

POSITION DUTY STATEMENT

PM-0924 (REV 01/2022)

CLASSIFICATION TITLE Information Technology Specialist III	OFFICE/BRANCH/SECTION Application Development Services Div/Division Office	
WORKING TITLE Data Architect	POSITION NUMBER 900-170-1415-xxx	REVISION DATE 02/21/2024

As a valued member of the Caltrans leadership team, you make it possible for the Department to provide a safe and reliable transportation network that serves all people and respects the environment.

GENERAL STATEMENT:

Under the administrative direction of the Division Chief (CEA), the Data Architect, Information Technology Specialist (ITS) III, is responsible for performing activities at the highest technical level in support of discovering, assessing, architecting, and delivering the most complex enterprise solutions. Assignments require an advanced level of organizational understanding to bridge the strategic intent and practical technical application. In addition, advise leadership on formulating IT strategy, policy, and governance for Caltrans's current and emerging technology portfolio.

The Data Architect acts as a technical lead and solution architect, primarily responsible for designing efficient and complex data design, data management, data sharing and data reporting needs within the Division, implementing data solutions to meet enterprise business objectives. The IT Specialist III possesses a wide and deep practical technical knowledge base, which includes emerging "cutting-edge" technologies. The IT Specialist III is recognized as a subject matter expert in their area of specialization, exhibits a mastery level of team leadership qualities and directs the most critical/complex projects.

The IT Specialist III performs duties related to the architecture, development, integration, operation, and maintenance of infrastructure and software systems including user research, user-centric design, development or configuration, testing, and implementation.

Domains:

Software Engineering

Information Technology Project Management

CORE COMPETENCIES:

As an Information Technology Specialist III, the incumbent is expected to become proficient in the following competencies as described below in order to successfully perform the essential functions of the job, while adhering to and promoting the Department's Mission, Vision, Values, Strategic Imperatives and Goals. Effective development of the identified Core Competencies fosters the advancement of the following Leadership Competencies: Change Commitment, Risk Appetite, Self-Development/Growth, Conflict Management, Relationship Building, Organizational Awareness, Communication, Strategic Perspective, and Results Driven.

- **Creativity and Innovation:** Thinks beyond the confines of traditional models to recognize opportunities, seek creative solutions and take intelligent risks. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)
- **Dealing with Ambiguity (Risk):** Can comfortably handle risk and uncertainty, as well as make decisions to act without having the total picture. (Strengthen Stewardship and Drive Efficiency - Innovation)
- **Initiative:** Ability to identify what needs to be done and doing it before being asked or required by the situation. Seeks out others involved in a situation to learn their perspectives. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)
- **Problem-solving and Decision-making :** Identifies problems and uses logical analysis to find information, understand causes, and evaluate and select or recommend best possible courses of action. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation)
- **Relationship Building:** The ability to develop and maintain internal and external trust and professional relationships, which includes listening and understanding to build rapport. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)
- **Organizational Awareness:** Contributes to the organization by understanding and aligning actions with the organization's strategic plan, including the mission, vision, goals, core functions, and values. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)
- **Interpersonal Effectiveness :** Effectively and appropriately interacts and communicates with others to build positive, constructive, professional relationships. Tailors communication style based on the audience. Provides and is receptive to feedback. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)
- **Analytical Skills:** Approaches problems using a logical, systematic, and sequential approach. Weighs priorities and recognizes underlying issues. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity)

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- **Technical Expertise:** Depth of knowledge and skill in a technical area. (Strengthen Stewardship and Drive Efficiency - Engagement, Innovation, Integrity, Pride)

TYPICAL DUTIES:

Percentage	Job Description
Essential (E)/Marginal (M) ¹	
35% E	<p>Architecture Expertise</p> <p>Lead and Provide comprehensive technical guidance with planning, analysis, design, development, implementation, and operation of the organization's most complex systems and technologies. Oversee the development and maintenance of robust data models, ensuring data quality and security. Research innovative technologies and methodologies to harness the full potential of data resources. Lead or Perform database tuning, including optimizing the queries and data models to ensure efficient data storage and retrieval. Integrate data from diverse sources, ensuring seamless compatibility and interoperability. Collaborate with cross-functional teams to align data initiatives with business objectives, participate in data governance, and drive transformative projects aimed at optimizing data utilization. Conduct in-depth architectural analysis of existing systems, requirements, and proposed solutions, including dependencies. Architect and develop data solutions to enhance operational efficiencies, identifying, and designing integration endpoints between new and existing systems.</p> <p>Drive continuous improvement of the use of technologies. Evaluate and analyze current IT assets and future technology trends to forecast and recommend new and emerging technologies needed to achieve operational objectives that align with strategic organizational goals. Identify opportunities for technology efficiencies through consolidation, reuse, and retirement of obsolete technology.</p>
20% E	<p>Technical Expertise</p> <p>Using the department's standard software, serve as the lead for the development of most complex enterprise applications/services. Provide expert-level technical support for developing and managing the current and future state data architecture based upon strategic business direction. Translate business data requirements into effective data infrastructure including design of data and reporting solutions, define how the data will be managed, stored, integrated, consumed and shared by different data entities, systems, and applications. As a subject matter expert, perform data modeling, data mapping, data migration related tasks/assignments across various projects. Implement changes based upon the defined future state enterprise architecture through governance processes to align business needs with Information Technology. Participate in technology and data change management efforts. Provide data solution architecture support, including analyzing program needs, schema and ETL design, and development. Ensure quality assurance through implementation of measures and protocols for accurate and high-quality data. Perform or oversee most complex data analysis, utilizing tools and techniques such as queries and statistics to derive insights and help the organization with data-driven decisions.</p>
20% E	<p>Leadership</p> <p>Lead and coordinate departmental digital innovation and modernization projects and activities. Guide the development of plans and artifacts to obtain internal and external project approval. Oversee technical aspects to ensure projects are accomplished on schedule and within budget to the specification of business users. Ensure the required process for projects is supported and provides associated documents and approvals, and ensure projects follow the complete range of System Development Life Cycle (SDLC), Change Management, Enterprise Project Management, Workflow Framework, and similar processes and tools. Participate in vendor and consultant procurement and selection process. Assess and ensure vendor and state-staff software development projects are in compliance with contract terms and technology best practices. Perform risk assessments and project risk analysis to develop response strategies in order to control or reduce risk and document lessons learned for future improvements. Manage multiple complex projects simultaneously, coordinating various technical efforts. Collaborate with project managers, IT technical leads across divisions, and team members for a successful outcome.</p> <p>Provide mastery-level technical guidance, management, and direction to ensure that the unique product and technology domains stay aligned throughout the project life cycle.</p>

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10%	E	<p>Communication and Working Relationships</p> <p>Maintain effective communications and working relationship with team members, business customers, multiple management levels, executive leadership, vendors, State control agency staff, and State, Federal and local government entities. Proficiently communicate intricate technological concepts and issues to executive leadership within the department and oversight agencies using easily understandable language. Skillfully incorporate updated specifications and requirements into the architecture of systems, ensuring seamless integration and alignment with organizational objectives. Provide informed recommendations to management regarding the direction and use of various tools, and best practices, for application development to help shape IT strategy, policy, and governance to align with enterprise architectural goals and technology modernization efforts.</p>
10%	E	<p>Continuously demonstrate a commitment to professional development for self and team. Stay informed about the latest trends, tools, and methodologies in the field. Assess training needs related to the application of technology. Train other team members on new enhancements and domain specific topics. May need to provide technical support and troubleshooting and provide training to end-users and support staff in using application development tools and applications.</p> <p>Understand business drivers and business capabilities (Current State and Future State) and determine the corresponding enterprise system designs and change requirements to drive targeted business outcomes.</p>
5%	M	<p>Perform other duties as required within the specifications of the classification, including but not limited to training, research, consulting, unplanned projects and initiatives, provides leadership and expertise for establishing and maintaining standards, processes and procedures (e.g., IT hardware and software standards, system build and configuration documents, incident management, configuration management, change management, user guides, etc.) for IT operations; leverages established documentation to provide training to IT professionals and users.</p>

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.

MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

The incumbent has no direct supervisory responsibilities. However, this position may require the incumbent to lead very large multi-discipline teams to achieve common goals and objectives.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of: Emerging technologies and their applications to business processes; business or systems process analysis, design, testing, and implementation techniques; techniques for assessing skills and education needs to support training, planning and development; business continuity and technology recovery principles and processes; principles and practices related to the design and implementation of information technology systems; information technology systems and data auditing; the department's security and risk management policies, requirements, and acceptable level or risk; application and implementation of information systems to meet organizational requirements; project management life-cycle including the State of California project management standards, methodologies, tools, and processes; software quality assurance and quality control principles, methods, tools, and techniques; research and information technology best practice methods and processes to identify current and emerging trends in technology and risk management processes; and state and federal privacy laws, policies, and standards. Ability to: Recognize and apply technology trends and industry best practices; assess training needs related to the application of technology; interpret audit findings and results; implement information assurance principles and organizational requirements to protect confidentiality, integrity, availability, authenticity, and non-repudiation of information and data; apply principles and methods for planning or managing the implementation, update, or integration of information systems components; apply the principles, methods, techniques, and tools for developing scheduling, coordinating, and managing projects and resources, including integration, scope, time, cost, quality, human resources, communications, and risk and procurement management; monitor and evaluate the effectiveness of the applied change management activities; keep informed on technology trends and industry best practices and recommend appropriate solutions; foster a team environment through leadership and conflict management; effectively negotiate with project stakeholders, suppliers, or sponsors to achieve project objectives; and analyze the effectiveness of the backup and recovery of data, programs, and services.

RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

The incumbent must exercise good judgment, analyze problems, and take appropriate action. Poor decisions or recommendations could result in significant losses or departmental efficiencies through unnecessary delays, loss of data, equipment damage, loss of employee productivity, and user dissatisfaction.

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PUBLIC AND INTERNAL CONTACTS

The incumbent will have frequent contacts with managers and staff in Caltrans, IT leaders throughout the state, private consultants, and vendor representatives concerning the needs and development of IT systems. The incumbent may initiate contacts with other departments, governmental agencies, or private companies concerning IT technology related to the performance of this position.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

The incumbent may be required to sit for prolonged periods of time using a keyboard, monitor, mouse, and telephone. The incumbent must value cultural diversity and other individual differences in the workforce; adjust rapidly to new situations warranting attention and resolution; be open to change and new information; adapt behavior and work methods in response to new information, changing conditions, or unexpected obstacles; consider and respond appropriately to the needs, feelings, and capabilities of others; be tactful and treat others with respect. In addition, the incumbent must have the ability to multi-task, adapt quickly to changing priorities, and perform completed staff work or tasks and projects with short notice.

WORK ENVIRONMENT

This position may be eligible for telework. The amount of telework is at the discretion of the Department and based on Caltrans's evolving telework policy. Caltrans supports telework, recognizing that in-person attendance may be required based on operational needs. Employees are expected to be able to report to their worksites with minimum notification if an urgent need arises. The selected candidate will be required to commute to the headquartered location as needed to meet operational needs. Business travel may be required, and reimbursement considers an employee's designated headquartered location, primary residence, and may be subject to CalHR regulations or applicable bargaining unit contract provisions. All commute expenses to the headquartered location will be the responsibility of the selected candidate.

Core Work Hours: Monday - Friday 8:00am-5:00pm. The incumbent may work after regular business hours and/or weekends to perform activities to support business operations. The incumbent must carry a cell phone and respond to calls after hours to support these business operations.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE