

# Neil H. Watson

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Linux/UNIX System Administrator, Architect, and Developer

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<http://watson-wilson.ca>, <http://www.linkedin.com/in/neilhwatson>, @neil\_h\_watson

- Designer and developer of forward thinking solutions.
- Teacher and mentor.
- Practising devops before it was called devops.

## Experience

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### Evolve Thinking

July 2012 - Present

#### Sr. Partner, Architecture and Infrastructure

- Architect and developer of open source configuration management and security solutions EFL, Delta Hardening, and Delta Reporting.
- AWS consulting and management.
- Developed testing and continuous integration tool chains.
- Training and consulting as system administration expert.
- Skills: Perl, Mojolicious, Systemd, KVM, Git, Github, Ruby, Redmine, Serverspec, Make, New Relic, AWS EC2 and RDS, Spacewalk, Kickstart

### AMD

June 2012 - September 2015

#### Sr. Linux Consultant (contract)

- Designed, developed, and managed system provisioning solutions for 10,000+ hosts.
- Designed, developed, and managed configuration management tools for 10,000+ hosts.
- Migrated 10,000+ hosts from CFEngine 2 to CFEngine 3.
- Migrated 10,000+ hosts from Rpath to RedHat Satellite.
- Trainer and technical writer.
- Skills: Perl, Shell, Git, Ruby, Serverspec, Cobbler, RedHat Linux, Redmine, Kickstart, VMware

### CFEngine

June 2011 - April 2012

#### Implementation Specialist (contract)

- Designed and developed a 30,000 host CFEngine service supporting Linux, AIX, and Solaris.
- Trainer and technical writer.
- Skills: CFEngine Nova, Opsware, Tripwire, Shell, Perl

### Symcor

May 2009 - May 2011

#### System Administrator (contract)

- Evaluated private cloud solutions using RedHat, HP, and CISCO technologies.
- Worked closely with local and vendor stake holders.
- Reduced tickets and audit time by designing a configuration management service for 2000+ hosts.
- Deployed a clustered high volume statement printing service.
- Deployed a password management service to meet security audit requirements.
- Tier 3 support for Linux, AIX, and Solaris servers.
- Mentored junior team members.
- Skills: RedHat RHEV, Solaris, AIX, LVM, RedHat Satellite, Suse Linux, CFEngine, Izone, Iperf, Perl, Shell, Cisco UCS, Lefthand SAN, ITIL, HP Procurve, JIRA

**eHealth Ontario****July 2008 - October 2008****UNIX Systems Specialist (contract)**

- POC high volume cluster applications serving critical medical information.
- Hardened hosts to government and security industry best practices.
- Planned and executed Solaris patching.
- Was a Solaris and Linux subject matter expert.
- Skills: SUN Chassis, Solaris Zones, Jumpstart, Patch Check Advanced, Websphere, Oracle RAC

**IBM Managed Security Services****October 2007 - July 2008****System Administrator and Security Specialist (contract)**

- Managed encrypted e-mail services for North American telcos in a 24/7, highly available environment
- Executed host, middleware, and database level security audits and remediation.
- Planned and executed service maintenance windows.
- Skills: IBM Chassis, Postfix, Sendmail, Tomcat, Jboss, Pound, LDAP, Oracle, Nagios, OpenNMS, VMware ESX, RedHat Linux

**Dundee Securities****January 2006 - October 2007****System Administrator**

- Managed and expanded one of the largest VMware ESX installations in Canada.
- Reduced support requests and security issues by implementing monitoring and configuration management services.
- Planned and moved the entire Linux environment, with zero downtime, during a 44 million dollar data centre move.
- Designed and developed a critical database cluster.
- Created a disaster recovery plan for the entire Linux environment.
- Consulted on disaster recovery plan for the entire IT infrastructure.
- Initiated DevOps culture between operations, development, and database departments.
- Mentored junior team members.
- Skills: VMware ESX, Tomcat, Apache, NFS, RedHat Linux and cluster suite, HP Openview NMS and OVO, Perl, Commvault, CVS, Subversion, DB2, HP EVA SAN, Qlogic HBA's.

**Voicegenie Technologies****October 2000 - January 2006****System Administrator**

- Continuously did more with less to help this dot-com startup thrive during and after the dot-bomb bubble.
- Provided superior services and support to allow VoiceGenie to have continuous growth for 6 consecutive quarters in the highly competitive voice technology industry.
- Provided 24/7 tier 2 customer service to international telecommunication carrier companies.
- Improved marketing department's ability to reach potential customers by designing and building lead generating email and web services.
- Championed intrusion detection, encryption, isolated networks and other security policies and procedures.
- Technical writer for internal and customer documentation.
- Performed security audits and forensic investigations.
- Created disaster recovery plans and policies.
- Planned, managed, and executed all hardware and software deployments in a mission critical, high availability environment.
- Designed and developed Linux based routers and firewalls.

- Mentored product architects and co-ops.
- Skills: Sendmail, CISCO 2600, IOS, Nortel Baystack, SCO Openserver and UNIXWARE, RedHat Advanced Server, Debian Linux, Gentoo Linux, Solaris, MySQL, Oracle, Request Tracker, vendor management, VMware Workstation and GSX Server, Bind, Snort, Samba, NFS, Perl, PHP, Big Brother, Exchange, Tomcat, VoiceXML, VMware.

## **F&K Manufacturing**

**June 1994 - September 2000**

### **System Administrator/CAD Designer**

- Designed and built the company's first Ethernet network and wireless LAN solution.
- Implemented the company's first Internet connection to allow electronic collaboration and data sharing with customers and vendors.
- Authored policies and procedures to ensure initial and continuing ISO 9002 compliance.
- Controlled drawings and documents, company wide, according to ISO 9002 standards.
- Participated in continuous improvement councils.
- Designed progressive stamping dies.
- Project manager for die building in excess of \$100,000.
- Skills: Samba, Iptables, Netware, Windows NT, RedHat and Caldera Linux, SCO UNIX Openserver, vendor and project management, Syspro Encore, AutoCAD, Accpac.

## **Education**

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Loyalist College  
Belleville, ON

- Electronic Engineering Technician 1994
- Mechanical Engineering Technologist 1993

## **Open source projects**

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**Evolve Free Promise Library (EFL):** A production quality, ready to use collection of CFEngine policies to make CFEngine deployment faster and cheaper.

**vim\_cf3:** A VIM plugin for edit CFEngine policies.

**Cfbot:** An IRC chat bot to answer CFEngine related support questions.

**Delta Hardening:** A collection of ready to use, industry standard system hardening policies.

**Delta Reporting:** A configuration management reporting and auditing engine.

**CFEngine:** Community Advisory Board member.

## **Online Papers and publications**

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- "Learning CFEngine" by O'Reilly, Appendix: "Editing CFEngine 3 Configurations in Vim"  
<http://shop.oreilly.com/product/0636920022022.do>
- "Intro to Automating System Administration with CFEngine 3"  
<http://www.linux-mag.com/cache/7802/1.html>

## **Skills**

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**Operating systems**

- All major distros of Linux
- Solaris 7-11
- AIX 5-7

**Virtualization**

- VMware
- KVM
- RHEV
- AWS
- Solaris Zones

**Clusters**

- RedHat cluster
- Sun cluster
- Heartbeat
- Pound
- F5

**Server hardware**

- HP Proliant
- IBM
- Dell
- UCS
- SUN/Oracle

**Storage**

- HP EVA
- 3PAR
- Promise
- EMC
- QNAP
- NetApp

**Developer**

- Perl
- Ruby
- Shell
- PHP
- Sed
- Awk
- Make
- Git
- SVN
- Javascript

**Web and middleware**

- Mojolicious
- Tomcat
- Wordpress
- Bootstrap
- Jboss
- Apache
- Websphere

**Monitoring**

- OpenNMS
- Nagios
- Openview
- SNMP
- New Relic

**Network services**

- IPv6
- DNS
- Bind
- NFS
- LDAP
- SSH
- DHCP
- iSCSI

**Databases**

- PostgreSQL
- MongoDB
- DB2
- Oracle
- MySQL

**Email**

- Postfix
- Sendmail
- Exchange

**Security**

- SSH
- SSL
- SELinux
- Wireshark
- Tcpdump
- Snort
- Iptables

**Practices**

- ITIL
- Devops
- Continuous delivery and integration
- Agile development

**Collaborative tools**

- Github
- Redmine
- Slack
- IRC
- Jabber
- Request Tracker
- Jira