New Zealand Intelligence Community
Te Rōpū Pārongo Tārehu o Aotearoa
nzic.govt.nz

Position Description

GCSB Cryptologic Engineer

Business unit:	ICT Capability Directorate – I&C Group
Position purpose:	To assist with the delivery of cryptologic business technology solutions including; information technology hardware, computer processing and storage, software integration and systems management, and network engineering services.
Direct reports:	Delegated responsibilities for junior engineering and Cryptologic Technician staff as appropriate.
Financial delegation:	None
Directorate overview:	The ICT Capability Directorate partners with operational Directorates in GCSB, NZSIS and the wider sector to deliver and operate technology solutions. It provides vision, leadership, and governance of the overall ICT strategy, ensuring alignment with the GCSB and NZSIS strategies and investment plans.
Business unit overview:	The infrastructure and Capability Group comprises two business units. This group has responsibilities across all GCSB Capability Directorate IT infrastructure and parts of the NZIC shared infrastructure
Date evaluated:	April 2014

GCSB Mission and Values

Our Mission

Protecting and Enhancing New Zealand's Security and Wellbeing.

Our Values

Respect, Commitment, Integrity, Courage.

Functional Relationships

External contacts:	Internal contacts:
▪ Vendors and Industry Partners ▪ NZIC Staff ▪ Partner Agencies ▪ Telecommunications Service Providers	▪ Engineering Managers I&C ▪ Cryptologic Engineers ▪ Cryptologic Technicians ▪ Service Centre Technicians ▪ Infrastructure Technicians ▪ Intelligence Directorate Staff ▪ IA&C Directorate Staff ▪ ICSS Staff ▪ Technology Governance Board ▪ Technical Standards Authority ▪ Solutions Development and Integration unit

Objectives

The position of Cryptologic Engineer encompasses the following major functions or objectives:

- ▪ Cryptologic Engineering
- ▪ Documentation
- ▪ Project Management
- ▪ Technical Design
- ▪ Mentoring and subject-matter expertise

The requirements in the above objectives are broadly identified below:

Jobholder is accountable for:	Jobholder is successful when:
Cryptologic Engineering ▪ Participating in system design and implementation for GCSB business infrastructure through the application of technology and tradecraft. ▪ Proactive research and assessment of	▪ Equipment and systems are installed and maintained to the highest standard. ▪ Capability, processes, designs and engineering tradecraft are aligned with business requirements and continually

the potential benefits and/or impact of new developments in Cyber and commercial technology relevant to the GCSB business outcomes.
- Being GCSB subject matter expert for assigned systems and technology.
- Contributing to cryptologic system engineering tradecraft and institutional knowledge.

improved.
- New 'first of' technical capability refinements are forecast and implemented in an approved and risk-managed manner.
- A stable build of capability within nominated lead area is maintained and available for deployment as required.

Documentation
- Ensuring system documentation is prepared and maintained to a suitable standard for certification and accreditation.

- Knowledge within nominated lead areas is documented and effectively transferred to the organisation through system documentation, operating procedures and comprehensive technical reports.
- Systems are documented to the required standard for certification.
- Documentation is maintained at the necessary detail and accuracy to contribute to lifecycle support.

Project Management
- Managing projects to the necessary standard using an approved methodology.
- Contribute expertise to wider Bureau projects as required.

- Projects are managed according to best practices with deliverables cleanly transitioned to the customer to their satisfaction. Training and lifecycle support mechanism in place.

Technical Design
- Elaboration of system design and architecture specifications.
- Providing technical advice and guidance to other capability development units on the integration of capabilities and end-to-end system performance.
- Providing credible engagement with manufacturers, suppliers and service provides as required.
- Providing technical advice.

- Complex technology is implemented across the GCSB maximising the desired business benefit with minimal adverse unintended consequences, and in accordance with approved architectural principles.
- Customers and counterparts value the business benefits derived from the delivered capabilities.
- The technical credibility of the GCSB is enhanced through engagement with the NZIC.

Mentoring and Subject-matter Expertise

- Demonstrating the Bureau values and acting as a role model.
- Supporting team members in achieving objectives, identifying development opportunities, and identifying areas for improvement in a positive constructive manner.
- Becoming recognised as a subject matter expert and being able to speak authoritatively to any audience on a range of subjects within area of responsibility.
- Contributing to business planning at section, unit and/or directorate level.

- The Manager and or Supervisor is aware of the development needs for less experienced staff.
- Acts as an adviser on matters relating to field of expertise internally and/or externally.
- Is acknowledged as an expert resource in area(s) of expertise.
- Represents the Bureau at conferences or working groups as required.
- Is called on for, and makes active contribution to, business planning up to directorate level on area of expertise.

Precise performance measures for this position will be developed in discussion between the jobholder and manager as part of the performance development and review process. It is also expected that you will undertake other duties that can be reasonably be regarded as relevant to the position, your experience and capability.

Person Specification

This section is designed to capture the expertise required for the position at the fully effective level. (This does not necessarily reflect what expertise the current jobholder has.) This may be a combination of knowledge, experience, key skills, attributes, job specific competencies, qualifications or equivalent level of learning, .

Qualifications

Essential:	Desirable:
▪ NZQA Level 6/7 or equivalent ▪ Tertiary degree in computer science or engineering majoring in telecommunications or electronics or equivalent (e.g. NZCE with relevant work experience).	▪ A post-graduate qualification in engineering ▪ Registration as a professional engineer

Knowledge / Experience

Essential:	Desirable:
▪ Eight years relevant experience in Computing, Information Technology, Electrical or Telecommunications.	▪ Computer programming skills e.g. bash, Java, Python, C, scripting languages. ▪ Proven development experience of software solutions. ▪ Successful project management ▪ Experience with leading and working within a team

Personal Attributes

- Strong interpersonal and communications skills and the ability to relate effectively to both technical and non-technical people.
- Excellent problem-solving skills, a strong operational focus, a drive to achieve outcomes, the capacity to perform effectively under pressure, whilst delivering complex technological capabilities.
- An eye for detail and a commitment to accuracy and quality in all work activities.
- An aptitude for critical analysis and consequential reasoning

Core Competencies

Core competencies are based on and consistent with our values. They describe qualities that are common requirements for all GCSB staff at differing levels in the organisation, irrespective of their specialist skills or the particular requirements of their job. They are complemented by specialist competencies, which (where applicable) are set out in individual performance agreements.

All employees are measured against the following core competencies as part of performance development and review:

- Security
- Teamwork and leadership
- Results focus
- Communication and knowledge sharing
- Professionalism
- Innovation
- Customer focus.

Changes to Position Description

Positions in the GCSB may change over time as the organisation develops. Therefore we are committed to maintaining a flexible organisation structure that best enables us to meet changing market and customer needs. Responsibilities for this position may change over time as the job evolves. Such change may be initiated as necessary by the manager of this position. This position description may be reviewed as part of planning for the annual performance cycle.

Health and Safety

GCSB is committed to providing a healthy and safe work environment and management practices for all employees. Employees are expected to share this commitment as outlined in current Health and Safety legislation by taking all practicable steps to ensure:

a. The employee's safety while at work; and

b. That no action or inaction of the employee while at work causes harm to any other person.