



Job Posting – Waltham, Massachusetts

Senior/Principal Software Engineer — Networking

About IntervalZero

IntervalZero is committed to reinventing how Industrial Control Systems are developed, deployed, and managed. With decades of real-time software innovation and a global customer base across automation, medical, aerospace, test and measurement, and advanced manufacturing, we have consistently delivered deterministic performance and engineering excellence.

Today, we are extending that legacy into the next era of industrial computing. MaxRT wRTOS™ unifies our real-time and automation technologies into a single platform designed to meet the demands of cyber resilience, IT/OT integration, and cloud-orchestrated control.

Headquartered along the Boston technology corridor, IntervalZero is relentlessly focused on its customers, and we share their pursuit of excellence. We partner closely with machine builders and OEMs to help them transition from operational disruption to remote continuity, from labor-intensive patching to centralized automation, and from compliance risk to built-in resilience. Our focus remains constant: deliver the software foundation that allows our customers to innovate with confidence in a rapidly changing world.

About this Position

As a **Senior/Principal Software Engineer**, you will be the technical owner and subject-matter expert for Networking and Time-Sensitive Networking within the MaxRT family of products. You will design and implement high-performance network stacks, deterministic communication pipelines, and TSN capabilities that meet the demanding needs of industrial and real-time customers.

This role requires deep networking expertise, real-time systems understanding, and the ability to drive architecture and product strategy while contributing hands-on to implementation.

Key Responsibilities

Architecture & Design

- Lead the design and evolution of the networking architecture with a focus on deterministic and low-latency communication.
- Architect and implement Time-Sensitive Networking (TSN) features, including IEEE 802.1AS, 802.1Qbv, 802.1Qbu, 802.1Qci, and 802.1Qcc.
- Evaluate and integrate emerging networking technologies relevant to industrial automation and real-time systems.

Implementation & Development

- Develop and optimize high-performance kernel-level and user-space networking components.
- Implement deterministic scheduling, traffic shaping, and packet processing mechanisms aligned with TSN standards.
- Extend or build network drivers, protocol stacks, and hardware offload features to support real-time workloads.
- Develop test frameworks for validating timing precision, jitter reduction, and network determinism.

Performance & Quality

- Profile and optimize latency, throughput, jitter, and determinism across the full network stack.
- Collaborate with QA to define performance benchmarks and verification strategies.
- Debug complex real-time and networking issues across kernel, driver, and hardware layers.

Collaboration & Leadership

- Serve as a company-wide expert and mentor on networking and TSN technologies.
- Partner with Product Management to shape feature roadmaps and customer-facing capabilities.
- Support key customer engagements by providing deep technical expertise and architectural guidance.

Qualifications

Required

- BS Computer Science or Electrical Engineering; MS preferred.
- Minimum 8 years in software/firmware development for networking components.
- Experience taking a project from concept to completion, including design, prototyping, testing, and troubleshooting.
- Ability to develop low-level software requirements from high-level system requirements.
- Extensive experience developing and debugging device drivers (especially for NICs).
- Strong working knowledge of networking technologies and protocols – Ethernet, VLANs, Bridging, IPv4, IPv6, TCP, UDP, QoS.
- Working knowledge of network precision time services such as IEEE1588/802.1AS
- Working knowledge of the IEEE 802.1 TSN standards.
- Experience implementing networking standards and protocols in software.
- Experience working with Wireshark as well as hardware capture devices (e.g. Profishark)
- Working knowledge of x86/x64 architecture.
- Strong knowledge of software development process (documentation, design, unit testing, etc).
- Strong knowledge of C/C++
- Strong skills in measuring, analyzing, and optimizing scalability and performance.
- Experience developing and debugging multi-process / multi-threaded software.
- Technically curious with a passion for solving complex real-time challenges.
- Strong communicator who can lead architectural discussions and influence product direction.
- Collaborative team player who thrives in an engineering-driven organization.
- Ability to mentor junior software engineers.
- Needs to be within driving distance of our Waltham, MA office.

Preferred

- Understanding of industrial automation protocols (e.g., EtherCAT, PROFINET IRT, OPC UA TSN).
- Experience with kernel-level debugging.
- Experience working on embedded RTOS.
- Knowledge of the Windows and/or Linux kernel.
- NDIS knowledge.
- Experience working with network automated tests.
- SMP architecture and development experience.

Perks and Benefits

- Health, Dental, and 401(k) with an employer match of 25% up to 8% of total compensation.
- Accrue up to 3 weeks PTO annually to start, with additional PTO accruing every year at the company, up to 5 weeks after 10 years.
- 12 Paid Federal Holidays off and one floating Holiday per year.
- Hybrid work environment, with employees in the office on Tuesday and Thursday.
- Flexible working hours.

Interested? Email careers@intervalzero.com