

ALERT: This form is mandatory for all Requests for Personnel Action (RPA).

INSTRUCTIONS: Before completing this form, read the instructions located on last page.

Section A: Position Profile

A. DATE 8/23/2021	B. APPOINTMENT EFFECTIVE DATE	C. INCUMBENT NAME Vacant
D. CIVIL SERVICE CLASSIFICATION Information Technology Specialist III		E. POSITION WORKING TITLE Data Engineering Architect
F. CURRENT POSITION NUMBER 695-533-1415-001		G. PROPOSED POSITION NUMBER (Last three (3) digits assigned by HR)
H. OFFICE / SECTION / UNIT / PHYSICAL LOCATION OF POSITION Office of Enterprise Technology (OET)/ Rancho Cordova		I. SUPERVISOR NAME AND CLASSIFICATION Isaac Cabrera, Information Technology Manager II
J. WORK DAYS / WORK HOURS / WORK SHIFT (DAY, SWING, GRAVE) MONDAY – FRIDAY 8:00AM – 5:00PM		K. POSITION REQUIRES: FINGERPRINT BACKGROUND CHECK <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO DRIVING AN AUTOMOBILE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

Section B: Position Functions and Duties

Identify the major functions and associated duties, and the percentage of time spent annually on each (list higher percentages first).

	<p>Information Technology Domains (Select all domains applicable to the incumbent's duties/tasks.)</p> <p><input checked="" type="checkbox"/> Business Technology Management <input type="checkbox"/> IT Project Management <input type="checkbox"/> Client Services <input checked="" type="checkbox"/> Information Security Engineering <input checked="" type="checkbox"/> Software Engineering <input checked="" type="checkbox"/> System Engineering</p>
	<p>Organizational Setting and Major Functions</p> <p>The California Department of Technology (CDT) is focused on improving how state government develops and implements innovative solutions to meet the public's evolving needs, enrich customer experiences, and improve critical technological applications. CDT's Office of Enterprise Technology (OET) plays a critical role to enhance digital government and build a California that works for all Californians. We do this by providing foundational platforms and technology (such as GIS/Open Data, Web Portals, Software Engineering and Open Source code curation) for organizations to provide innovative digital services.</p> <p>Under the administrative direction of the Information Technology Manager II (IT Mgr II) over Data and Geospatial Services, the Information Technology Specialist III (IT Spec III) serves as OET's Principal Data Engineering Architect. This mastery level position serves as the lead consultant responsible for defining the next generation of trusted Data Engineering solutions. Working as part of a fast-paced, agile, and innovative team, the IT Spec III works across all areas of OET's technology stack, enabling critical statewide data services, qualify complex data ELT / ETL, and trail-blaze new data engineering solutions for the cloud. The IT Spec III is responsible for the development and implementation of DataOps and fostering data engineering principles and practices within CDT. The IT Spec III makes recommendations to the State Chief Information Officer (CIO) and executives on data engineering platform standards, data automation opportunities, compliance, and on current and new data technology developments. The IT Spec III works with external partners and customers on statewide efforts, which include but are not limited to Departments' and Agencies' development teams, vendors, and partners to arrive at the most appropriate platform and infrastructure design or integration. With technology constantly changing, the IT Spec III will stay up to date on emerging technologies and help foster a culture of innovation. At the mastery-level, the IT Spec III maintains first-rate development, pioneering, and presentation skills for creative facilitation, organization, and reporting. Collaborates with lead project support teams to facilitate and implement technology initiatives and processes to achieve the application development strategic goals and business objectives.</p>
<p>% of time performing duties</p> <p>35%</p>	<p>Essential Functions (Percentages shall be in increments of 5, and should be no less than 5%)</p> <p>Data Engineering Innovation</p> <p>The IT Spec III serves as a subject matter expert (SME) for all technology platform and infrastructure initiatives within OET as well as statewide initiatives. At the mastery-level of expertise, duties include:</p> <ul style="list-style-type: none"> • Develop Standards and Best Practices for DataOps, Data Engineering and related Cloud Technologies. • Analyze and comprehend how customers are using data platforms and help drive DataOps and continuous improvement of the offerings.

% of time performing duties

- Continuously raise OET's standard of data engineering excellence by implementing best practices for coding, testing, deployment, and automation.
- Formulates policy and procedures and ensures they are in-line with the department and statewide IT strategic direction.
- Designs, implements, and maintains complex data pipelines across multiple platforms to best align technology solutions with business strategies and improve the analytical ability of partners and staff.
- Determines the scope, plan, and IT resources needed with innovative solutions that fulfill technology and business requirements.
- Identifies and manages project risk through avoidance, mitigation, and development of contingency plans. Reviews/approves defined project deliverables.
- Consults with Agency/Department architects, developer's and other technical lead and lead project support teams, as well as private consultants and external IT partners and vendors to strategically improve business processes.

Mastery-Level Advisory

30%

The IT Spec III advises executives and the greater technology community in applying process improvement models and methodologies, best practices, and guidelines to update and align organization business outcomes and processes.

- Evangelize the Data Engineering and DataOps cultures, practices, and Agile methodologies across entire organizations.
- Collaborate closely with the architects and senior engineers to drive, architect, and develop the DataOps strategy, infrastructure, and implementation.
- Provides input into long-range platform requirements and operational guidelines, with a focus on automation, DataOps, Availability and data security.
- Advises on and/or coordinates the planning and delivery of organizational IT strategies and resources using both business and IT development approach.
- Performs continuous improvements to data platform and infrastructure roadmaps to determine the objectives and measures upon which the business strategies and IT developments will be evaluated.
- Advises on investment security and proper resources to allow for informed IT development initiative prioritization based on the value of specifically targeted business outcomes.
- Guides executive decision-makers to make accurate and timely decisions based upon DataOps, and Data Engineering best practices.

30%

Leverage Emerging Technologies to Drive Innovation

- Work with DevSecOps and Application Engineers on the design, deployment, and continuous improvement of important data infrastructure services (DataOps) (i.e., logging, monitoring, and alerting).
- Develop and own best practices/methodologies for data and data systems in the following areas: provisioning, application scaling, configuration management, capacity planning, monitoring, etc. to improve organization-wide visibility into how distributed systems interact and perform in production.
- Advise on innovation & technology enablement opportunities to gain competitive advantage
- Monitor and discover new and evolving service offerings and technologies (R&D, Innovation Lab, Code Repositories)
- Performs IT data asset analysis to evaluate and plan for future departmental needs using analytical tools and techniques per departmental policies and vendor support guidelines.
- Performs research, stays abreast of new technology trends and tools; evaluate new services for potential value; audit processes, systems, reports, and recommend best course of action.

5%

Marginal Functions (Percentages shall be in increments of 5, and should be no more than 5%.)

- Effectively represents the CDT's OET in meetings and engagements with other agencies and vendors.
- Other related business and technical duties as assigned.

Work Environment Requirements

- During state emergencies or activation by the California Office of Emergency Services, incumbents may be asked to work extended hours, 12-hour shifts, and/or off site and occasionally out of town.
- May be required to carry a cell phone.
- May be required to work outside of normal work schedule.
- Travel to internal and external customer locations for meetings is required.

Allocation Factors (Complete each of the following factors.)

Supervision Received:

The IT Spec III receives broad administrative and policy direction from the IT Mgr II. It is expected that the IT Spec III interpret directions and coordinate, organize, plan, provide direction to staff, and facilitate the implementation of directions, projects, and assignments.

Actions and Consequences:

The IT Spec III is expected to demonstrate strategic technical leadership; act independently in their duties and advises on major initiative decisions on governance and policy related to IT application development based on their recommendations to management and executive level. Poor recommendations and facilitation can create significant problems in the development of a system and result in project delays and over-expenditures. This is especially important for systems that provide critical services to the public or satisfy a legislative mandate.

Personal Contacts:

The IT Spec III works closely with application developers, both internal and external to CDT as well as the department's enterprise architects and will have frequent contact with Agency/Department's enterprise architects, managers, and staff, as well as private consultants and vendors to: advise, plan, implement and support advanced IT initiatives. Has frequent contact with CDT executive staff, and sub organizations to CDT to ensure that state procedures are followed, and that critical issues and policies are well understood and acted appropriately upon. Represent the CDT and the OET in a way that will enhance public respect for and confidence in the employee, Department and State Government.

Administrative and Supervisory Responsibilities (Indicate "None" if this is a non-supervisory position.)

None

Supervision Exercised:

None; however, may lead a team, project, or function. The IT Spec III provides technical and project management leadership. The IT Spec III has defined responsibility and authority for decision making related to projects or in an advisory function.

Other Information

Desirable Qualifications: (List in order of importance.)

The IT Spec III should possess the following skills/abilities in order to perform the essential functions of the position:

- Expert knowledge of interoperability of multiple data engineering platforms and systems.
- Significant work experience in a Data Engineering and DataOps or similar role.
- Expert fluency in one or more scripting languages such as R, Python, Java, JavaScript, C#/.NET.
- In-depth, hands-on experience with cloud-based data architectures (AWS, Azure and GCP).
- In-depth, hands-on experience with Azure Data Factory, Azure Functions, Azure Logic Apps, Amazon Glue, Amazon Lambda, S3, Azure Blob, FME, 5TRAN and Matillion.
- Expert level experience or education in one or more of the following technologies: Snowflake, Amazon Redshift, Microsoft MSSQL, PostgreSQL, Oracle, other SQL based RDBMs, NoSQL, Hadoop, ETL / ELT, Data Lakes, Data Warehouses and Enterprise Metadata Management Systems.

- Expert knowledge and experience with Data Warehouse concept and architectures, Online Analytical Processing (OLAP) technologies, Star-schema, Snowflake schema and Aggregation etc.
- Expert level experience building end-to-end data solutions using Data models, Data pipelines and BI products.
- Expert level experience producing requirements documents, systems architecture and interfaces, data model diagrams, configuration management documents etc.
- Ability to conceive and portray the big picture; creatively think outside the box with the ability to power through challenges in pursuit of a solution.
- Strong background in open-source technology.
- Ability to influence others toward a common goal, by building consensus and getting buy-in from others on plans and proposals, including enlisting third party support.
- Strong leadership skills to lead large and complex technology projects and to facilitate the development, implementation, and maintenance of enterprise technology systems and design.
- Expert level experience in delivering presentations to senior-level executives and technical audiences.
- Ability to communicate effectively with others as demonstrated by strong written and verbal communication skills, strong negotiating skills and the ability to represent the CDT to stakeholders, key customers, and internal staff.
- Ability to plan, organize, facilitate, and coordinate multiple high visibility projects operating under strict guidelines and timeframes.
- Ability to utilize and apply appropriate resources to align the technical environment with strategic business needs.
- Formal business and IT training/education.

INCUMBENT STATEMENT: I have discussed the duties of this position with my supervisor and have received a copy of the duty statement.

INCUMBENT NAME (PRINT)	INCUMBENT SIGNATURE	DATE
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SUPERVISOR STATEMENT: I have discussed the duties of this position with the incumbent.

SUPERVISOR NAME (PRINT)	SUPERVISOR SIGNATURE	DATE
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