



SOFTWARE TEST ENGINEER (TEST SYSTEMS)

COMPANY: e2E SERVICES LTD.
JOB REF: RES.041
TYPE OF ROLE: PERMANENT
PRIMARY LOCATION: WELWYN GARDEN CITY, HERTFORDSHIRE
CLIENT LOCATIONS: LONDON



Our Company

e2E has been at the forefront of innovation in the space sector, specialising in satellite communications, for two decades, offering to all our world-wide stakeholders unrivalled expertise to design, develop and operate state-of-the-art solutions and systems. Our portfolio of consultancy services and technology know-how covers the entire spectrum of any satellite communication project, from market opportunity sizing and end-user requirements down to ground network development and operations. To both commercial and defence related domains, we also offer unique modular and agile technology to enable a more user-friendly and accessible use of satellite communication resources.

Innovation and ingenuity are the guiding principles of anything we do for our customers. Working with e2E requires a high level of dedication and personal motivation, commitment and a drive to continually seek to strive to improve – and the results consistently achieved over the years, at both personal and team levels, are outstanding and make e2E a great place to work.

Job Description

Our team is involved in establishing the assurance and test programmes for satellite communications networks for both civil and military customers. These networks can involve GEO, MEO and LEO satellite constellations.



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We are expanding our team and are seeking a **Software Test Engineer (Test Systems)** to support the ongoing test programmes that are necessary to ensure mission success. This role will typically require development of the verification/test strategy which encompasses sub-system acceptance, integration and end-to-end system and acceptance test campaigns for cutting-edge satellite communications networks.

The candidate is expected to undertake software design and development tasks on advanced satellite communications networks and supported communications services. Working closely with e2E's clients through the test campaigns that will precede communications service launch and will be responsible for undertaking a variety of test-related activities and related communications systems engineering tasks including the development of test strategies, plans and procedures at system, network and end-user terminal levels.

e2E requires an excellent understanding of a typical satellite project at both system and subsystem levels, incorporating both space and ground segments, and a thorough breadth of test system, systems engineering knowledge and experience. The successful candidate is ideally expected to have acquired some areas of specialisms also and so will be expected to demonstrate experience of many - but not necessarily all - of the following skills, experience and responsibilities.

Key Responsibilities

- Design, develop and prepare VV&T (Validation, Verification and Testing) strategies and plans, environments, facilities and equipment for complex mobile and fixed satcom networks (GEO and non-GEO/LEO/cubesats constellations) and their associated test environments.
- Work with team leads, Scrum Master and Product owners in delivering user stories on time.
- Leading meetings involving sub-contractors and/or customers.
- Creation, QA (Quality Assurance) and development of automated test suites.
- Experience of creating test procedures / cases which may include the incorporation of satellite payload (communications, optical), ground systems, satellite radio networks, IP and service networks.
- Testing network devices' communication paths and capacity performance, conducting post-test data analysis and reporting.
- Ground segment engineering/terminal design, development and test.
- Identifying and troubleshooting system communication paths and capacity performance, as well as conducting post-test data analysis and reporting.
- Create test reports to document issues and assist development with the investigation and resolution of issues.
- Review and comment on 'testability' issues (e.g.: obvious design flaws, perceiving where there may be missing test procedures).
- Anticipate data collection points and develop plans for, and conduct, anomaly tests and analysis as required.



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Skills, Character and Experience

- Experience of working as an integral part of a highly focused team; self-motivated and enthusiastic even when under pressure.
- Demonstrable experience in a relevant technical domain.
- Experience of designing, building, testing, integrating and maintaining modern software applications.
- Experience of testing user interfaces (UI/UX).
- Experience using test management tools (Jira, X-ray).
- Previous experience in testing and/or fault analysis and faulting tools (e.g.: Wireshark, Spirent, or similar).
- Experience in using Linux-based systems (e.g.: Redhat, Debian).
- Strong analytical skills, the ability to identify key issues and to solve day-to-day challenges and issues and to report upon and present KPI (Key Performance Indicator) and SLA (Service Level Agreement) information.
- Good customer-facing and communication skills with ability to produce and present clear, concise and unambiguous presentations to customers and other clients
- Proven ability to develop innovative solutions to defined problems; adaptable to new requirements and changing priorities.
- Awareness of both commercial and technical issues.
- Willing to travel nationally and internationally, for example to support test execution campaigns (project dependent).

Essential

- Graduate with a good Honours or Masters degree in a relevant subject (e.g.: Space Systems Engineering, Software Engineering / Computing, Networks, Electronics, Communications); equivalent qualifications and/or experience can be considered as an alternative
- Experience in testing within satellite communication technologies / networks with an appreciation of satellite subsystems, systems engineering processes and operational environments.
- At least five years' experience in the development of communications system test strategy, plans and procedures, VV&T documentation and test execution in either ground and/or space segment environments, ideally gained via a global satcom network provider.
- An understanding of OOP (Object-orientated Principles) ideally via the use of Java, C++ and Scripting Languages (e.g.: Python, Javascript, BASH, cshell); ability to work with abstract concepts, and to express and communicate them through documentation; experience of using a variety of coding languages in different environments.
- Experience of software-focussed development methodologies (i.e.: Agile, DevOps).
- Knowledge of test automation software (e.g.: Selenium, Cucumber, Gherkin).
- Experience in API testing (e.g.: unit, functional, load / performance testing, etc.).
- Knowledge of networking concepts (e.g.: TCP-IP/DNS/DHCP/Network Routing/ICMP).



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- Experience using relational databases.
- Experience of version / source control systems.
- Strong practical knowledge of systems engineering practices from requirements engineering through design/development and on to VV&T.
- Testing experience in a variety of environments/venues (test automation environments and languages, stand-alone/integrated testing, factory acceptance testing, operational networks, end-user terminal testing).
- Solid and relevant experience of planning test campaigns, conducting tests, collecting and analysing data from tests, communicating results and anomalies to test management and the customer through both presentations and formal test reports.
- Experience and knowledge of IP network design, protocols and security of data; experience of troubleshooting of network, RF signal connection and protocol problems, including identifying and solving problems and issues.

Desirable

- Chartered Engineer or equivalent.
- Some experience with Cloud Technologies, such as: AWS, Microsoft Azure or Google Cloud Platform.
- Quality Assurance and Project Management experience would be advantageous.
- Experience with ESA project and documentation processes and familiarisation with ECSS and other standards.
- Practical experience in the commissioning and testing of satellite systems (space and/or ground segment based) with a leading satellite network operator (GEO and/or non-GEO).
- Experience with network challenges associated with systems integration, including COTS (Commercial Off The Shelf) integration, capacity and performance analysis and system architecture design.
- Skills necessary to evaluate network hardware, software, algorithms and processes to verify and characterise network capability.
- Familiarity with OSS/BSS (Operations Support System / Business Support System) technologies and their use in management and reporting of communications networks.
- Experience in assessment/development of security architectures in a communication systems and/or military communications networks.

Salary

- Attractive compensation package dependent on skills/experience plus a growing list of Company benefits
- By submitting your CV/application you are consenting to e2E Group using and storing information about you for monitoring purposes relating to your application of future employment. This information will only be used by e2E Group.



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e2E Group is committed to achieving workforce diversity and welcome all applications irrespective of social and cultural background, age gender, disability, sexual orientation or religious belief.

