

Job Description

Job Title:	Systems Administrator, Polar Data Catalogue/Canadian Cryospheric Information Network
Department:	GEM
Reports To:	Professor of Geography and Executive Director of the Polar Data Catalogue/Canadian Cryospheric Information Network
Jobs Reporting:	None
Salary Grade:	USG 10
Effective Date:	June 2018

Primary Purpose

Manage and maintain the computing infrastructure of the Polar Data Catalogue/Canadian Cryospheric Information Network (PDC/CCIN) and provide computing support to PDC/CCIN staff.

Key Accountabilities

Configure and maintain PDC/CCIN infrastructure to ensure robust and efficient operation, including but not limited to the following tasks:

- Acquire, install, and configure new hardware and software components and systems, and reconfigure existing components, including failed/malfunctioning items, as needed for optimal operation of the organization
- Check operational status and apply updates to all firmware, drivers, operating systems, and software packages on all PDC/CCIN systems on a regular basis
- Implement and maintain a comprehensive backup strategy for all PDC/CCIN systems across multiple, physically distinct locations, and monitor backup status
- Maintain documentation of all hardware, software, and networking assets including relevant configurations and infrastructure diagrams
- Ensure proper functionality and compatibility of PDC/CCIN systems with Faculty and University computing infrastructure
- Provide on-call service for emergencies or unexpected issues

Implement a robust security plan for all PDC/CCIN operations, including but not limited to the following tasks:

- Create and manage a strict and robust password management system
- Configure and maintain a firewall/VPN system to protect office computing systems from outside intrusion
- Monitor all systems for signs of outside intrusion
- Maintain awareness of current issues in Information Technology security and mitigate potential negative effects on PDC/CCIN systems and services
- Apply relevant security patches to all systems, as needed
- Educate and periodically remind PDC/CCIN staff about the importance of security considerations in the performance of their duties
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Assist PDC/CCIN personnel with computing needs, including but not limited to the following tasks:

- Provide basic help desk support to all members of the organization in the performance of their duties

Job Description



- Work with staff to assess, install, and configure required software and hardware for daily tasks and major projects
- Create accounts for staff members on systems relevant to assigned duties
- Disable staff accounts on relevant systems when no longer used/needed
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Plan for future PDC/CCIN infrastructure upgrades and possible new configurations, including but not limited to the following tasks:

- Monitor trends and advances in Information Technology and implement changes to infrastructure and configurations when new methods, technologies, and/or ideas become available that will enhance the efficient functioning of the organization
- Work with PDC/CCIN personnel to assess current infrastructure needs and how they might evolve in the future
- Create and periodically update a long-term plan for anticipated future PDC/CCIN infrastructure needs and configurations
- Investigate upcoming major upgrades to software packages used by the organization and determine applicability

Required Qualifications

Education

Bachelor's Degree or higher in the physical sciences, mathematics, computer science, or a related technical discipline required.

Experience

Minimum of five years' experience in administration of computing systems in a business, government, or educational setting. Demonstrated experience in configuration and maintenance of a broad range of desktop and server operating systems and hardware, wired and wireless networking, and enterprise storage systems is required.

Knowledge/Skills/Abilities

- Advanced problem-solving skills to solve complex technical problems and deal with unexpected issues
- UNIX/Linux, Macintosh, and Windows operating systems running in both desktop and server environments
- Advanced configuration and maintenance of UNIX/Linux operating systems in a Terminal (command-line) environment, including usage of advanced UNIX/Linux command syntax and shell scripting
- Deployment and management of virtualization technology in desktop and server environments
- Installation and maintenance/repair of modern computing hardware
- Principles of wired and wireless networking technologies
- Firewall/VPN configuration and maintenance
- Storage Area Network (SAN) configuration and maintenance
- System security monitoring, intrusion prevention, and security patch application
- Comprehensive understanding of enterprise-grade software development workflows
- Backup processes and strategies to ensure 100% data integrity
- Principles and philosophy of long-term data archiving and preservation

Nature and Scope

- **Contacts:** Internal: Present and discuss information and problems with PDC/CCIN personnel to achieve the goals of the organization. Provide personalized support to facilitate resolution of technical problems. Report work progress to Executive Director and collaborate on infrastructure planning and strategy. External: Work with external project partners as needed to facilitate collaboration and ensure functionality of linked PDC/CCIN systems. Internal: Present and discuss information and problems with PDC/CCIN personnel to achieve the goals of the organization. Provide personalized support to facilitate resolution of technical problems. Report work progress to Executive Director and collaborate on infrastructure planning and strategy. External: Work with external project partners as needed to facilitate collaboration and ensure functionality of linked PDC/CCIN systems. Internal: Present and discuss information and problems with PDC/CCIN personnel to achieve the goals of the organization. Provide personalized support to facilitate resolution of technical problems. Report work progress to Executive Director and collaborate on infrastructure planning and strategy. External: Work with external project partners as needed to facilitate collaboration and ensure functionality of linked PDC/CCIN systems.
- **Level of Responsibility:** The job has specialized work with minimal supervision and provides guidance to others.
- **Decision-Making Authority:** Manages all PDC/CCIN computing infrastructure on a daily basis and makes decisions regarding repairs, upgrades, configuration modifications, and future planning in consultation with PDC/CCIN personnel.
- **Physical and Sensory Demands:** Minimal demands typical of an administrative position within an office environment with occasional physical exertion resulting in slight fatigue, strain, or risk of injury when interacting with computing hardware.

Working Environment: Occasional travel required

- Regular working hours, frequent evening/weekend work required

Physical risks

- Slight risk of physical harm during hardware installation and repairs

Psychological risks

- Disruption in lifestyle due to travel requirements and/or unusual schedules