

Duane Licudi

📍 Gibraltar ✉ dlicudi@gmail.com 💻 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

Gibraltar
2013 – 2023

Lead Developer at Gibtelecom, responsible for all development and integration of key systems.

- 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 vulnerabilities** 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

Gibraltar
2012 – 2013

Middleware Engineer responsible for improving performance and monitoring of critical systems like Oracle Coherence, ActiveMQ, and Apache web servers.

- 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

Gibraltar
2010 – 2012

IT consultant specialising in Windows Server 2003 administration, Google Apps for Business setup and management and development of in-house applications.

- 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.
- 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

Gibraltar
2005 – 2010

Head of IT Systems and Helpdesk with hands on involvement in System administration and software development and responsibility for entire server infrastructure.

- 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 Ltd, System Administrator

Gibraltar
2000 – 2005

Initially allocated responsibilities for Helpdesk support for GibNet customers, Desktop support and system administration. My role was later expanded to focus more on system administration and programming with emphasis on improving server infrastructure (using mod_security and scripts to monitor for vulnerable code hosting internally and by customers) and implementing more resilient services (implementing master/slave MySQL servers, paired servers for RADIUS/DNS/SMTP, and active backup servers for immediate recovery).

- 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 & Partners, 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.

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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

Jinja (★★★★☆, 8+ yrs): Used for templating in Django and Flask, generating SOAP API requests

Courses

Fundamentals of Agents [🔗](#)

- Explain Tools, Thoughts, Actions, Observations, and their formats.
- Explain LLMs, messages, special tokens and chat templates.
- Show a simple use case using python functions as tools.

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

- Advanced Diploma in Psychology

Portsmouth, UK
1995 – 1997

AHE **Chichester College**, Science

- Foundation Course in Science

Chichester, UK
1994 – 1995

Languages

English: Native

Spanish: Fluent