



JOB DESCRIPTION

Post Details:

Post Title:	Interoperability Engineer	Organisational Element:	CQO
Military/Civilian:	Civilian	Location:	The Hague (NL)

Organisation context:

This is a position within the NATO Communications and Information Agency (NCIA), an organization of the North Atlantic Treaty Organization (NATO).

To strengthen the Alliance through connecting its forces, the NCIA delivers secure, coherent, cost effective and interoperable communications and information systems in support of consultation, command & control and enabling intelligence, surveillance and reconnaissance capabilities, for NATO, where and when required. It includes IT support to the Alliances' business processes (to include provision of IT shared services) to the NATO HQ, the Command Structure and NATO Agencies.

Organisational Element Statement of Functions:

The Chief Quality Office (CQO), led by the Chief Quality Officer, acts as the Agency Quality Assurance and Quality Control authority. To that end, the CQO provides the required policy, directives, processes, procedures and tools to be followed and used Agency-wide. The CQO is responsible for the Agency's Quality Management and Risk Management systems; governs testing, verification and validation; is responsible for the execution of any independent verification, validation and independent interoperability assurance; is responsible for all Agency reference environments; and, provides related services and support.

The Independent Assurance Branch (IAB) is responsible to provide independent assurance of Agency delivered capabilities, including independent status reporting at executive level. This includes the activities in the scope of projects, programs and portfolio delivering new capabilities, as well as those performed in support of the Agency Authorized Software List (A2SL) Change management process lead by Service Management and Control (SMC). It also governs interoperability assurance activities performed by NCIA, being responsible for the execution of any independent activities and provides the required policy, directives, processes, procedures and tools to be followed and used Agency wide for interoperability assurance. Finally, the IAB branch performs interoperability assurance activities in accordance with the assigned roles and responsibilities in the corresponding directives and governance and management structures at NATO Enterprise, NATO Alliance and any Coalition where NATO participates in.

Job role description:

As an interoperability engineer, you will specialize in designing, implementing, maintaining systems that

enable different software applications, devices, or platforms to work together seamlessly. Your primary focus is on ensuring that disparate systems can communicate, exchange data, and function cohesively.

- **Focus:** Interoperability engineers focus on the technical implementation and execution of interoperability solutions.
- **Responsibilities:** They design, develop, and maintain systems, interfaces, and integration tools to enable seamless communication and data exchange between different systems. Their role involves hands-on development, testing, troubleshooting, and optimization of interoperability solutions.
- **Expertise:** They have a deeper technical background in areas such as software development, networking, and system integration. They are proficient in programming languages, middleware technologies, and API design.

Duties and Responsibilities:

Acceptance testing

- Develops acceptance criteria related to functional and non-functional requirements, business processes, features, user stories and business rules.
- Designs, specifies and executes test cases and scenarios to test that systems, products and services fulfil the acceptance criteria and deliver the predicted business benefits.
- Collaborates with project colleagues and stakeholders involved in the analysis, development and operation of products, systems or services to ensure accuracy and comprehensive test coverage.
- Analyses and reports on test activities, results, issues and risks including the work of others.

Systems design

- Follows standard approaches and established design patterns to create new designs for simple systems or system components.
- Identifies and resolves minor design issues.
- Identifies alternative design options and seeks guidance when deviating from established design patterns.

Testing

- Selects appropriate testing approach, including manual and automated testing.
- Develops and executes test plans and test cases.
- Implements scalable and reliable automated tests and frameworks.
- Collaborates across parties involved in product, systems or service design and development to enable comprehensive test coverage.
- Identifies improvements in requirements, design or specification processes to increase the effectiveness and efficiency of testing.
- Analyses and reports on test activities, results, issues and risks, including the work of others.

Software configuration

- Assists in designing, verifying, documenting, amending and refactoring moderately complex software configurations for deployment.
- Applies agreed standards and tools, to achieve a well-engineered result.
- Collaborates in reviews of work with others as appropriate.

Stakeholder relationship management

- Deals with problems and issues, managing resolutions, corrective actions, lessons learned, and the collection and dissemination of relevant information.

- Implements stakeholder engagement/communications plan.
- Collects and uses feedback from customers and stakeholders to help measure the effectiveness of stakeholder management.
- Helps develop and enhance customer and stakeholder relationships.

Software Product Testing

- Has experience with planning and executing full spectrum of tests for multiple products.
- Provides input to design team to ensure testing considerations are incorporated into system design.
- Creates test scenarios that ensure all error handling processes perform as expected.
- Defines, creates, and executes test plans and cases; estimates time, effort and resources required.
- Explains approaches and tools for functional, reliability, and vulnerability testing.
- Discusses applications of iterative testing using agile methodologies.

Software Test Engineering

- Describes major tools and methods for testing code coverage.
- Highlights major types of tests and associated objectives for every phase of the development cycle.
- Participates in the design of testing plans and selection of test suites.
- Has participated in designing unit test for modules or components of a software product.
- Describes various tools and approaches for program testing, usability testing, and fault detection.

Additional duties for this post:

- Contribute to Interoperability assurance activities on NATO led mission networks and exercises, like Steadfast Cobalt or Coalition Warrior Interoperability Exercise (CWIX);
- Participate in Coalition Interoperability Assurance and Validation (CIAV) Working Groups for the different initiatives, like Federated Mission Networking (FMN) or Allied Reaction Force (ARF);
- Perform interoperability assessments for projects and cross-project, as well as for NATO Enterprise, NATO Alliance and Mission Networks;
- Participate in interoperability testing events and leads planning and execution of events she/he is responsible for;
- Analyse complex test scenarios based on operational use cases, extract the test conditions, design tests events;
- Contribute to the management and maintenance of the Assurance, Verification and Validation (AV&V) repository, including services, service functions, test requirements, test cases and use cases;
- Contribute to the definition and report of interoperability KPIs at project, portfolio and programme level;
- Support the design, optimization and execution of interoperability Verification and Validation (V&V) processes;
- Collect results from programmes and projects and aggregate them in dashboards and reports;
- Assure traceability of interoperability requirements from portfolio to programme to project;
- Maintain necessary documentation and audit trail of all activities conducted;
- Support to NATO and the NCIA interoperability strategy, policies and plans, and execution;
- Ensure interoperability tools are used consistent and provide process/procedural guidance;
- Assist with recruitment of staff as required;
- Deputize for higher grade staff, if required;

- Perform other duties as may be required.

Education, Experience and Training (essential):

Education:

- A minimum requirement of a Bachelor's degree at a nationally recognised/certified University in a related discipline and 2 years post-related experience; Or exceptionally, the lack of a university degree may be compensated by the demonstration of a candidate's particular abilities or experience that is/are of interest to NCIA; that is, at least 6 years extensive and progressive expertise in the duties related to the function of the post;

Experience:

- At least 2 years of recent experience in interoperability events and planning and execution of test, verification and validation activities in commercial or military environments;
- Proven experience with development of principles, assumptions, rules and guidelines to analyse, structure and classify interoperability requirements and their assessment for portfolios, programmes and projects
- Proven experience with managing external stakeholders during the execution of large or complex projects, either in commercial or military environment;
- Experience with using, designing, operating, maintaining or testing virtualized and cloud-based environments;
- Experience as test engineer in interoperability events;
- Experience testing NATO Standards, like MIP, FFT, TDL, NVG, OTH-Gold, APP-11 or
- Experience testing Commercial standards, like NTP, DNS, SMTP/S, LDAP/S, SAML, HTTP/S,
- Knowledge of ISTQB foundation principles;

Education, Experience and Training (desirable):

Education:

- International Software Testing Qualification Board (ISTQB) foundation;
- Advanced certification in the area of testing and testing management;

Experience:

- Knowledge of the IO Toolset, Tidepedia, and JIRA;
- Experience testing NCIA applications like ICC, JTS, FAST, NCOP, LOGFAS, TOPFAS, etc...;
- Experience in various areas of Software Engineering including some of the following:
 - Requirements elicitation and management;
 - Software design, implementation and testing;
 - Programming techniques and methodologies;
 - Configuration management practices and tools;

- Agile software development methodologies.
- Experience as a tester or independent verification and validation engineer, during all phases of the project lifecycle;
- Working level knowledge of PowerShell, Bash and Python;
- Working-level knowledge of MS-Office, Project, Visio and SharePoint;
- Prior experience of working in an international environment comprising both military and civilian elements;
- Knowledge of NATO responsibilities and organization including ACO and ACT.

Training/Certifications:

- International Software Testing Qualification Board (ISTQB) Advanced – Test manager;

Behavioral competencies:

- *Adhering to Principles and Values* - Upholds ethics and values; demonstrates integrity; promotes and defends equal opportunities, builds diverse teams; encourages organisational and individual responsibility towards the community and the environment.
- *Formulating Strategies and Concepts* - Works strategically to realise organisational goals; sets and develops strategies; identifies, develops positive and compelling visions of the organisation's future potential; takes account of a wide range of issues across, and related to, the organisation.
- *Delivering Results and Meeting Customer Expectations* - Focuses on customer needs and satisfaction; sets high standards for quality and quantity; monitors and maintains quality and productivity; works in a systematic, methodical and orderly way; consistently achieves project goals.
- *Adapting and Responding to Change* - Adapts to changing circumstances; tolerates ambiguity; accepts new ideas and change initiatives; adapts interpersonal style to suit different people or situations; shows an interest in new experiences.
- *Planning and Organising* - Sets clearly defined objectives; plans activities and projects well in advance and takes account of possible changing circumstances; identifies and organises resources needed to accomplish tasks; manages time effectively; monitors performance against deadlines and milestones.

Language:

A thorough knowledge of one of the two NATO languages, both written and spoken, is essential and some knowledge of the other is desirable.

NOTE: Most of the work of the NCIA is conducted in the English language.