

Test Engineer

Location: Ellicott City, Maryland (Hybrid)

Department: Engineering / Networking & Embedded Systems

Employment Type: Full-Time

About Tolero Networks

Tolero Networks enables secure, resilient communications from the most remote locations on Earth to the far reaches of the solar system. We build technologies that facilitate cooperative resource sharing across terrestrial and extraterrestrial networks.

We are seeking a **Test Engineer** to participate in the verification and validation of the Tolero Overlay Networking Router and associated software. In this role, you will verify and validate the quality of Tolero software products. You will work directly with system requirements and Interface Control Documents (ICDs) to design comprehensive test suites, custom test datasets, and automated test software. You will execute these tests against various configurations of Tolero router software and evaluate test results to ensure peak performance, reliability, and standards compliance.

Key Responsibilities

- **Test Case & Plan Generation:** Analyze functional requirements, system specifications, and Interface Control Documents to design functional test plans, functional test cases, and operational scenarios for scenario and stress testing.
- **Test Dataset Creation:** Design and synthesize specialized test datasets, traffic profiles, and simulated link environments to validate router behavior.
- **Test Software Development:** Write, maintain, and expand test automation software, scripts, and software-in-the-loop (SIL) / hardware-in-the-loop (HIL) frameworks in Python, C/C++, Bash, or similar languages to automate and accelerate functional and regression testing.
- **Execution & Result Evaluation:** Execute functional, scenario, stress, performance, regression, and security testing against Tolero software; systematically capture and evaluate execution logs, memory dumps, and protocol traces.
- **Defect Triage & Collaboration:** Partner with developers to reproduce, document, and triage software defects.

- **Culture & Ownership:** Cultivate a technical environment that encourages creative problem-solving, high-quality standards, collaboration, and team ownership of complex engineering products.

Required Qualifications

- **Education:** Bachelor's degree in Computer Science, Computer Engineering, Software Engineering, or a related field (or equivalent practical experience).
- **Test & Verification Experience:** 3+ years of professional experience in software testing and/or quality assurance for embedded and/or networking devices.
- **Test Software Development:** Demonstrated proficiency in scripting and programming (e.g., **Python**, **Bash**, or **C/C++**) to build automated test frameworks, parsers, and test harnesses.
- **Requirement-Driven Testing:** Proven track record of deriving test plans, test cases, and pass/fail criteria directly from system requirements documents and interface specifications.
- **Network & Log Analysis:** Strong ability to analyze network traffic and system execution results using tools like Wireshark, tcpdump, gdb, or custom log parsers.
- **Communication & Collaboration:** Excellent analytical and communication skills, with the ability to clearly document bugs and convey test outcomes across both software and systems engineering teams.

Preferred Qualifications

- Hands-on experience developing or operating **Hardware-in-the-Loop (HITL)** or **Software-in-the-Loop (SIL)** testbeds for embedded Linux or Real-Time Operating Systems (RTOS).
- Familiarity with network traffic generators (e.g., Scapy, Iperf, TRex) and network impairment tools (e.g., NetEm, WAN emulators).
- Experience using defect tracking systems (e.g., Jira) and integrating automated tests into continuous integration toolchains (e.g., GitLab CI, Jenkins).
- Understanding of embedded hardware interfaces and debugging setups (e.g., serial consoles, JTAG, logic analyzers).
- Experience with spacecraft payload integration, onboard data handling, or spaceflight communications subsystems.

- Ability and willingness to obtain a Top-Secret level security clearance. This includes being subject to a government security clearance investigation and meeting the requirements for access to classified information. Eligibility requirements include U.S. citizenship.

Why Build the Future with Tolero?

At Tolero Networks, solving the toughest communications challenges—from remote terrestrial environments to interplanetary space—requires brilliant minds working seamlessly together. We cultivate an open, purposeful environment where curiosity is celebrated, ego is left at the door, and cross-disciplinary collaboration fuels our most complex achievements.

If you are a smart, proactive problem solver who thrives in a supportive team culture and gets energized by the idea of building the networking infrastructure that connects our world to the solar system, Tolero is where you belong. Join us, and help pioneer the future of resilient, solar-system-wide communications.

Benefits

Tolero offers a generous, comprehensive benefits package designed to support our team members and their families:

- **Compensation & Equity:** Competitive base salary, performance bonuses, and company equity opportunities.
- **Health & Wellness:** Comprehensive medical, dental, and vision plans, plus Flexible Spending Accounts (FSAs).
- **Financial Security:** Retirement plans with Tolero contributions, life insurance, and short- and long-term disability coverage.
- **Work-Life Balance:** Generous paid time off (PTO) to ensure rest and recharge.

Equal Opportunity Employer Statement

Tolero is an Equal Opportunity Employer. We celebrate diversity and are committed to creating an inclusive environment for all employees. We do not discriminate based on race, color, religion, sex (including pregnancy, gender identity, and sexual orientation), national origin, age, disability status, genetic information, protected veteran status, or any other characteristic protected by law. Qualified applicants from all backgrounds are encouraged to apply.