

## Anthony Roberts

[careers@morf.ca](mailto:careers@morf.ca)

---

### Objective

- A full time System Administrator or Developer position.

### Skill Summary

- Development in Java, C/C++, Python, UNIX scripting, and PHP, primarily on Linux with some experience on Windows.
- Development in “glue” projects that tie other applications together to provide new functionality.
- Administration experience primarily on Linux and OpenBSD. Administration experience with VMWare as well as Cisco and other IOS-like environments (e.g. HP and Dell network equipment).
- Experience with routing protocols such as OSPF and BGP on large, multi-homed networks. Experience using Cisco and other IOS-like environments, OpenBSD, and Linux for routing and firewalling.
- Experience with clustering for load balancing and high availability.
- Experience with QoS and other network optimization.

### Industry Experience

#### Administrator/Programmer – [Bernoulli Networks](#) – Calgary, Alberta, Canada

March 2006 to present

- Work with multiple clients on a variety of projects including [iStockphoto](#), [Getty Images](#), [Webcore Labs](#), [KSK Information Services](#), [Davinci Broadband](#), [Wonder Communications](#), [Rigstar Communications](#), [Franco Media](#), [Electric Monk](#), [Structured Abstraction](#), [Cosbit Technologies](#), [Impello](#), [NanoFibre Networks](#), [Active Conversion](#), [Cogneva](#).
- General responsibilities include:
  - Handling client relations and service calls on behalf of Bernoulli Networks.
  - Configure and maintain servers and networks on behalf of clients.
  - Design and implement changes and upgrades on client systems, including research, developing related software and building test environments.
  - Debugging and fixing server and network issues.
  - Helpdesk experience handling escalated calls on behalf of clients.
  - Participation in the on-call rotation.
- Development projects of note:
  - Development of the Webcore Labs high availability/load balanced web cluster, using OpenBSD and the LAMP stack.
  - Transitioning the Webcore Labs mail server from a small cluster of machines with mixed roles to a scalable system, with dedicated and scalable clusters for each role, feedback to the firewall to mitigate malicious connections, as well as live migration between storage back ends.
  - Development of monitoring and load classification tools (e.g. nagios plugins) for various clients.
  - Design and implementation of client authentication and bandwidth accounting system for Davinci Broadband.
  - Development of services based on appliance-style hardware to provide high quality Internet access, including multi-ISP fault tolerance, notifications of problems, secure wireless, file serving, video streaming, VoIP, etc.

- Development of a customized OpenBSD distribution, optimized for stateless operation (no writable storage required) and autonomous recovery from errors.
- Various projects to process e-mail by various criteria (SPF or other domain-based constraints, blacklists, user preferences) using a variety of MTAs (principally Postfix and Qmail).
- Development of a framework to allow arbitrary per-user delivery agents on Postfix, to allow customized mail handling for other services such as injection into a ticketing system.
- Database caching system for mail configuration databases such that updates are propagated quickly, but the primary database server does not become a bottleneck or a single point of failure.
- Development of a server provisioning framework for iStockPhoto, to allow different classes of server to be quickly deployed with the necessary operating system and configuration for various server roles.
- Administration projects of note:
  - Transitioning Webcore Labs from a single connection to a multi-homed connectivity with redundant routers (using OpenBSD CARP, similar to VRRP).
  - Refactoring the Davinci Broadband DHCP configuration in order to work well with many different DHCP servers and relay agents in a network using equipment from multiple vendors and connectivity providers.
  - Transitioning Davinci Broadband from a network composed of wireless hops to one that uses leased fiber where possible, in order to improve performance and bypass ongoing line-of-sight issues caused by new construction throughout Calgary.
  - Provisioning and configuring hardware for various clients, including appliance-style hardware (e.g. [Soekris](#), [Portwell](#)), and servers with remote administration capabilities from Tier-1 OEMs such as IBM and Dell.
  - Performance tuning and optimization of the Webcore Labs DNS cluster in response to changing workloads (e.g. increasing reverse and RBL lookups in response to large numbers of incoming spam connections).
  - Performance tuning and optimization of various networks to provide high-quality VoIP without requiring expensive network upgrades.

**Programmer/Analyst – Critical Control – Calgary, Alberta, Canada**

January 2004 to August 2004

- Worked on the Pipeworks project, a pipeline monitoring and control system.
- Maintenance and development on a large code base, primarily as a maintenance programmer on the front end.
- Primarily Java, some C++ and Python, primarily on Windows (NT 4, 2000, and XP), with some UNIX.
- Experience with the ObjectStore database.

**Education – Bachelor of Science – University of Calgary**

- Specialization in Computer Science.
- Program completion in December 2005.

**Interests**

- Security and secure programming (e.g. exploit mitigation, cryptography, etc).
- Computer networks (e.g. firewalls, traffic shaping, wireless security, IPv6, etc).
- Virtualization (e.g. staging environments, development/build environments, etc).

**References available upon request.**