

# Dave Cottlehuber's Résumé

## Values

I am first and foremost a values-driven person and leader. I work best with, and for, people who share this philosophy:

- Open & Direct Communication
- Equality & Diversity
- Customer First
- Collaborating and Sharing
- Coaching, Teamwork & Mentoring

## Strengths

- Detail Oriented & Big Picture Thinker
- Flexible Work Style & Relaxed Communicator
- Broad Expertise across both Business and Technology

I am at my best when I can share things: contributing to & building communities, operating and managing large infrastructure environments, pairing with, or leading and mentoring staff, and finding ways to continually improve through technology and process.

You'll find me as comfortable with debugging complex problems, from network flows and packet traces, to hard-to-find distributed systems issues, as discussing business strategy and organisational structure, with or without a whiteboard, or helping teams work more effectively together.

## Expertise

I have an extensive technical background across both opensource & proprietary technologies, a solid business and customer experience, and the enthusiasm for delivering high quality solutions & services through technology.

- Distributed Systems (network protocols & algorithms) in [Erlang](#) & [Elixir](#)
- Internet Networking: IPv4/IPv6 routing, [anycast](#), [BGP](#) and [ECMP](#), DNS and [DNSSEC](#), [VXLAN](#) and similar container overlay networks
- Automation & Management of Large Scale Infrastructure (20k+ servers, 7+PB storage)
- Systems Monitoring and Management using Open-source infrastructure
- [Apache CouchDB](#) Administration & Consulting
- ITILv3 Service Support & Delivery
- [FreeBSD](#) & Linux container infrastructure in AWS, EC2, Oracle & Google Cloud
- Decoupled systems using Message Queues (AMQP, MQTT, [RabbitMQ](#), NATS)
- various DevOps tools, specialising in [Ansible](#) on [Oracle Cloud](#), [Google Cloud](#) and [AWS](#) since 2006
- Continuous Integration and Deployment [BuildKite](#), [Jenkins](#), Google Cloud Build
- large arm64/aarch64 [Ampere](#) server expertise incl [IPMI](#), [iPXE](#) on bare metal

- Peer-to-Peer Streaming media and IETF [PPSPP](#) Protocol

## Tech Skills

Recruiters love keywords. Here are mine:

- languages: Erlang, Elixir, Perl, Phoenix, Go, GoLang, OCaml, zig, C
- operating systems: FreeBSD, OpenBSD, Linux, Debian, RHEL, AWS, EC2, GCP, OCI
- automation: ansible, puppet, chef, webhooks, bash, scripting, git, nomad, consul, kubernetes
- databases: couchdb, foundationdb, postgresql, redis
- security: OWASP, Vault, TLS, mTLS, SSL, CA, ECDSA, Ed25519, RSA
- web: nginx, haproxy, traefik, envoy, graphql, REST, phoenix
- network: TCP/IP, IPv6, IPv4, UDP, SCTP, BGP, ECMP, DNS, DNSSEC, anycast
- hardware: x864\_64, arm64, IPMI, Equinix Metal, Oracle Cloud (OCI), altra

## Open Source Interests

For much of the last decade I have been closely involved with Open Source projects and communities, from the [Apache CouchDB](#) project, and the [FreeBSD](#) project, along with the [Erlang](#) and [Elixir](#) programming language communities.

I have contributed to a large number of open source projects, starting way back with [Perl in 1999](#) and more recently to:

- [FreeBSD](#) UNIX operating system - Ports committer
  - member of erlang@ team maintaining Erlang, Elixir & RabbitMQ stacks
  - regular talks at conferences & communities
- [Erlang](#) and [Elixir](#) ecosystem
  - getting OTP itself to build on Windows with the free MSVC compiler
  - rebar and erlang.mk build tools
  - running the [@ViennaBEAMers](#) community Erlang and Elixir meet up since 2014
- [Apache CouchDB](#) Committer and Project Management Committee member
  - Project Release Manager
  - Member of the [Apache Software Foundation](#)
- Currently learning:
  - Go & zig programming languages
  - routing & BGP networking

## Career History

### Founder of [SkunkWerks GmbH](#), Austria

- February 2013 - ongoing

Due to family relocation to Europe, I created a new Austrian-based company, completing a variety of contracts that continued on from JSONified.

Building backends for 2 startups, using FreeBSD, Elixir, RabbitMQ, and Phoenix.

FreeBSD 10 to 12.1-RELEASE migration support for [Klara Systems](#) & other customers.

I have also supported [iWantMyName](#), a domain name reseller, in stabilising their infrastructure, acting as Technical Lead, including:

- securing environment, passwords, runtime secrets, remove XSS and related attacks
- defend against Denial-of-Service attacks and implement mitigations
- implement CI & CD (Continuous Integration & Delivery)
- migration from Puppet to Ansible to improve ease of sysadmin in a very small team
- stabilise platform with migration from Linux to FreeBSD, and achieve a significant increase in stability and 10x performance for larger customers
- extensive documentation and training across the dev team
- tuning and debugging many Erlang and Elixir applications for maximum throughput and reliability
- Design & Implementation of Peer-to-Peer Streaming Peer Protocol [PPSPP](#) in [Erlang/OTP]
- Development of Linux, OSX & FreeBSD Packages for [Apache CouchDB](#) & customers
- Implementing [Riemann](#), [CollectD](#), [Graphite](#) stack for monitoring & metrics for a DB hosting customer

### **Founder of [JSONified Ltd](#), New Zealand**

- July 2011 - March 2013

Providing Data Migration and Open Data implementation & consulting

- Design & Implementation of Data Migration and Open Data services
- Provide Apache CouchDB Consulting and Support
- Managed CouchDB Installations (Distributions) across Windows, Mac, Linux
- Bespoke Training Packages
- Operational Support Documentation
- Development & Debugging

### **Manager of Engineering Optimisation & ICT Operations Leadership Team**

- Organisation: [Spark Digital](#) New Zealand, ICT Operations
- Dec 2008 - July 2011

Drive cost & efficiency improvements, via operational budget > 2m\$, across ICT Operations

- Provide Consulting to Sales and Lines of Business on technology and outsource bids
- Set Up & Lead team of 20 senior engineers to provide tier 3 support functions
- Develop standards & best practice across IT asset lifecycle from design, through operate to disposal
- Define and drive Technology Transformation strategy for ICT Operations
- Sponsor & Run Business Cases to execute the strategy, approx NZ\$6m/year capital budget
- Lead Critical & Visible Client Escalations
- Part of ICT Operations Leadership team for ~ 350 engineers & \$35m annual budget

### **Transition Manager & ICT Operations Leadership Team**

- Organisation: [Spark Digital](#) New Zealand, ICT Operations
- Dec 2007 - Dec 2008

Manage transitions of new customers & capabilities into production, across people, processes, tools/technology, and organisations

- Develop & extend Spark Digital services portfolio, building services and associated cost/effort models in conjunction with Consultants and Service Line Managers
- Lead troubled account resolution activities, coordinating resources & plan, returning account to stability and profitability
- Provided guidance to other groups & teams on ITIL Process implementations
- Managed transition of largest storage infrastructure (in New Zealand) into production support

### **Technology Operations Manager**

- Organisation: [Spark Digital](#) New Zealand, ICT Operations
- Mar 2007 - Dec 2007

Accountable for technical delivery of ITIL-based managed services to 2 clients in Financial & Construction sector

- Manage virtual team of 30 staff, covering 350 servers mixed linux/unix/windows, 200 network links & business applications, in 2 data centres
- Involved at senior levels of the account, to CIO level as required
- Transitioned new "KiwiSaver" virtual platform of over 100 VMs in time for legislative deadline
- Successful Re-sign of both clients with expanded scope of services

### **EMEA Storage Services Lead**

- Organisation: HP Services, Global Delivery EMEA
- Dec 2002 - Nov 2006

Ensure reliable & cost-effective delivery of backup/restore + storage services according to ITIL framework

- Domain comprised approximately 20 000 servers and 7 PB of storage across 300 arrays, using IBM, Symantec, EMC & HP storage arrays and backup software
- Set up & Manage direct team of 14 staff in 8 countries, Build & Lead virtual team of

approx 200 staff, supporting 7 platinum customers

- Lead re-alignment & off-shoring projects, including building up 30 people in backup/storage support team in off-shore location
- Define & Implement Global Services for Managed Storage & Backup, including Service Collateral, External Benchmarking, Pre-sales and Bid support
- Lead customer workshops to define new storage-related services such as archiving, tiered backup + storage architectures
- Collaborate with HP Product Divisions on bug fixes, enhancement requests, and roadmap, including contributing 3 patents
- Drive 20% reduction in maintenance costs per annum, and generate 40% savings on external contracts after re-alignment and off-shoring
- Lead for Infrastructure Management Services organisation during the Data Safety Programme to standardise how backup & recovery is managed across EMEA, facilitating consensus

### **Technical Project Manager**

- Organisation: HP Services, Global Delivery EMEA
- May 2001 - Dec 2002

Develop & Drive 30% monitoring event reduction through standardisation, across Trade & internal clients

- Be the interface between Operations Bridge, Account Teams, and Delivery Organisations during setup of Dublin and Barcelona NOC (Operations Bridge)
- Standardise and consolidate backup environment for 400 servers across EMEA with standard policies & hardware dramatically improving reliability of business data recovery
- Implement ITIL-structured Problem Management process including reporting, metrics, to deliver 2.5x headcount reduction
- Develop training material and deliver sessions for onsite & off-shore teams for HP backup/recovery technologies

### **Technical Writer for Telecommunication Protocols**

- Company: Kudos, Grenoble, France
- May 2000 - May 2001

Structure and develop technical documentation for Telecoms products

- Act as SME For other writers & proof content
- Enhance and support internal document creation environment
- Knowledge of FrameMaker, XML/SGML/PDF formats, Revision Control Systems e.g. Subversion, CVS

### **IT Consultant**

- Company: Unisys UK, Uxbrige, Greater London, United Kingdom
- September 1999 - May 2000

Provide pre-sales support, and project-based consultancy

- Define automated roll-out for 10 000 users and 500 servers
- Define & Implement Security Policies for Internet Banking environment

- Plan and execute migration from NetWare to Windows for Telco

### **IT Consultant**

- Company: University of Canterbury, Christchurch, New Zealand
- February 1996 - September 1999

Facilitate, coordinate & implement University IT policy & strategy

- Design, and implement distributed system in perl for single sign-on and consumables accounting across campus on OpenVMS, Solaris, Windows, Netware and Linux
- Consolidate NetWare NDS services and migrate to Windows NT4.0 for 12\_000 staff and students
- Implement cross-campus forums for defining technical standards and integrated workflows

### **Training & Education**

#### **Formal Education:**

- 1997 : various post-graduate papers in Telecom protocols
- 1996 : B.Com: Business & Information Management, Canterbury University, New Zealand (Commerce)
- 1994 : B.Sc: Chemistry & Mathematics, Canterbury University, New Zealand (Science)

#### **Formal Certification**

- ITIL Masters v2 Certificate: completed December 2006 - Service Delivery & Service Support
- PMI Seminars : Fundamentals, Risk, Quality, Scheduling & Cost, Individual Leadership

#### **Technical Certification**

- Kepner-Tregoe Problem Analysis
- HP Storage Essentials, HP Open Analytics, HP Tape Technologies
- HP Data Protector Performance Troubleshooting
- HP XP and EVA Disk Array Concepts
- Microsoft MCSE : NT4.0, with some Windows 2000 courses

### **Spoken Languages & Citizenship**

- triple United Kingdom, Eire & New Zealand citizenship
- English (native)
- French (fluent)
- German (fluent)

### **Personal Interests**

- Folk music instruments incl Whistle, Violin, Accordion, Guitar
- Telemark and Back-country Skiing
- Hiking, Tramping, and Biking

- [Travelling and International Cuisine](#)

## Contact Details

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