State of Nebraska
Classification Specification
Department of Administrative Services

NEBRASKA
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IT SYSTEMS ARCHITECT
G07190

DESCRIPTION OF OCCUPATIONAL WORK

Under administrative direction, the IT System Architect is responsible for leading the development and execution of enterprise architecture strategies across multiple technical domains and agencies. Positions within this class are responsible for designing and delivering comprehensive technology solutions, providing leadership in data governance, integration architecture, standards development, and strategic IT planning that align with statewide goals and enterprise-wide requirements. This role integrates solution, technical, and data architecture disciplines to support application modernization, cloud adoption, and system integration efforts across multiple domains and state agency programs. Positions collaborate closely with cross-functional teams to ensure scalable, secure, and interoperable systems that adhere to architectural standards and support long-term sustainability. Other related duties as assigned.

DISTINGUISHING CHARACTERISTICS: (A position is assigned to this class based on the scope and level of work performed as outlined below.)

The IT System Architect drives the adoption of architectural best practices, oversees complex, multi-domain transformation initiatives, and ensures that solutions are scalable, secure, and interoperable ensuring alignment with statewide goals and enterprise frameworks. Positions located at the agency level will be utilized for agency specific applications related to architecture.

EXAMPLES OF WORK: (A position may not be assigned all the duties listed, nor do the listed examples include all the duties that may be assigned.)

Leadership:

- Coordinates work efforts
- Make assignments/ensures completion
- Prepare project/work plans
- Monitors work progress/quality
- Prepare progress reports
- Resolves conflicts
- Provides input for performance evaluations
- Recommend approval of leave time usage
- Mentor IT Data/Database Analysts
- May lead during logical database design sessions

Systems Analysis:

- Preparing or leading the preparation of the business problem definition
- Performs or leads the performance of the information analysis and organization
- Accomplishes or leads the accomplishment of the information collection
- Prepares or leads the preparation of economic evaluation

- Prepares or leading the preparation of the solution development and evaluation

System Design & Implementation:

- Developing or leading the development of functional design
- Developing or leading the development of the technical design
- Preparing or leading the preparation of the system specifications
- Developing or leading the development of the implementation plan
- Developing or leading the development of the training
- Preparing or leading the preparation of the support material
- Providing or leading the on-going support effort

Data Modeling: Designing conceptual, logical, and physical data models to effectively store and retrieve information.

Data Governance: Establishing data quality standards, policies, and procedures to maintain data consistency and accuracy.

Infrastructure Planning: Selecting and designing appropriate data storage technologies (e.g., relational databases, NoSQL, cloud storage) based on business needs.

Data Integration: Implementing strategies to integrate data from various sources, including legacy systems, into a unified data warehouse or lake.

Performance Optimization: Monitoring and optimizing database performance to ensure efficient data access and retrieval.

Security Management: Implementing data security measures to protect sensitive information from unauthorized access.

Collaboration: Working with data analysts, data scientists, business stakeholders, and developers to understand data requirements and translate them into technical designs.

Lead architecture for system enhancements, integrations, and modernization efforts.

Design scalable application components using cloud-native or hybrid environments.

Assists in alignment with the enterprise data and system strategy across multiple implementation and integration initiatives.

Contribute to a DevOps pipeline setup for cloud-deployed services supporting case management systems.

Evaluate vendor proposals and assist in technical solution assessments.

Ensure compliance with state architecture standards, security policies, and interoperability requirements.

Develop integration standards for systems sharing data across education and human services programs.

Conduct architecture reviews and ensure compliance with security and interoperability standards.

Consult on agency initiatives to facilitate the most appropriate technology and business solutions for needs.

Develop an enterprise-wide data exchange framework supporting interoperability across health, education, and public safety programs.

Lead the architecture and governance strategy for cloud migration of multiple agency platforms to a shared services model.

Promotes best practices and industry trends with technology with regulatory and security standards.

Design a reference architecture for state agency integration using secure APIs and identity federation.

Oversee technical due diligence for large-scale technology procurements and modernization initiatives.

Coordinate cross-agency working groups to establish reusable architectural components and standards.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED: (These are needed to perform the work assigned.)

Knowledge of: Industry accepted concepts and techniques; State government technological infrastructure; installed operating systems for multiple processing platforms such as MVS, OS400; CICS; JES2; DFSMS; Assemblers; SMP/E; TSO; Netview; ISPF; Compilers; Other software; Programming (COBOL, REXX, BAL, EASYTRIEVE PLUS); Hardware configuration functions, capabilities and limitations such as DASD, control units, channels, multiplexors, printers, tape drives; Performance monitoring concepts and system tuning concepts and practices; State and agency business functions and processes; Database management concepts, principles and methods including database logical & physical design, normalization, storage capacity management and backup and recovery; the characteristics of data storage media; IT database security principles/methods; Technical documentation procedures; computer hardware and software, including applications and programming; Operating systems and platforms used in the agency; Sources, characteristics and uses of the organization's data assets; data administration and data standardization policies, standards and methods; Interrelationships among multiple IT specialties; Software development principles and methods; Design techniques, principles, tools. and instruments; Principles, methods and procedures for designing, developing, optimizing, and integrating new and/or reusable systems components; Software system testing procedures, programming and documentation.

Skill in: Technical Skills including proficiency in database design principles (relational, dimensional, NoSQL); Expertise in data warehousing and data lake technologies; Knowledge of data modeling tools; Familiarity with cloud computing platforms (AWS, Azure, GCP); Understanding of Data integration tools and technologies; and programming languages like SQL, Python, Cobol, & Java. Soft Skills including strong analytical and problem-solving abilities; Excellent communication and collaboration skills to work with cross-functional teams; Ability to translate business requirements into technical data architecture designs; and strategic thinking and future-oriented planning.

Ability to: learn quickly and apply the knowledge; logically reach a conclusion from seemingly unrelated or related facts or information; comprehend the complex relationships between the installed software products and the interfaces to the peripheral I/O components; perform multiple unrelated tasks; effectively coordinate activities with other functions; work under pressure; interact with a wide range of technically skilled or unskilled personnel; weigh the relative costs and benefits of a potential action; manage time effectively; work independently; stay current with the changes in computer technology. Apply programming languages; read and understand information and ideas presented; communicate information and ideas so others will understand; reason deductively-apply general rules to specific problems to come up with logical answers and decide if an answer makes sense; recognize a problem; put information in order; organize different pieces of information into a meaningful pattern; concentrate and not be distracted while performing a task over a period of time; perceive similarities and differences in pieces of information; think logically; organize, plan and prioritize work; test, install, implement, document and maintain software; maintain source code; modify and upgrade code as necessary. read and understand information and ideas presented verbally and in writing; communicate information and ideas, both orally and in writing, so others will understand; reason deductively – apply general rules to specific problems to come up with logical answers and deciding if an answer makes sense; correctly follow a given rule or set of rules in order to arrange things or actions in a certain order; reason inductively – combine separate pieces of information or specific answers to problems to form general rules or conclusions; come up with a logical explanation for why a series of seemingly unrelated events occur together; create reports and manipulate data in response to customer requirements; monitor database performance and tune database operations; use modeling tools and approaches to meet the unique requirements of the assignment; design, develop and maintain database operations; generate complex queries and reports; define and allocate storage capacity in the design of data management systems; develop data dictionary definitions; data models, metadata repositories and other data management tools; apply new and improved approaches to the design, development and implementation of data mining, warehousing and related storage and retrieval systems; execute a variety of database utility functions; assist customers in navigating and accessing databases using various interface methods; implement operating systems procedures for running timed or scheduled events such as file backups; produce database design schema for integrating source data into data management systems.

MINIMUM QUALIFICATIONS: (Applicants will be screened for possession of these qualifications. Applicants who need accommodation in the selection process should request this in advance.)

Bachelor's degree in computer science, Information Systems, related field and a minimum of 5 years of experience in computer science, information systems, mathematics, engineering, coding computer applications, programming, IT architecture, software development, or infrastructure design. Any equivalent combination of education and experience will be considered.

SPECIAL NOTES:
State agencies are responsible to evaluate each of their positions to determine their individual overtime eligibility status as required by the Fair Labor Standards Act (FLSA).

Some positions may require:

- Professional certifications (e.g., TOGAF, AWS, Azure).
- Hands-on experience with at least one cloud platform (AWS, Azure, or GCP).
- Experience with API design, microservices, and cloud deployments.
- Experience designing 2-3 large system modernization or implementation business system solutions.

Established: 08/2025

Note: Classification-specification is subject to change. Please refer to the Nebraska State Personnel Job Specification website at https://das.nebraska.gov/personnel/classcomp/jobspecs/jobspecs.html to ensure this represents the most current copy of the description.

The following is a summary of changes made to this class specification.

Section	Change Description	Effective Date