

Leading ideas in storage technology

ESSENTIALS

- EMC E-Lab plays a leading role in the development and testing of advanced data storage products and advanced ideas—and has fostered maturity in storage networking technology for more than a decade
- Through E-Lab, EMC:
 - Helps customers achieve supportability through knowledge, integration, change management, and service expertise
 - Provides the assurance and technical foundation for information lifecycle management and tiered storage
 - Sees that every new storage technology is readiness-tested for interoperability, integration, and sound operational benefit

Every business and IT organization demands technology environments with the highest degree of reliability. Today's EMC® E-Lab™ helps customers achieve that reliability by carefully testing extensive and complex multi-vendor environments—just like those that customers use to run their businesses. This means customers can achieve a supportable environment where they can more easily plan improvements and respond to changes faster. That's because E-Lab integrates practical knowledge directly into their IT operations. No gaps. No surprises.

HOW E-LAB DELIVERS SUPPORTABILITY

E-Lab helps customers achieve true supportability through four essential elements.

1. E-Lab creates a **knowledge pool** that deals in complete infrastructures. It creates a substantial store of detailed multi-vendor information and technical knowledge about interoperability and integration, including technical limitations across complete environments. It validates entire end-to-end operations for components, servers, storage, networks, file systems, clustering, applications, utilities, management, and more. EMC has been adding to this large, detailed pool of knowledge for more than 14 years.
2. E-Lab **integrates** this essential knowledge directly into a customer's IT processes. Rigorous testing is performed with various storage networking technologies for sharing storage across many servers and over extended distances for disaster recovery solutions. Keeping customer's environments current with the EMC Support Matrix—which contains over seven million configurations of all supported elements—enables systems to operate with the most robust versions of the products and with full support by EMC in the event any issues arise. Additionally, as environments transition to new storage systems, the need to remediate other components is minimized, enabling simplified installation and shortened time to use.
3. E-Lab helps customers actively **manage change**. In critical operating environments, problems must be anticipated and prevented. EMC addresses this with E-Lab Interoperability Navigator. It can generate specific planning information, including all the fine details—from boot device configurations, to load limits, to overall design considerations. The E-Lab information is based upon comprehensive testing.
4. E-Lab guarantees **multi-vendor expertise** for smooth operations. Problems are quickly resolved because the knowledge pool is deep and the experience is far-reaching. In addition, beyond our own extensive resources, EMC has more than 650 cooperative support agreements with other vendors; so we can help regardless of the problem source and stay engaged until the problem gets resolved.

Qualified choice and broad support

- Over 1,000 servers from 27 server vendors
- 42 operating systems in 272 variations
- Multiple layers of volume management, file systems, and MPO
- Over 100 storage software products
- Linked by over 160 network connectivity elements
- Over 7 million configurations represented in the EMC Support Matrix
- Over 650 cooperative support agreements

HOW E-LAB OPERATES

There is a logical progression through E-Lab that provides for full coverage and offers complete qualifications for all of the necessary components in a storage network.

Platform integration and testing—First, EMC storage devices are tested thoroughly with the server platforms and operating systems to be qualified. EMC has partnership arrangements with all of the major server and OS suppliers, and we work together to deliver mutually supported configurations. This step is the foundation for all that follows.

SAN testing—The next step qualifies platforms in storage networks of increasing size and complexity. EMC offers a variety of Fibre Channel and FCoE switches and directors, as well as iSCSI connectivity products. All testing is intended to ensure that products really do follow standards and operate together as they should. It is here that E-Lab develops the practical knowledge for building and configuring storage networks. Critical features such as multipathing and the ability for a server to boot over a network are tested under a variety of harsh conditions to make sure that they work all the time—not just under favorable circumstances.

Additional storage network testing—The need to replicate or migrate data from remote locations, or to build SANs spanning multiple sites, is becoming increasingly important. The E-Lab tests a number of distance-extension and bridging products to provide these capabilities.

Clustering—High availability is an absolute requirement in today's business environment. Every server platform has one, or several, clustering software choices that are critical to providing high availability and performance. Because clustering is very complex, with many interactions among servers, storage, and network components, E-Lab tests these solutions to the point of failure. The resulting knowledge of limitations is then passed on to customers.

Other software integration—E-Lab works closely with major database vendors and application providers to develop best practices and ensure that EMC storage products have all of the necessary capabilities needed by complex applications—and that all work together properly.

THE SINGLE SOURCE FOR COMPLETE INTEROPERABILITY INFORMATION

EMC E-Lab pushes the limits of storage network products' functionality, performance, and scalability. EMC E-Lab Interoperability Navigator then provides customers with direct and easy access to this comprehensive information via an online query tool.

To take advantage of products from many different vendors and sources—whether servers, storage, operating system, or other components—it is critical to know:

- Which products have been rigorously tested with all of the others and are known to work properly
- What configuration information and best practices are available to ensure that these products actually work together
- Where you can turn to for support for a mixed-vendor installation

The EMC E-Lab Interoperability Navigator provides all of this information to enable customers to have the best experience with EMC products.

CONTACT US

To learn more about how EMC products, services, and solutions help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.

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