

# Neil H. Watson

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Linux/UNIX System Administrator and Architect

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

- Designs and builds forward thinking solutions.
- Teacher and mentor.
- Practising devops before it was called devops.

## Experience

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**Sr. Partner, Architecture and Infrastructure**      **Evolve Thinking**      **July 2012 - Present**

- Designed and built open source configuration management and auditing tools to reduce costs and security risks:
  - EFL
  - Delta Hardening
  - Delta Reporting
- AWS consulting and management.
- Built product testing and continuous deployment tool chains using Github, Perl, and CFEngine.
- Consult and train as subject matter expert on CFEngine.
- Skills: Perl, Mojolicious, Systemd, KVM, Git, Ruby, Redmine, Serverspec, Make, New Relic, AWS EC2 and RDS, Spacewalk, Kickstart

**Sr. Linux Consultant**      **AMD**      **June 2012 - September 2015**

- Designed and built tools allowing end users to deploy hundreds of hosts in parallel.
- Designed and built tools to manage 10,000+ hosts automatically.
- Migrated 10,000+ hosts from CFEngine 2 to CFEngine 3.
- Migrated 10,000+ hosts from Rpath to Red Hat Satellite.
- Training and documentation.
- Skills: Perl, Shell, Git, Ruby, Serverspec, Cobbler, RHEL, Redmine, Kickstart, VMware
- CFEngine Implementation Specialist (contract) at CFEngine

**CFEngine Implementation Specialist**      **CFEngine**      **Contract, June 2011 - April 2012**

- Implemented a 30,000 host CFEngine service.
- Supporting Linux, AIX, and Solaris.
- Policy design and testing.
- Training and documentation.
- Skills: CFEngine Nova, Opsware, Tripwire, Shell, Perl

**System Administrator**      **Symcor**      **Contract, May 2009 - May 2011**

- POC private cloud using RHEV, HP, and CISCO working closely with both local and vendor stake holders.
- Reduced tickets and audit time by designing and building a CFEngine configuration management service for 2000+ hosts.
- Clustered production high volume statement printing service.
- Deployed a password management service to meet security audit requirements.
- Tier 3 support for Linux, AIX, and Solaris servers.
- Mentor junior team members.
- Skills: Red Hat, Solaris, AIX, LVM, Red Hat Satellite, Izone, Iperf, Perl, Shell, Cisco UCS, Lefthand SAN, ITIL, HP Procurve, JIRA

**UNIX Systems Specialist**      **eHealth Ontario**      **Contract, July 2008 - October 2008**

- POC high volume cluster applications serving critical medical information.
- Hardened hosts to government and security industry best practices.
- Planned and executed Solaris patching.
- Solaris and Linux subject matter expert.
- Skills: SUN Chassis, Solaris Zones, Jumpstart, Patch Check Advanced, Websphere, Oracle RAC
- System Administrator (contract) at IBM, Managed Security Services
- October 2007 to July 2008
- 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, Red Hat, RHEL

**System Administrator and Security Specialist**      **IBM, Managed Security Services**      **Contract,**  
**October 2007 - July 2008**

- 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, Red Hat, RHEL

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

- Managed and expanded one of the largest VMware ESX installations in Canada.
- Reduced support requests to senior staff by implementing monitoring and configuration management services.
- Reduced security compliance resources by implementing a configuration management service.
- Planned and moved the entire Linux environment, with zero downtime, during a 44 million dollar data centre move.
- Improved database reliability by building a cluster.
- Created a disaster recovery plan for the entire Linux environment.
- Consulted on disaster recovery plan for the entire IT infrastructure.
- Improved inter department co-operation by initiating consulting and collaboration meetings.
- Mentored junior team members.
- Skills: VMware ESX, Tomcat, Apache, NFS, HP Openview NMS and OVO, Perl, Commvault, CVS, Subversion, DB2, HP EVA SAN, Qlogic HBA's.

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

- 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 demanding telecommunication carrier companies world wide.
- Improved the marketing department's ability to reach potential customers by designing and building email and web services.
- Introduced intrusion detection, encryption, isolated networks and other security policies and procedures.
- Authored instructional documentation for both employee and customer use.
- Performed security testing and forensic investigations.
- Created disaster recovery servers and policies.
- Planned, managed, and executed all hardware and software deployments in a mission critical, high availability environment.
- Designed and built Linux based routers and firewalls.

- Mentored product architects and co-ops.
- Skills: Sendmail, CISCO 2600, IOS, Nortel Baystack, SCO Openserver and UNIXWARE, Red Hat 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.

## System Administrator/CAD Designer      F&K Manufacturing      June 1994 - September 2000

- Designed and built the company's first Ethernet network.
- Designed and built the company's first wireless LAN solution to connect separate plant buildings.
- Created the company's first Internet connection using Linux 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 customer hosted continuous improvement councils.
- Designed production progressive stamping dies.
- Planned and scheduled the building of new dies to meet the demanding deadlines of the automotive industry, with budgets in excess of \$100,000.
- Skills: Samba, Iptables, Netware, Windows NT, Red Hat and Caldera Linux, SCO UNIX Openserver, vendor and project management, Syspro Encore, AutoCAD, Accpac.

## Education

Loyalist College  
Belleville, ON

- Electronic Engineering Technician 1994
- Mechanical Engineering Technologist 1993

## Open source projects

**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 hardening practices for CFEngine.

**Delta Reporting:** A centralized CFEngine reporting and auditing engine.

**CFEngine:** Community Advisory Board member.

## Online Papers and publications

- "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:** Red Hat cluster, Sun Cluster, Heartbeat, Pound, F5

**Hardware:** HP Proliant, IBM, Dell, UCS, SUN/Oracle

**Storage:** HP EVA and 3PAR, Promise, EMC, QNAP, NetApp,

**Coding:** Perl, Ruby, Shell, PHP, Sed, Awk, Make, Git, SVN, Javascript

**Monitoring:** OpenNMS, Nagios, Openview, SNMP, New Relic

**Web and middleware:** Mojolicious, Tomcat, Wordpress, Bootstrap, Jboss, Apache, Websphere

**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.