Update

Ministry

Technology and Innovation

Describe: Basic Job Details

Position

Position ID

Position Name (200 character maximum)

Digital Architect

Current Class

Systems Analyst Level 3

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

☑ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Changes Since Last Reviewed

Date yyyy-mm-dd

Responsibilities Added:

Strategic Digital & AI Vision & Roadmap:
- Collaborate with business leader and stakeholders to define a forward-looking digital strategy, integrating AI and Machine Learning (ML) capabilities as core components.
- Develop and communicate the target state digital architecture, including platforms, data strategies, and integration patterns, with a focus on enabling and scaling AI-driven applications and services.
- Proactively identify emerging digital trends, AI/ML advancements (e.g., Generative AI, MLOps, explainable AI), IoT, and other transformative technologies, assessing their potential impact, applicability, and ethical considerations for the organization.

AI-Driven Architecture Design & Governance:
- Design end-to-end digital solutions that seamlessly incorporate AI/ML models and services,

encompassing data ingestion, model serving, inference pipelines, and integration with existing systems.
- Develop and enforce architectural standards, principles, and guidelines for digital solution development, specifically addressing AI solution design patterns, performance, security, and responsible AI practices.
- Conduct architectural reviews of proposed solutions, ensuring adherence to standards, best practices, and the strategic integration of AI components.

Technology Evaluation & AI Platform Selection:
- Evaluate, recommend, and select appropriate technologies, platforms, and vendors for digital initiatives, with particular emphasis on AI/ML platforms, MLOps tools, cognitive services, and specialized AI APIs.
- Lead proof-of-concept efforts for new technologies, including AI model prototypes and integration patterns, to validate their technical fit and business feasibility

Collaboration, Leadership & AI Enablement:
- Provide technical leadership and mentorship to product t teams, ensuring clear understanding and adoption of architectural designs, especially those involving AI components.
- Work closely with product teams, cybersecurity teams (focusing on AI security and privacy), and infrastructure teams to ensure seamless delivery of AI-integrated digital projects.
- Champion a culture of innovation and learning around AI/ML capabilities within the organization.
- Centralize architectural leadership to prevent fragmented operations and inconsistent standards.
- Provide strategic delivery oversight to reduce reliance on contingent labour and ad hoc solutions.
- Evaluate and oversee AI-based applications and automation solutions to streamline processes and reduce manual bottlenecks.
- Act as technical lead for integration and enterprise architecture governance, especially for advanced services (AI, automation).
- Mitigate risks of technical debt, inconsistent architecture, and loss of in-house expertise.
- Ensure capacity to support AI and automation initiatives, enabling innovation and efficiency.
- Create and maintain comprehensive architectural documentation, including solution designs, data flow diagrams, AI system blueprints, and architecture decision logs

Responsibilities Removed:

- Support for budget and funding aspects.
- Establishing shared principles, metrics, and standards for service quality and health (now implied under "alignment with GoA standards").
- Providing advice and direction on process refinement and continuous improvement (now part of strategic oversight).

Job Purpose and Organizational Context

Why the job exists:

The Digital Architect is a visionary and technical leader responsible for shaping the strategic design and overseeing the implementation of our organization's digital ecosystem, with a strong emphasis on leveraging Artificial Intelligence (AI) to create innovative solutions. This role bridges the gap between business strategy and technological execution, translating complex organizational goals into robust, scalable, secure, and AI-enabled digital architectures. This role is accountable for aligning solutions with GoA enterprise architecture standards and strategic priorities, define technology standards, provides architectural leadership across product teams, and oversees the integration of advanced capabilities and ensure that our digital platforms and services, including those powered by AI, align with long-term strategic objectives and industry best practices. The role enables reliable service delivery, supports modernization initiatives, and reduces operational and technology risk across the organization.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

1. Deliver Architectural Leadership Across Product Teams

What: Provide architectural vision and oversight for multidisciplinary teams.
Why: Ensure solutions are scalable, secure, and aligned with GoA standards.
How:
- Develop and communicate architectural plans.
- Guide teams in adopting best practices and shared components.
- Ensure consistency and reliability in solution delivery.
- Mentor team members to build architectural capability.

2. Advance Strategic Digital Initiatives
What: Lead modernization and platform acceleration efforts.
Why: Support GoA's digital strategy and enterprise architecture goals.
How:
- Oversee integration of new technologies, including AI and automation.
- Evaluate and recommend innovative solutions.
- Coordinate with stakeholders to align initiatives with organizational priorities.
- Monitor and report on progress and outcomes.

3. Ensure Governance and Risk Management
What: Maintain architectural standards and manage technical risks.
Why: Reduce technical debt and ensure sustainable operations.
How:
- Establish and enforce standards for service quality and security.
- Analyze risks and recommend mitigation strategies.
- Review and approve architectural decisions for compliance.
- Support documentation and reporting for governance.

4. Optimize Resource Utilization and Budget Alignment
What: Support financial planning for digital solutions.
Why: Ensure projects are financially viable and sustainable.
How:
- Collaborate on cost estimation and budget planning.
- Advise on funding requirements and resource allocation.
- Track operational costs and recommend adjustments.
- Align architectural activities with approved budgets.

Problem Solving

Typical problems solved:

- The Digital Architect recommends modern digital solutions to help ministry partners decommission legacy systems and reduce technical debt.
- The role addresses challenges in migrating from on-premise legacy technologies to cloud (Pubic / Private) platforms.
- The position must understand and balance the needs of diverse stakeholder groups, both internal and external to government.
- Conceptualizes innovative approaches for ministry partners and stakeholders.
- Makes overall recommendations for software design, including technology choices, cloud platforms, open-source products, and approval processes.

Types of guidance available for problem solving:

- Accesses the Director of Architecture and the Architecture Review Board for support on non-routine or budgetary issues requiring sign-off.
- Follows established GoA enterprise architecture policies, procedures, and standards, but often adapts or innovates beyond these frameworks to address unique challenges.

Direct or indirect impacts of decisions:

- Decisions can lead to decommissioning legacy applications and systems.
- Directly reduce technical debt and operational costs.
- Build loosely coupled components (e.g., microservices, APIs) to lower future upgrade and enhancement costs.
- Impact both internal departmental operations and broader provincial digital transformation outcomes.

Key Relationships

Major stakeholders and purpose of interactions:

Internal Stakeholders
- Product team members: Regularly provide guidance, mentorship, and architectural leadership to ensure alignment with standards and best practices.
- Other product teams: Collaborate to identify efficiencies, share lessons learned, and promote reuse of common services and components.
- Branch/Division management: Seek direction and feedback on architectural decisions and strategic initiatives.
- GoA Ministry partners: Engage frequently to understand user needs and deliver tailored digital solutions.

External Stakeholders
- Other jurisdictions, Agencies, Boards, and Commissions (ABCs), Alberta citizens: Engage to assess needs, share expertise, and deliver solutions that support broader digital transformation.
- Consultants, contractors, vendors: Interact as needed for project delivery, technical transitions, and when specialized expertise or resources are required.

Committees and Task Forces
- Serve on cross-functional teams and committees as assigned, representing architectural interests and contributing to strategic decision-making.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Other		

If other, specify:

Computer science, information technology, or a related field (equivalencies considered)

Job-specific experience, technical competencies, certification and/or training:

Job-Specific Experience:
- 8+ years of progressive experience in software development, engineering, or architecture roles.
- 3+ years of direct experience as a Digital Architect, Solution Architect, or Enterprise Architect with a strong focus on digital transformation and AI integration.
- Demonstrated experience in designing and implementing large-scale, complex digital platforms that incorporate AI/ML capabilities (e.g., intelligent automation, personalized experiences, predictive analytics, generative AI applications).
- Proven track record in digital service delivery, including agile and product-oriented approaches.
- Commitment to continuous learning through courses, certifications, workshops, or professional groups.

Technical Competencies
- Enterprise Architecture Frameworks: TOGAF, Zachman, or equivalent.
- Deep expertise in cloud platforms (AWS, Azure, or Google Cloud) including IaaS, PaaS, and SaaS offerings, with specific experience in their AI/ML services (e.g., AWS SageMaker, Azure ML, Google AI Platform).
- Strong understanding of modern web and mobile application architectures (e.g., microservices, APIs, serverless, event-driven architectures) and how to integrate AI models within these
- Proficiency in designing integration patterns (e.g., RESTful APIs, message queues, event streaming with Kafka/Kinesis) to connect AI services with business applications
- Familiarity with cybersecurity principles and best practices in digital solution design, including security considerations for AI models and data.
- Experience with various programming languages (e.g., Python, Java, .NET, Node.js)
- Knowledge of DevOps, CI/CD pipelines, and MLOps automation tools.

- Fundamental understanding of AI/ML concepts**, model lifecycle management, and common algorithms.

Certification and/or Training
- Exceptional communication and presentation skills, with the ability to articulate complex technical and AI concepts to both technical and non-technical audiences
- Strong analytical and problem-solving abilities, with a strategic and forward-thinking mindset.
- Proven leadership and mentoring skills, with the ability to influence and inspire technical teams, including those working on AI/ML initiatives.
- Excellent stakeholder management and negotiation skills.
- Ability to balance technical excellence with business pragmatism and ethical AI considerations.

Soft Skills:
- Relevant certifications such as TOGAF, AWS/Azure/Google Cloud certifications, and Agile certifications are considered assets.
- Continuous professional development in architecture, cloud, and emerging technologies.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level A B C D E	Level Definition	Examples of how this level best represents the job
Develop Networks	○ ● ○ ○ ○	Works on maintaining close relations with all stakeholders: • Identifies key stakeholder relationships • Has contact with range of interested parties • Actively incorporates needs of a broader group • Influences others through communication techniques	Work closely with GoA ministry partners and external stakeholders to identify and advocate technologies that will lead to digital transformation.
Build Collaborative Environments	○ ● ○ ○ ○	Facilitates open communication and leverages team skill: • Leverages skills and knowledge of others • Genuinely values and learns from others • Facilitates open and respectful conflict resolution • Recognizes and appreciates others	Provides architectural expertise and strategic guidance, working with the product team to understand stakeholder problems and guide teams in the rapid, iterative, delivery of solutions with alignment to the overall architectural vision.
Agility	○ ● ○ ○ ○	Works in a changing environment and takes initiative to change: • Takes opportunities to improve work processes • Anticipates and adjusts behaviour to change • Remains optimistic, calm and composed in stressful situations • Seeks advice and support to change appropriately	Employ an agile, product-oriented approach in providing solutions for clients. Provides architectural expertise and strategic guidance, working with the product team to understand stakeholder problems and guide teams in the rapid, iterative, delivery of solutions with alignment to the overall architectural vision.

		• Works creatively within guidelines	
Systems Thinking	○ ◉ ○ ○ ○	Considers inter-relationships and emerging trends to attain goals: • Seeks insight on implications of different options • Analyzes long-term outcomes, focus on goals and values • Identifies unintended consequences	Analyze impacts, exposure, and risk as it pertains to software design. Assigns implications of various software choices and makes recommendations.

Benchmarks

List 1-2 potential comparable Government of Alberta: Benchmark

The position is comparable to a Systems Analyst 3, notably Benchmark 513SA10, Senior Business Intelligence Analyst.

Both positions provide leadership and expertise to a technical team in support of stakeholders in the development of a product. Both are senior resources and require formal knowledge acquired through education in computer science or a related discipline. Both positions provide technical advice in relation to their area of expertise and both work with a wide variety of internal and external stakeholders. Both research new technology capabilities and analyze the effectiveness of IT solutions. Both are involved in architectural activities including vision, design, and standards. They both resolve issues and problems for stakeholders with considerable latitude to determine courses of action.

Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

Employee Name	Date yyyy-mm-dd	Employee Signature
Supervisor / Manager Name	Date yyyy-mm-dd	Supervisor / Manager Signature
Director / Executive Director Name	Date yyyy-mm-dd	Director / Executive Director Signature
ADM Name	Date yyyy-mm-dd	ADM Signature