Introduction

Recently, we've been working with customers to build highly available Kubernetes clusters. While Kubernetes offers great flexibility in terms of networking, deployment, and scaling, building such clusters requires careful planning.

About Elastisys

For anything related to Kubernetes (installation, consultancy, training, development), don't hesitate to contact Elastisys.

The anatomy of a HA cluster setup

A HA control plane setup requires at least three masters to withstand the loss of one master, since etcd needs to be able to form a quorum (a node majority) and continue working. The replication factor to use depends on the level of availability one wishes to achieve. With three sets of master components, if one of the masters goes down (for example, due to its machine failing or a network partition cutting it off from the rest of the cluster) it will be able to form a quorum and continue working.

Achieving scalability and availability

Scalability and availability for the control plane

Scalability and availability for the node plane

Do I need a HA control plane?

What tools do I use?

Our approach

References

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