SC0126-ns3

SCALA COMPUTING

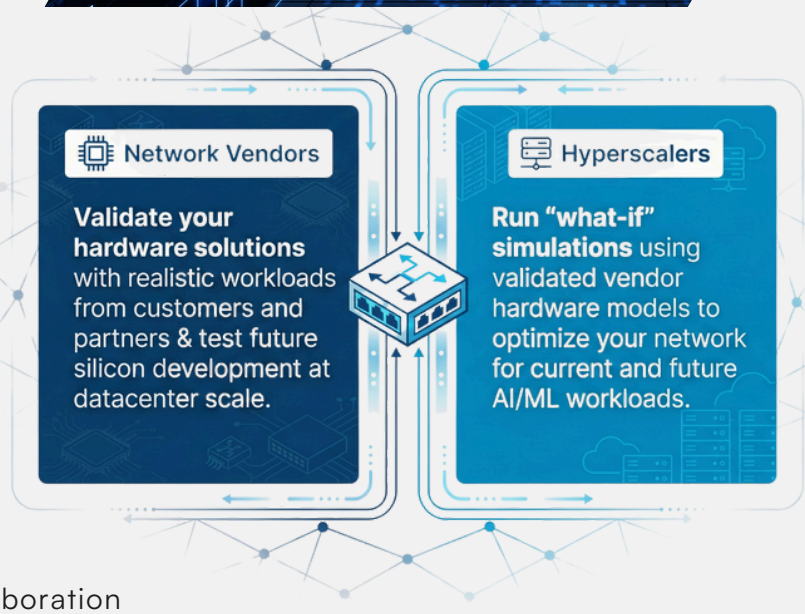
www.scalacomputing.com

WE SIMPLIFY NETWORK SIMULATION

Empowering industry leaders to optimize their next generation network hardware & software with AI/LLM workloads at unprecedented scale!

Simulate at Scale, Deploy with Confidence!

- Scala provides the power, fidelity and flexibility needed to simulate at data center scale
- Gain insights into performance tradeoffs, refine hardware and software solutions, and deliver superior products to market sooner
- Study theoretical enhancements, proposed transports, and advanced AI workloads across Scale-Out and Scale-Up network topologies



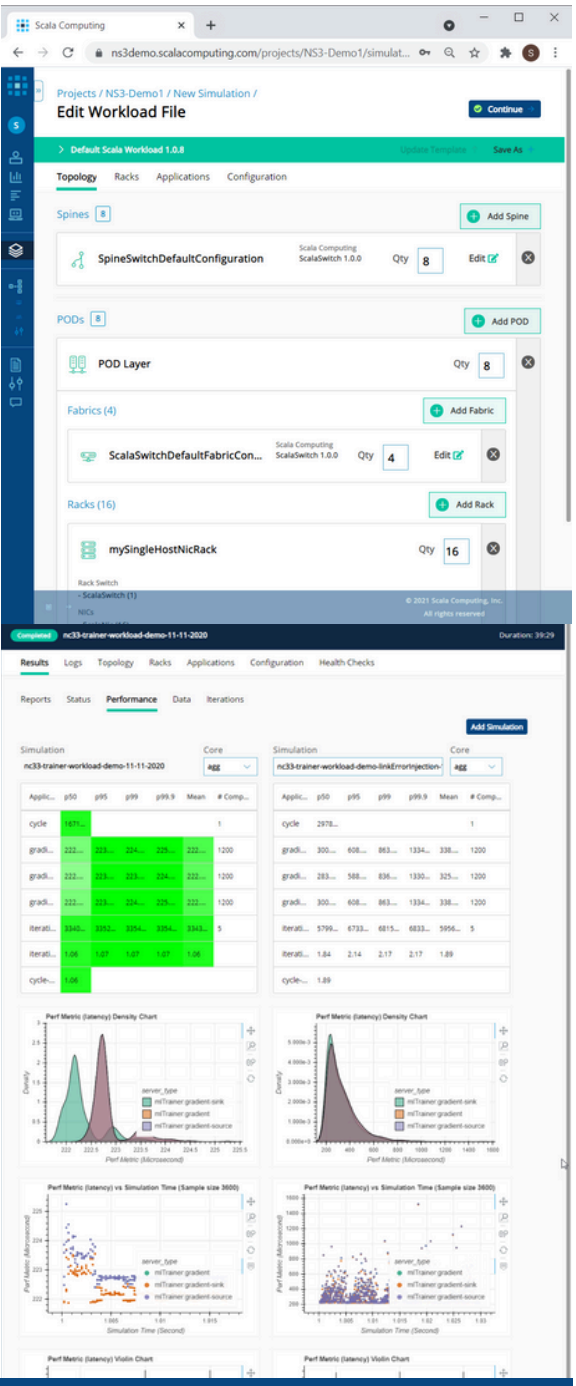
Consortium for Network Innovation

- Accelerating Network Innovation Through Collaboration
- Join an integrated consortium of industry leaders to access validated hardware models from leading OEM vendors and real-world AI/LLM/ML workloads from major datacenter operators

- Real-world LLM Workload Support: Import validated Chakra traces from industry leaders or generate synthetic workloads to simulate realistic AI traffic patterns
- Extensive UET and RoCE (RDMA) support: Test UET vs RoCE at data center scale with extensive protocol configurability. Explore system tradeoffs through intuitive controls for data rates, packet sprays, reordering, selective ACK, NIC packet telemetry, RTS/CTS, and advanced congestion control, all without hardware deployment.

ns-3 NETWORK SIMULATOR

Simulation is a cost-effective alternative to expensive and resource-intensive physical labs



Simulation Setup

- Easy Configuration: Setup/modify network topologies, workloads, and network stack parameters via intuitive UI
- Public API Access: Automate workflows with API control over configuration, execution, and results management.
- Consortium Access: Access vendor models, operator workloads, and leading transport protocols directly.
- Traffic Library: Configurable traffic patterns and support for custom collective operations and Chakra traces.
- Protocol Selection: Select UET or RoCE network protocols and experiment with advanced custom behaviors.
- Validation: Automated configuration validation guides the user to a successful simulation.

Performance

- Data Center Scale: More than 64,000 nodes!
- Optimized ns-3 Simulator: Optimized for massive parallelization, multi-process enabled using MPI to improve resource allocation, speed, and robustness.
- Scalable Infrastructure: Ready to support real-world ML and LLM workloads, including large Chakra traces and scale-up fabric topologies for AI-centric workloads.
- Automated Deployment: Instant access to vast multi-instance cloud resources with compute power on demand. No queues, no waiting.

Data Analytics

- Gain deep insights into your network
- Scala's analytics processes terabytes of data in real-time
- Detailed performance analysis capabilities, from network-wide patterns down to individual component behavior within your data center
- Side-by-side comparison of simulation results with automated quantification for easy understanding

Contact us for a Demo

- Join industry leaders who trust our platform to drive innovation, reduce costs, and deliver high-quality AI networking solutions to market

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