

LUCAS ESTIENNE

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EXECUTIVE SUMMARY

- Experienced DevOps practitioner and Big Data professional with a demonstrated history of working in the DNS/internet industry
- Strong skills in container orchestration technologies like Kubernetes architecture, provisioning, deployment and administration, automation tools such as Ansible & Terraform for both on-prem and AWS, as well as Hypervisor platforms and VMware vCenter and IoT security. Strong background with the Elastic Stack and Kafka
- Expert in DNS/DNSSEC, R&D of new technologies, Systems Administration, Big Data, Hadoop, Data Analysis, Scripting, CI/CD, as well as system-level development with C and Go, and application development with Kotlin, Java, Python, Ruby.

ENGINEERING SKILLS

Operating Systems & Platforms

- Enterprise-level experience with: CentOS, Red Hat Enterprise Linux (RHEL), Alpine
- AWS

Languages & Technologies

- Python, Go, Bash, Java, Kotlin, Ruby, C, SQL, HTML, PHP, JavaScript, Node.JS, Perl
- Docker, CRI-O, Django, Postgres, Cloudera Impala, Apache Spark
- Git, Elasticsearch, Apache Solr, Cloudera Hadoop, Kafka, Zookeeper
- DNS (BIND, PowerDNS, Unbound, CoreDNS), DNSSEC, Cisco Networking (Nexus Switches, ASAs), IPv6, SNMP, PAN-OS
- Kubernetes, Ansible, VMWare ESXi, VMWare vCenter/vSphere, Prometheus, Icinga2, OpenLDAP, IdM, MetalLB, Cisco HyperFlex, NGINX, cert-manager, Calico
- Ansible, Terraform, Helm, Kustomize, CI/CD

SECURITY CLEARANCE

- Reliability status

EXPERIENCE

August 2020 –
Present

Data Architect, *MindGeek*

- Conceptualize, design, implement and optimize data by applying specialized knowledge of information and databases management disciplines
- Applying knowledge of high performance techniques, coaching, and collaboration strategies to enhance the expertise in data engineering and information management of the team

April 2019 –
August 2020

DevOps Administrator, Canadian Internet Registration Authority

- Responsible for administration & maintenance of CIRA Labs' on-prem infrastructure, including VMware vCenter/vSphere, Cisco HyperFlex, ASAs, Palo Alto firewall, Cisco Nexus switches, using various automation tools including Ansible & Terraform.
- Maintain, upgrade & support CIRA Labs' Kubernetes infrastructure, comprising elements such as CoreDNS, cert-manager, Calico, nginx, Prometheus
- Research & Development role on various new initiatives including CIRA's Secure IoT Registry & CIRA's Secure Home Gateway, as well as research into new technologies and tools CIRA can implement.
- Design, architect and implement infrastructure for CIRA's IoT initiatives on prem and in various cloud providers (AWS, Cloud.ca)
- Elasticsearch Subject Matter Expert - provide maintenance and ongoing support for CIRA's Elasticsearch infrastructure, as well as maintain CIRA's open-source Security & Authentication framework for the ELK Stack.
- Provide guidance, architecture & support in CIRA's effort to migrate Elasticsearch & Kafka infrastructure from on-prem infrastructure onto AWS
- Support, enable and architect CIRA's efforts into big data initiatives for .CA DNS data, cybersecurity services data, as well as BGP routing data
- Converted the bulk of CIRA Labs' legacy infrastructure into modern Infrastructure-As-Code using Terraform, Ansible, Kubernetes+Kustomize and Helm
- DNSSEC expert, implement and maintain new initiatives which make use DNSSEC to enhance security in the DNS ecosystem and to enable innovative uses of the technology.

April 2017 –
April 2019

Application Developer, Labs, Canadian Internet Registration Authority

- Research & Development role working as the lead developer of new bleeding-edge Internet technologies as well bleeding edge "good of the internet" initiatives. This role including being responsible for design and systems architecture, as well as continuing prior work from previous positions such as maintaining CIRA Labs' Big Data infrastructure, and using it to generate meaningful insights using Machine Learning.
- Implemented in house data pipeline to ingest the entirety of the queries on .CA sites (4k+ queries per sec)
- Moved off-site infrastructure & data hosted by a third party into virtualized on-prem infrastructure, as well as setting up Kafka & data streaming into the former in order to consume data in Vertica and Elasticsearch. The data being processed is a large dataset of normal and abnormal (malicious) DNS queries and logs for CIRA's D-Zone DNS Firewall product. Implemented and architected the infrastructure for the deployment the Elastic Stack in CIRA Labs.
- Administration of all CIRA Labs infrastructure, including IdM and OpenLDAP. Cisco HyperFlex, and VMWare vSphere. Cisco ASA administration, experience with Cisco Switches (Nexus) and datacenter environment hardware upgrades, racking, and maintenance
- DNSSEC expert, implemented many solutions which make use DNSSEC to enhance security in the DNS ecosystem and to enable innovative uses of the technology.
- Moved infrastructure over from bare-metal and virtual machines over to a Kubernetes-based container orchestration infrastructure, and implemented monitoring of entire infrastructure stack using Prometheus, Loki and Icinga, as well as Alertmanager and Grafana, and implemented Ansible to manage infrastructure.
- Converted legacy monolith applications over to microservice architecture (front-end and back-end)

- Worked on framework for Secure IoT in the home, specifically DNS & DNSSEC provisioning.

September 2016 –
April 2017

Junior Application Developer, *Canadian Internet Registration Authority*

- Worked in Labs doing R&D in a Jr. Developer role, maintained, implemented new functionality, as well as completed a full re-factor of the backend code for the CIRA Internet Performance Test.
- Designed and implemented RESTful API enterprise application for registering, provisioning DNS zones using PowerDNS as well as secondary DNS using D-Zone Anycast DNS for use with SWiP (single web page) prototype created in partnership with Guides.co (klicky.ca).

May 2016 –
August 2016

Junior Application Developer, Labs - COOP, *Canadian Internet Registration Authority*

- Worked in the first iteration of CIRA Labs, doing R&D in a Jr. Developer role. Duties included design, development and implementation of new cutting edge prototypes including DS Automated Provisioning (<https://dsap.ciralabs.ca>).
- Developed libraries for in-house Machine Learning/Big Data purposes, as well as designed & implemented a system to detect DGA Malware Domains (mostly used for Botnet C&C) with >99.8% accuracy on general DGA detection, and >98% accuracy for detecting the specific algorithm used for said malware domain generation (incl. Cryptolocker, Zeus, goz, newGoZ, Matsnu, Tinba, etc.)

ADDITIONAL SKILLS

Language Skills

- Native-level proficiency in both English & French (Bilingual)

EDUCATION & TRAINING

2015 - 2017

Computer Engineering Technology – Computing Science, *Algonquin College*

2017

Developer Training for Spark & Hadoop (Cloudera) – *DEV-S-H (ExitCertified)*

2018

Docker & Kubernetes For Next Generation Networking (*CloudOps*)

2018

DNS & BIND Advanced Training – *DNSB-A (Men & Mice)*

2019

Elasticsearch Engineer II (*Elastic NV*)