

What is High Availability?

High availability is a system design protocol and associated implementation that ensures a certain absolute degree of operational continuity during a given measurement period.

Availability refers to the ability of the user community to access the system, whether to submit new work, update or alter existing work, or collect the results of previous work. If a user cannot access the system, it is said to be *unavailable*. Generally, the term downtime used to refer to periods when a system is unavailable.

High Availability, or HA as it is abbreviated, refers to the availability of resources in a computer system, in the wake of component failures in the system. This can be achieved in a variety of ways, spanning the entire spectrum ranging at the one end from solutions that use custom and redundant hardware to ensure availability, to the other end to solutions that provide software solutions using off-the-shelf hardware components. The former class of solutions provide a higher degree of availability, but are significantly more expensive, than the latter class. This has led to the popularity of the latter class, with almost all vendors of computer systems offering various HA products. Typically, these products survive single points of failure in the system.

The SecPoint® Protector (<http://www.secpoint.com/secpoint-protector.html>) comes fully loaded with High Availability. This allows the customer to connect an unlimited amount of Protector units together for full redundancy.

As more and more mission-critical applications move on the Internet, providing highly available services becomes increasingly important. One of the advantages of a clustered system is that it has hardware and software redundancy, because the cluster system consists of a number of independent nodes, and each node runs a copy of operating system and application software. High availability can be achieved by detecting node or daemon failures and reconfiguring the system appropriately, so that the workload can be taken over by the remaining nodes in the cluster.

In fact, high availability is a big field. An advanced highly available system may have a reliable group communication sub-system, membership management, quorum sub-systems, concurrent control sub-system and so on. There must be a lot of work to do. However, we can use some existing software packages to construct highly available LVS cluster systems now.

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