

Software Engineering Lead

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 **Software Engineering Lead** to manage and technically direct a growing team of 10–12 embedded software developers building the Tolero Overlay Networking Router. In this role, you will balance technical architecture, software delivery, and people management. You will establish software engineering best practices, guide low-level architecture in C/C++ and Rust, manage release schedules, and empower your engineering team to deliver flight-ready, deterministic networking software.

Key Responsibilities

Team Leadership & Operational Management

- **People Management & Mentorship:** Lead, hire, and develop a team of 10–12 embedded software engineers, fostering a strong culture of technical excellence, collaboration, accountability, and continuous professional growth.
- **Resource Allocation & Sprint Planning:** Drive agile development processes, manage feature backlogs, allocate team resources, and maintain predictably high delivery standards for software milestones.
- **Documentation Governance:** Establish standards for the timely and accurate delivery of technical documentation, ensuring team-authored codebases, design specifications, Interface Control Documents (ICDs), and user guides are kept current and precise.
- **Process & Code Quality Governance:** Define and enforce software quality standards, rigorous code review procedures, automated testing protocols, and static/dynamic software analysis.

Technical Architecture & Delivery

- **Software Architecture Oversight:** Guide the software design of the Tolero router, ensuring scalable, high-performance execution across embedded Linux, Real-Time Operating Systems (RTOS), and flight software environments.
- **Cross-Functional Integration:** Partner closely with systems engineering leads, protocol specialists, and firmware engineers to ensure software execution adheres strictly to system specifications and Interface Control Documents (ICDs).
- **Test & Automation Strategy:** Lead the development of robust Software-in-the-Loop (SIL) and Hardware-in-the-Loop (HIL) testing framework strategies and modern CI/CD automation for embedded targets.
- **Technical Documentation & Deliverables:** Lead the timely creation, review, and maintenance of accurate software documentation—including software architecture designs, API specifications, interface implementations, and release notes—ensuring seamless alignment across systems engineering, testing, and customer teams.
- **Stakeholder Engagement:** Communicate engineering roadmaps, software progress, and technical risks to executive leadership, external partners, and key customers during design reviews.

Required Qualifications

- **Education:** Bachelor's degree in Computer Science, Computer Engineering, Software Engineering, or a related technical field (or equivalent practical experience).
- **Embedded Software Expertise:** 8+ years of professional software development experience using **C**, **C++**, and/or **RUST** in resource-constrained environments.
- **Leadership Experience:** 3+ years in a software engineering management or technical lead role, with direct management of software development teams.
- **Systems Programming & POSIX:** Deep understanding of multi-threading, concurrency control, IPC, socket programming, memory management, and debugging on Linux/POSIX/RTOS platforms.
- **Software Operations:** Understanding of software delivery pipelines, version control (Git), build automation (CMake, Yocto, or Buildroot), and agile methodologies.
- **Communication Skills:** Exceptional verbal and technical writing skills with a track record of bridging engineering teams, leadership, and external stakeholders.

Preferred Qualifications

- Master's degree in Computer Science, Computer Engineering, or a related field.
- Experience leading teams of 10+ engineers through full software development lifecycles for aerospace, defense, or networking equipment.
- Familiarity with spaceflight software frameworks (e.g., NASA cFS/cFE) or satellite communications subsystems.
- Knowledge of Delay/Disruption-Tolerant Networking (DTN) protocols (e.g., Bundle Protocol / RFC 9171) or secure protocol implementations (BPSec / RFC 9172).
- Hands-on experience architecting Hardware-in-the-Loop (HIL) emulation environments for complex network nodes.
- Experience with spacecraft payload integration, onboard data handling, or spaceflight communications subsystems.
- Proven success authoring proposals or building consensus among diverse technical stakeholders.
- 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.