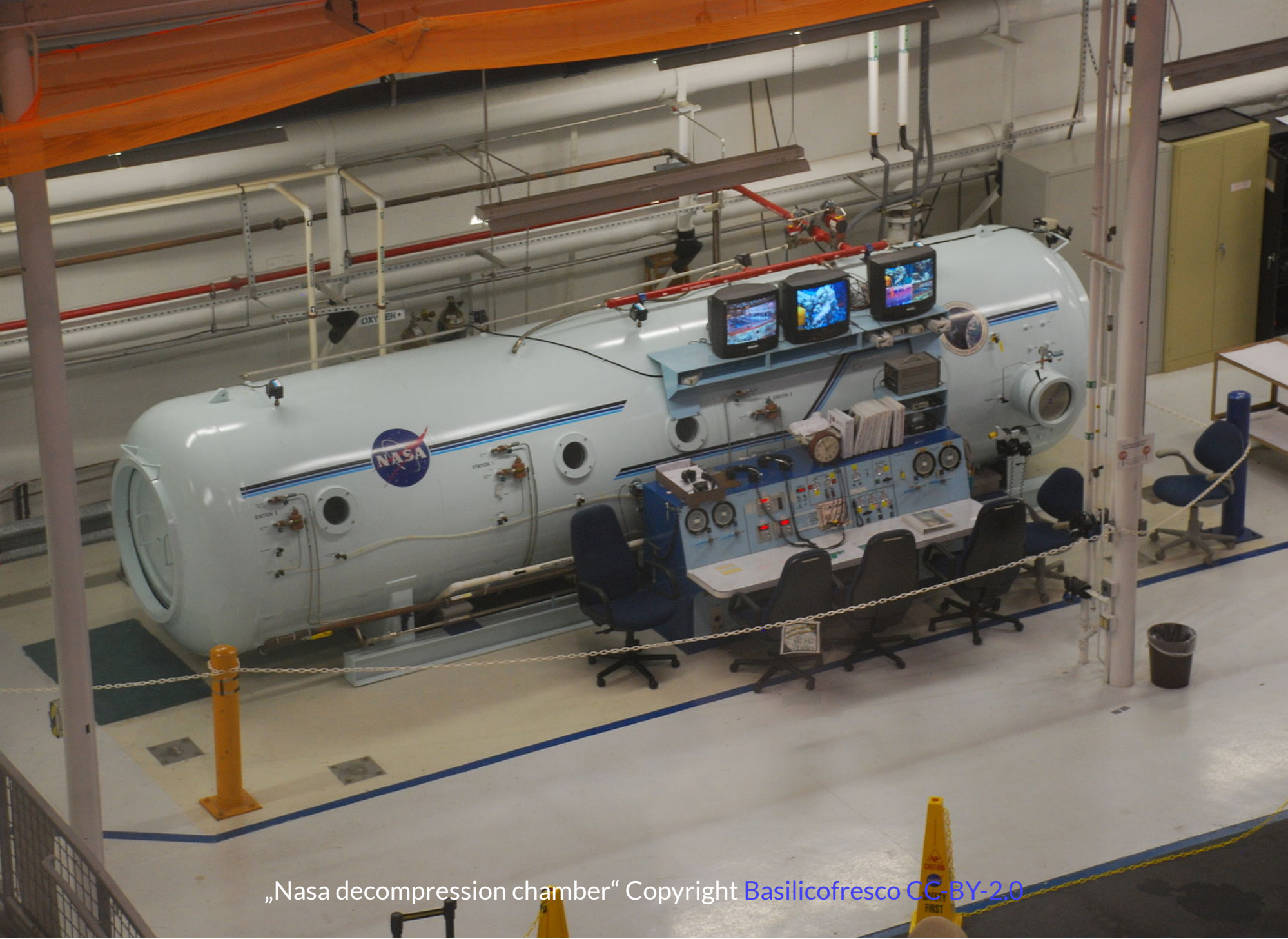
HYPERBARIC

Pressure Driven Node Autoscaling for Kubernetes



„Nasa decompression chamber“ Copyright Basilicofresco CC-BY-2.0

"How can I get the cluster autoscaler to scale up at 80% CPU usage?"

"it doesn't really work like that..."

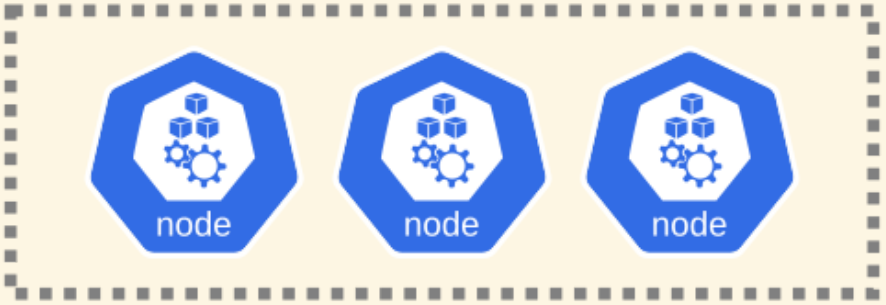
But what if it did?

Hyperbaric

NodeGroup 1
Resource: CPU
Max: 80%
Min: 50%

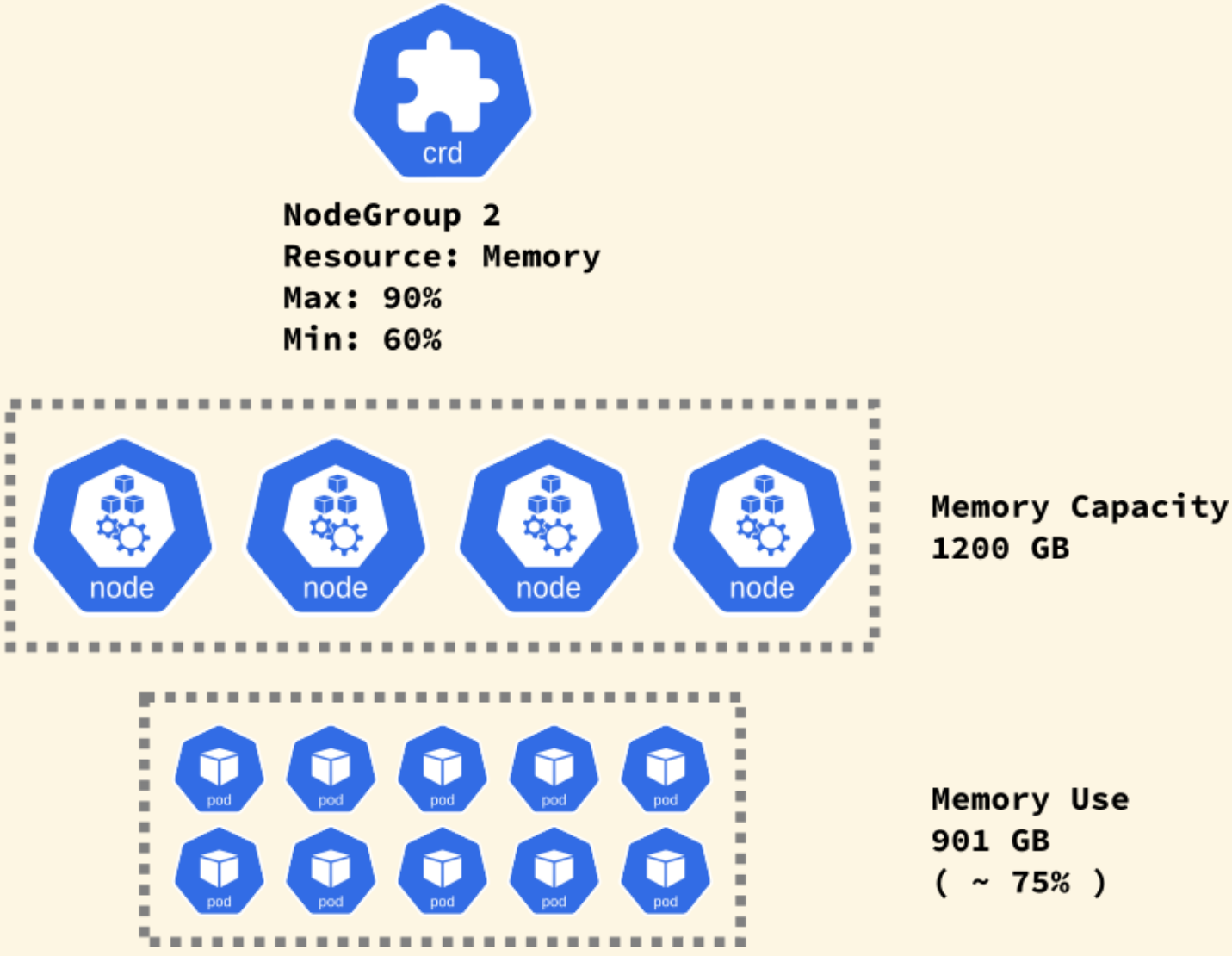
NodeGroup 2
Resource: Memory
Max: 90%
Min: 60%

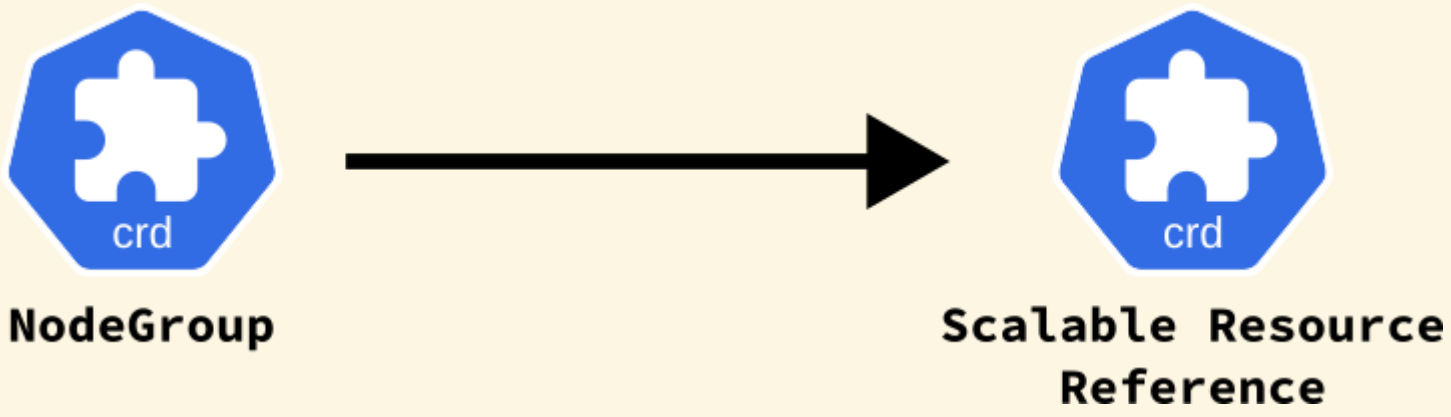
NodeGroup 2
Resource: Memory
Max: 90%
Min: 60%



Memory Capacity
1000 GB

Memory Use
901 GB
(> 90%)


crd
NodeGroup 2
Resource: Memory
Max: 90%
Min: 60%
node
node
node
node
Memory Capacity
1200 GB
pod
pod
pod
pod
pod
pod
pod
pod
pod
pod
Memory Use
901 GB
(~ 75%)



- Each NodeGroup has a single Scalable Resource Reference
- Scalable Resources align with Cluster API types (e.g. machinedeployments.cluster.x-k8s.io)
- Every Scalable Resource type has its own scaling implementation
- gRPC interface planned for custom Scalable Resources

CURRENT STATUS

- Experimental proof of concept
- Working on MaxPods as the first resource type
- Passion project

CHECK IT OUT!

gitlab.com/elmiko/hyperbaric

STAY IN TOUCH

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