## IDENTIFICATION

| Department | Position Title | |
|---|---|---|
| Industry, Tourism and Investment | Network Administrator | |
| **Position Number** | **Community** | **Division/Region** |
| 63-10708 | Yellowknife | NWT Geological Survey |

## PURPOSE OF THE POSITION

The Network Administrator is responsible for the management, maintenance, user support, training, programming, and planning of the local area network (LAN), microcomputers, minicomputers, and all related information system applications and software at the Northwest Territories Geological Survey (NTGS).

## SCOPE

This position is located in Yellowknife at the NTGS which is a division of the Department of Industry, Tourism and Investment and reports to the Assistant Director, Information Services. The Network Administrator plans and implements the major IT system projects that serve the NTGS staff and clients. These projects address both the scientific and public service priorities of the NTGS and the large volume of Northwest Territories geoscience data that is generated and managed by the NTGS as well as compiled from other sources. The incumbent is responsible for the appropriateness, applicability, and quality of each aspect of these projects and provides hardware and software installation services, support, and training to all the NTGS staff on any computer-related issue.

The NTGS LAN is behind the corporate firewall of the Government of Northwest Territories (GNWT) but is set up as a separate domain within the corporate GNWT Wide Area Network (WAN). The NTGS network domain is not supported by the GNWT's Technology Service Centre (TSC); however, the TSC maintains network connectivity between the NTGS and the outside world and provides email support on the GNWT exchange servers. The NTGS LAN consists of VMware type 1 Hypervisors, physical and virtual servers, NASs, workstations, laptops, field tablets, printers, wide format digital scanners and plotters, network switches, wi-fi routers connections to the Internet and peripheral equipment.

The incumbent is responsible for maintaining, troubleshooting, repairing, and administering all aspects of the NTGS LAN. This involves evaluating, installing, and managing LAN computer and peripheral hardware. The position assesses, implements, and administers networking software, operating system software, and software applications. A database of all installed software, hardware, peripherals, and policies is maintained and updated by the Network Administrator who also provides hardware and software problem-solving services to all network users.

The incumbent is responsible for maintaining the integrity of several terabytes of sensitive, and sometimes confidential, geoscientific data that is housed on the NTGS network. This involves executing data backup and disaster recovery procedures, implementing network traffic and security monitoring software, operating master consoles to monitor LAN performance and coordinate access to computer networks, and implementing cloud-based anti-virus software. The incumbent is required to perform shell scripting, basic scripting tasks using SQL, and Python programming.

The incumbent collaborates with the GNWT's Technology Service Centre (TSC), Northwest Territories Centre for Geomatics, and Information Systems Shared Service to ensure that Internet connectivity, VoIP telephone services, web hosting services for NTGS web applications, and email exchange are maintained. At times, the Network Administrator may require support from external private contractors in order to develop and implement solutions that reflect the unique IT environment of the NTGS.

The work of the Network Administrator allows NTGS scientific and technical staff to conduct high-quality research and enables clients to access geoscience data. Although work is overseen by the Assistant Director, Information Services, the Network Administrator has significant leadership responsibilities and independence within the policies, guidelines, and interests of the GNWT.

## RESPONSIBILITIES

1. **Ensures the operational integrity of the NTGS's information systems.**
   - Monitors existing equipment to ensure it is functioning at its highest efficiency and capability to ensure that the LAN is always kept up-to-date and operational.
   - Ensures network security using various tools to prevent unauthorized access to data.
   - Develops and implements IT policies and procedures, including those pertaining to information security, data backup, and data recovery.
   - Adds and upgrades equipment and peripherals to network equipment as required in such a manner as to minimize disruption to users.
   - Adds and upgrades software as needed in such a manner as to minimize disruption to users.
   - Functions as the Microsoft Server Family and Linux network administrator.

- Works with other GNWT IT personnel and contractors as required to develop, implement, and troubleshoot operational and security issues.
- Evaluates new products for consideration into the network.
- Maintains and troubleshoots security video cameras, as well as security hardware and software.

2. **Develops, maintains, and administers existing NTGS applications.**
- Maintains and configures licensing servers.
- Administers specialty software float licenses on the network, such as ESRI and GeoScout.
- Updates information in LAN diagrams, databases, and related documents.
- Designs, configures, and administers the NTGS INTRANET platform.
- Designs, configures, and administers file sharing with external clients, such as with Google Drive or OneDrive.

3. **Provides troubleshooting and maintenance of data servers, user devices and communication links as necessary, ensuring operational availability.**
- Functions as a help desk for basic questions and problems relating to personal computers and the network.
- Performs repairs, maintenance, diagnosis, and troubleshooting on computer systems in a timely and efficient manner.
- Performs hardware and software upgrades to computer systems and peripherals, including standalone and networked systems.
- Sets up new computers and/or users for NTGS staff.
- Installs software on systems as required.
- Prepares and makes available written software procedures as required.
- Advises end users on appropriate software choices and uses.

4. **Supports hardware and software aspects of network operations across a single or multiple platform LAN/WAN configuration and recommends and implements information systems-related policies for the NTGS.**
- Investigates and recommends software standards based on current knowledge of available products, internal and external systems capabilities and expectations, compliance with GNWT security standards and practices, and fiscal responsibility.
- Investigates and recommends hardware standards based on current knowledge of computer hardware, software and industry standards.
- Recommends network operating systems and network equipment requirements.
- Prepares funding proposals for management consideration and allocates budgeted funds towards procurement of IT assets that maximize the value to NTGS.
- Enforces policies regarding user privilege on the network.
- Prepares and presents information systems information for NTGS

5. **Enables and encourages maximizing of computer resources through training,**
   - Keeps abreast of training options available to users and encouraging training among users and managers.
   - Provides training on local programs (i.e., LAN, e-mail) and equipment (network printers).

6. **Works collaboratively to provide geoscience information services and products.**
   - In consultation with the Assistant Director, Information Services and other GNWT IT personnel, facilitates the information system needs of NTGS staff and clients.
   - Participates in the formulation of policies and procedures as they relate to information management and dissemination.
   - Supports implementation and consistent use of NTGS and GNWT information systems.
   - Contributes to financial tracking and budget forecasting for the Information Services Team.
   - Organizes or assists with audio and video technical requirements for meetings and conferences, such as the Yellowknife Geoscience Forum.

## WORKING CONDITIONS

### Physical Demands

Long periods spent sitting or at a technical bench, long periods focusing on computer monitors. Lifting and moving of heavy computer equipment is required.

Lifting and moving of heavy computer equipment, long periods spent sitting at technical bench, frequently must get to hard-to-reach areas. The frequency is daily, the duration is 2-4 hours per day and the intensity is moderate.

### Environmental Conditions

Server room has high ambient noise levels.

### Sensory Demands

No unusual demands.

### Mental Demands

Frequent long hours are required, especially in the event of network problems. The incumbent will be expected to answer calls and work late or on weekends as required. Decisions will be required to prioritize user requests and the balance of priorities will be challenging. Must work on several projects concurrently. Must be able to deal with users who exhibit a wide range of computer literacy. Must be able to deal with users who are frustrated and angry about faulty

equipment or software. A high level of competency must be maintained, requiring ongoing study. The incumbent must travel approximately once a year for five to ten days for training.

**KNOWLEDGE, SKILLS AND ABILITIES**

- Knowledge of Windows-based systems and servers.
- Knowledge of the stability, security, and scalability of installed Windows systems.
- Knowledge of and practical expertise with Microsoft Active Directory, Domain Name System (DNS), and Dynamic Host Configuration Protocols (DHCP).
- Knowledge of virtualization technologies like VMware vSphere.
- Knowledge of system error logs and user-reported errors.
- Knowledge of current industry standards for hardware and software.
- Knowledge of cybersecurity and the ability to address risk, performance, and capacity challenges.
- Knowledge of web graphics and related software including most Adobe products and other general CAD and render engines.
- Good time management and organizational skills.
- Strong research skills to keep up with new technologies and technical information.
- Windows server setup, deployment, and maintenance skills.
- Skilled at managing and deploying virtualization technologies like VMware vSphere.
- Systems performance monitoring and optimization skills.
- Server architecture security skills.
- System backup and retrieval skills.
- Coding skills.
- Communication skills, including good listening and instructional skills and the ability to collaborate effectively and to maintain a professional demeanor in difficult circumstances.
- Troubleshooting skills to resolve hardware and software issues and respond to user support requests.
- Ability to manage user access to servers and maintain network security and stability.
- Ability to configure and install new systems and applications, such as operating systems, databases, web servers, and other infrastructure components on Hypervisors.
- Ability to back up virtual machines on physical devices.
- Ability to develop disaster recovery plans and procedures for dealing with major outages and disasters.
- Ability to analyze threats, risks, and the business impacts of both new and existing systems and technologies.
- Ability to research and implement appropriate information security standards, laws, and procedures.
- Ability to create protection plans and research new infiltration methods.

- Ability to deploy and configure Anti-Virus, Full Packet Capture, Host-Based Forensics, Network Forensics, and RSA Security.
- Ability to perform duties as LAN administrator on Microsoft Server Family and Linux.
- Ability to conceptualize, plan and implement projects.
- Ability to be tactful and patient.
- 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:

Current certification in VMWare, with minimum three years VMWare experience
AND one of:

A university degree in computer science with five years of related technology development and implementation experience.
OR

Community college diploma and a product-related certification (MCSE, MCP and A+ Certification) with a minimum of three years related technology and development and implementation experience.
OR

Ten years of related and proven technology development and implementation 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