IDENTIFICATION

Department	Position Title	
Finance	Senior Network Infrastructure Analyst	
Position Number	**Community**	**Division/Region**
15-14486	Yellowknife	Technology Service Centre (TSC)

PURPOSE OF THE POSITION

The Senior Network Infrastructure Analyst plays a key role in solution analysis and decision making regarding the performance, delivery, implementation, management, and design of the technically complex Internet Protocol (IP)-based Digital Communications Network (DCN). The position also provides critical operational support by monitoring and managing this infrastructure to meet the demanding performance requirements of all Government of Northwest Territories (GNWT) departments as well as some of its boards and agencies and provide all employees with secure, robust, and reliable access to all systems, data, and business applications they require to work in an efficient and effective manner.

SCOPE

Located in Yellowknife and reporting to the Network Infrastructure Team Lead, the Senior Network Infrastructure Analyst undertakes the analysis, planning, maintenance, improvement, and management of all aspects the highly available IP data network services for the GNWT and is a key resource for the network design and troubleshooting.

The position is responsible for solution analysis and decision making related to the performance and maintenance of all IP data communications traffic and its related hardware and software infrastructure within the GNWT.

The Senior Network Infrastructure Analyst is also a senior expert with an understanding of and ability to work within multiple technology domains including various layers of Network Security, TCP/IP, VOIP services including 911/811 service, integration with emerging Cloud Hosted Technology and Services, Network Infrastructure and Complex Routing protocols. The position supports the entire GNWT IP Network, which is a complex hybrid network infrastructure comprised of local, municipal, and wide area networks which use a variety of disparate and

complex systems and must work together as a homogeneous unit. In this role, the position is often required to make high pressure, complex implementation, and operational decisions.

The Technology Service Centre (TSC) provides leadership and expertise to all departments of the GNWT, as well as some boards and agencies, in all regions and all 33 communities across the NWT, on matters related to the government wide area data network, servers, storage, data center facilities, all government information technology infrastructure, communication systems and their technical support in order that employees have continual access to the workplace functions they require to do their jobs in an efficient and effective manner. Services are provided in accordance with a framework of operating procedures and guidelines established within the TSC, and with standards developed in conjunction with the Office of the Chief Information Officer (OCIO) and GNWT standards committees.

The Division promotes the efficient and effective use of government technology resources through education and outreach and collaborates with a variety of internal and external partners to maximize the benefits of investments made by the GNWT. The specific technologies, practices and approaches employed in delivering these services are evolving at a rapid pace and the TSC must monitor advances in technology and evaluate options routinely to improve services and provide the policy framework to support the ongoing requirements. Furthermore, as a fee for service model utilizing service level agreements with client departments, the TSC faces significant pressure to keep systems operational, secure, and technologically advanced while also cost effective to successfully meet the objectives of the GNWT departments, boards, and agencies it serves.

IP Network services are used 24 hours a day, 365 days a year by all areas of the GNWT. IP Network services are delivered to approximately 6,100 employees of the GNWT and its health authorities, education boards, agencies, and schools (clients). These services include, but are not limited to local, municipal, and wide area IP networks and the associated security controls. System interruptions, issues and outages can have a highly detrimental, and possibility catastrophic, impact on the ability of GNWT departments, boards, and agencies to deliver programs and services.

RESPONSIBILITIES

1. **Provide leadership to support the production and test network environments including Local Area (LAN), Municipal Area (MAN), Wide Area (WAN) Cloud Hosted technologies and the Internet connectivity to transport all GNWT network traffic in a secure, efficient, and effective manner.**
    - Research, design, test, implement and support the complex network infrastructure that provides the LAN, MAN, WAN, and Internet services. This includes hardware and software distributed across multiple data centers and communities across the NWT.

- Plan and design complex network infrastructure deployments, testing and production rollout process.
- Provide leadership in the third tier of troubleshooting for technical problems, in collaboration with Infrastructure Services and End User Support Services staff, as well as GNWT IT staff and third-party contractors as required.
- Provide complex technical network support including diagnosis, repair, set-up, and configuration.
- Plan, design and implement non-standard solutions and workarounds as required to mitigate the impact of outages, and where possible to prevent them.
- Follow priorities for problem resolution and escalates problems when required.
- Manage Network projects including engaging with stakeholders, requirements definition, recommended solution, planning, delivery, scheduling, risk management, budget control and tracking that the projects are completed on time, on budget, to specified quality standards and within agreed upon scope.
- Develop project teams, allocates tasks and provides the necessary direction, support, and guidance to team members to deliver projects and facilitate effective working relationships amongst team members.
- Plan, design, and implement disaster recovery and business continuity testing to meet critical business operations.
- Monitor network traffic in order to report on network traffic, network usage patterns, and what types of data are moving across the GNWT Network.

2. **Implement and maintain compliance with security administration procedures to secure the GNWT networks for all staff of the GNWT and its boards and agencies, to all servers, applications, and remote services, which are accessed by GNWT and non-GNWT users.**
   - Define and implement standards for the application of Network Security Controls, maintenance, access, and security procedures.
   - Plan, design, and implement the provision of controlled network access to individuals and organizations outside of the GNWT WAN, to government websites and electronic services, in a way that does not compromise the integrity and security of GNWT data repositories within the network.
   - Design, manage, and maintain the corporate firewall, which provides secure application gateways for corporate web servers, Internet email, Internet access, and remote virtual private network (VPN) access.
   - Keep abreast of technological advances in networking and network management and contribute to decisions about how best to apply these to the GNWT infrastructure, to enhance security, performance, stability, and supportability.
   - Provide leadership related to the maintenance of the network.
   - Investigate security breaches in accordance with established procedures.
   - Perform standard and non-standard security administration tasks and resolve security

administration issues.
- Partner with OCIO, TSC colleagues and contractors to implement and support network security procedures.

3. **Develop procedures, standards and guidelines for Network architecture, administration, security, configuration, and hardware.**
   - Create, implement, and follow processes implemented applying the Information Technology Infrastructure Library (ITIL)of industry best practices to an IT infrastructure and support organization.
   - Lead Incident Management, Change Management, Configuration Management, Release Management, and Problem Management processes.
   - Investigate problems and collect performance statistics and create reports using network management system software, tools, and knowledge of network architecture.
   - Develop and maintain complete documentation for the TSC network infrastructure.
   - Provide plain-English explanations and guidance to staff in other areas of the TSC and to GNWT staff.

WORKING CONDITIONS

Physical Demands

Consistent with the typical GNWT office environment while working in the office. Heavy lifting as well as crawling in awkward spaces are required as part of implementation and maintenance activities.

Environmental Conditions

Consistent with the typical GNWT office environment while working in the office. On average, 30-40% of the incumbent's work time is spent in the data centre and central wiring rooms. When working in these locations, the incumbent is exposed to background noise and to temperatures that are cooler than the normal office environment.

Sensory Demands

The incumbent typically spends long periods of time looking at computer screens during work hours and will often be required to use the combined senses of sight and touch while installing hardware components into servers. This combined use of senses may cause moderate levels of sensory demands on the incumbent for short periods of time.

Mental Demands

The incumbent is required to address service incidents that may heavily impact the operation of the GNWT, and therefore may require rapid response and resumption of service. These incidents may occur any time, 24 hours a day, 365 days a year.

Mental fatigue is common because of the heavy workload, balancing competing priorities, sorting through conflicting information, the periodic need for intense analytical work and the pressures of complex projects often impacted by tight deadlines. Unexpected demands, competing demands and ambiguity frequently add to the stress and mental fatigue.

Occasional duty travel is required to perform the duties of this job.

The incumbent may be required to be on-call for extended periods or on a rotational basis 24/7 to fulfill the above requirements.

KNOWLEDGE, SKILLS, AND ABILITIES

- Technical knowledge that enables the incumbent to participate effectively in the troubleshooting of problems involving hardware and software, including performance issues; skilled in troubleshooting and diagnosing complex network problems.
- Knowledge required to administer and configure network infrastructure components within a TCP/IP network.
- Knowledge of data communications principles, hardware, software, and best practices.
- Technical knowledge of security controls as they relate to networks, and the ability to recognize and mitigate risk.
- Technical knowledge of risk analysis, disaster recovery, planning and an ability to design and lead effective event simulations.
- Technical knowledge of capacity planning as it relates to networks and supporting infrastructure.
- Technical knowledge of data communications principles, hardware, software, and best practices.
- Knowledge of and ability to implement processes in accordance with the Information Technology Infrastructure Library (ITIL).
- Ability to apply Incident Management, Change Management, Configuration Management, Release Management and Problem Management practices.
- Knowledge of Project Management practices and how to apply them effectively.
- Communication and interpersonal skills (oral, written and presentation skills) and an ability to explain technical issues using appropriate terminology based on audience.
- Ability to effectively facilitate collaboration between stakeholders, IT professional and business units to design solutions that address their business needs.
- Ability to adapt tactics to fit different situations, or clients.

- Proficiency in asking a series of probing questions to get at the root of a situation or problem, below the surface of issues presented.
- Proficiency in breaking complex technical problems into pieces and link the pieces together in logical order (i.e., A leads to B).
- Ability to use knowledge of IT theory or of past trends or situations to look at new problems; including applying and modifying complex learned concepts or methods appropriately.
- Ability to participate willingly and support team decisions and do an equitable share of the work, including sharing all relevant and useful information obtained with the team.
- 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 degree in a related Network Engineering, Telecommunications Engineering, Computer Science, or Information Systems program and three years of experience in server and network administration, IP data network support and operations.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

A valid Canadian Driver's License, equivalent to NWT Class 5 or better.

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