Cian Synnott

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Senior Staff Software Engineer   **2021 - present**

Staff Software Engineer   **2019 - 2021**

CircleCI

- Worked with the Pipelines team on ingestion and workflow orchestration services. Coached the team through a period of rapid growth, establishing working agreements and team processes. Led a critical, time-constrained migration of the storage underpinning our core services.
- Worked with the Identities and Permissions team to maintain and evolve a large legacy Clojure codebase. Led and facilitated focused, cross-functional discussions on decoupling our domain model from upstream VCS, as well as driving core strands of implementation work.
- Radically improved each team's operational posture and onboarding processes. Spread those ideas across the organization through leading by example, direct training, and better documentation.
- Fostered a strong culture of learning together and "leveling up", both within my teams and the wider organization. Mentored and sponsored junior team-mates and colleagues across teams.

Programmer   **2014 - 2019**

Metricfire (Hosted Graphite)

- Designed and built a distributed time series database using Erlang with riak_core, storing arbitrary binary values per timestamp (2014-2015). This initially enabled us to close several large deals with unusual time series resolution and retention requirements, and later handled all long-term storage at lower cost than the legacy solution.
- Designed and built a proof of concept for a more resilient and storage-friendly architecture in our data processing layer (2015-2016), later implemented by other members of the team. This saved money and simplified the system, making it more reliable and easier to operate.
- Optimized various parts of our Python ingestion pipeline resulting in significant savings, along with widespread cleanup of technical debt and improvements to deployment processes (2016-2017).
- Designed, built and integrated a Linux monitoring agent (2016-2017); careful attention to design and deployment resulted in low support overhead.

- Looked after project management and technical direction for the development team: guided junior colleagues as they structured and worked through difficult tasks (2017-2018).
- Designed and built large parts of a new Prometheus product offering for long-term storage, building on our existing time series ingestion and storage systems (2018-2019).
- Researched and wrote up detailed technical analyses to answer questions of strategy for the CTO (2014-2019).
- Did "deep dives" on difficult operational issues with colleagues across support and SRE, getting to the root(s) of each problem and putting fixes in train (2014-2019).

Site Reliability Engineer   2010 - 2014
Google

- With the Storage SRE team, ran the internal Bigtable service and the Colossus distributed filesystem. Looked after some of our more unusual customers, helped drive incident volume down to a reasonable level, and drove a reorg to focus and scale the large global team beyond an "everyone owns everything" model (2010-2012).
- With the small, cross-functional Beyond Corp team, redesigned the corporate environment in a world where the classic "perimeter" model of network security no longer holds (2012).
- With the Access SRE team, supported gateways between untrusted networks and corporate computing resources. As one of the first engineers on the team, helped build it out, "adopt" the services we took on, and work through the Beyond Corp implementation (2012-2014).

Software Development Engineer   2010
Amazon

- With the DNS & load balancing team, performed delicate and successful surgery on the external DNS provisioning system.

Sysadmin & Site Reliability Engineer   2005 - 2009
Google

- With the corporate Sysops team, worked to grow the Asia/Pacific portion of a follow-the-sun oncall rotation in India (2005-2006).
- Designed and built a widely used cross-platform (Windows/Linux) monitoring agent in Python (2006).
- Lead for automated account management. Worked in Ruby and with teams across the company to make sure account changes for new hires, role changes and exits were managed quickly and automatically (2006-2008).

- With the Ads Site Reliability Engineering team, production lead for the global rollout of a new front-end system for serving partner ads traffic, and retirement of the systems it replaced (2008-2009).

Security Engineer   2003 - 2005
eircom.net

- With the Computer Incident Response Team, worked to improve systems, network, and information security within the company.

Talks & notes
- "Designing for Brobdingnag: considerations in scaling large web systems"
  This was for a "classroom" event in 2013, sharing practical notes on design and operations. Limoncelli et al built chapter 1 of "The Practice of Cloud System Administration" around it.
- "Pager Bound: High-signal alerting in production systems"
  A talk at Intercom, covering some thoughts on monitoring, alerting and incident response.
- Developing and deploying Python in private repos
  A blog post covering Hosted Graphite's Python packaging & deployment adventures and what we learned over 4 years.
- ICs, managers and bears! Oh my!
  A blog post outlining considerations in transitioning from "individual contributor" to management roles in production engineering. Somewhat specific to Google's engineering organization, but applicable at other large shops.

Skills
- Proficient in C, Python, Clojure, Erlang, and shell scripting.
- Familiar with C++, Go, Ruby, Perl, Java, x86 assembly, and a couple of other languages.
- Detailed knowledge of UNIX operating environments and internals.
- Detailed knowledge of Internet protocols.
- Clear understanding of systems design, development, and operations practices.

Education
- Dip. Classical Studies (Greek & Latin), Open University, 2012.
- B.A. Mathematics, National University of Ireland, Maynooth, 1st class Hons., 2003.
- Hamilton Prize, Royal Irish Academy, 2002.

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