

Platform Engineer



The Platform Engineer provides operational support and development for GNS's cloud and infrastructure systems.

The current primary focus of this role is on the design, development and maintenance of sustainable hardware, software and cloud infrastructure environments for the GeoNet Programme. To support the integration and automation of GeoNet systems and infrastructure, using DevOps workflows, tools and current best practices.

Reports to:	Data Science Platform Manager
Department:	Data Science and Geohazards Monitoring
Group:	Science
Tenure:	Permanent
Location:	Avalon
Direct reports:	Nil
Budget:	Nil
Career Path:	Specialist
Job Family:	Operations, Data and Technology
Career Step:	7
Date:	November 2021

Position priorities and responsibilities

Technical Systems Support

- Using modern DevOps tools and techniques, write code, tests and documentation designed to ensure state and functionality of GeoNet systems and services
- Peer review configuration code and documentation written by other team members and members of other project and operational teams
- Apply DevOps practices, testing and automation techniques to applicable areas in configuration and data-flows of the GeoNet platform and networks
- Monitor and manage critical GeoNet services and infrastructure to ensure correct configuration of systems and databases to drive performance, stability, security and report on performance
- Develop automation and processes to enable teams to deploy, manage, configure, scale and monitor their applications in data centres and in cloud
- Support software development teams and project teams in all elements of environment and release management
- Manage user access and permissions to diverse systems in line with security policies

- Provide subject matter expertise for enhancements, developments and operational enhancements to support Geonet systems
- Execute changes to the cloud and physical infrastructure in line with project requirements and architectural guidance
- Provide assistance with technical issues related to the management and integration GNS and GeoNet infrastructure systems
- Work within the Platform Team, cross-functionally and with vendors to successfully identify, prioritise and resolve issues
- Identify trends in day-to day performance of all cloud and infrastructure components hosted by GeoNet and third-party vendors including active monitoring, alert management and reporting
- Use issue tracking and documentation systems to provide reporting across issues and projects
- Establish operating and troubleshooting policies/procedures for systems performance
- Create plans to upgrade, maintain, support and decommission Geonet infrastructure
- Manage the production deployment of application and system software releases, updates / patches, and configuration changes
- Participate in on-call roster for out of hours support of critical GeoNet systems and functions as required
- Be available to work outside normal hours occasionally, for planned development/maintenance or emergency situations.

Design and Development

- For new developments work as a member of an agile cross-functional project team, contributing platform engineering knowledge, experience and requirements
- Contribute to platform architecture and solutions design, e.g. highly available configuration management systems
- Participate in network layout and design, e.g. virtual private cloud design

Security

- Contribute to making GNS Science's software, hardware, networks and data secure by:
 - identifying, reporting and assisting to eliminate InfoSec risks
 - immediately reporting all InfoSec incidents and near misses to the Senior Manager Information Services and Technology, and
 - promoting a culture where InfoSec is given priority.

Other

- Undertake projects for your manager as and when required.
- Stakeholder collaboration and support/ knowledge transfer
- Build documentation of operating support procedures and transfer knowledge
- Interact closely with the product and project teams across the organisations to design, build, support and maintain fit-for-purpose and supportable backend infrastructure
- Assist other teams with best practice use of cloud technologies and DevOps practices
- Keep up with industry best practices and trends

Responsibilities of all staff

- Comply with all GNS Science policies and procedures.

- Contribute to making GNS Science a healthy and safe place to work by complying with the responsibilities and accountabilities outlined in the Health and Safety Management System Framework.

The responsibilities of this position will change over time to respond to changing needs. The incumbent will need the flexibility to adapt and develop as the company and its environment evolves.

Key working relationships

Internal:

- Data Science and Geohazards Monitoring Department
- Other science teams
- IS&T teams

External:

- External hardware, software, cloud, communications and other service providers

Person specification

Skills, knowledge and attributes

- In depth knowledge of DevOps practices, including at least one configuration management system/tool, preferably Puppet
- In depth knowledge of CentOS Linux, or similar Red Hat-based systems, e.g. RHEL, Fedora
- Knowledge and understanding of containerization technologies, e.g. Docker, Podman
- Current knowledge of cloud computing platforms and tools, e.g. AWS, EC2, RDS
- Skilled with current tools and techniques for modelling managing cloud infrastructure as code, e.g. Puppet, Cloud formation, Terraform
- Experience configuring managing and integrating with monitoring, alerting and scheduling tools such as Datadog and Pagerduty
- Experience handling data in the cloud, using management concepts such as data lakes and other related data operations
- Experience in handling GeoScience software, systems and standards, e.g. SeisComP3, FDSN, ringserver, CAPS, Toast
- Advanced understanding of scripted programming languages, e.g. Python, Bash
- Skilled with at least one compiled language, e.g. C/C++, Golang, Rust
- Skilled with at least one distributed version control system and tool for peer review, e.g. git, GitHub, GitLab
- A willingness to learn and stay up to date with new technology
- Ability to read, interpret, understand and apply technical documentation
- Ability to diagram and write documentation that can be consumed by technical peers and none technical users
- Excellent problem diagnosis and problem-solving skills
- Excellent communication and collaboration skills
- Ability to take the initiative to research, assess, and communicate new ideas and technologies
- Ability to prioritise, plan, communicate, and implement technical changes
- Flexible attitude, ability to perform under pressure
- A strong technical and operational support mindset

- Experience with disaster recovery planning and business continuity planning
- Exposure to Agile development methodologies

Experience

Essential:

- 5+ years of IT infrastructure industry with significant cloud systems and infrastructure support experience

Desirable:

- Experience operating AWS based systems and services

Qualifications

Essential:

- Relevant IT tertiary qualification or demonstrable relevant experience
- AWS certification strongly preferred

Desirable:

- Red Hat Certified Engineer (RHCSA)
- Puppet Certified Practitioner

Performance Dimensions

At a high level, GNS Science recognises six **Performance Dimensions**: three relate to technical capability, one relates to leadership (if applicable) and two relate to the *way we work*. Below are the general expectations that are the minimum standards expected of all staff. There are also expectations that specifically relate to the career step associated with the role; you can find these on GNS Online.

Technical capabilities

Scope, complexity and innovation

- Enduring commitment to maintaining and developing skills and knowledge in area of expertise.
- Both the ability and desire to apply appropriate rigour, principles and practices to deliver quality work in a cost-effective manner.
- Acts in a manner that conveys high personal and professional standards.
- Open to coaching and feedback – incorporates suggestions to find better ways of doing things (to improve own and GNS Science performance).

Contribution to GNS Science / profession

- Establishes and maintains effective and collaborative working relationships – with colleagues and external individuals and groups.
- Both the ability and commitment to work in a culturally responsive and inclusive manner; respecting and valuing the diverse perspectives of individuals and groups.
- Takes an interest in early career colleagues, graduates and students – provides coaching and/or mentoring as appropriate. Supports initiatives to promote science careers.
- Prevents harm to self and others by carrying out duties safely and responsibly.

Delivery of work

- The ability and commitment to deliver pieces of work and projects on time to required quality, cost and benefit parameters.
- The application of appropriate project management rigour, principles and practices to delivering quality projects in a cost-effective manner

Behavioural expectations

Manaakitanga – we do the right thing

- Champions a positive working culture. Works and interacts with colleagues, external partners, stakeholders and customers in a way that is consistent with our values:
 - We are **CONNECTED** in our purpose; with each other, with partners and stakeholders and with our communities.
 - We are **INSPIRED** by our work to explore, challenge, innovate and aim higher.
 - We are **EMPOWERED** to be our best – valued for our differences, encouraged to contribute and enabled to grow and develop.

Bicultural commitment

- As a Crown Research Institute, GNS Science is committed to partnering with iwi/hapū and Māori communities and agencies to achieve their science aspirations.
- We do this in a way that is culturally appropriate (**tikanga**) and honours Māori and non-Māori worldviews (**te ao**).

These expectations are intended to support and guide the development of individual staff.