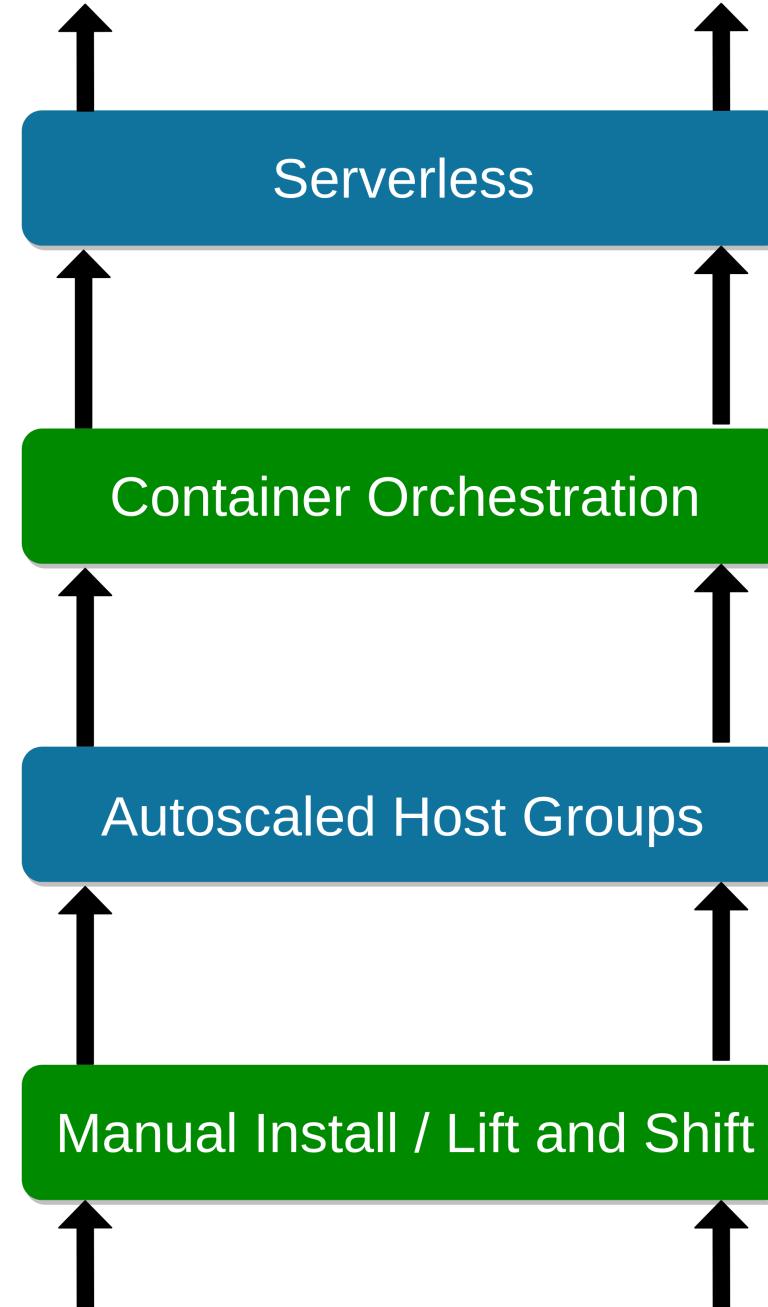


# Climbing up the Scaling Ladder

# Scaling in the Cloud

- Disclaimer: Focus on standard applications (not ML or storage)
- 3 Scaling scenarios (with examples)
- Demos at [scale.8c.at](https://scale.8c.at) 
- Cloud is not about cost, it is about scaling
- Reduced cost is a side effect





## Lift and Shift

- Migrate legacy VMs / Software with (almost) no modification
- Doesn't scale very well (bigger VMs, faster disks)
- Your mess for less
- Conclusion: don't do it (in most cases)

# Autoscaled Host Groups

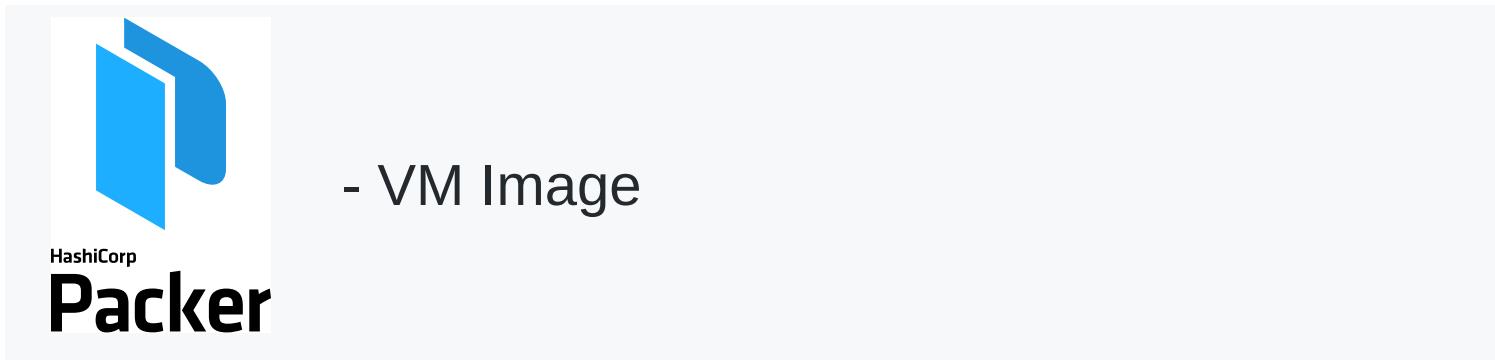
- Lift and Shift done right
- Paradigm shift: VMs are containers
- Make infrastructure immutable
- Persist data outside VM



# Example Autoscaled Host Groups



- VM Template
- Managed instance group
- Loadbalancer

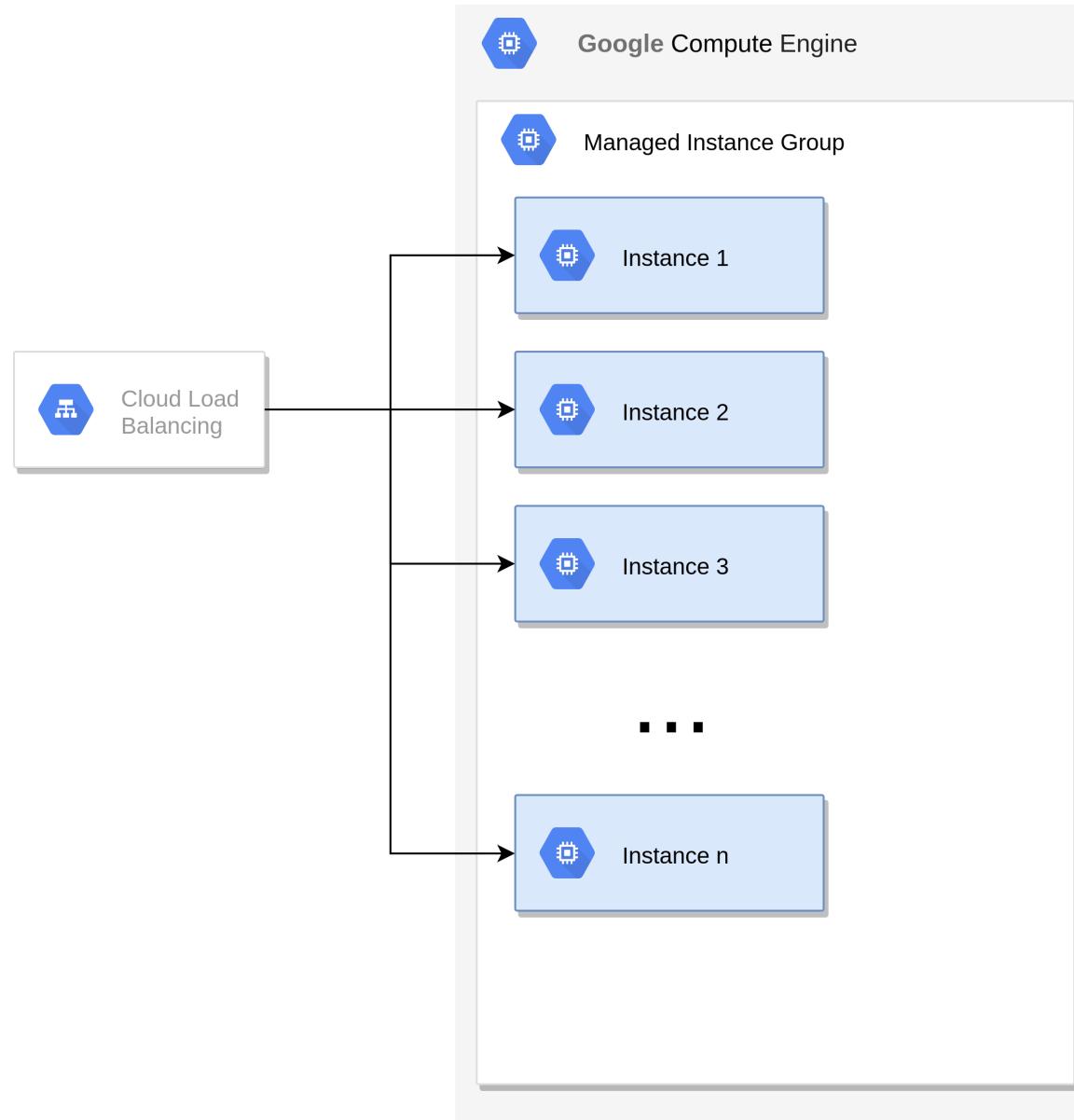


- VM Image



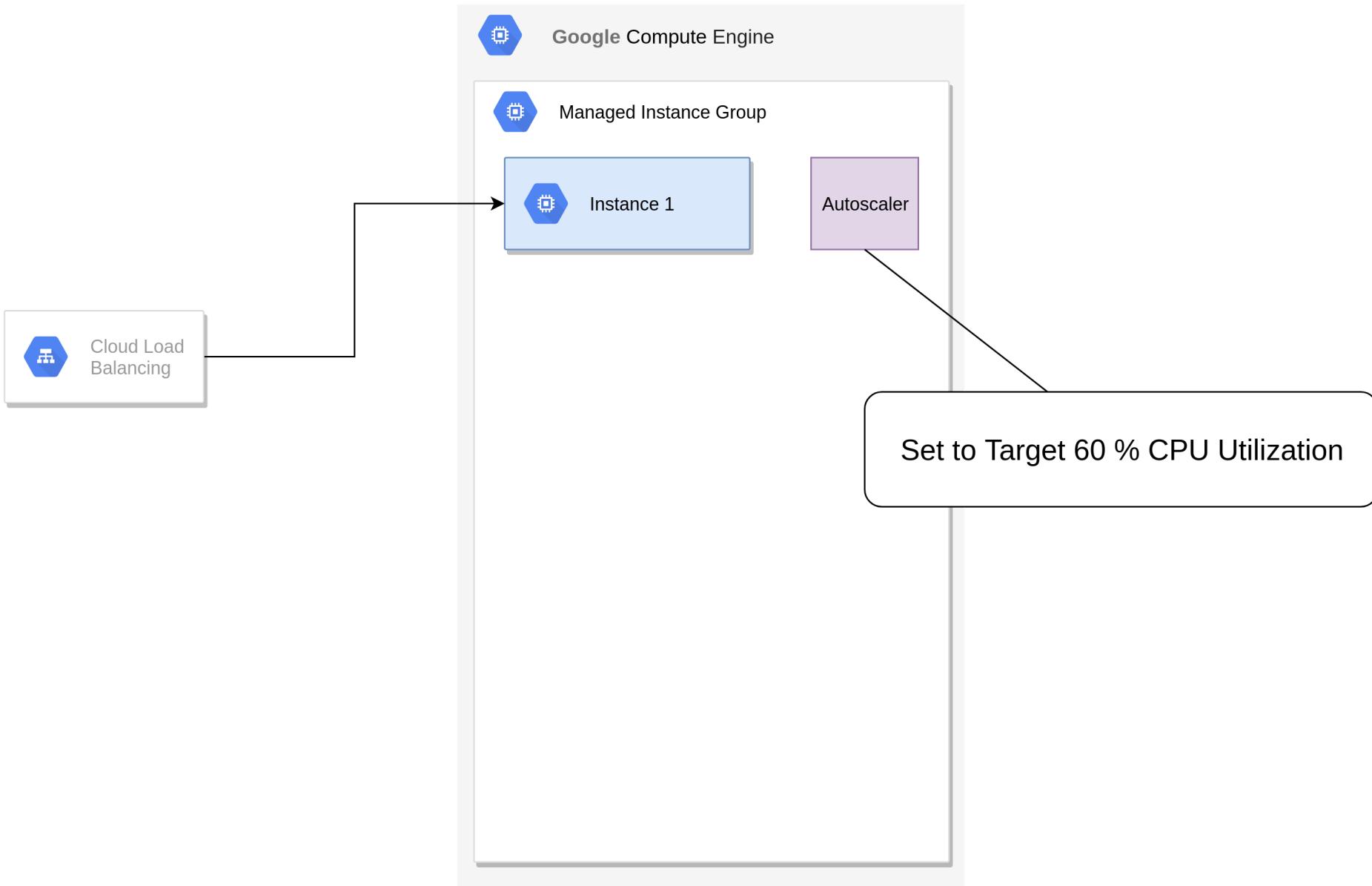
- Managed Instance Group -> VM Autoscaler

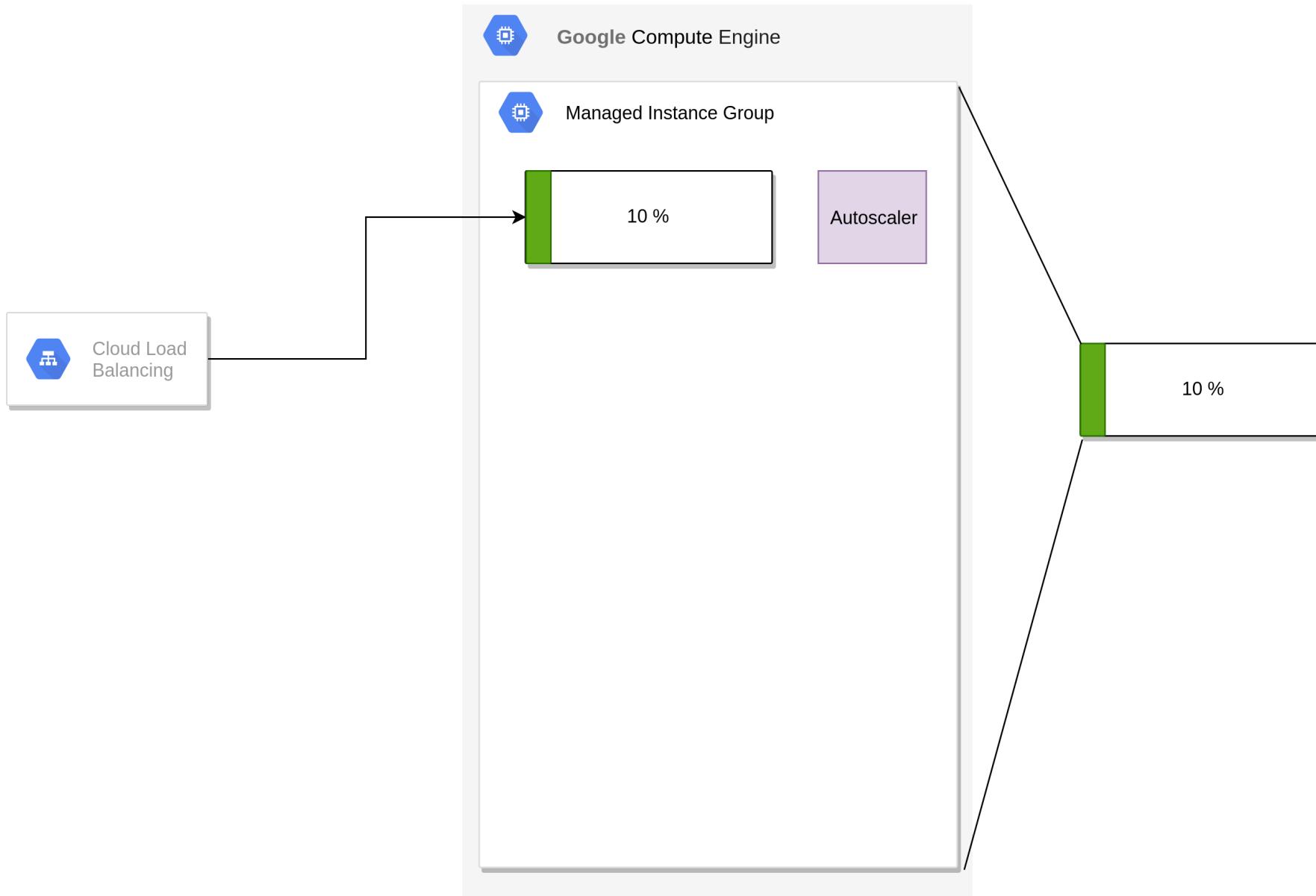
# Managed Instance Group in GCP

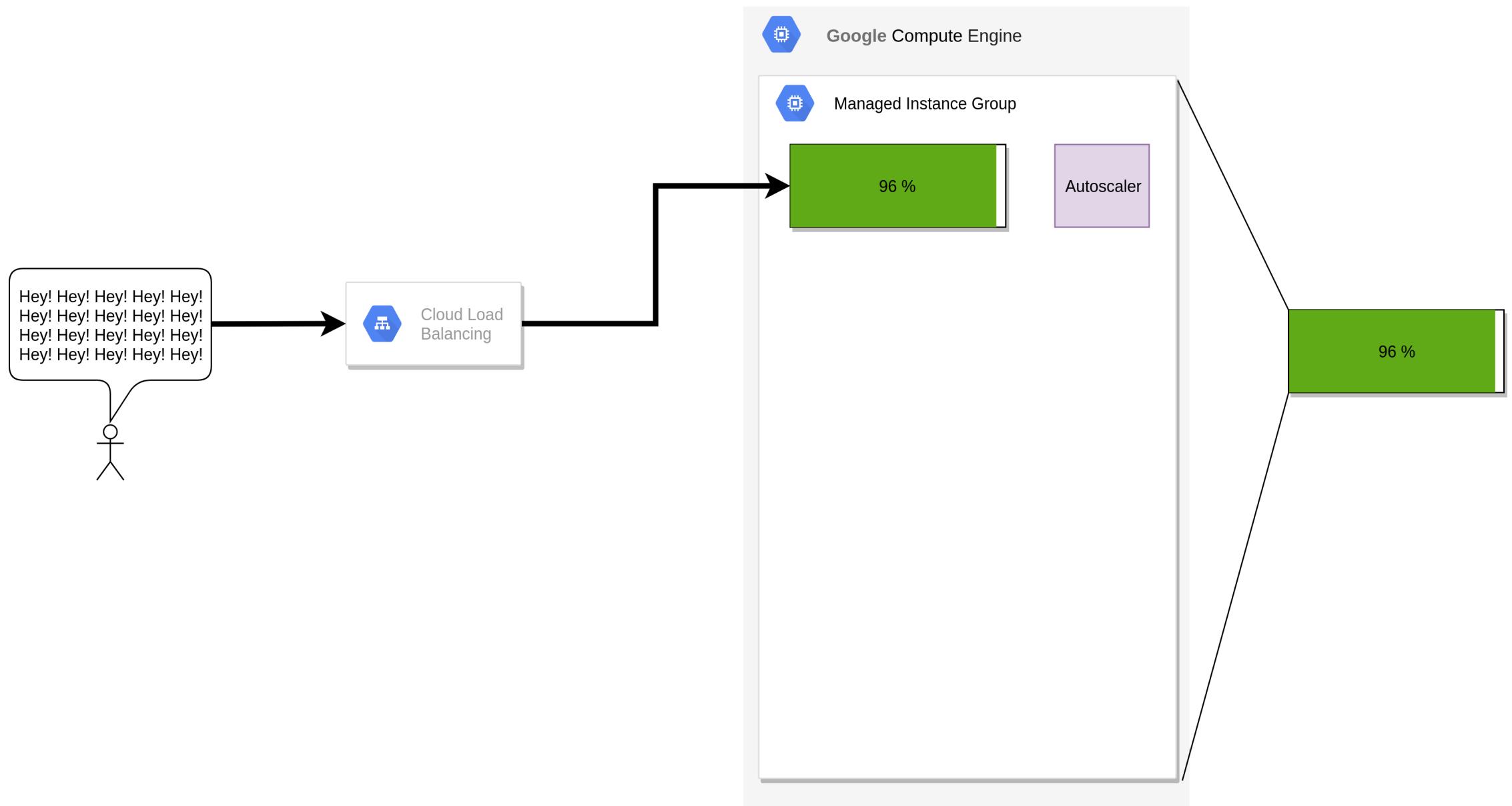


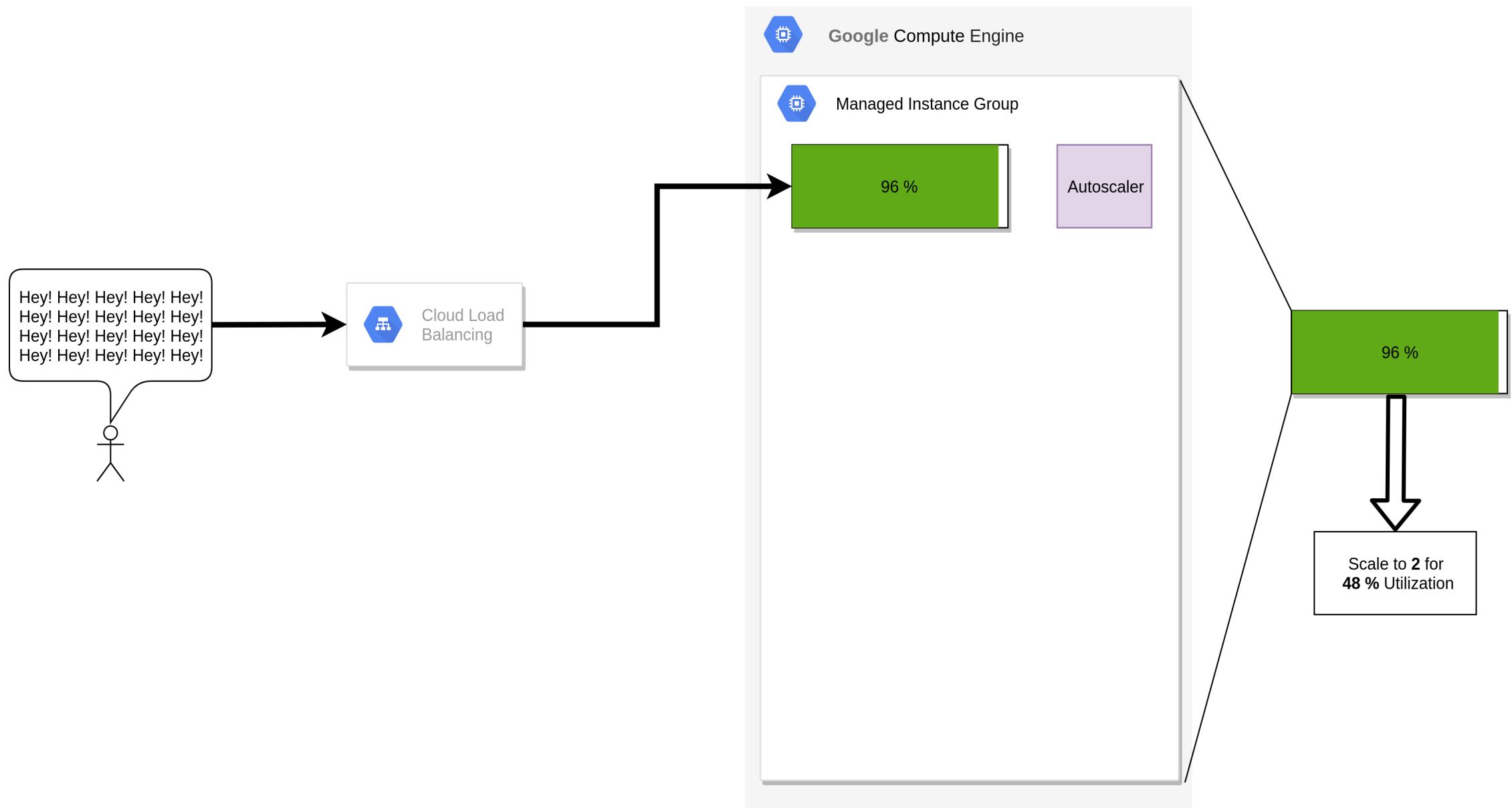
# Demo Managed Instance Group

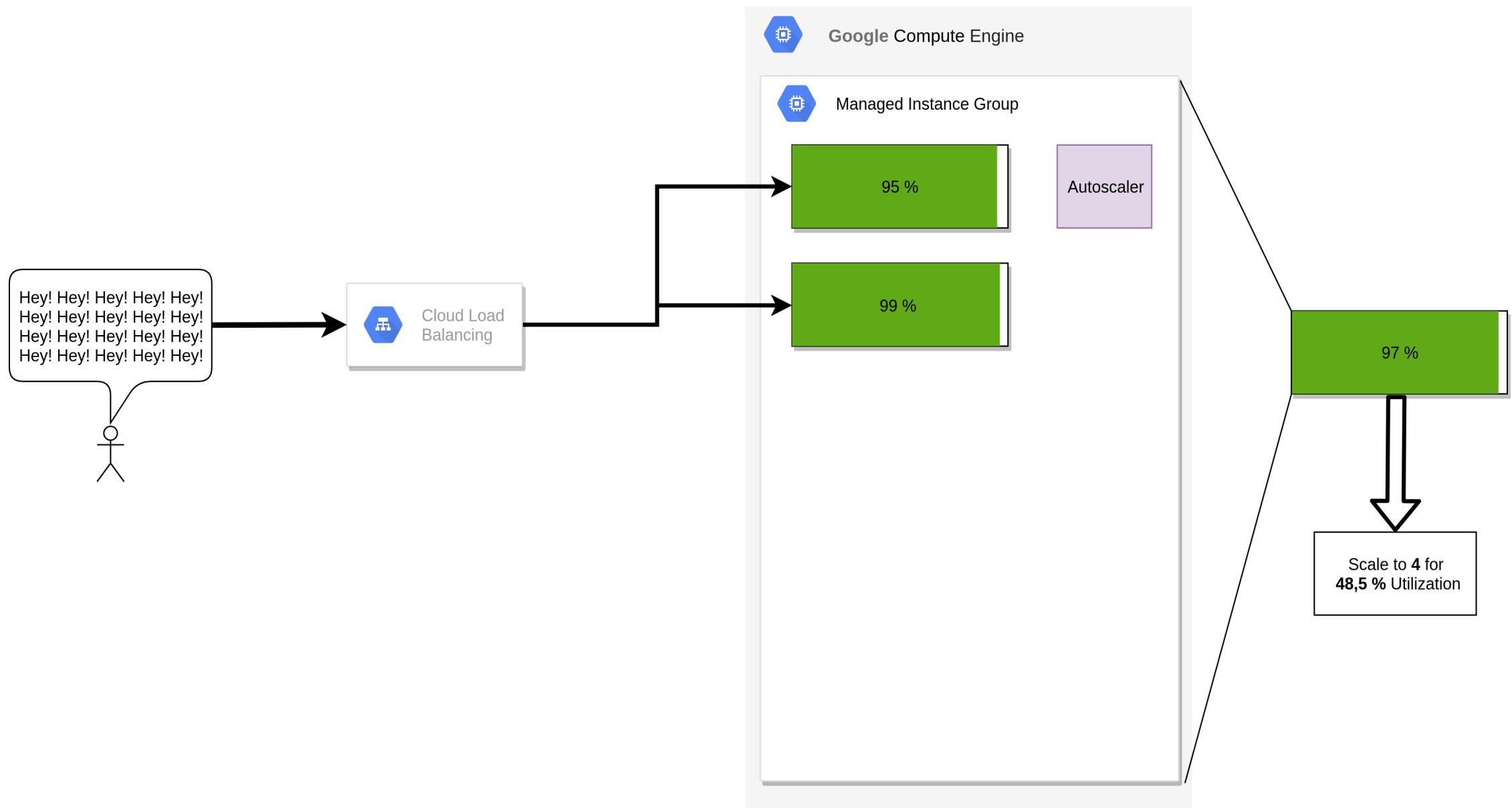


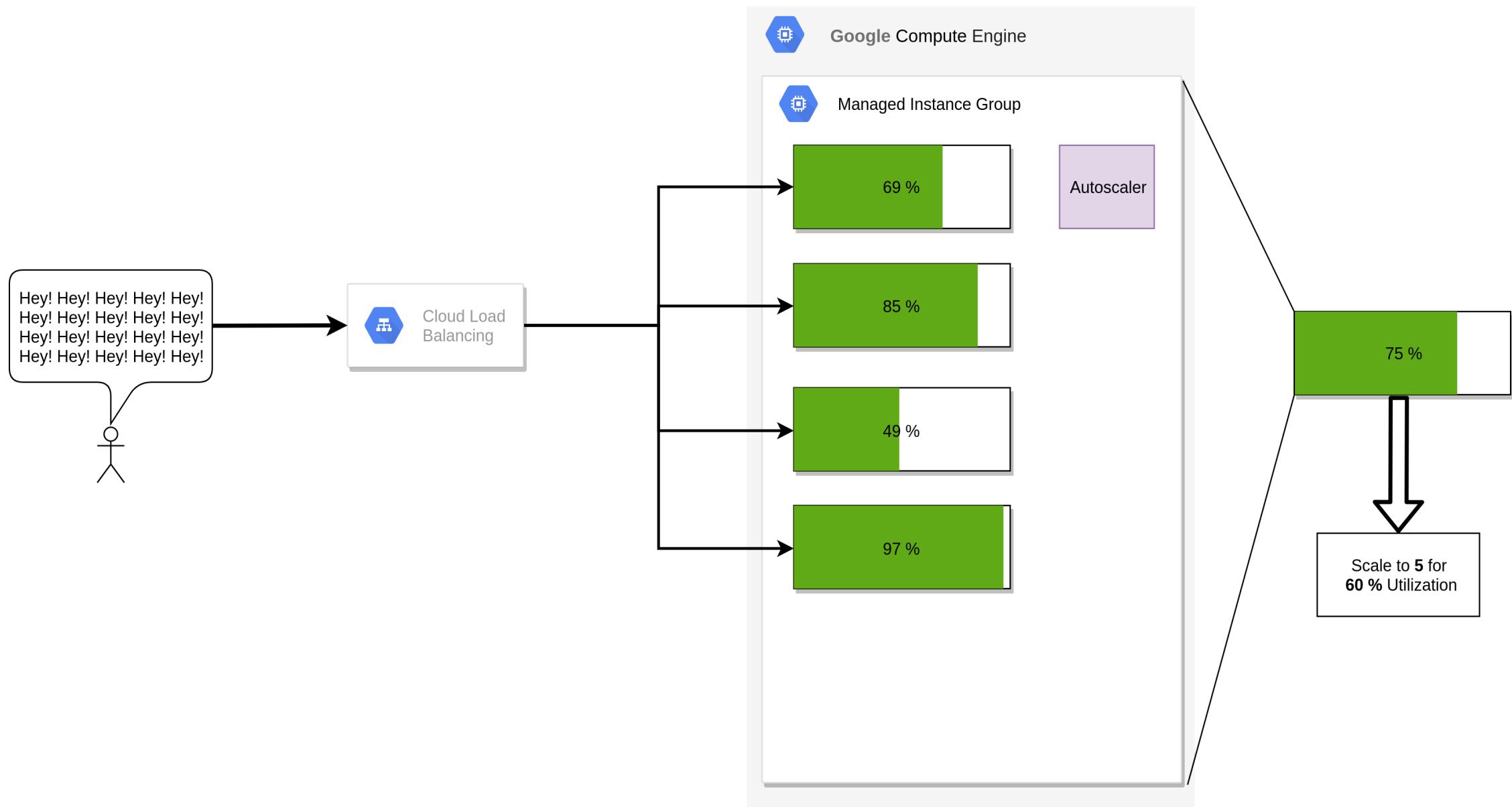


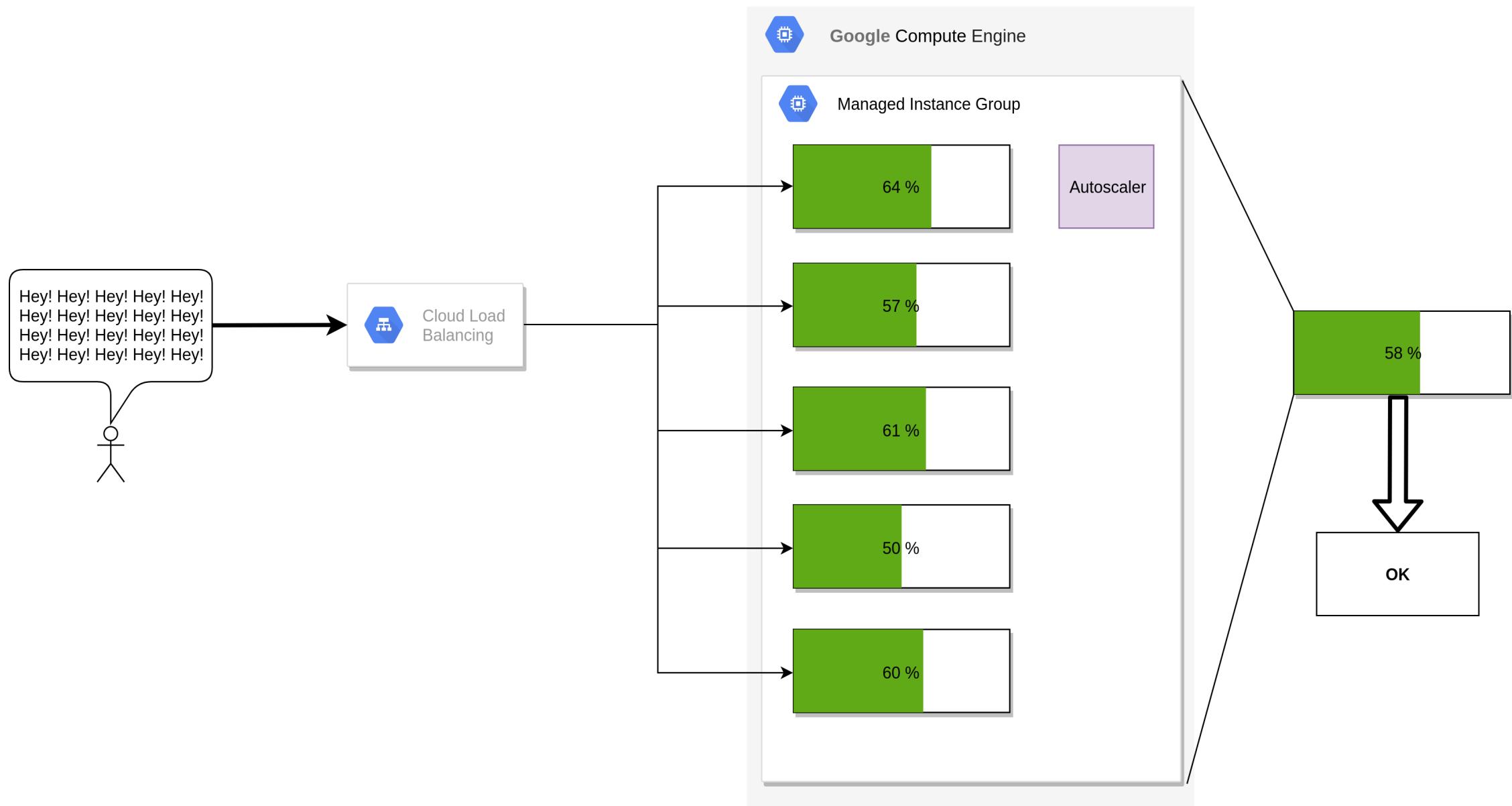












# Demo Managed Instance Group





# Container Orchestration

- Paradigm shift: There are no VMs
- Pool of resources
- Services containerized

# Example Container Orchestration



- Kubernetes Cluster
- Node Autoscaler

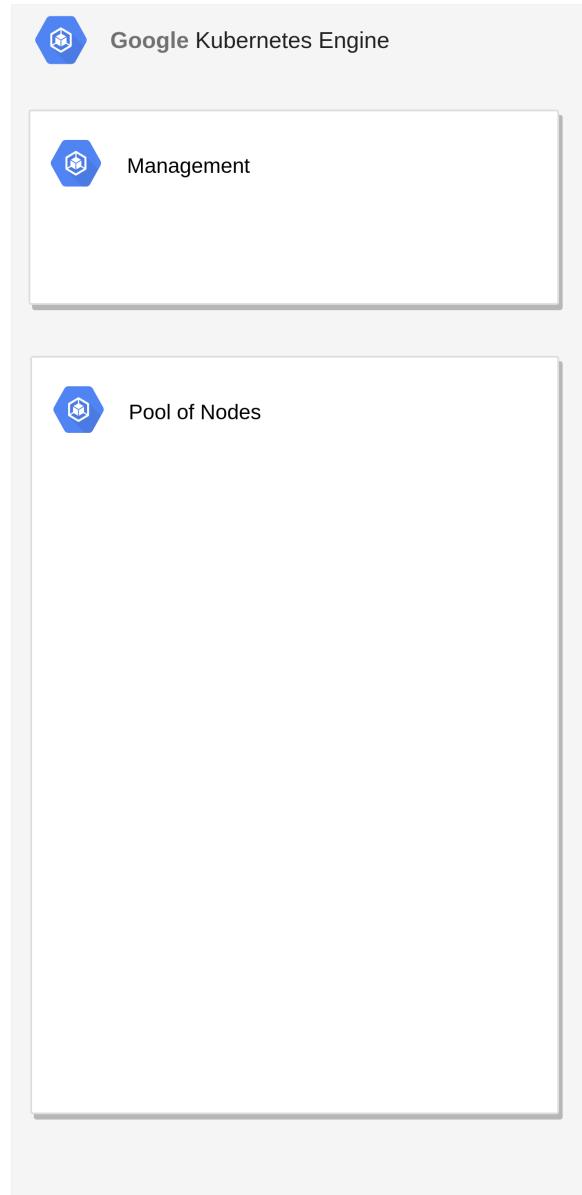


- Container Image

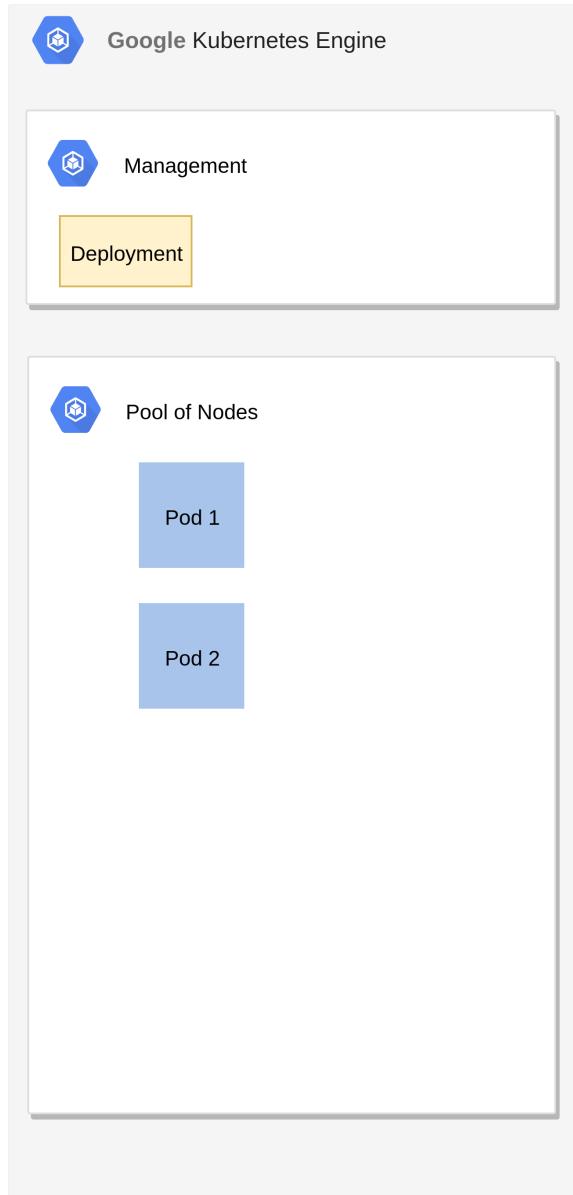


- Deployment
- Horizontal Pod Autoscaler
- Service

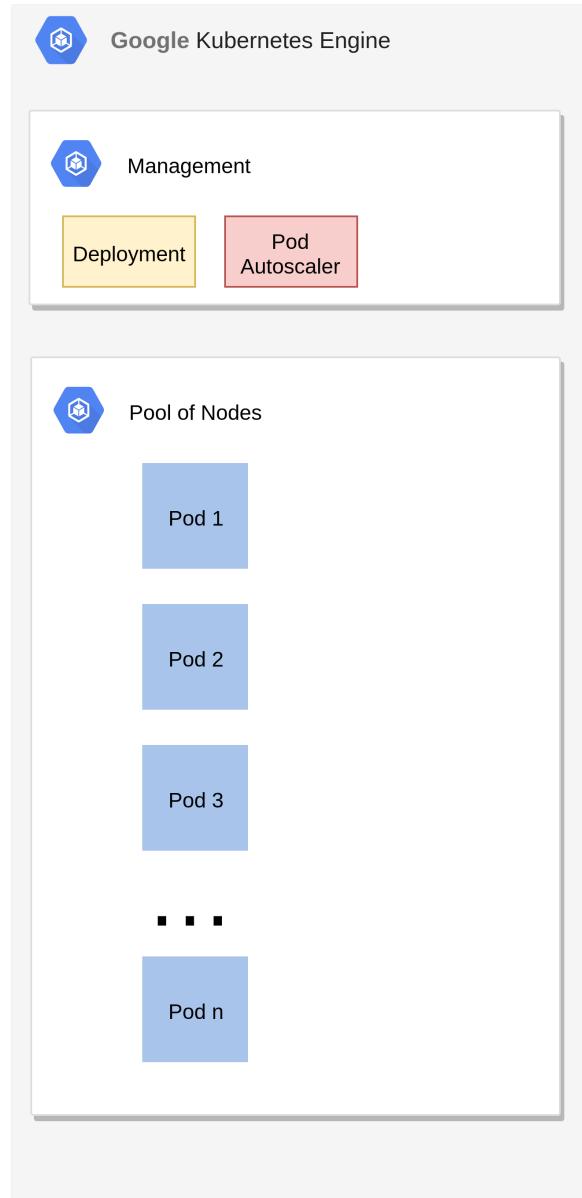
# Kubernetes cluster



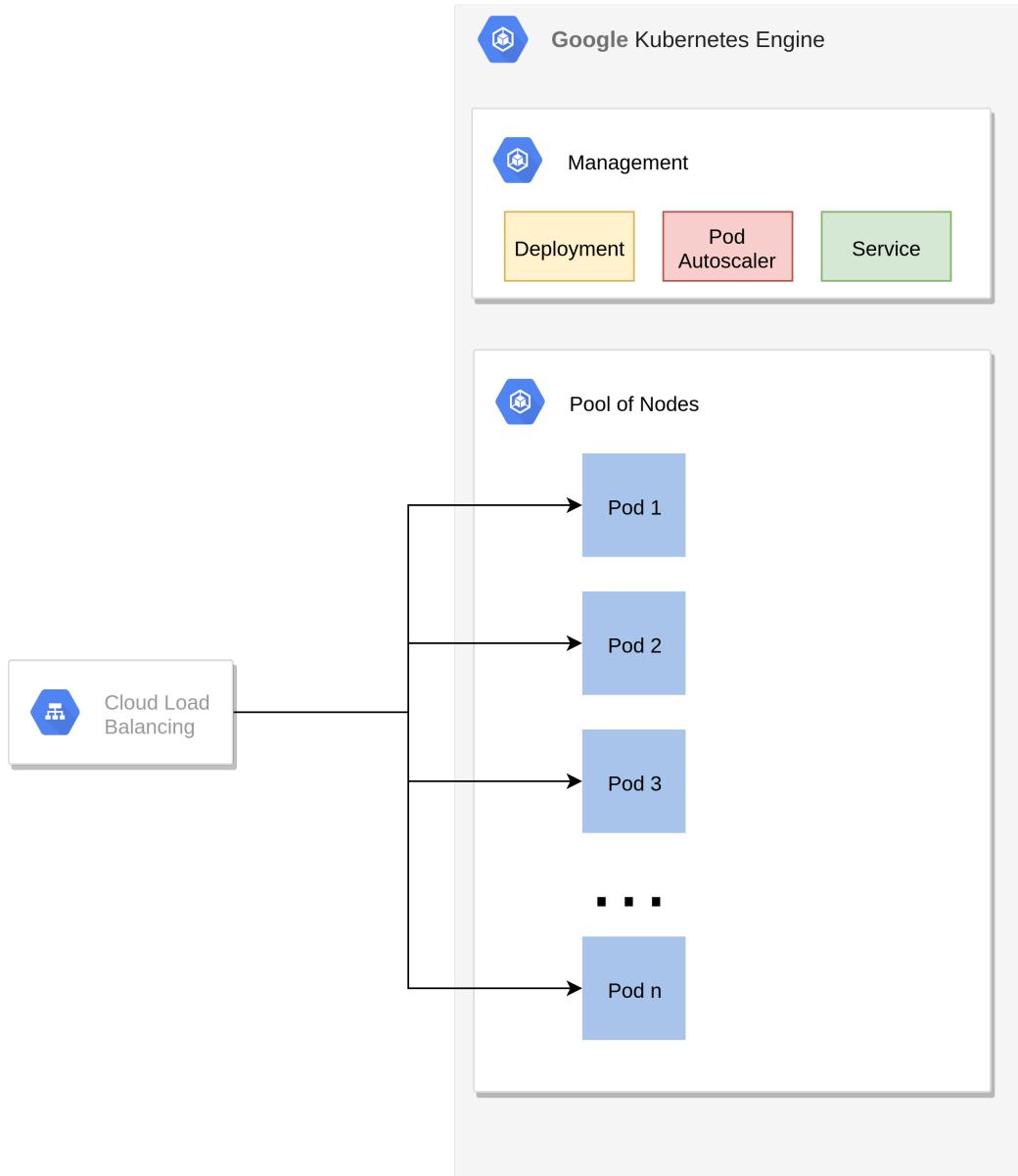
# Kubernetes Deployment



# Kubernetes Pod Autoscaler



# Kubernetes Service



# Demo Kubernetes

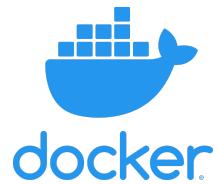




# Serverless

- Paradigm shift: There is no infrastructure
- No infrastructure management
- Pay per use
- Stateless

# Example Serverless



Container Image



Deployment

# Demo Serverless



# Takeaways

- Don't do lift and shift
- Separate storage from computing