# **Clint Armstrong**

clint@clintarmstrong.net

IT Systems and Operations engineer with expertise in building and maintaining business critical infrastructure in a variety of environments. Utilizing open source software I build reliable systems and networks that empower businesses to be more agile and do more with less. Programming experience building solutions in Go and Python.

# **Work Experience**

01/2015 - Present

Systems Engineer Trillium Staffing, Kalamazoo, MI

Head engineer responsible for networking, servers and cloud services.

- Facilitated a corporate big-data initiative building an open source, hyperconverged cluster on top of Nomad, Docker, and Ceph, and wrote several plugins and contributions to these projects to integrate them.
- Replaced a Cisco hub-and-spoke branch VPN solution with a full mesh DMVPN between over 100 branch offices using Linux on commodity hardware.
- Achieved datacenter IP redundancy using Linux to peer with multiple ISPs and announce provider independent IP space via BGP.
- Introduced and standardized configuration management on a wide deployment of Linux servers improving security and maintainability.

#### 12/2011 - 01/2015

Professional Services Engineer Secant Technologies, Kalamazoo, MI

On-Site and Remote consulting, support and engineering.

- Frequently engaged to perform infrastructure upgrades of SANs, datacenter switches and vSphere clusters.
- Performed migration projects for business services including email, databases and identity.

#### 01/2011 - 12/2011

Microsoft Systems Administrator Liberty University, Lynchburg, VA

Responsible for design and maintenance of Active Directory, Exchange, and all other critical Microsoft services.

 Migrated a 350,000 user environment from Exchange 2007 to a hybrid Office 365 and Exchange 2010 deployment.

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# **Work Experience (continued)**

2008 - 2011

Desktop Configuration Administrator Liberty University, Lynchburg, VA

Managed the centralized configuration of over 5000 workstations across campus.

- Implemented and managed Microsoft System Center Configuration Manager 2007 for management of over 5000 workstations.
- Implemented Microsoft Windows Deployment Services with a custom front-end to provide advanced automated imaging workflows for Support Technicians.

2008

Desk-Side Support Technician Liberty University, Lynchburg, VA

On-Site support technician

2005 - 2007

IT Technician Comstock Public Schools, Kalamazoo, MI

Remote and on-site support technician

# **Open Source**

See my complete portfolio of open source work at https://github.com/clinta/.

#### vxrouter

A docker network and IPAM plugin that connects containers to VXLANs using MacVLAN devices. Designed to be used with a routing protocol like BGP to coordinate IPAM across a cluster of hosts.

## go-multiping

An ICMP library designed to ping multiple hosts efficiently in go. Improves on existing libraries by pinging multiple hosts while using a single raw-socket in the kernel.

### updog

A simple monitoring system that uses HTTP or TCP checks and logs data to Bosun.

## iputil

A go library for common operations on IP addresses.

## go-zfs

A go library for manipulating ZFS filesystems.

## salt-pwgen

A salt module for generating random passwords and storing them in pass.

#### salt

Wrote the x509 module and contributed several bug fixes.

#### containernetworking/plugins (CNI Networking)

Added functionality for managing mac addresses of connected containers