

New

Ministry

Technology and Innovation

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Geospatial Platform Analyst

Requested Class

Systems Analyst Level 2

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

Job Purpose and Organizational Context

Why the job exists:

The Business Technology Operations branch plans for, implements, operates, and supports the digital services foundation technologies and platforms hosting the digital systems and data that empower business partners' services across the Government of Alberta (GOA). The branch ensures that modern technologies, including both on-premise and cloud-based hosting environments, along with an operating framework are in place to support the GoA's digital and data strategies. The branch is also responsible for the implementation, operation, and support of corporate electronic content management services as well as legacy business applications in accordance with policies and standards.

The Geospatial Platform Analyst is a senior, hands-on technical role that is central to implementing and managing a GOA Enterprise GIS platform & services serving multiple ministries, industry partners, and citizen-facing services by following established IT principles, frameworks, models, standards, guidelines, and architecture.

The analyst is a primary technical contributor for platform delivery from infrastructure build-out and geodatabase management through to custom scripting, application extension, app development, and automated service operations. This role bridges platform engineering and practical software development, with a proactive mandate to apply artificial intelligence to improve platform reliability, automate repetitive operations, and elevate the quality of geospatial services delivered to clients

- Is central to the end-to-end technical configuration, extension, and operational support of Enterprise geospatial technologies across all environments (development, staging, production).

- Designs and implements platform capabilities that are reusable, standards-aligned, and scalable across ministries and stakeholder groups.
- Leads automation initiatives to reduce manual effort, minimize operational risk, and increase consistency in platform administration.
- Applies AI tools and techniques as practical enablers of platform operations, including anomaly detection, workflow automation, and intelligent data quality checks not as research activities.
- Acts as a senior technical resource within the team, providing guidance on engineering decisions and leading small platform projects without supervision.
- Contributes to technology roadmaps, architecture reviews, and proof-of-concept work to support platform evolution and strategic direction

As a technical resource with a comprehensive knowledge of GIS technology and software development, this position consults with, and supports, in transforming business directions and strategies into current and maintainable application environments.

This position will work and provide direction to a combination of GoA staff, contractors and external service providers.

Responsibilities

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

- Install, configure, and maintain ArcGIS Enterprise (including ArcGIS Server, Portal for ArcGIS, Data Store, and Web Adaptor) and supporting geospatial software (FME, Geocortex, web servers) in accordance with platform management standards
- Configure and tune the underlying server infrastructure (operating system, networking, storage, IIS/Apache) to meet performance, availability, and security baselines
- Implement procedures, tools, and documentation to provide a high level of service integrity and availability
- Design and implement high availability and disaster recovery architectures; execute and validate recovery procedures to meet defined recovery time and recovery point objectives
- Administer and optimize enterprise geodatabases (versioning, replication, archiving, indexing) and manage geodatabase lifecycle across environments
- Build and maintain CI/CD pipelines and isolated deployment environments; automate platform provisioning, configuration drift detection, and release promotion using scripting and infrastructure-as-code practices.
- Extend commercial off-the-shelf (COTS) GIS applications through template modification, widget development, and configuration applying a configure-first approach or through custom code
- Develop and deploy foundational geospatial services (feature services, map services, geoprocessing services, stream services) and integrate them with other enterprise IT systems (identity providers, data warehouses, APIs). Using Open source and COTS GIS technologies
- Implement integrations and data pipelines using FME and scripting to ingest, transform, and publish authoritative geospatial datasets from source systems to the platform.
- Produce and maintain technical artifacts including system design documents, build books, runbooks, and operational procedures; coordinate testing, evaluation, and sign-off with stakeholders.
- Design and implement modern approaches for collaboration and sharing GIS information
- Implement technology to analyze and display streaming data from sensors, devices, and other data feeds
- Performs complex diagnosis of problems, providing solutions within the areas of responsibility
- Through automation and AI, streamline administrative workflows and repetitive tasks to improve efficiency, consistency, and productivity, reducing risk and increasing the value of organization GIS
- Work with architect team to evaluate new technologies by developing proof of concepts
- Stays current with technological in development, systems support, and user support practices
- Mentor junior team members, provide peer review on technical work, and lead small platform delivery projects from initiation through deployment

Problem Solving

Typical problems solved:

The position will create and maintain new IMT services used within GoA and by the general public. This position will work closely with branch team members and ministries to create, maintain, and manage highly available services.

- Diagnoses complex platform failures spanning infrastructure, application configuration, geodatabase state, and

network connectivity, identifying root cause and implementing durable fixes, not workarounds.

- Resolves performance degradation issues across publishing, querying, and geoprocessing workloads through profiling, configuration tuning, and architectural remediation.
- Addresses security vulnerabilities and compliance gaps by translating GOA security frameworks into concrete platform hardening and access control changes.
- Designs integration solutions for novel source systems or data formats not previously onboarded, including streaming sensor data, real-time feeds, and non-standard geospatial formats.
- Evaluates trade-offs between COTS/Open Source configuration, template extension, and custom development to determine the lowest-risk, highest-value approach for each business requirement.
- Identifies automation opportunities in repetitive administrative workflows and designs scripted solutions that are reliable, auditable, and maintainable.
- Applies AI-assisted tooling to surface anomalies in platform health metrics, flag data quality issues before publication, and optimize service delivery patterns.
- Troubleshoots upgrade and patching failures across complex multi-tier Esri environments, coordinating with vendors and internal teams to restore service continuity.

Types of guidance available for problem solving:

- The position requires a high level of diversity due to the breadth of technologies relying on the infrastructure and the complexity of making changes to the infrastructure. This position requires a high level of creativity and problem solving abilities.
- Strategic and architectural direction from the Service Owner and Geospatial Architect on platform standards, technology selection, and roadmap alignment.
- GOA IT security and risk frameworks, infrastructure standards, and network architecture documentation maintained by central IT.
- Peer consultation with other senior platform engineers and integration specialists on cross-cutting technical problems.
- Proof-of-concept outcomes and technology evaluations conducted in non-production environments to validate approaches before production implementation.
- Community resources including Esri developer documentation, open-source project documentation, and professional geospatial communities of practice

Direct or indirect impacts of decisions:

- This position works with minimal direction, applying good discretion when making decisions. Latitude is afforded when making decisions, providing recommendations, planning, initiating, and completing work based on business expectations and technology requirements.
- Decisions made can impact critical service delivery in a multi-ministry environment
- Direct: Configuration and code decisions directly determine platform availability, performance, and security posture for enterprise services consumed by multiple ministries and citizen-facing applications; errors can cause data loss, service outages, or security incidents with province-wide impact.
- Direct: Geodatabase design and management decisions affect the long-term integrity, accessibility, and recoverability of authoritative GOA spatial data assets.
- Direct: Automation and pipeline design decisions affect the reliability and timeliness of data publication, which downstream clients depend on for operational and regulatory functions.
- Indirect: Technology and architecture recommendations influence multi-year platform investment decisions and shape the technical direction for geospatial services across GOA.
- Indirect: Integration and service design patterns established in this role become reusable standards adopted by other teams, amplifying both quality improvements and technical debt if poorly designed.
- Indirect: Operational decisions during production incidents (isolation, failover, data rollback) determine the speed and completeness of service restoration for dependent ministries and public users.

- Indirect: AI and automation approaches implemented in this role set precedent for how the broader team adopts intelligent tooling in GOA geospatial operations.

Key Relationships

Major stakeholders and purpose of interactions:

- Service Owner, Geospatial Platform and Integration Services: Receives direction on priorities, platform standards, and service commitments; escalates architectural decisions and resource constraints.
- Geospatial Architects: Collaborates on technology evaluation, solution design, and roadmap input; receives architectural guidance for complex platform changes.
- Ministry GIS users and Business Analysts: Translates business and operational requirements into platform configurations, services, and integrations; provides technical feasibility input.
- Central IT Infrastructure and Security Teams: Coordinates server provisioning, network configuration, identity and access management, and security compliance reviews.
- Data Custodians and Source System Owners: Coordinates data access, schema agreements, and pipeline requirements for authoritative dataset ingestion.
- Vendors (Esri, FME, Geocortex, Hexagon): Engages for product support, licensing, upgrade planning, and advanced technical resolution
- Consultants\Contractors: Cooperate with to provide services; support in order to deliver project deliverables; coordinate delivery of database services.
- Junior Platform Analysts and GIS Developers: Provides technical mentorship, peer review, and work direction on platform delivery tasks.
- Business Technology Operations Peers: Information sharing, collaboration for new services.
- Project Management Office: Reporting progress and status for work on various projects supported by services.
- FOIP / Litigation team: Responding to requests from various ministries to support FOIP and litigation requests against hosted services.
- Records Management/Information Management: Critical interaction for job function to properly align services to RM/IM requirements

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Diploma (2 year)	Other		

If other, specify:

Computer related discipline

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

Experience:

- Minimum of 5 years experience supporting a broad range of enterprise GIS technologies
- Minimum 3 years of hands-on experience installing, configuring, and administering ArcGIS Enterprise in a multi-tier, enterprise production environment
- Minimum 5 years of experience supporting application infrastructure and software development
- Minimum 5 years of experience developing GIS applications and performing spatial analysis
- Demonstrated experience managing enterprise geodatabases (SQL Server or PostgreSQL with PostGIS) including versioning, replication, archiving, and performance tuning
- Proven experience developing and deploying data integration pipelines using FME or equivalent ETL tooling for geospatial data transformation and publication workflows
- Experience scripting platform administration and automation tasks using Python (ArcPy, ArcGIS API for Python) and PowerShell or Bash in Windows environments
- Experience implementing high availability architectures and executing disaster recovery procedures for enterprise GIS platforms

- Experience extending or configuring Esri COTS applications (ArcGIS Experience Builder, Web AppBuilder, Insights, or Geocortex) through configuration, template modification, or widget development
- Strong knowledge of GIS concepts, projections, topologies and datasets
- Experience with CI/CD pipelines, version control (Git), and infrastructure-as-code practices applied to platform deployment and configuration management
- Experience with CI/CD pipelines, version control (Git), and infrastructure-as-code practices applied to platform deployment and configuration management
- Experience working within government or regulated-industry IT environments, including compliance with security frameworks.
- Experience technically leading small-to-medium platform delivery projects, including scope definition, task coordination, and delivery documentation
- The ability to work well in a team environment, take direction, mentor and support team members and work within deadlines is essential
- Critical thinking, problem-solving and decision-making skills

Technical Competencies:

- Geodatabase Engineering: Expert-level knowledge of enterprise geodatabase administration, including spatial indexing, versioning strategies, replica management, and long-term data lifecycle management.
- Scripting and Automation: Proficiency in Python for geospatial automation (ArcPy, ArcGIS API for Python, REST API scripting); working knowledge of PowerShell or Bash for server-level task automation.
- Data Integration and ETL: Hands-on proficiency with FME (or equivalent) for complex geospatial data transformation, format conversion, and automated publication pipelines.
- Web Services and API Development: Working knowledge of REST API design principles; ability to consume and publish OGC-compliant services (WMS, WFS, WCS) and Esri REST services.
- Infrastructure and Platform Operations: Understanding of server operating systems (Windows Server), IIS/ Apache web server configuration, load balancing.
- Security and Access Control: Ability to implement role-based access control, PKI/certificate management, enterprise identity federation (SAML, LDAP/Active Directory), and platform hardening aligned to GOA security standards.
- Open-Source Geospatial Stack: Working knowledge of open-source tools including QGIS, GeoServer, PostGIS, GDAL/OGR, and emerging open standards (GeoParquet, STAC, OGC API).
- AI and Automation Enablement: Practical ability to apply AI-assisted tools (e.g., LLM-based scripting assistants, anomaly detection, automated QA) to improve platform monitoring, data quality, and operational efficiency.

Certifications:

- Esri Technical Certifications (asset): Esri Enterprise Administration Associate or Professional; Esri ArcGIS Pro Professional; or equivalent current Esri certification demonstrating advanced platform competency.
- FME Certification (asset): Safe Software FME Desktop or FME Server certification demonstrating proficiency in complex data integration and automation workflows.
- ITIL Foundation (asset): Demonstrates familiarity with IT service management practices applicable to incident, change, and problem management in a government service context.
- Security Certification (asset): CompTIA Security+, or equivalent, demonstrating foundational knowledge of information security principles applicable to government platform operations.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Integrates broader context into planning: <ul style="list-style-type: none"> • Plans for how current situation is affected by broader trends • Integrates issues, political environment and risks when considering possible actions • Supports organization 	Evaluates potential solutions and considers implications Understands complex environments and can anticipate how each component could be impacted when making changes

		<p>vision and goals through strategy</p> <ul style="list-style-type: none"> • Addresses behaviours that challenge progress 	<p>Understands broader impact to GoA and their clients</p>
Creative Problem Solving	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Engages the community and resources at hand to address issues:</p> <ul style="list-style-type: none"> • Engages perspective to seek root causes • Finds ways to improve complex systems • Employs resources from other areas to solve problems • Engages others and encourages debate and idea generation to solve problems while addressing risks 	<p>Able to work independently or lead a team of analyst to resolve complex problems</p> <p>Pro-actively identifies and implements efficiencies</p> <p>Performs root cause analysis and identifies preventative measures</p>
Develop Self and Others	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Plans according to career goals and regular development:</p> <ul style="list-style-type: none"> • Aligns personal goals with career goals • Leverages strengths; attempts stretch goals • Provides feedback and openly discusses team performance • Values team diversity, and supports personal development 	<p>Identifies knowledge gaps and pro-actively seeks learning opportunities</p> <p>Provides leadership to team members and assists with identifying training needs</p>
Agility	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Identifies and manages required change and the associated risks:</p> <ul style="list-style-type: none"> • Identifies alternative approaches and supports others to do the same • Proactively explains impact of changes • Anticipates and mitigates emotions of others • Anticipates obstacles and stays focused on goals • Makes decisions and takes action in uncertain situations and creates a backup plan 	<p>Able to adapt approach to a situation in an environment where variable frequently change</p> <p>Able to make decisions and communicate under pressure</p> <p>Understands barriers and can innovate to overcome challenges</p> <p>Quickly assembles resources when complex cross-discipline teams are required</p>
Drive for Results	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Takes and delegates responsibility for outcomes:</p> <ul style="list-style-type: none"> • Uses variety of 	<p>Encourages staff to be accountable for their actions and set realistic goals</p>

