

POV: POINT OF VIEW

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For Truth In Testing, Try An Independent Lab

Despite industry standards, OEMs often face massive challenges in designing systems that integrate components from different vendors. Products often fail to truly comply with the specification—or fail to be fully

interoperable with other components based on the same standard. And that happens despite reams of test results from the vendors' own labs, all based on criteria established by the standards organizations. Without an independent, third-party test facility, OEMs can't trust compliance and interoperability claims.

For example, Serial RapidIO is becoming increasingly important due to the advent of key components in the ecosystem. In the past two years, OEMs have been designing next-generation systems using these new devices. Today's spotlight is on interoperability and compliance validation, which are critical milestones to the standard's continued adoption. Similar situations can be found with PCI Express, Ethernet, and other standards.

GOING OUTSIDE • When it comes to standards interoperability and compliance testing, vendors typically have two choices: create an internal lab or use an independent facility. While some manufacturers attempt to accurately, reliably, and fully test for compliance and interoperability in their own facilities, OEMs should ask probing questions to ensure the validity of their results.

First, how can one vendor afford to establish a state-of-the-art test facility on its own? Is the vendor's hardware and software truly and continually up to date? Does the vendor have enough qualified test engineers who are experts on the standard to create test scripts and facilitate testing?

Furthermore, can a basic test really prove a part meets a standard and will be interoperable with other components? How can one vendor verify interoperability without the benefit of complementary products that have already been proven to be interoperable? Finally, can the results be truly unbiased when it's in the vendor's best interest to show positive results?

Most vendors simply cannot provide complete reassurance to OEMs of the veracity and neutrality of internal testing. The only true proof comes from an industry-standard venue that can quantitatively rate new and existing components against the standards organization's established list of criteria.

Several independent labs exist to serve OEMs and vendors working with global standards. PCMCIA, USB-IF, and the Wi-Fi Alliance qualified Allion to conduct official certification programs in Asia. The University of New Hampshire InterOperability Laboratory (UNH-IOL) provides a neutral environment to foster multivendor interoperability and conformance to data communications networking standards. And, Riolab is the first independent RapidIO test facility.

CHOOSING A LAB • While bringing depth of experience and strong reputations to the market, many of these labs are affiliated with standards organizations and with members of the various ecosystems. So how can OEMs be sure a lab is truly independent? There are five key requirements.

First, the lab must provide an independent, vendor-neutral and unbiased vehicle for demonstrating device interoperability and specification compliance with a focus on quality assurance rather than marketing or promotional goals. Second, the facility must be a fully independent third-party entity legally separated from any vendor.

Third, the lab must establish and strictly maintain clear processes, including minimum entry requirements and step-by-step procedures for each level of testing. Fourth, the lab must continually upgrade its testing tools, devices, and equipment to ensure its testing ability and client's product quality. Fifth, the lab must provide confidential test reports to its members that are accepted throughout the industry as evidence of interoperability and conformance to technical standards.

When setting up a new lab or expanding the capabilities of an established lab, it's important to work closely with the standard's organization and ecosystem to ensure that these five criteria are met. As standards like RapidIO, PCI Express, and others continue to experience whirlwind development, interoperability will be a cornerstone for future success and in building the incumbency of any standard as the technology of choice.

Only when vendors use a test facility that meets these basic requirements can OEMs be assured that their components are truly standards-based and interoperable. Then, they can deliver complete, high-performance solutions to their customers in a timely, cost-competitive manner.



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