power;

including design and operating experience with Linux systems, Windows Server, virtualized server environments, and SAN storage;

systems management or MIS background with some project management experience is preferred.

Education:

Graduate of a four-year (4) college or university with a bachelor's degree in computer science.

Equivalent experience in an applied setting regarding the above technology can be substituted for degree requirements.

Conditions of employment:

Some positions may require proof of privately owned automobile insurance and possession of a valid California Motor Vehicle operator's license which must be maintained for the duration of the assignment.

Fingerprint clearance by both the Federal Bureau of Investigation and the California Department of Justice is a condition of appointment after all other required job conditions have been met.

Must present verification of completion of Child Abuse Mandated Reporter training or obtain verification within six (6) weeks of hire and annually thereafter, as required by the California Child Abuse and Neglect Reporting Act.

This position has a probationary period of six months or 130 days, whichever is longer.

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