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Profile

Experienced and autonomous Information Technology professional with extensive background in system and network engineering design, implementation, administration and support in demanding operational environments

Technical skills

Operating Systems	Unix (Linux: CentOS, Red Hat, debian, gentoo..., Solaris, AIX, HP-UX, NetBSD), Windows, VxWorks, Cisco IOS
Networking	TCP/IP, ethernet, wireless, NAT, VLAN, QoS, various protocols/services (HTTP, WebDAV, FTP, SNMP, DHCP, SMB, SMTP, DNS, NTP, PPP, PPPoE)
Security	Firewalls (iptables, Firewall-1), Radius, VPN, IPSec, port knocking, PKI, SSL, 802.1x, Nessus, mail/web filtering (Spamassassin, Clamav, squid, privoxy)
Languages	C, Shell (Bourne, Korn, bash), Perl, AWK, Java, Expect, C++, Javascript, PHP, Python
Tools/Programs	Apache, OpenLDAP, MRTG, RRD, MySQL, Postgres, Oracle, Wiki, Gnats, CVS, Subversion, git, Samba, cups, VMWare, Virtualbox, ant, make, findbugs, proguard, asterisk

Experience

Renaissance Technologies, East Setauket, New York May 2009-Present
System Programmer

Maintain, improve production systems and applications

- home VPN access, wireless infrastructure

Iptivia, New York, New York December 2006-February 2009
Senior Software Engineer

Iptivia is a start-up company developing an operational management solution to monitor, optimize and troubleshoot large OSPF, BGP and IS-IS networks running on CentOS appliances

- develop, maintain and optimize low level Java code of the product: interaction with the operating system (firewall, PAM), system daemons (NTP, radius), database, SNMP traps...
- maintain system configuration and 3rd party software (linux kernel, apache, JDK, MySQL, net-snmp): kernel compilation, security updates, optimizations, firmware upgrades
- handle support issues and diagnose problems with customers and partners
- redesigned the build system and installation procedure: ant scripts, RPM packaging and configuration of the software components, kickstart, patches deployment.
- release management: responsible for releases and patches, CVS maintenance
- perform code auditing for security and quality assurance
- handle IT tasks: monitor and maintain servers, handle backups, create user accounts

Ucopia Communications, Châtillon, France June 2005-May 2006
Head of Research & Development

Ucopia is a start-up company offering an integrated solution for the deployment of wireless networks, used mostly in universities and hospitals nationwide in France

- managed development and test activities (5 developers, 1 Quality Assurance tester and 3 interns)
- introduced and developed procedures for software quality enhancement and development: CVS, bug reporting tool, standardized build and test environments, continuous builds

- organized migration of the software from Red Hat to Mandriva
- planned development on new features, security improvements and auditing
- provided technical direction and expertise to management, developers and sales teams
- organized IT work (1 intern): server backups, security updates and growth planning

ReefEdge, Inc., Fort Lee, New Jersey
ReefEdge Europe S.A., Rennes, France

July 2003-December 2004
 April 2001-July 2003

Senior Engineer

Design, implementation and support of the high availability subsystem for ReefEdge secure wireless network platform used for mission critical operation in healthcare and retail environments

- ensured ongoing compatibility of hardware platforms and software components in high availability configuration
- provided level 3 support of client issues: bug fixes, workarounds.
- developed unit tests to automate validation, documented features and wrote test plans
- fixed a linux kernel bug with duplicate ARP replies in some configuration
- wrote a unicast heartbeat module for the open source linux-ha project

Maintenance of the in-house distribution derived from Red Hat Linux

- setup a build environment, improved the build scripts to reduce compile time and ease maintenance.
- integrated and upgraded numerous third party open software for security reasons and bug fixes: apache, postgres, samba, openssh, IPsec kernel patches, ...
- monitored security sites and mailing lists for security advisories
- optimized organization and size: switched to read-only root file system, FHS compliance, ported and adapted the NetBSD boot mechanism
- performed security scans and code audit (scripts and C sources)

Administration of several development servers: CVS, Gnats, wiki, build machines, test machines.

VxWorks port of an early version of the ReefEdge software

- ported the Apache Portable Runtime network library and internal code

Launched the french development facility with two other engineers

- installed, configured and maintained the intranet servers: DHCP, DNS, CVS mirror, firewall with VLANs and a permanent IPsec connection to the headquarter office network
- unified maintenance, standardized configuration and packages, some custom built (RPM packages)

Teamlog, Rennes, France

December 1998-April 2001

Senior Engineer, Contractor for France-Telecom/Equant

Implementation of a secure Web service to configure and retrieve usage statistics for the outsourced firewall solution, deployed on over 200 machines at customer sites and in data centers worldwide

- redesigned the whole treatment chain from the log server to the web interface
- optimized log processing: huge logs on most operational firewalls
- ensured Y2K compliance which entailed extensive code analysis/rewrite of the internal scripts and upgrades of the third party firewall products

Project leader at Teamlog

- coached a junior engineer for a web development contract with France Telecom
- wrote the IP fragmentation handling module for a satellite TV application under Linux
- setup the internal Linux testbed for the security tests

Bull S.A., Rennes, France

September 1995-October 1998

Research Assistant (*Thesis work performed within Dyade, the Bull/INRIA R&D research joint venture*)

Design and implementation of an experimental framework for uniformly administrating heterogeneous systems using internet technologies.

- defined an abstraction layer model to access specific OS information uniformly
- created RPC-like method to launch commands remotely in parallel over HTTP to effectively administer large networks, working proof of concept developed with an intern
- published and presented work at a french conference (JRES97)

Implementation of a Java network management interface on top of the Bull ISM/OpenMaster administration suite.

- developed the network layer that interfaced with the ISM framework

CELAR, Bruz, France

September 1994-August 1995

System Developer (military service assignment)

CELAR is a research/test center for the French Department of Defense.

System and database administration for an Electromagnetic Compatibility (EMC) platform

- developed and ported database tools (from Fortran to C) and visualization programs (Xlib)
- improved security of the DB back-end applications

INRIA, Rennes, France

February 1994-August 1994

Intern

Process replication through system call interception in the C library for a HA AIX system

Education

Ph.D. in Computer Science

February 1999

University of Rennes 1, France

Thesis title: "Administration of heterogeneous distributed systems: towards unification"

Master in Computer Science

June 1994

Institut National des Sciences Appliquées (INSA), Rennes, France

Engineering degree, major in operating systems

Bachelor of Science in Computer Science

June 1993

University of Newcastle-upon-Tyne, United Kingdom

EU-funded ERASMUS student exchange program

Miscellaneous

Languages

- native French, fluent English, notions of German

Activities

Designer/maintainer of a secure embedded Linux distribution for wireless routers/firewalls for home and SOHO, operational for over 5 years (<http://www.sokdist.org/>)

- designed the distribution to be secure and compact, typically uses less than 16MB of disk while being easy to configure and update
- powerful yet simple template mechanism for the configuration of the whole system from a single file
- built entirely from sources, over a hundred software packages, most of them at the latest version
- contributed portability and bug fixes to various projects: busybox, dropbear, dnsmasq

Founder of Rennes Wireless, a non-profit association to promote wireless networks (<http://www.rennes-wireless.org/>)

- treasurer of the association from June 2002 to July 2003
- attended/organized several exhibitions with both technical and non technical people, including elected officials to promote wireless networks and demonstrate their use
- provided help and information on the association mailing list, forums and Wiki