LANE COUNTY
H033
09/07/11

DATA SYSTEM ARCHITECT

DEFINITION

The Data System Architect (DSA) plans, designs and analyzes the organization's data base and application infrastructure according to best practices, while ensuring high levels of data quality, data availability, and infrastructure performance. DSA develops, implements, and oversees policies and procedures to ensure consistent storage provisioning, uptime, and compliance with organizational requirements. DSA is responsible for capacity planning, backup and restore process design, performance analysis, and developing data and application disaster recovery plans; and performs other duties as assigned.

CLASS CHARACTERISTICS

This is the most advanced level class in the Data Base Administrator series. Positions at this level are distinguished from other classes within the series by the level and breadth of responsibility assumed. Duties performed by employees at this level are typically strategic in nature and enterprise-wide in breadth. Positions in this class will specialize in strategic and complex areas of data technology and their integrations with other systems and/or services. Positions in the class are assigned responsibility for project coordination in multiple project areas and provide technical and functional supervision of assigned staff.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from assigned management personnel. Provides functional and technical supervision to assigned staff.

EXAMPLES OF DUTIES – Duties may include, but are not limited to the following:

- Lead the development of long-term vision, strategy, and roadmaps for databases, database servers, and application servers.
- Ensure that proposed and existing data and application architectures are aligned with organizational goals and objectives.
- Work closely with technical operations, project management, application development, and security teams to develop scalable, maintainable, consistent, highly available database and application architectures that meet business objectives and set relevant service-level agreements.
- Provide data and application server architectural expertise, direction, and assistance to others.
- Perform capacity planning analysis and other needs assessments to inform data and application architecture strategy.
- Establish strategies for data consolidation, centralization, and optimization to reduce downtime and costs while improving data security and application performance.

- Design policies and redundant systems for disaster recovery and archiving to ensure effective protection and integrity of applications and data assets.
- Develop procedures for backups and restores, as well as monitor the performance, success, or failure of these tasks.
- Develop and maintain procedures for change management, availability management, backup management, incident management, and process documentation.
- Maintain current knowledge of database related trends and issues including current and emerging technologies and best practices.
- Justify expenditures on data and application solutions through business cases, and ROI/TCO calculations. Develop, document, and communicate plans for investing in data and application infrastructure, including analysis of cost reduction opportunities.
- Analyze system performance and address performance problems. Evaluate costs, specifications, and organizational policies to recommend system performance tuning.
- Facilitate group processes including meetings, electronic or verbal communications; internally and with outside groups.
- Research complex technology products and services, prepares procurement specifications, evaluates vendor proposals and ensures compliance with standards and architectural plans.
- Share knowledge and information with management, customers, and co-workers via written and verbal reports, presentations, training, and informal communication.
- May schedule, assign, coordinate, monitor, and review the work of assigned staff.
- May share on-call duties with other staff members and respond in a timely manner 24 hours per day when problems arise.

MINIMUM QUALIFICATIONS

Knowledge of

- Organizational goals and strategic plans
- Data Storage architectures.
- Industry standard data system practices.
- Research and development methodologies
- Team building concepts.
- Customer service practices.
- Information analysis and data modeling techniques.
- Computer hardware, networking, and software technology.
- Technical documentation procedures.
- Computer operating systems.
- Database management systems, techniques, and concepts.
- Standard programming techniques.
- Application file and data base design.
- Advanced troubleshooting procedures.

- Application development environments as they relate to database management.
- Application and database security concepts and techniques.
- Principles of project coordination.
- Structured Query Language (SQL) or object oriented database systems.
- Database backup and recovery techniques and strategies.
- Network operating system security concepts and the relationship to database security.

Ability to

- Perform advanced data analysis.
- Establish and maintain effective working relationships.
- Convey technical information simply and clearly, both verbally and in writing.
- Improve technical skills.
- Apply advanced technical writing methodologies and tools to develop policies, procedures and technical documents.
- Understand organizational goals and objectives and perform assigned work to meet those goals and objectives.
- Coordinate projects.
- Work with users, technical staff and managers to implement and maintain a stable and efficient database environment.
- Design, install and maintain database systems.
- Troubleshoot complex database problems.
- Write Structured Query Language (SQL) or object oriented procedures and reports.

EXPERIENCE AND TRAINING

Training

- Equivalent to a Bachelor's degree from an accredited college or university with major course work in computer science or a related field.

Experience

- Eight years of data base administration, system engineering, and/or network engineering that demonstrate increasing responsibility in data system maintenance, development, administration, and architecture development.
- An equivalent combination of experience and training that will demonstrate the required knowledge and abilities is qualifying.

Special Requirements

- If required to drive, must be in possession of a valid driver's license at time of application, and a valid Oregon Driver's license by the time of appointment.
- Security Clearance - These positions require a criminal background investigation and, as a condition of employment, security clearance to have and be able to maintain access to the Area Information Records System (AIRS) and/or the Law Enforcement Data Systems (LEDS).