Duane Licudi

📍 Gibraltar ✉ dlicudi@gmail.com in dlicudi ⚫ dlicudi

Summary

Systems Integration Engineer and Developer with over 20 years of experience.

I have extensive experience in UNIX/Linux environments within the ISP/Telecom industries. For the past decade, I have focused on the development and integration of systems at Gibtelecom, including implementing monitoring systems, integrating multiple systems into a unified provisioning platform and achieving ISO 27001 compliance for secure development.

Experience

Gibtelecom, Lead Developer
<div align="right">Gibraltar
Jan 2013 – July 2023</div>

- Deployed monitoring system using **Check_MK** providing monitoring for over 60k services.
- Led the support and integration of **Ericsson** provisioning platforms (EMA/EDA) with BSS systems.
- Achieved **ISO 27001** certification for secure development.
- Developed Web/API provisioning platform (**Python**/**Flask**/**MongoDB**) used company wide by Engineers and Customer Care.
- Developed an **SMS Gateway** using **Django**, **PostgreSQL**, and **FastAPI**, facilitating SMS services for both customers and internal use.
- Developed **Python**/**MongoDB MVNO** number porting service handling over 20k daily porting changes.
- Conducted **MVNO** penetration testing successfully finding numerous **security vulnerabilties** that could be patched before launch.
- Developed specialised web portals (**Django**/**PostgreSQL**) critical in providing seamless subscriber migrations from legacy services.
- Developed a Mediation platform (**Python**/**MySQL**) to facilitate data warehousing and interfacing of usage records for an **MVNO** required for regulatory compliance.
- CI/CD pipelines using **Bash** scripts (unit testing, vulnerability code scanning, building and deploying from **BitBucket Git** repositories).

BetVictor, Enterprise Services Engineer
<div align="right">Gibraltar
Dec 2012 – Dec 2013</div>

- Used **Splunk** to provide health monitoring of **Oracle Coherence** and **ActiveMQ** using **JMX**.
- Deployment processes to eliminate **Oracle Coherence** downtime and improve deployment reliability.
- Diagnosed and fixed configuration issues with the mobile website eliminating downtime.
- Performed **MySQL** database optimisations on a **live betting** platform, significantly improving **performance** and enabling more events to run in parallel.

Licudi IT Consulting Ltd, IT Consultant
<div align="right">Gibraltar
2010 – 2012</div>

- IT consultant specialising in Windows Server 2003 administration, Google Apps for Business setup and management and development of in-house applications.
- Designed **IT infrastructure** for new offices including servers, network switches, telephony and workstations/printers for firm of managers quantity surveyors (John Licudi Consulting Ltd).
- Migration of a **Microsoft Exchange** setup of approx. 25 accounts to **Google Apps**.
- Payroll application (**PHP**/**MySQL**) to automate social security/tax calculations and ability to print on pre-printed payslips.
- Leave management system (**PHP**/**MySQL**) allowing for leave requests to be made online.

Sapphire Networks, IT Systems Manager
<div align="right">Gibraltar
2005 – 2010</div>

- Implemented RT (**Request-Tracker**) and **Redmine** as ticketing systems.
- Expanded existing virtualised infrastructure with **Xen** on **CentOS** and Citrix XenServer.
- Document Management. Produced and managed technical documentation, including procedures and documentation for disaster recovery.
- Provided **Training** for staff within ITS, Helpdesk and the NOC.
- Implementing solutions to recover from server failures, particularly in the provision of disaster recovery manuals/scripts for on call action.
- Application for provisioning ADSL lines on MALC DSLAMs making extensive use of Pear classes for connectivity, and extending classes to hide complexity of provisioning
- Developed system to manage On Call and NOC Shifts online (gained experience using frameworks iUI, iWebkit and jQTouch for better mobile experience).

GibNet, System Administrator
<div align="right">Gibraltar
2000 – 2005</div>

- Gibraltar .GI Registry (**PHP**/**MySQL**, **WHOIS**, online application forms, integrated **billing** and payment gateway integration).
- NAS Dial-Up Frontend. Developed frontend to view and monitor Dial-Up connections using **SNMP** and **PHP**.
- phpMyProjects (**PHP**/**MySQL**) Provided an efficient way to log work done on projects and servers.

- Development and maintenance of an existing user provisioning system based on **C**, **Bash** (+dialog) and **Perl** components.
- Electorate Lookup web application (**PHP**/**MySQL**) on behalf of the Gibraltar **Government** to provide an online lookup tool of the electorate list for upcoming elections and 2006 Referendum.
- Frontend for RADIUS accounting data (**PHP**/**MySQL**) used by Helpdesk support and customer services.
- Deployed paravirtualisation using **User Mode Linux** on a number of servers (as a precursor to newer technologies).
- Developed custom **backup** system for a large server **infrastructure** (**MySQL**/**PHP**/**Bash**). This provided incremental rolling backups easily provisioned via configuration files with the **frontend** providing status of backup jobs.

John Licudi Consulting Ltd, IT Specialist
Gibraltar
1997 – 1999
- Employed in Surveying Practice as an IT Manager with particular responsibility for desktop support, training staff and developing databases/documents for construction related projects.

Projects

Telecoms Provisioning Platform 🔗
2013-2023 (Gibtelecom)

Implemented Web/API provisioning platform (**Flask**/**MongoDB**).
- Customer Care Interface using Flask, Bootstrap, Javascript.
- Flask based RESTful API for external applications.
- Covered many services including Hosted PBXs, SIP Trunks, eSIMs, Panic Buttons, Land Line Services, Mobile Subscribers, IPTV.

Telecoms Monitoring System 🔗
2013-2023 (Gibtelecom)

Monitoring system using **Check_MK** monitoring over 60k services.
- Responsible for monitoring entire company infrastructure.
- Developed custom checks, graphs, plugins for monitoring services.
- Integrated diverse range of devices e.g. UPS systems, environmental sensors, servers, network devices, applications.

Automated Number Porting 🔗
2013-2023 (Gibtelecom)

Automated **MVNO** number porting system based on **Python**/**MongoDB**.
- Processed over 20k porting changes per day.
- Utilised SFTP for file collection, **MongoDB** for data storage and parsing of CSV/gzip data files.
- Interfaced with FNR (Flexible Number Registry) using Telnet/MML to activate changes.
- Multiprocessing capability for multiple activators to run in parallel.
- Modular architecture (Collector, Importer, Processor, Activator).
- Fault tolerant with automatic retries and error handling.

ISO 27001 🔗
2013-2023 (Gibtelecom)

Achieved **ISO 27001** certification for secure development.
- Implemented peer code reviews as part of ticketing system workflow.
- Created standard operating procedures for secure development compliance.
- OWASP based security compliance auditing.
- Implemented detailed workflows for new projects to ensure secure development from the outset.

Cockpitdecks 🔗
2024-2025

Contributor to open source Cockpitdecks, a Python interface for various deck controllers for use with X-Plane.
- Diagnosed and resolved compatibility issues with Loupedeck Live 🔗 on newer hardware firmware models.
- Contributed bug fixes and new features to Cockpitdecks 🔗 repository.
- Established the repository cockpitdecks-configs 🔗 and documentation 🔗 to host a comprehensive set of aircraft configurations for use with CockpitDecks.

Skills

Linux (★★★★★, 20+ yrs): System administration, performance tuning for enterprise services and server management for DevOps (deployment automation, systemd services)

Python (★★★★★, 10+ yrs): Web development, data processing, scripting

PHP (★★★★★, 10+ yrs): Web development, data processing, scripting

ISO 27001 (★★★★☆, 2+ yrs): Experience in implementing secure development processes

JavaScript (★★★☆☆, 10+ yrs): Front-end UI elements with jQuery, Bootstrap, DataTables, Basic DOM manipulation

Bash (★★★★★, 20+ yrs): Used to automate CI/CD pipelines

C (★★★☆☆): Developing command-line tools to incorporate MySQL data into MRTG; kernel patching and compiling for User Mode Linux.

Django (★★★★★, 5+ yrs): Production-grade REST APIs, MVC apps requiring databases and admin portals

Flask (★★★★★, 5+ yrs): Production-grade REST APIs, MVC apps

FastAPI (★★★☆☆, 3+ yrs): High-performance REST APIs

PostgreSQL (★★★☆☆, 10+ yrs): Schema design, queries, performance tuning

MySQL/MariaDB (★★★★★, 20+ yrs): Schema design, queries, performance tuning

MongoDB (★★★★★, 5+ yrs): NoSQL data storage for usage logs, microservices

Oracle (★★☆☆☆, 10+ yrs): Some enterprise usage, queries

Redis (★★★☆☆): Used (with Python RQ) for caching data and queueing requests

Git (★★★☆☆, 10+ yrs): Branching strategies, PRs, CI/CD, code reviews

GitHub (★★★☆☆, 5+ yrs): Open source projects, GitHub workflows/automation and GitHub Pages

VS Code (★★★★★): Daily dev environment, Git integration, remote development, debugging

AI Tools (★★★☆☆): ChatGPT, Copilot, Grok for code suggestions, documentation, automated testing

Regex (★★★★★, 20+ yrs): Extensive use in system administration and development

Celery (★★★☆☆, 5+ yrs): Employed for asynchronous task management, sending emails, two-factor authentication codes and scheduled retrieval of data

Nginx (★★★★☆, 10+ yrs): Used with Django and Flask for reverse proxying and HTTP load balancing

Check_MK (★★★★☆, 8+ yrs): Monitoring of telecoms and internet infrastructure, environmental sensors.

Postman (★★★★☆, 5+ yrs): Incredibly useful tool for API development and security testing.

Markdown (★★★★★, 5+ yrs): Documentation, READMEs, documentation on GitHub

RESTful API (★★★★★, 8+ yrs): Developed APIs using FastAPI, Flask, Django; use of Ericsson node APIs, third-party, and self-developed APIs.

Courses

Microservices Fundamentals ⧉
- Understanding of key principles for architecting microservice applications.
- Techniques for building scalable, flexible, resilient, and secure microservices.

Building Microservices ⧉
- Structuring domain logic and implementing data mapping layers.
- Testing strategies for microservices.
- Handling authentication and authorization in microservice communications.
- Skills in building maintainable, testable, and secure microservices.

Education

ADIP	**University of Portsmouth**, Psychology	Portsmouth, UK 1995 – 1997
	• Advanced Diploma in Psychology	
AHE	**Chichester College**, Science	Chichester, UK 1994 – 1995
	• Foundation Course in Science	

Languages

English: Native

Spanish: Fluent