Patrick Bernier

Partner, Alteranode
July 2004 ~ present (part-time consultant)

Provide ISPs with advanced network infrastructure and server consulting services, leveraging the flexibility of open-source software to provide custom solutions tailored to specific needs, especially related to electronic mail handling, IPv4/v6 network integration, IP telephony and network/systems security.

Assistant Teacher, Iwate Prefectural Tōno Senior High School
July 2004 ~ September 2009, Iwate-ken Tōno-shi, Japan

Participated in the Japan Exchange and Teaching Programme to learn the language and culture. Taught English classes. Coached students individually and in small groups for speech contests, overseas exchange programs and college interviews. Managed the school's audio-visual systems. Built a MySQL-backed student information management system and XML templating scripts in Perl to automate production of seating charts, directories and ID cards. Setup a broadcast-level video editing suite and a digital photography archive hosting a quarter million pictures; coached students to use them. Learned plenty about i18n interoperability issues.

Chief Technology Officer, Mustang Technologies
November 2001 ~ June 2004, Montréal

Managed the operations & technical support team of an ISP. Planned and executed a complete overhaul of the routing architecture and addressing plan. Negotiated two major upstream service provider contracts and directed the ensuing transitions. Migrated all service infrastructure servers to Debian GNU/Linux, replacing a mixture of SCO, Linux, OpenBSD and Windows NT servers. Created a Debian-derived lightweight router platform to provide rich network capabilities despite budgetary constraints. Scripted network usage accounting. Integrated multiple spam filtering systems in heavily customized qmail/qpsmtpd servers. Developed a unified XMLRPC interface to integrate multiple online payment transaction provider APIs. Transitioned office telephony to an Asterisk PBX.

Network Systems Engineer, Nortel Networks
May ~ August 1998 and January 1999 ~ November 2001, Montréal

The Nortel Montreal Network Integration team was a small high-touch high-impact quick response engineering team whose members were technology specialists rather than product specialists, enabling us to solve network architecture problems involving the entire spectrum of Nortel's – and competitor's – products. Led the design, implementation and testing of IP networks for customers including SBC, Worldwide Fiber/360 Networks, the Government of Québec and Basin Electric, and spent three months in Beijing to coach local engineers to do the same for China Telecom, China Mobile and China Unicom. Automated node provisioning with Perl scripts. Managed the departmental Linux servers.

Computer & Network Security, Communications Security Establishment
September ~ December 1997, Ottawa

Issued top secret security clearance. Analyzed and re-programmed in Perl a series of Bourne shell scripts processing all classified e-mail to verify classification levels, message encryption, site ACLs, process mailing lists, perform automatic attachment conversion and optimize delivery. Wrote test cases for firewall reviews. Webmaster for CSE's public website.

Network Administrator, Mlink Internet
June 1995 ~ July 1997, Montréal

Managed an ISP's Sun and x86 Solaris infrastructure servers as well as various Cisco, Ascend, Gandalf and US Robotics technologies used to uplink customers to the Internet. Automated management and provisioning tasks using shell and Perl scripts. Trained technical support staff.

Network & Unix Systems Administration, Bell-Northern Research
January ~ April 1996 and September ~ December 1996, Montréal

Installed and managed various SunOS 4/5, HP/UX and Linux servers as well as network infrastructure components, including telecommuting systems. Programmed Perl-based network monitoring tools using SNMP. Implemented authentication mechanisms for web-based support tools. Offered third-line technical support to local Unix users.

System Administrator, Communications Accessibles Montréal
Summer 1992 ~ June 1995, Montréal

Working for Montréal's pioneer ISP, managed various SunOS and ESIX servers running web, DNS, UUCP, USENET news and a FidoNet gateway. Analyzed corporate customer needs. Evangelized Internet technologies at various trade shows and conferences.

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Education

Bachelier ès sciences, Informatique
Université de Sherbrooke

Top skills

Linux/UNIX systems administration

IP network architecture

ISP operations

Defining traits

Passionate tech puzzle solver

Effective teacher

Fast learner

Favorite tools

Debian & Ubuntu GNU/Linux, Perl, Bourne/zsh shell scripting, C, vim, XHTML/CSS, SVG, XML, MySQL, SSH, OpenVPN, GnuPG, TrueCrypt, iptables, Wireshark, strace...

(and my trusty swiss army knife)

Claim to fame

Re-factored a federal classified e-mail processing system in Perl, in less than a month from analysis to availability.

In a nutshell

If it moves bits around, chances are I can do something with it.

Also

TV broadcast level video editing

Digital photography

Water sports

First aid

Dream

Deploying an IP network on Mars

Languages

Excellent English and French

Comfortable speaking Japanese

Forgotten Latin and German