

An Elephant in the Room: Isn't NameNode a SPOF?

In Hadoop, prior to version 2.0, the NameNode was a single point of failure (SPOF). The entire cluster would become unavailable if the NameNode failed or became unreachable. Even maintenance events such as software or hardware upgrades on the NameNode machine would result in periods of cluster downtime.

The HDFS NameNode High Availability (HA) feature eliminates the NameNode as a single point of failure. It enables a cluster to run redundant NameNodes in an Active/Standby configuration.

NameNode HA enables fast failover to the Standby NameNode in response to a failure, or a graceful administrator-initiated failover for planned maintenance.

There are two ways of configuring NameNode HA. Using the Web UI is the easiest way. Manually editing the configuration files and starting or restarting the necessary daemons is also possible. However, manual configuration of the NameNode HA is not compatible with UI-based administration.

