

Personal Details

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Chronology

January 2007	Finishing up at Google Switzerland
	Teaching HP-UX, HP OpenView and Superdome classes for Hewlett-Packard
July 2007	Architecting the revenue assurance platform at Vodafone
	Developing and writing "Architecting Linux-based Solutions" (for Hewlett-Packard and Woolworths)
January 2008	OVO, NNM, DataProtector MediaOperations consulting for SICE (ConnectEast)
July 2008	Developing a new kind of intra-oral camera for dentists
	Updating courseware for HP's ServiceGuard I & II training courses, including cfengine (HP DSAU).
	Implementing a package for Telstra to authenticate their HP-UX systems against ActiveDirectory.
January 2009	Delivering HP Software courses for Hewlett-Packard, including DataProtector, Network Node Manager and Operations Manager
	Helping out the Vanuatu Reserve Bank with their backup strategy and architecture, teaching their Ministry of Finance, and doing some pro-bono consulting for Vanuatu Telecom.
July 2009	Writing a program to scan insurer CTP pricing, which I sold to Allianz.
	At Aon: architecting: <ul style="list-style-type: none">- HP-UX and Linux integration with ActiveDirectory- Build and monitoring infrastructure (for HP-UX and Linux)- Printing reduction and print-house integration- Replacement of legacy HP-UX boxes- Security
January 2010	Still developing a new kind of intra-oral camera for dentists

Work History

The Institute for Open Systems Technologies Pty Ltd	Owner and director	1999-2006, 2007-present
Google Inc, Switzerland		2006 - 2007
Aptec IT Solutions	Consultant	1996 - 1999
CSIRO Division of Radiophysics	Experimental Scientist	1994 - 1996

Academic History

Certified HP instructor	HP	2009 (latest)
Incomplete Ph.D (Cryptography) Topic: <i>Lopsided elliptic curves in small finite fields</i>	Macquarie University	1999-2000
B.Sc. with First class honours GPA: 3.75/4.0. Awards: 3 Mathematics, 1 Computer Science. Thesis: <i>Q-gol: a system for describing quantum computation</i>	Macquarie University	1992-1996

Languages Spoken

English	Natively	Mandarin	Excruciating, nowhere near Rudd level
Esperanto	Terrible, but comprehensible	Cantonese	Enough to understand my in-laws
German	Native speakers beg me to stop	Latin	Mostly forgotten
Bahasa	Used to be OK	Bislama	Only for communication emergencies
French	Can read a bit	Koine Greek	Not too bad, but not required very often

Patents

GGL-1722-00-US	Information Technology Management Using Diagrams
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Courseware Written

Sendmail	http://www.ifost.org.au/Documents/sendmail.pdf	IFOST
H6487S Serviceguard I	Worldwide version N.02 (November 2008)	Hewlett-Packard
U8601S Serviceguard II	Worldwide version D.00 (April 2009)	Hewlett-Packard
Architecting Linux-Based Solutions	http://www.ifost.org.au/Documents/architecting.pdf	

Free software developed

cmttoolbox	HP Serviceguard tools for cluster setup and replication	cmttoolbox.sourceforge.net
pypvm	Python - Parallel Virtual Machine bindings	pypvm.sourceforge.net
tkvnc	VNC viewer in pure Tcl	tcllib.sourceforge.net
microview	Creates a minimal HP Software (OpenView) environment, suitable for untrusted users	www.ifost.org.au/Software
autolearn	Artificial intelligence system for HP Software (OpenView) Operations systems; it learns what is normal performance and alerts on changes, and also learns what log messages require alerting	www.ifost.org.au/autolearn
portable incron	Platform-independent re-implementation of incron API using polling instead of kernel assistance.	portable-incron.sourceforge.net
Bislama	Localisation project to produce native-language operating systems and applications for Vanuatu and other pidgin-speaking countries	bislama.sourceforge.net

Computing Conference Papers

It is nearly cheaper to build a smart apartment than a dumb one, but it is much harder work	Australian Unix Users Group	Sep 2005.
Caffeine-free E-speak: Developing applications without Java	HP Developers Conferences in Australia, Korea and Taiwan	May 2000, Aug 2000.

Parliamentary Evidence

Urged by Hon Chris Bowen MP (Federal Assistant Treasurer) to submit A Suggestion for Fringe Benefit Tax Changes for Public Transport Tickets to the Australian Treasury Future Tax System Review	April 2009
Invited to provide evidence on the impact of section 17 (intellectual property) of the Free Trade Agreement between Australia and the USA following submission of A Suggestion for Two Small Additions to Chapter 17 of the USA-Australia Free Trade Agreement . Subsequently gazetted.	April 2004 (and October 2005)
Testified before the Australian House of Representatives Enquiry into Broadband Wireless following my submission of Finding A Reasonable Compromise for the Use of 802.11 Equipment in Australia	May 2002

Security Skills Caught a hacker in June 1998 (but charges were never laid) Caused a national security incident in May 2004 by finding holes in a popular power plant control system Contributed a chapter to <i>HP-UX Security</i> on the then-new Itanium HP-UX.
Operating Systems HP-UX (taught and consulted on it for HP, probably one of the leading experts in Australia) Linux (since 1996; taught, deployed and consulted on it for HP and others) Solaris (I use it when customers request it) AIX (Done some consulting work using AIX machines, but not much) OpenBSD (since 1999; it is my favourite platform; I even made an OpenBSD system which sits on my bedside table and blinks the latest weather forecast out in Morse code.) Cisco IOS (I have no formal training, but I own Cisco gear and generally know what to do).
Clustering Serviceguard I wrote the course HP uses to teach customers about it and the Distributed System Administration Utilities (DSAU), I have found and fixed 2 bugs so far in 2009. I own my own cluster. PVM Wrote the Python bindings for it.
Programming Languages Python I have contributed code for the PSA Tcl/Tk I am a developer on the Sourceforge tcllib project Perl experienced C/C++ the made-to-order C++ training course I delivered for BHP Port Kembla scientists was praised in the Sydney Morning Herald (in October 1999). Which is odd, because my C skills are OK and my C++ is dreadful. Haskell,ML,Erlang strong (but unlikely to get used) Posix/Unix/Korn shell strong
Systems and Network Management Products HP Software (OpenView) (NNM, OVO, DataProtector, Storage Media Operations, Internet Services; from 1999 - 2006 and 2007 onwards I taught most of the OpenView courses delivered at HP in Sydney, as well as consulting on it to major accounts around Australia) MRTG (deployed many times) Nagios (a few deployments)
Mail servers Sendmail (I wrote a course on it) Postfix (what I used to use everywhere) CommuniGate Pro (what I am using now).
Databases Oracle I have delivered several projects using Oracle backends and I sort of know Oracle RAC PostgreSQL The ISP I sold in July 2003 ran all its functions on Postgresql MS-SQL I have delivered a few projects with MS-SQL backends MySQL I have used it quite a bit
Voice-over-IP servers Asterisk (some experience) CommuniGate Pro (some experience)
Management I used to run a consulting company employing 10 people. Between 2001 and 2003 I ran (and then sold) a satellite-based ISP which held more than 2% of the Australian market.

Sample Projects

Signature Control System (2004-2006) The most technically advanced smart-housing control system in the world: it includes touchscreens, prox sensors and universal pin access which opens doors, lifts, air-conditioners and boom gates. Other features are shared music libraries, video intercoms, voice-over-IP and integrated billing. It is also believed to be one of the most secure and robust systems of its kind (that is, we have searched and cannot find anything in the same class). I led the technical design and architecture and developed much of the software.

Next generation intraoral camera (2005-2006,2007-2010) Most dentists use paper-based records because the current range of intra-oral cameras are too tedious to use. I developed some software which can control a commercial off-the-shelf consumer camera and does image recognition to identify a hand mirror in the photograph.

I have underwritten the whole cost of this project so far, put together the development team, learned how the Australian patent system works, managed the implementation and oversaw field trials, and touted for money in both the USA and Australia.

The Centre for Organisational Innovation: OEP System (2000-2006) OEP is an evidence-based system for identifying culture and process problems in large organisations. It now boasts over a million records (question / answer responses) covering 1st and 3rd world organisations from around the world. It is used by everyone from the Lebanese Finance Ministry to Novartis. I developed most of this system, partly financed it, supported it for several years, and managed its hand-over to new support structure.

Aon Risks: Marketing Document Management System (2003) When insurance brokers engage in marketing (finding a spread of underwriters willing to take on a single large risk) they have to supply large customised collections of documents under revision control with strict privacy policies to each underwriter. There is nothing particularly unusual about this, but in a project to merge the software base of several different incompatible systems together we achieved a negative defect rate: the combined system experienced less bugs and less downtime than the components did previously. And we delivered it for under \$AUD2/line-of-code. It is still in use today, even though it was supposed to be only an interim solution. I assembled and managed the team which did this development work.

Other Interesting Projects

Created a **new compute infrastructure** for the Prince of Wales Medical Research Institute (2006), using Linux compute and storage clusters and set up DICOM comms to the nearly-brand-new MRI.

Provided software development lifecycle consulting and **came up with a methodology for assessing small-to-medium sized development teams** (2006). (Done with employee Dr Christopher Vance.)

Found a **signature pattern in DNS changes** which was incorporated as part of the Google PageRank algorithm (2006). Implemented a voice gateway to Google's monitoring and alarming system. (2007)

Oversaw a **clean-room reverse engineering** of a hardware repair training manual for high-end HP-UX systems (Superdomes, rp8400, etc.), and dealt with legal fall-out from it (2006).

Created custom search engines for HP-UX, Openview and others. (2007)

Created an **automated build and configure systems** for HP-UX systems at Aon to enable ActiveDirectory-based logins, version control for all configuration and major cost savings in SOX compliance. (2008-2009)

Created a **scraper service** for the NSW CTP insurance system to report in real-time on price movements by insurers. (2008).

Developed **courseware** in high availability (ServiceGuard) and distributed systems administration (DSAU / cfengine) for Hewlett-Packard (2008-2009).

Developed an **artificial intelligence module** for system and network management which replaces the job of highly-paid consultants (2008-2010).

Taught a backup management course (using DataProtector) for the **Vanuatu Ministry of Finance** (2009), and since then have done pro bono work for the **Vanuatu Reserve Bank** and **Vanuatu Telecom**.