**PEA Job Description**

**1. Position Identification**

<table>
<thead>
<tr>
<th>Position Number</th>
<th>999046</th>
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<tr>
<td>Position Title:</td>
<td>Systems Analyst</td>
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<tr>
<td>Department:</td>
<td>Research Computing Services</td>
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<td>Reports to:</td>
<td>Manager, Research Computing Services</td>
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<tr>
<td>Number of Direct/Indirect Reports</td>
<td>Direct 0</td>
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<tr>
<td>Classification Level</td>
<td>SG10</td>
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<tr>
<td>Last Updated</td>
<td>April 2018</td>
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**2. Position Summary**

University Systems (http://www.uvic.ca/systems/) serves a diverse client base including students, faculty and world-renowned researchers. We consist of three major units: Academic & Administrative Services, Infrastructure Services, and UVic Online, all working together to provide computing, communications and technology in support of the university's learning, teaching, research and administrative activities. We work as part of the BCNET consortium, and support high-profile research projects like Ocean Networks Canada and ATLAS. We are one of the major sites chosen by Compute Canada to host and operate Advanced Research Computing (ARC) infrastructure for the new consolidated national platform. We work in a challenging environment where we must effectively apply complex, cutting edge and ever-changing technology solutions while adhering to high information security and privacy standards in order to be the best information systems organization in the Canadian university system.

Reporting to the Research Computing Services Manager, the Systems Analyst works as part of a team to ensure the operational effectiveness of the University's research servers and storage. The team maintains systems that are critical to many research groups on-campus, including web servers, database servers, and large high-performance research computing clusters (HPC) and OpenStack clouds that are used by researchers at UVic, institutions across the country, and international collaborations. These systems are required to be in operation 24 hours per day, 365 days of the year.

Functions include determination/resolution of client and systems generated technical issues, the installation, configuration, and maintenance of hardware and software, resource allocation, performance and security monitoring, and usage reporting. Each position has specialized areas of expertise in storage technologies such as Ceph, DDN WOS, GPFS and Lustre, deployment and configuration management technologies like xCAT, oneSIS, Ansible and Puppet, and applications such as OpenStack, HPC resources managers and schedulers (SLURM, HTCondor, PBS/Maui/Moab), and systems monitoring.

This position requires the applicant to use problem solving skills to analyze and correct software and hardware problems and to automate administrative tasks. The applicant must also possess effective communication skills in order to provide technical assistance to peers and the user community.

This position will occasionally require work outside standard hours on a scheduled or emergency basis. There may be occasions when travel out of town/country for training/conferences is required.
3. Key Responsibilities and Expectations

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<th>Key Responsibilities.</th>
<th>% of time</th>
<th>Expectations:</th>
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| Responding to client- and system-generated trouble tickets 60% | • Provide support to clients and systems; identify, research and resolve technical issues; track and monitor problems and escalations to ensure timely resolutions.  
• Monitor operational ticket queues and escalate tickets to appropriate specialists when needed.  
• Conduct performance and security monitoring.  
• Use and maintain documentation of services, configurations and procedures.  
• Work with vendors to diagnose and resolve issues. | |
| Process Enhancement/Improvement 25% | • Develop and maintain software and processes to enhance systems’ maintainability, functionality, security and integrity.  
• Use programming skills and configuration management to automate common and repetitive administrative tasks.  
• Create procedures to delegate tasks to other support units (e.g. Help Desk).  
• Create and maintain technical and functional documentation for intermediate-level support staff, colleagues and clients. | |
| Server and Storage Lifecycle 10% | • Build server and storage systems, including physical installation, basic OS install, and network configuration.  
• Maintain asset inventory and documentation.  
• Coordinate patching schedule with appropriate stakeholders (production patching is usually done outside business hours).  
• Patch systems as scheduled.  
• Test system functionality after patching. | |
| Professional Development 5% | • Participate in on-campus and external committees and working groups (e.g. BCNET), attend conferences and vendor exhibitions.  
• Attend courses, seminars and conferences and study documentation, manuals, and web sites to keep up to date with, and to enhance understanding and knowledge of new procedures, software and hardware.  
• Maintain up-to-date knowledge of servers and storage systems, concepts and technology. | |

4. Classification Factors:

Problem-Solving:
This position involves a high degree of technical analysis and creative problem solving:
• Anticipates and identifies problem areas and associated risks.  
• Systematically identifies technical issues and exercises judgment in resolving them while communicating both the nature of the issues and their resolutions to Senior System Administrators and Managers.

If there is an interruption or degradation in a service, the Systems Analyst must be able to assist in determining the cause and take corrective action or escalate the issue to a Senior Systems Administrator. Cause and resolution may lie in the operating system of the client, server or storage, in the network, in a database, within the application, or within the hardware.
Due to the critical nature of the services that are supported, the applicant must be able to act effectively under pressure and be able to quickly and accurately diagnose and correct problems (or contribute to these).

Each server or storage system may have unique properties, configuration and/or software, presenting its own unique set of interdependencies and potential problems.

**Responsibility for Financial & Material resources:**
Work with Senior System Administrators to provide recommendations for upgrades and/or replacements of portions of the university's server and storage infrastructure that have significant capital value (each can range from several thousand dollars up to 1/2 million dollars). Final approval of these decisions would typically require senior leadership involvement.

**Responsibility for Human Resources:**
Works under administrative and broad technical and strategic direction of the Research Computing Services Manager. The work is largely self-managed and is reviewed based on terms of objective achievements. Generally, works within assigned areas of responsibility with minimal daily involvement from leadership.

**Impact of Decisions and Actions:**
The servers and storage systems within the data centres serve the entire University community and researchers across Canada, as well as international collaborations.

These systems have become central components of all aspects of the University's research computing strategic plan. The actions of this position impact a wide variety of academic faculties and departments, research projects, and research computing at the University.

**Independence:**
Independently studies and analyzes problems and applies judgment when finding solutions, which are not always simple or easy. Solutions are generally guided by procedures, policies and precedents. However, investigation is sometimes required to modify methods and procedures and to create new ones.

Determines the cause of problems and fixes them when research systems are interrupted, degraded or unstable. Solutions may involve following established procedures or developing a unique procedure to fit the circumstances.

Provides technical recommendations to clients and senior staff. These are normally subject to examination and review.

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**5. Summary of qualifications:**

This position requires a Bachelor’s Degree in Computer Science or other relevant discipline plus a broad exposure to systems analysis and web technologies and at least three years of experience.

An equivalent combination of education and experience may be considered.

This position requires system administration experience with Linux and a strong ability to learn.

Specialized qualifications:
- Experience with Red Hat Enterprise Linux and/or derivatives
- Proficiency with programming in PERL and Python
- Experience with web based applications and REST APIs
- Experience with databases (MySQL, MariaDB, Postgres, etc)
- Experience with High Performance Computing (HPC) environments
• Experience with cloud computing environments
• Experience with Ansible will be considered an asset

In addition, this position requires:
• High degree of attention to detail and the ability to understand complex technical concepts.
• Maintaining broad and in-depth technical knowledge of all aspects of servers and server operating systems.
• Strong problem solving abilities; must be able to effectively identify and resolve unusual and complex technical problems.
• Ability to effectively manage multiple tasks and priorities and work under pressure to meet time-sensitive and mission critical deadlines in a complex environment.
• Ability to take initiative and work with limited direction.
• Ability to work collaboratively.
• Ability to successfully contribute to complex projects.
• Excellent written and oral communications skills.
• Strong interpersonal skills.

Additional preference for:
• Experience in an academic/research environment.

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<th>Manager's/Supervisor's Signature</th>
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