VERTICAL SCALING   HORIZONTAL SCALING
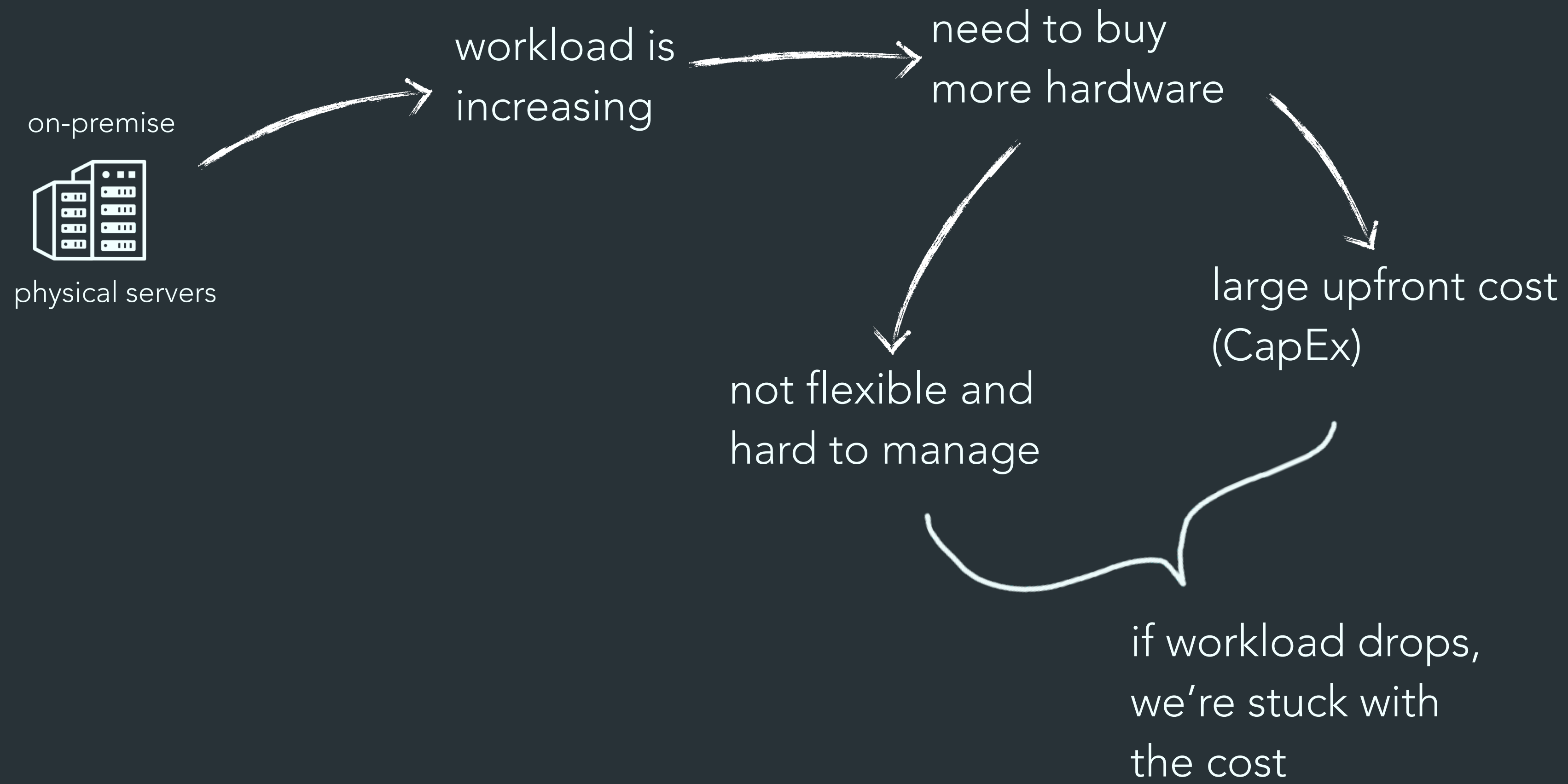
generated by gpt-4o

kokchun giang
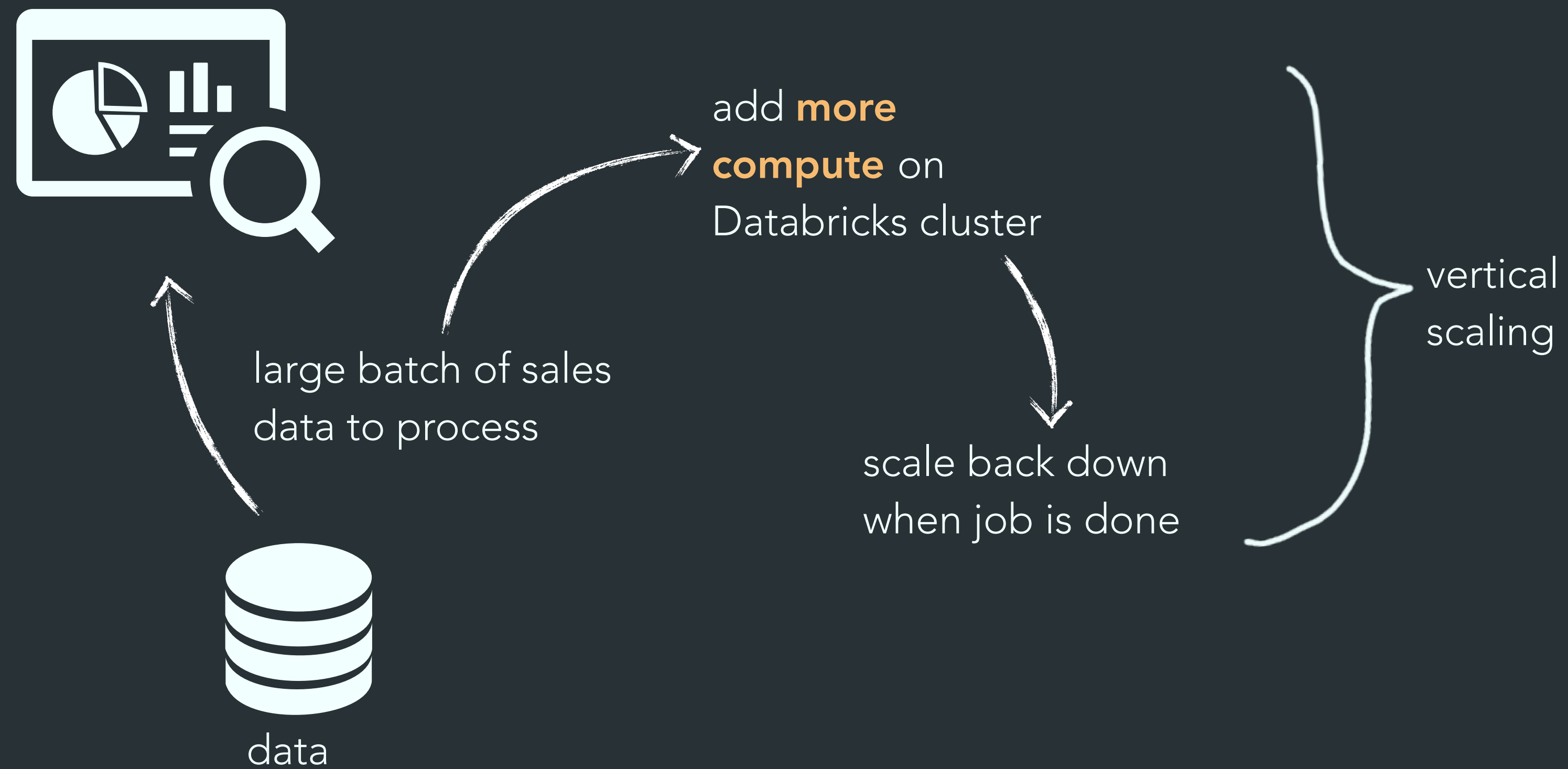
scaling of resources and **pricing model** in azure

the need for **scalability**

on-premise

physical servers

workload is increasing → need to buy more hardware → large upfront cost (CapEx) → if workload drops, we're stuck with the cost → not flexible and hard to manage

example of **horizontal scalability** in azure

super
awesome
web app

workload increases
in black friday

users

add **more VMs**
automatically to
handle the load

remove these
VMs when traffic
becomes normal

horizontal
scaling
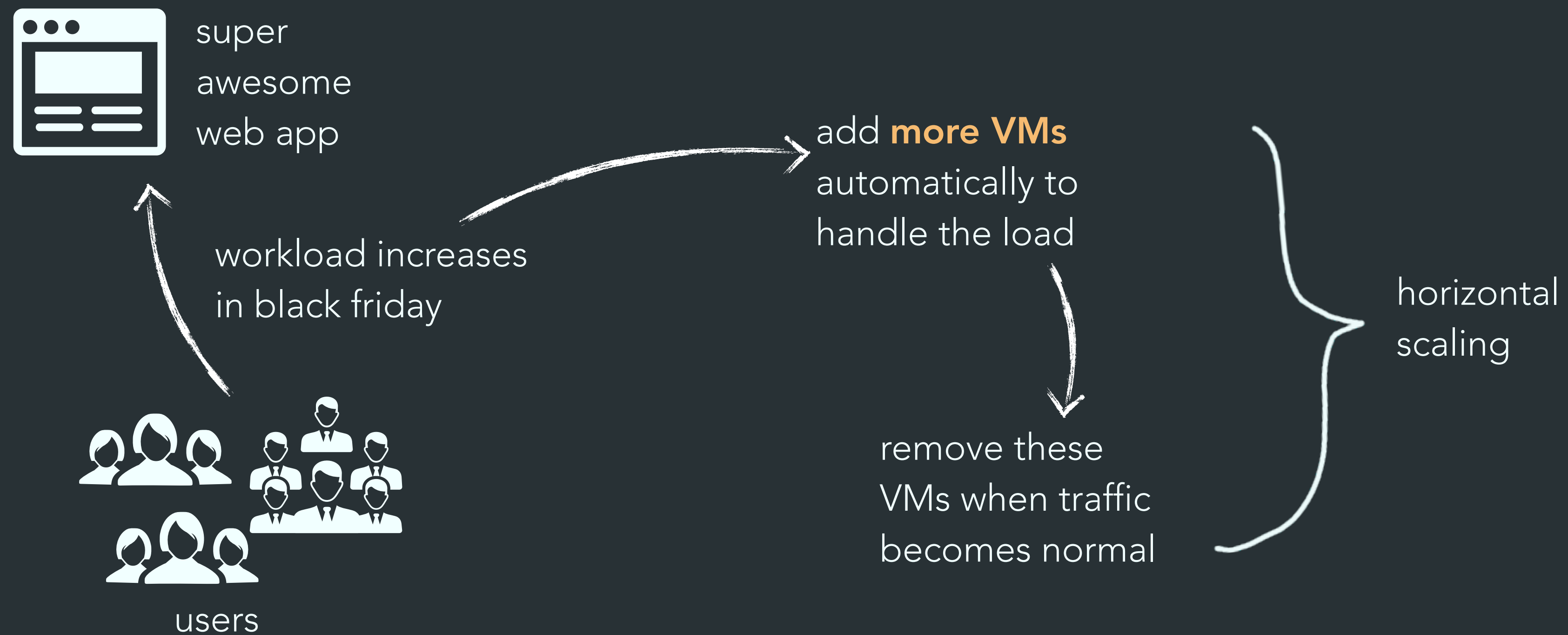
example of **vertical scalability** in azure

large batch of sales
data to process

data

add **more compute** on
Databricks cluster

scale back down
when job is done

vertical
scaling

virtual machine **scaling types**

scale up

vertical scaling

resize VM
(ram, cpu
etc)

add/decrease
instances

horizontal scaling

scale down

scale in

scale out
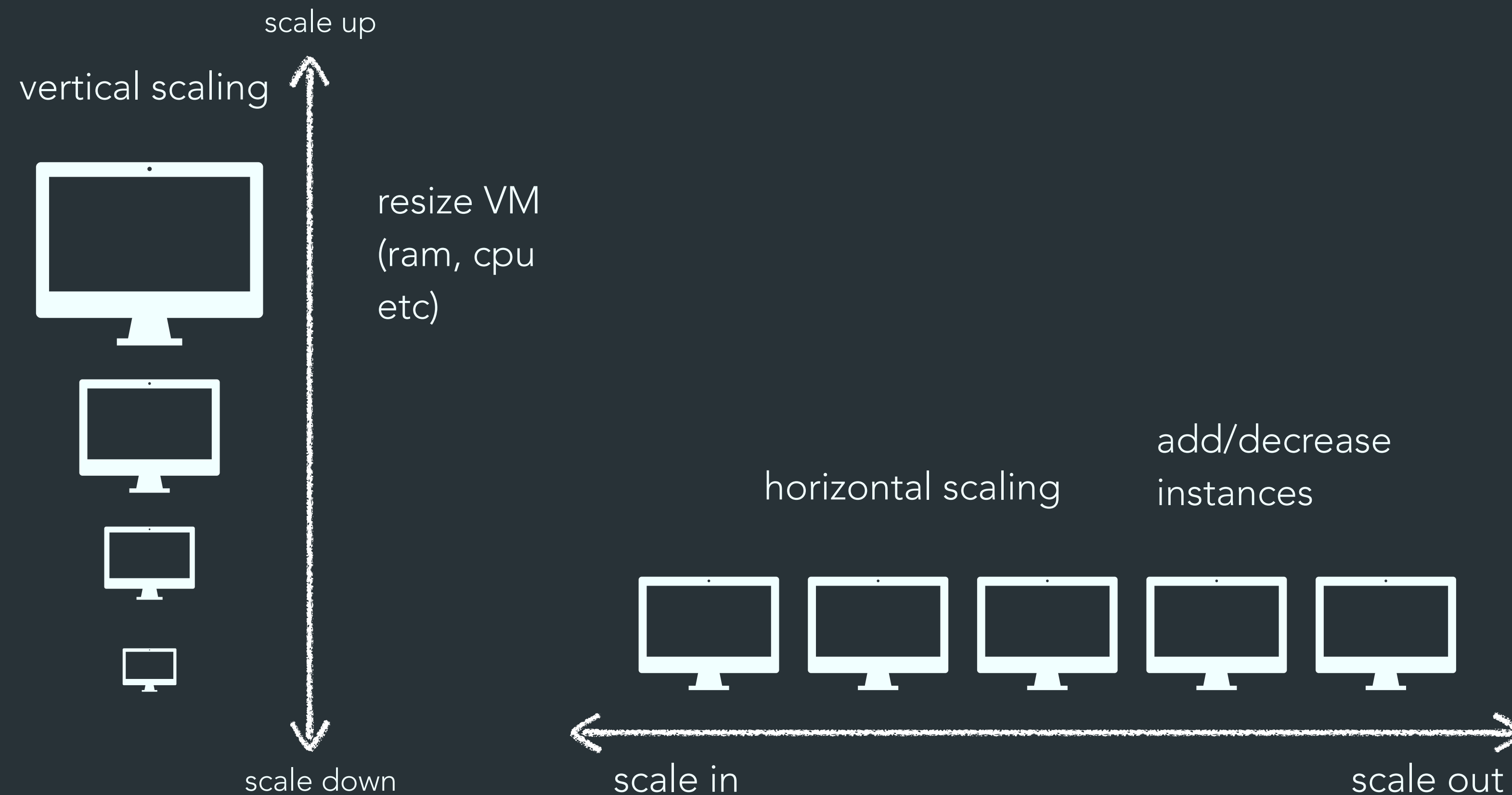
pricing model **CapEx vs OpEx**
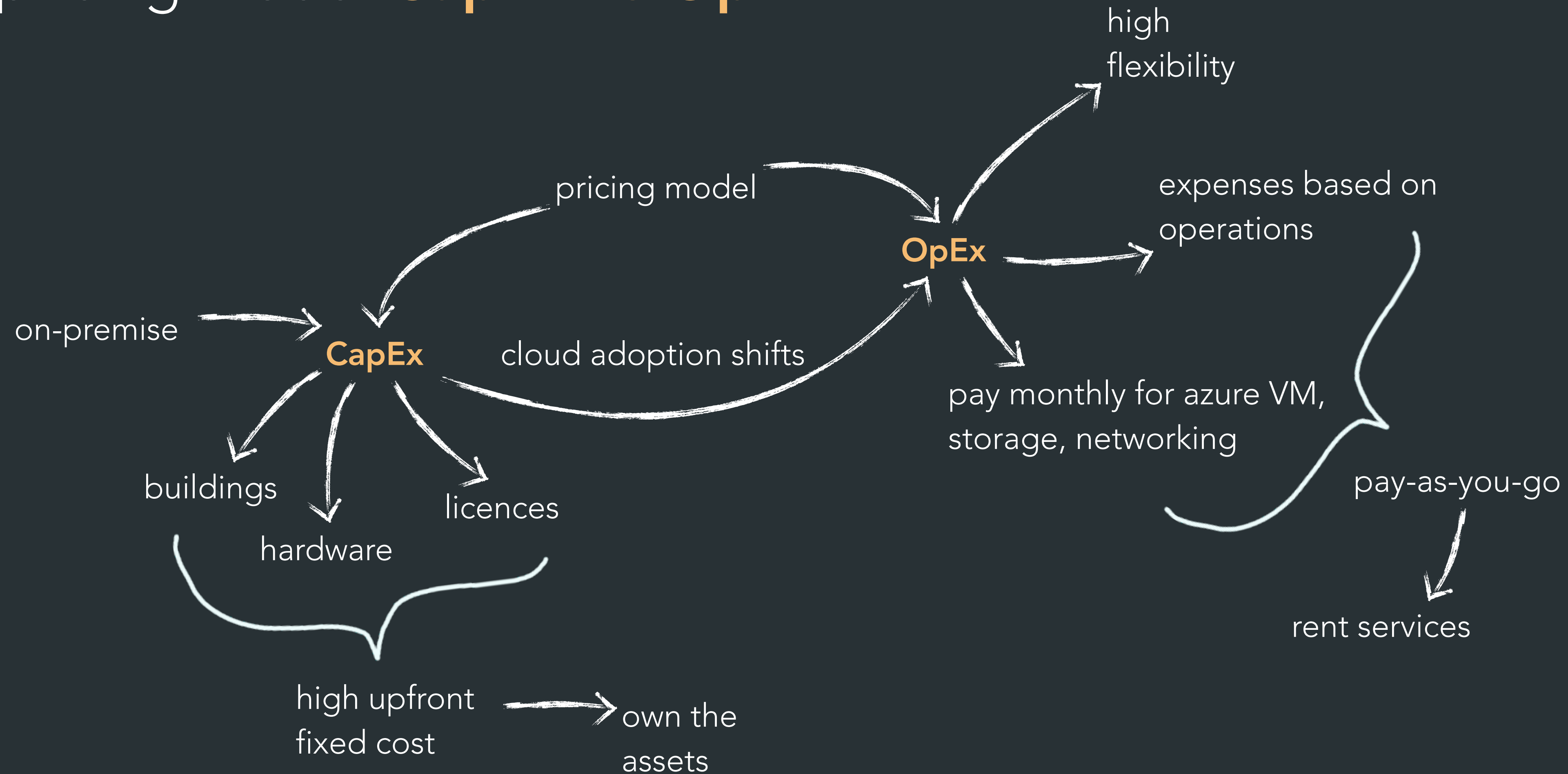
simplified **cost chart** of the pricing models

cost

pay-as-you-go

CapEx

scaling

cost

if workload is stable and your hardware is not underused then the CapEx model won't infer much cost as opposed to OpEx

upfront

cost

time