



## IDENTIFICATION

Department	Position Title	
Finance	Enterprise Geographic Information Systems Administrator	
Position Number	Community	Division/Region
15-6718	Yellowknife	NWT Centre for Geomatics

## PURPOSE OF THE POSITION

The Enterprise Geographic Information Systems (GIS) Administrator is responsible for the management of the GNWT's geospatial data warehouse and for management of the application development life cycle within the enterprise geospatial infrastructure. The position manages and monitors the performance and availability of critical architecture and applications in which GIS practitioners in the NWT Centre for Geomatics and across all GNWT departments operate.

## SCOPE

Located in Yellowknife, the Enterprise GIS Administrator reports to the Manager of Enterprise Geospatial Systems, within the NWT Centre for Geomatics Division. This senior position is a leader and subject matter expert in geospatial system administration, geospatial databases, and application development, while also having a broad understanding of remote sensing and geomatics services including analysis techniques. The incumbent plays a key role in facilitating system change management, web publishing of geospatial data and applications, workflow automation, information security and system analytics. The incumbent is responsible for the administration of the GNWT's centralized geospatial warehouse and coordinates database interactions with other systems and applications.

The position leads the definition of geospatial data architectures in collaboration with clients and in pursuit of geospatial business intelligence. The incumbent is responsible for deployment and maintenance of operational server environments that support data and application development, testing and production. Data and application architectures are optimized by the incumbent to maximize performance.

The incumbent is an intuitive problem solver that can diagnose and support a variety of geospatial system challenges using modern tools and technology. As a trusted partner, the incumbent identifies and addresses user/client needs while ensuring system integrity through the sustainment of enterprise standards and best practices. This position works on small and



large efforts, individually and on project teams, leading efforts for system design, implementation, configuration and use of modern GIS enterprise solutions. Work is completed in a range of computing environments such as cloud, on-premise, and hybrid deployments.

The incumbent works under general direction and uses discretion in identifying and responding to complex issues and assignments. The position determines when issues should be escalated to a higher level. The incumbent performs a range of work, often complex and non-routine, in a variety of environments and applies methodical approaches to identify and resolve issues.

The position works within I&T frameworks established through the GNWT's Chief Information Officer and supports all departments and NWT Housing. The position collaborates with and influences colleagues from Information Systems Shared Service, the Governance, Policy and Security division, and the Technology Service Centre. The position also has a working level relationship with clients, vendors and partners and may make decisions that impacts the work assigned to individuals or phases of projects including the work of staff in other departments.

## **RESPONSIBILITIES**

### **1. Operate and maintain the enterprise Spatial Data Infrastructure (SDI):**

- Administers ArcGIS Enterprise system, including access for users to various editing environments (Development, UAT, Production).
- Defines standards for geospatial data models, storage, maintenance, user access and security.
- Conducts system analytics and optimizing for peak performance.
- Automates data transformation workflows using programming scripts and Extract, Transform, Load (ETL) tools such as FME.
- Responds to routine and non-routine SDI break-fix, configuration and service requests.
- Publishes secure and public REST map, image and geoprocessing services.
- Administers system security.
- Provides geospatial data and application guidance to staff within the NWT Centre for Geomatics and GIS users across departments.
- Assesses system requirements per business needs, architecting, and delivering solutions.
- Coordinates change management related to new or modified SDI configurations.
- Designs and implements approaches to improve data performance, recovery and scalability.

### **2. Application development, maintenance and solutions support:**

- Respond to and resolve application break-fix requests.



- Defines system configuration to support application development (coordination of table views, establishing security settings, automating geoprocessing workflows, etc. using Geocortex and Esri software suites).
- Provides capital project input and guidance on system design and delivery of system implementation services.
- Liaises with other subject matter experts to meet business requirements, including the TSC, ISSS, GPS, and data authorities in various departments.
- Works with vendors and consultants on planning architectures, adopting new technology or integrating new applications within the existing infrastructure.
- Carries out application development and facilitates user acceptance testing.
- Adapts application to cloud-based, on-premise, or hybrid environment based on business requirements.
- Maintains appropriate application documentation.
- Guides and collaborates on the development of new data models to meet functional requirements of application.
- Contributes to development of new data visualization tools for both vector and raster data products.
- Ensures release processes are applied and provides expert input to the change advisory board.
- Carries out lifecycle management of applications, including software upgrades and patching.
- Manages change controls and migration processes.
- Monitors application performance.

### **3. Planning system architecture:**

- Develops and maintains documentation for system architecture.
- Gathers user and business requirements to address technology and service gaps.
- Collaborates with manager, vendors and other GNWT IT sector experts to plan technology roadmap for system growth, new technology, and agility to meet business needs.
- Identifies system and process-related issues and executes corrective actions.
- Facilitates the monitoring of performance measures and recommends opportunities for continuous improvement.



## **WORKING CONDITIONS**

### **Physical Demands**

No unusual demands.

### **Environmental Conditions**

No unusual demands.

### **Sensory Demands**

No unusual demands.

### **Mental Demands**

No unusual demands.

## **KNOWLEDGE, SKILLS AND ABILITIES**

- Knowledge in enterprise SDI design and administration.
- Knowledge in publishing REST services.
- Knowledge in geospatial web API development, tools, publishing, and administration.
- Knowledge in administration of Esri's Enterprise solutions.
- Knowledge in programming languages used in SDI administration and task automation (Python, JavaScript, SQL).
- Knowledge in GIS and remote sensing.
- Knowledge of complex, multi-server systems and being able to troubleshoot in that environment.
- Knowledge of information management practices and standards including metadata creation.
- Knowledge of GIS software including ArcPro, ArcGIS Desktop, Geocortex, ArcGIS Online, ArcGIS Enterprise, Portal & FME.
- Ability to define and execute system testing procedures.
- Knowledge of IT service management concepts such as those described in the IT Infrastructure Library (ITIL), Control Objects for IT (CoBIT), and Dev/Ops.
- Knowledge of software development lifecycle, as well as the various methodologies including predictive (plan-driven) approaches or adaptive (iterative/agile).
- Ability to maintain an awareness of developments in the geospatial industry.
- Ability to assess and evaluate risk and impact to effectively prioritize.
- Verbal and written skills, able to convey complex technical issues to a non-technical audience.
- Ability to help develop individual staff including coaching.
- Ability to work independently with general supervision.

- Ability to plan, schedule and monitor own work competently within limited deadlines and according to relevant legislation, standards and procedures.
- Ability to understand how own role impacts security and demonstrates routine security practices and security knowledge required for own work.
- Ability to work well with others and to communicate effectively with clients, vendors and other stakeholders.
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

**Typically, the above qualifications would be attained by:**

A university degree with a post-secondary diploma in GIS with an emphasis on developing and deploying spatial web-based applications and maintaining an enterprise GIS architecture, and a minimum of 3 years of recent and directly related work experience.

Equivalent combinations of education and experience will be considered.

**ADDITIONAL REQUIREMENTS**

**Position Security** (check one)

- ☐ No criminal records check required
- ☐ Position of Trust – criminal records check required
- ☒ Highly sensitive position – requires verification of identity and a criminal records check

**French language** (check one if applicable)

- ☐ French required (must identify required level below)  
 Level required for this Designated Position is:  
 ORAL EXPRESSION AND COMPREHENSION  
 Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐  
 READING COMPREHENSION:  
 Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐  
 WRITING SKILLS:  
 Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐
- ☐ French preferred

**Indigenous language:** Select language

- ☐ Required
- ☐ Preferred