

Job Description

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| Job Title: | Network Systems Specialist |
| Department: | Electrical and Computer Engineering |
| Reports To: | Manager, Infrastructure Support |
| Jobs Reporting: | none |
| Salary Grade: | USG 10 |
| Effective Date: | February 2021 |

Primary Purpose

The Network Systems Specialist (Specialist) is responsible for the management, daily operation, security and performance of the information technology infrastructure and systems. The Specialist provides infrastructure support for complex systems and interconnected technologies that require day-to-day support and administration in order to maintain optimum performance and utilization. S/he configures and manages LINUX/UNIX operating systems, troubleshoots, maintains integrity and configures network components along with implementing system enhancements to improve reliability and performance.

Key Accountabilities

Administration of Department Network Infrastructure

- Provides technical services including systems design, planning, hardware/software installation, operations, maintenance, and upgrades to systems and infrastructure components which support the department's daily operating functions;
- Serve as a senior systems administrator for UNIX/Linux servers and services;
- Monitor system performance and utilization;
- Install, configure, and document new servers and applications;
- Maintain and audit user accounts;
- Manage fileserver utilization (shared folders, quotas, etc.);
- Track vulnerabilities and apply appropriate patches and upgrades;
- Generate statistics for operational review and planning;
- Monitor the design of the network and recommend improvements;
- Connect various computing platforms to the network and configure for optimum performance;
- Install and/or configure network servers, switches, network printers, and other network appliances;
- Diagnose and troubleshoot hardware, software and other network problems, including resolve system emergencies;
- Manage backup, storage and retrieval functions;

Network Security

- Manage network security across the department and research groups;
- Maintain servers and system security according to campus standards;
- Install and monitor malware, anti-virus software and SSL certificates to ensure secure connections from web servers;
- Proactively apply patches for hardware and OS;
- Implement network security measures to maintain the electronic security infrastructure;

Consultation

- Act as a resource person and advisor to faculty, staff, researchers, and students on matters relating to the network and other general computing hardware matters;

Job Description



- Provide advice and direction maintenance, upgrade and/or repair of hardware;
- Manage software CMC Microsystems licensing agreements for entire University to enable multi-disciplinary research and complex prototype microsystems;
- Work with researchers and CMC to resolve product problems and investigate solutions.

Other Duties

- Provide desktop computing support throughout the department across multiple platforms (Windows, iOS, Linux, etc.) as required;
- Represent ECE on Engineering Systems Administrator Group to discuss upgrades and long-term planning;
- Undertake research and development activities to maximize the use of systems and software including integration strategies;
- Conduct purchasing activities as required using the university's Unit4 purchasing system;
- Maintains appropriate professional designations and up-to-date knowledge of current information technology techniques and software;
- Develops, documents and implements technical support operating procedures;
- Stays current with technological developments related to computer hardware, software and networks;
- Special projects and other duties as assigned by the Manager or Lab Director Research & Special Projects.

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- Bachelor degree in Computer Engineering/Computer Science/Information Systems or equivalent combination of education and related experience.

Experience

- 5-10 years' experience providing Unix/Linux systems administration support for large scale complex environments.

Knowledge/Skills/Abilities

- Programming experience and experience with backup systems necessary;
- Advanced expertise with Linux/Unix operating systems and the associated application software;
- General knowledge of Windows and iOS platforms is required;
- Ability to plan, organize and document complex system design activities and to configure systems to be consistent with institutional policies/procedures;
- Proven ability to communicate technical/complex information both verbally and in writing;
- Demonstrated understanding of best practices in information architecture, navigation, user interface, usability, accessibility standards and testing;
- Demonstrated ability to establish and maintain cooperation, understanding, trust and credibility;
- Strong organizational skills coupled with proven ability to effectively document work, handle multiple tasks, and excel in fast-paced environment characterized by changing priorities and tight deadlines;
- Demonstrated problem solving and strong analytical skills;
- Ability to work well with faculty, staff, and outside professionals, collaboratively or independently;
- Proficient in the use of Microsoft Office suite;

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| <ul style="list-style-type: none">• Knowledge of ECE research areas and laboratory space would be an asset; |
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Nature and Scope

- **Contacts:** Internally, works closely with faculty, staff, students and researchers within the department to resolve their network issues. Works with other departments e.g. Engineering Computing, Information Systems & Technology (IST), as required. Externally, liaises with software vendors.
- **Level of Responsibility:** The Specialist manages a department-wide function that is highly specialized with minimal supervision and has the ability to take initiative where minimal direction is provided. Proactive in contributing ideas and solutions.
- **Decision-Making Authority:** The Specialist works independently to achieve objectives. The Specialist handles routine and non-routine inquiries that require independent judgement, technical expertise, and quick decision-making. Sophisticated problem solving and prioritizing abilities in a multi-tasking environment are required.
- **Physical and Sensory Demands:** Minimal demands typical of a position operating within an office environment. Periodic need to lift and manipulate computing equipment, typically workstation class equipment up to 20 kg but occasionally servers, large printers, displays, etc. Occasional exposure to hardware located in machine rooms.
- **Working Environment:** Minimal exposure to disagreeable conditions. Travel to faculty and staff offices, classrooms or labs is regularly required. Occasional work outside normal business hours may be required due to special events (Capstone Design Week), or to deploy new technology/maintain existing systems to minimize disruption to clients.