

## OpenStack Systems Administrator

### Who We Are

The Canadian Research Knowledge Network (CRKN) is a partnership of Canadian universities, dedicated to expanding digital content for the academic research and teaching enterprise in Canada. Through the coordinated leadership of librarians, researchers, administrators and other stakeholders in the research community, CRKN undertakes large-scale content acquisition and licensing initiatives in order to build knowledge infrastructure and research and teaching capacity in Canada's universities.

On April 1st, 2018 CRKN merged with Canadiana.org which has allowed our teams to cohesively pursue a united and coordinated strategy to leverage Canadian heritage and scholarly content. As a merged organization, CRKN will continue its core licensing activities for scholarly journal content, while expanding support for the digitization, access and preservation of Canadian heritage content through the services of Canadiana.

CRKN operates the Canadiana Trustworthy Digital Repository (TDR). The Canadiana TDR, one of six in the world, provides a permanent preservation solution for Canada's digital documentary heritage in which deposited content can be identified, collected, managed, and kept secure over time. The Canadiana TDR is an essential component of CRKN's heritage and preservation services portfolio that serves a member community of 75 academic libraries as well as researchers, and museum, gallery and public library stakeholders.

### The Role

As part of its ongoing commitment to improve the reliability and flexibility of its preservation and access services, CRKN will be upgrading its digital repositories and applications to implement Swift, as well as investigating the adoption of other OpenStack technologies. The OpenStack Systems Administrator coordinates the migration of the TDR object store to Swift, manages the OpenStack and hardware layers of the TDR platform, and performs other systems and network administration duties as required. As the migration to Swift is completed, the Systems Administrator will take on new projects with the goal of supporting the evolving technical infrastructure of the CRKN access and preservation platforms.

Reporting to the Project Manager – Canadiana Platform Development, and working closely with a dedicated platform development team including the Lead Systems Engineer, the OpenStack Systems Administrator works with consultants and CRKN staff to ensure that systems are upgraded and applications are migrated appropriately. The Systems Administrator takes a leading role in training staff in the use of Swift services and APIs.

The OpenStack Systems Administrator role provides the opportunity to collaborate with a dedicated technical team as well as technical and system librarians across the country through coordination with CRKN's Platform Technical Task Group and Preservation and Access Committee. The Canadiana TDR serves a national community of diverse stakeholders and the TDR provides access to unique content now and for generations to come. Contributing to a national and community project provides the Systems Administrator with the opportunity to connect with other leaders in the OpenStack Swift community and make a meaningful and lasting contribution as CRKN enhances the technology that supports the Canadiana TDR.

### Duties and Responsibilities

#### 1. Swift Migration (25%)

- Upgrade the Canadiana TDR platform to use Swift object storage services. Create and coordinate an upgrade plan, liaising with members of the platform development team and other stakeholders as needed
- Train systems and development staff in the use and administration of Swift
- Support retrofitting software applications to use Swift APIs by providing guidance on technical specifications, best practices and testing

## 2. OpenStack System Administration (70%)

- Maintain and administer Swift object stores. Install and configure Swift on new systems as required
- Research the suitability and benefits of adopting other OpenStack services and develop implementation plans
- Manage and administer the hardware layer of the Canadiana TDR platform to ensure ongoing availability, security and performance
- Develop and recommend hardware profiles and configurations for upgrading network and server hardware
- Manage hardware upgrades, replacements and evergreening practices to ensure the long-term maintenance of the TDR infrastructure

## 3. Other (5%)

- Coordinate the purchase and shipping of hardware with vendors
- Coordinate the delivery and installation of hardware with data center staff among CRKN's four partner nodes
- Provide backup system administration and network monitoring capabilities for other systems staff
- Other duties as required

In a small team environment everyone is expected to work towards overall CRKN goals and at times a team effort is required that may involve taking on tasks outside the normal or expected scope of their role. Other duties may be assigned as required.

### Qualifications

The ideal candidate will have a degree in computer science and at least five years' experience in a systems role, or an equivalent combination of education and experience. Detailed knowledge of and experience with server and networking hardware is essential. Previous experience with OpenStack Swift, while not essential, is highly desirable. The ideal candidate will possess or be eligible for Reliability Status from PWGSC. Other relevant and desirable education, skills and experience include:

- Strong Unix/Linux administration skills
- Experience evaluating, configuring, managing and troubleshooting hardware including:
  - RAID controllers
  - SSDs and NAS hard drives
  - IPMI
  - Routers and switches
  - Server and JBOD enclosures
  - Power supplies and UPSes
- Ability to master complex and evolving technologies, frameworks and service architectures
- Ability to train and instruct others
- Strong written and oral communication skills
- Network administration skills
- Experience with Docker and Kubernetes
- Scripting and programming experience

### Benefits

CRKN offers a generous benefits package including vacation, health and dental benefits, and pension match.

### Location

Ottawa, Ontario

**Note:** CRKN encourages proposals from its member or stakeholder institutions for a secondment or academic leave to fill this position.

### To Apply

Please send a letter of application and resume via email to:

Canadian Research Knowledge Network

Attn: William Wueppelmann, Project Manager – Canadiana Platform

Email: [hr@crkn-rcdr.ca](mailto:hr@crkn-rcdr.ca)

(Please reference **Systems Administrator** in the email subject)

**Closing date: February 15, 2019**

We thank all applicants for their interest in CRKN, however only those candidates selected for an interview will be contacted.

*CRKN is an equal opportunity employer, with policies and practices intended to build an inclusive and accessible work environment. If you require accommodation during the recruitment process, please include in your cover letter when applying for the position and all efforts to provide the appropriate accommodation will be put into place.*