



University of New Hampshire
InterOperability
Laboratory

The University of New Hampshire InterOperability Laboratory (UNH-IOL)

Lab Overview

www.iol.unh.edu

Presentation Outline

Who We Are
Our Mission
Training Future Engineers
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Who We Are

- A neutral and independent lab that tests networking and data communications products for businesses across the globe.
- Started in 1988 on the University of New Hampshire Durham, NH campus.
- Non-profit organization and 100% funded by commercial industry with over 150+ member companies.
- State of the art facility with 28,000+ sq. ft. (1 hour outside Boston, USA).
- 4,200 sq. feet of pre-wired space dedicated to Plugfests.



We are made up
of full time staff
and students.



Our Mission

To provide a neutral environment to foster multivendor interoperability, conformance to standards, and improvement of data networking while attracting students to, and educating them for, future employment in cutting-edge technologies.



Training Future Engineers

- More than 120 graduate and undergraduate student employees work with our staff, gaining hands-on experience with developing technologies and products.
- Our student employees average a 99% job placement, often before they graduate.
- We provide career advancement opportunities including tech talks, training for common industry tools, networking events and an online resume binder.



What We Do

- We enable multivendor interoperability, conformance testing and develop custom testing solutions.
- Through our industry involvement we are able to provide guidance and insight into new technology areas with testing needs and certification for testing programs.
- Promote early adoption through collaborative group testing (Plugfests).
- Offer members access to our world-class, multi-million dollar shared test bed which continues to grow.
- Funded 100% by commercial industry.

Member Companies



Who We Work With

**We work with companies in over
35 countries across 5 continents**



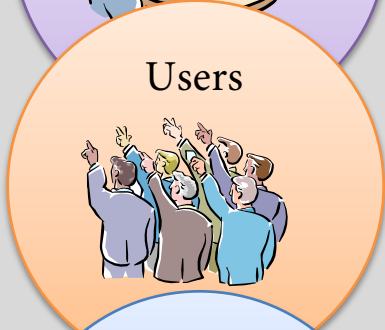
**Simply ship your device and we will take care of the rest!
Engineers are not required to be present during testing.**

Industry Engagement



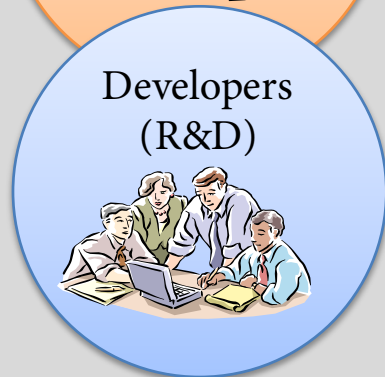
Standards

Feedback



Test Ideas

Feedback & Results



Devices

Results



Industry Involvement



Technology Testing Areas

Home Networking

- TR-069
- IPv6 CE Router
- Wireless

IP Networking

- IPv6
- Routing/SDN
- SIP
- IoT

Broadband Systems

- DSL
- Gfast
- GPON
- VDSL2 Vectoring

Storage

- Fibre Channel
- iSCSI
- NVMe
- PCIe
- SAS
- SATA

Open Networking

- Open Networking Test Service (OCP)
- OpenFlow (ONF)

Mobile/Wireless

- MIPI
- Wireless

Ethernet/Enterprise

- Power over Ethernet
- 40/100 Gigabit
- Backplane
- 10 Gigabit
- Automotive
- Gigabit
- Fast
- 10BASE-T
- Cable/Channel Testing

Switching/Timing

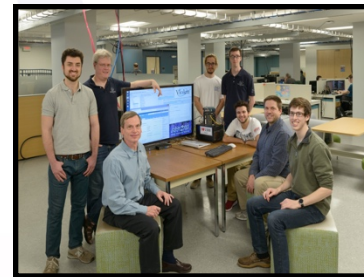
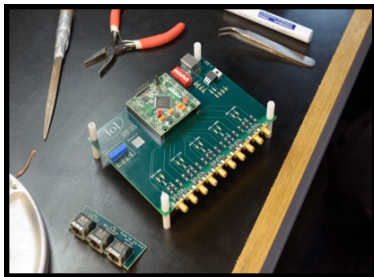
- Avnu
- IEEE 1588
- Ethernet Switching Protocols
- Automotive Networking
- Carrier Ethernet

How to Work with Us

- We bring together key players of networking technologies, providing services that are critical to driving multivendor interoperability and increasing user confidence.
- We will work with you to create custom and flexible testing options to meet your needs as well as Pay Per Test options.
- Our most popular model is through annual memberships. Here are some key features our memberships include:
 - Access to custom test equipment and software
 - Neutral testing environment (no technology is favored over another)
 - Industry recognized test reports for sales and certification
 - Increased confidence in your product through our testing services
 - Reduced time to market

Products and Solutions

- We develop test tools to help us achieve our vision of being the world's premier data networking resource.
- Our tools have become an invaluable component of our testing services and through membership or direct purchase, these tools can be used in your own labs.
 - IOL INTACT™ the same tool used for IPv6, IPsec, Routing, and Home Networking testing
 - IOL INTACT™ for gPTP and vIOlett™ for Avnu testing
 - IOL INTERACT™ software expedites and automates the testing of NVMe SSDs
 - IOL vIOlett™ 802.1 Core Test Software for Ethernet Switching Protocols (ESP)
 - Test Sentinel for DSL and Gfast Testing
 - BitPhyer and BitPhyer 10G for Copper Auto-Negotiation, Clause 40 PMA and 10BASE-TX TP-PMD
 - MIPI Board test fixtures performing C-PHY, D-PHY, DSI, and CSI-2 testing and CPHYGUI Software



Media Contact Information

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