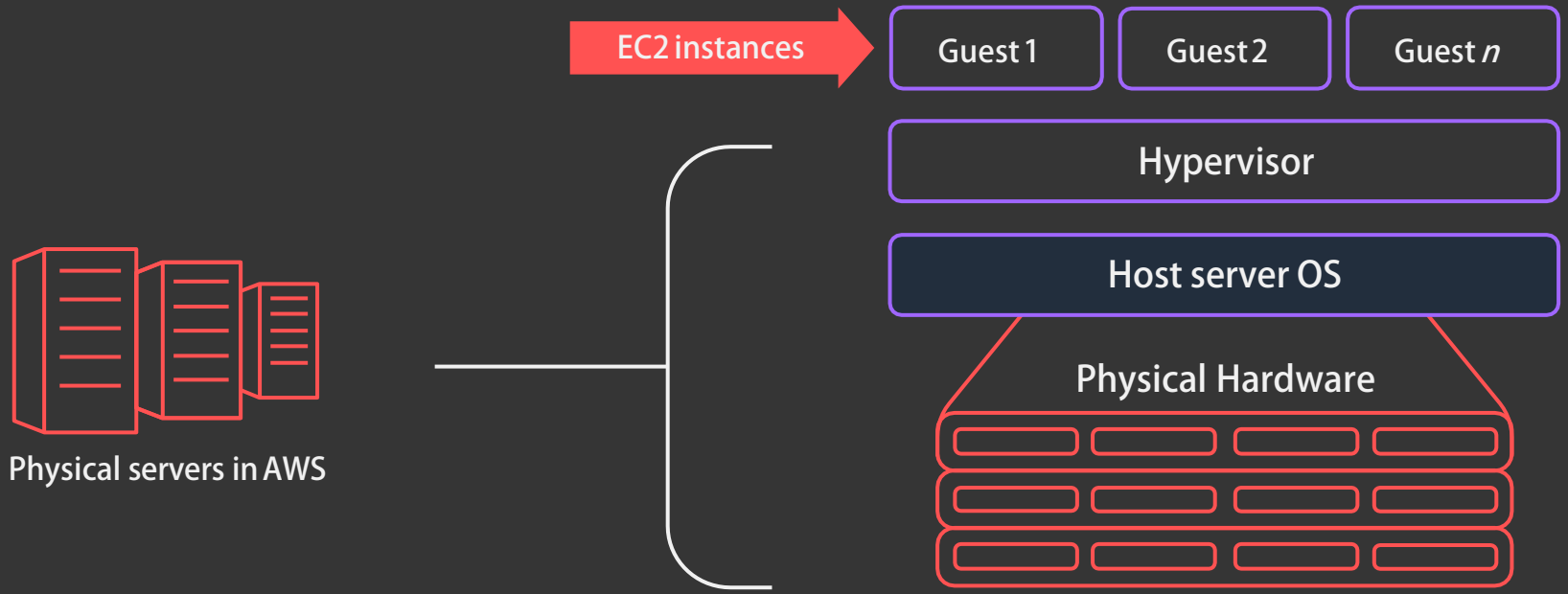
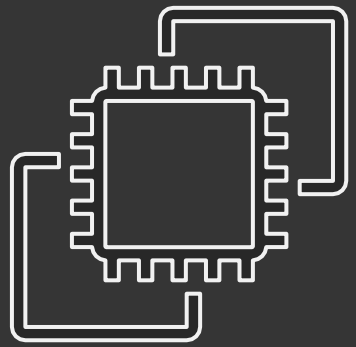
Amazon Elastic Compute Cloud (Amazon EC2)



Amazon Elastic Compute Cloud (Amazon EC2)

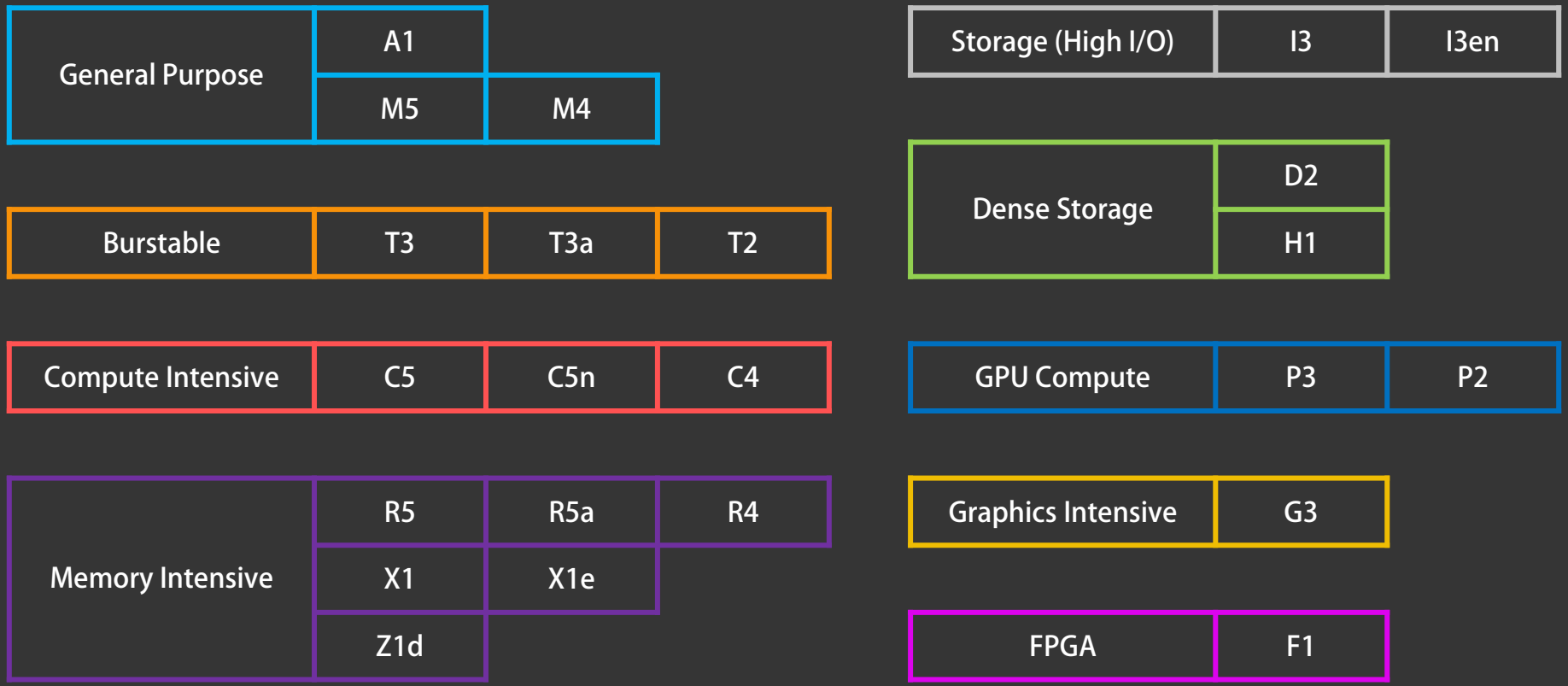
Virtual Servers in the cloud

- Resizable Compute Capacity (Nano to 32xlarge)
- Linux & Windows (Packaged/Custom/Community Images)
- x86 & ARM architectures (Intel | AMD | Graviton)
- Choose from 180+ instance types across general purpose, workload optimized & bare metal.
- Scale as your requirements change with autoscaling.
- Pay only for what you use with multiple billing models.
- Custom Hypervisor –Nitro System.



Amazon EC2

EC2 Instance Families



EC2 Instance Families - Extended

Bare Metal

Physical servers that give you true dedicated model with full control over the hardware.

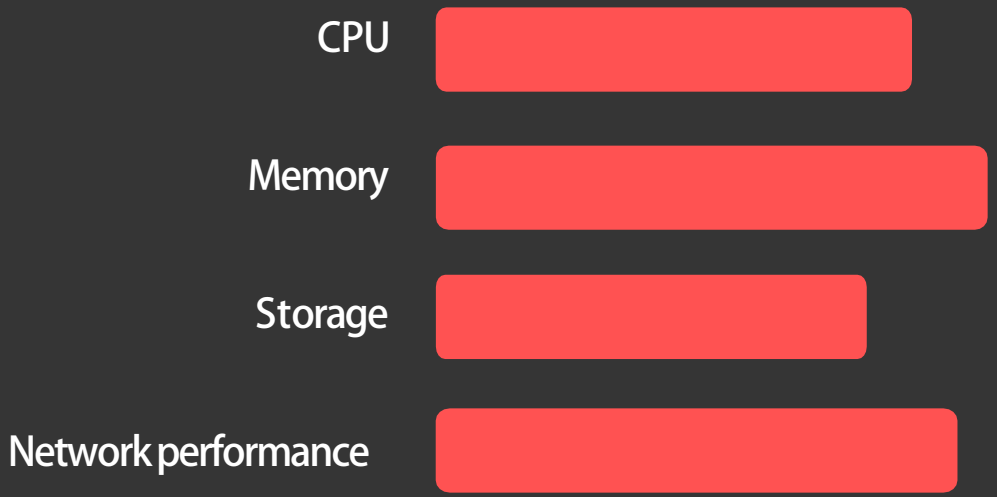
Elastic GPUs

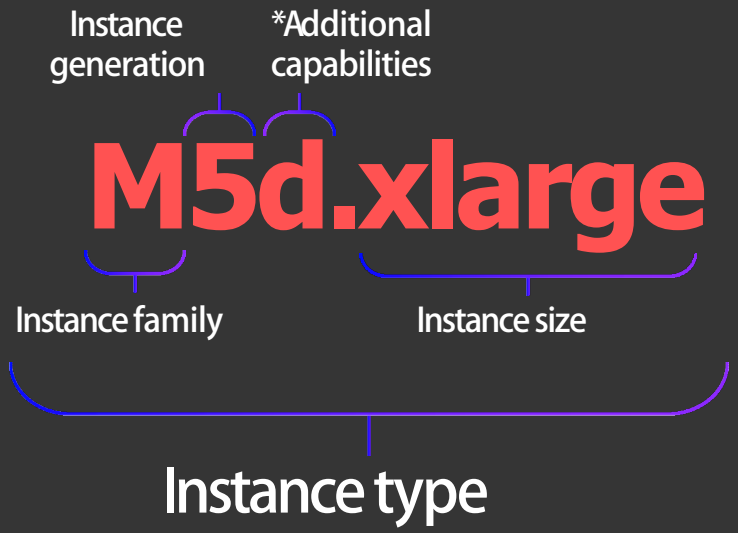
Addon Graphics to any instance family that doesn't come with built in dedicated graphics.

VMWare on AWS

A fully managed VMWare environment in AWS that lets you extend your on-prem VMWare into the cloud to leverage the services, scalability and reliability on AWS.

Amazon EC2 instance characteristics





AWS Graviton2 Based Instances

Up to 40% better price-performance for general purpose, compute intensive, and memory intensive workloads.

M6g

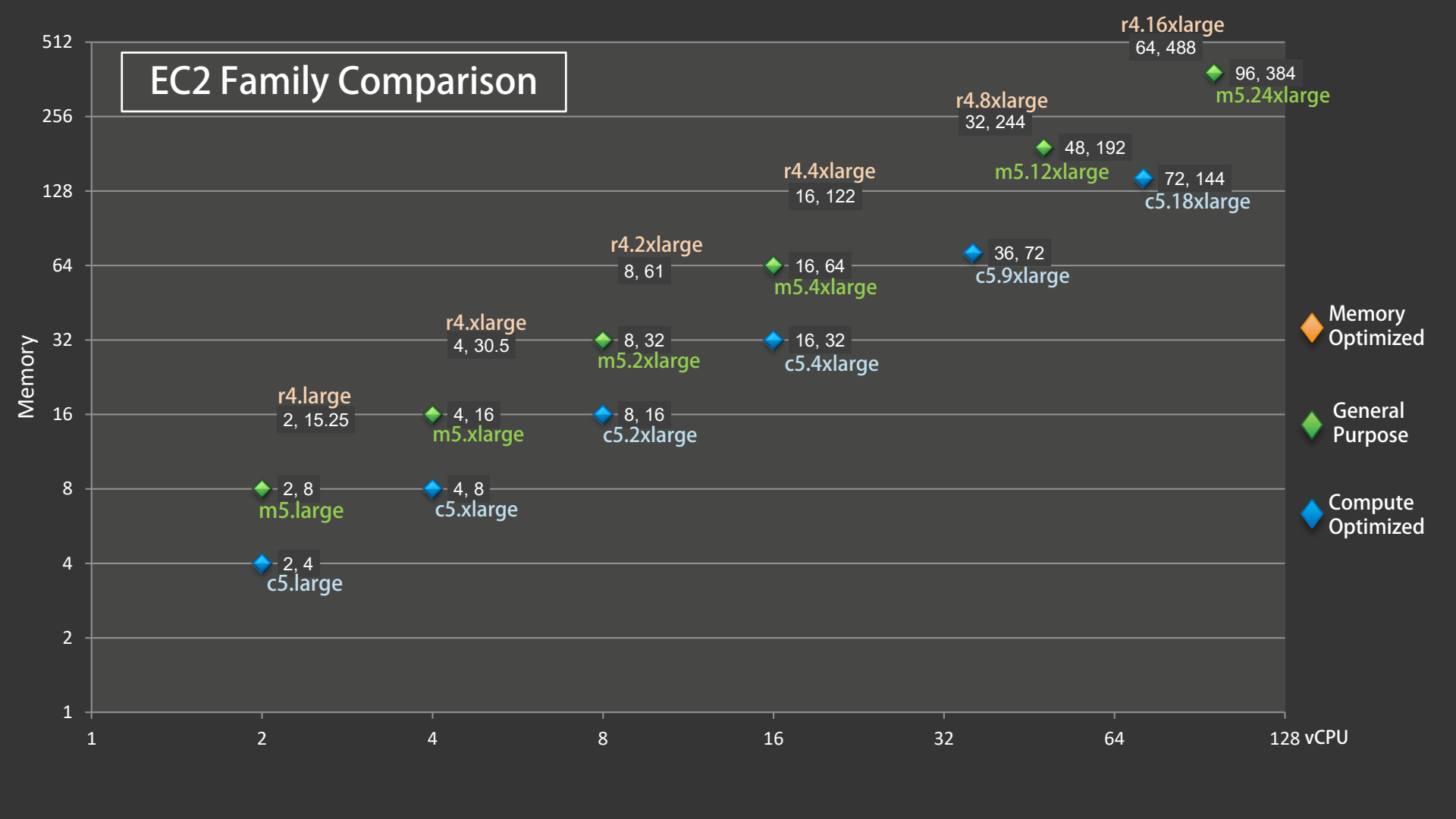
General Purpose

C6g

Compute intensive

R6g

Memory intensive


EC2 Family Comparison
Memory
512
256
128
64
32
16
8
4
2
1
1
2
4
8
16
32
64
128 vCPU
r4.16xlarge
64, 488
96, 384
m5.24xlarge
r4.8xlarge
32, 244
48, 192
m5.12xlarge
72, 144
c5.18xlarge
r4.4xlarge
16, 122
r4.2xlarge
8, 61
16, 64
m5.4xlarge
36, 72
c5.9xlarge
r4.xlarge
4, 30.5
8, 32
m5.2xlarge
16, 32
c5.4xlarge
r4.large
2, 15.25
4, 16
m5.xlarge
8, 16
c5.2xlarge
2, 8
m5.large
4, 8
c5.xlarge
2, 4
c5.large
Memory Optimized
General Purpose
Compute Optimized

EC2 Instance Billing Models

On-Demand Instance

- Pay per use. Charged per second /hourly(windows) anytime instance is running (turned on).

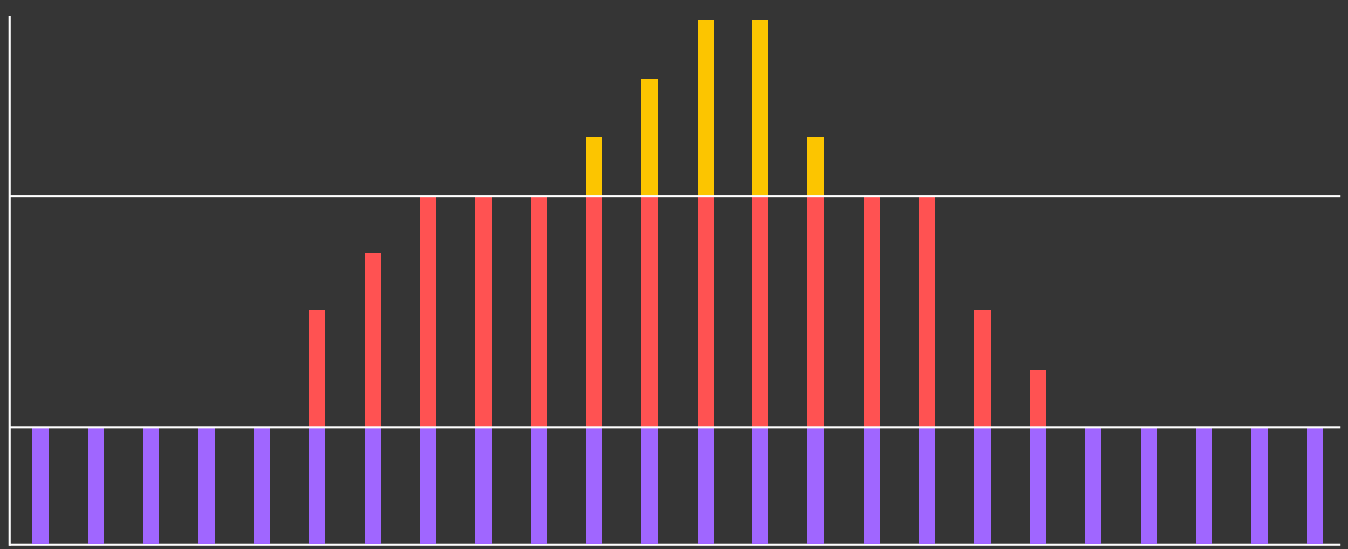
Reserved Instance

- Pre-paid for 1Yr and 3Yr contracts for a specific instance type regardless of you running those instances or not.

Spot Instance

- Ultra low cost instances purchased through the spot market which has un-utilized capacity. You set a maximum you are willing to pay per hour and you pay the Spot price that's in effect for the time period your instances are running or till it exceeds your set amount.

Capacity and cost optimization



Scale using
Spot, On-Demand,
or both

Use Reserved Instances
for known/steady-state
workloads

New!

Addon EC2 Instance Billing Models

Savings Plans

- Similar to reserved instances but instead of committing to pay for a particular instance type, you pay a committed $ amount per month and you will get discounted rates up to the amount paid.

Capacity Reservation

- Get guaranteed EC2 instance capacity reservation without paying a committed amount or having to purchase reserved instance contracts. You pay additional fee as long as the capacity reservation is active.

Instance Tenancy Models

Shared Host Instance

- Although the virtual instance is dedicated for your use, the underlying Host system (physical server) is shared by multiple accounts to run multiple virtual instances.

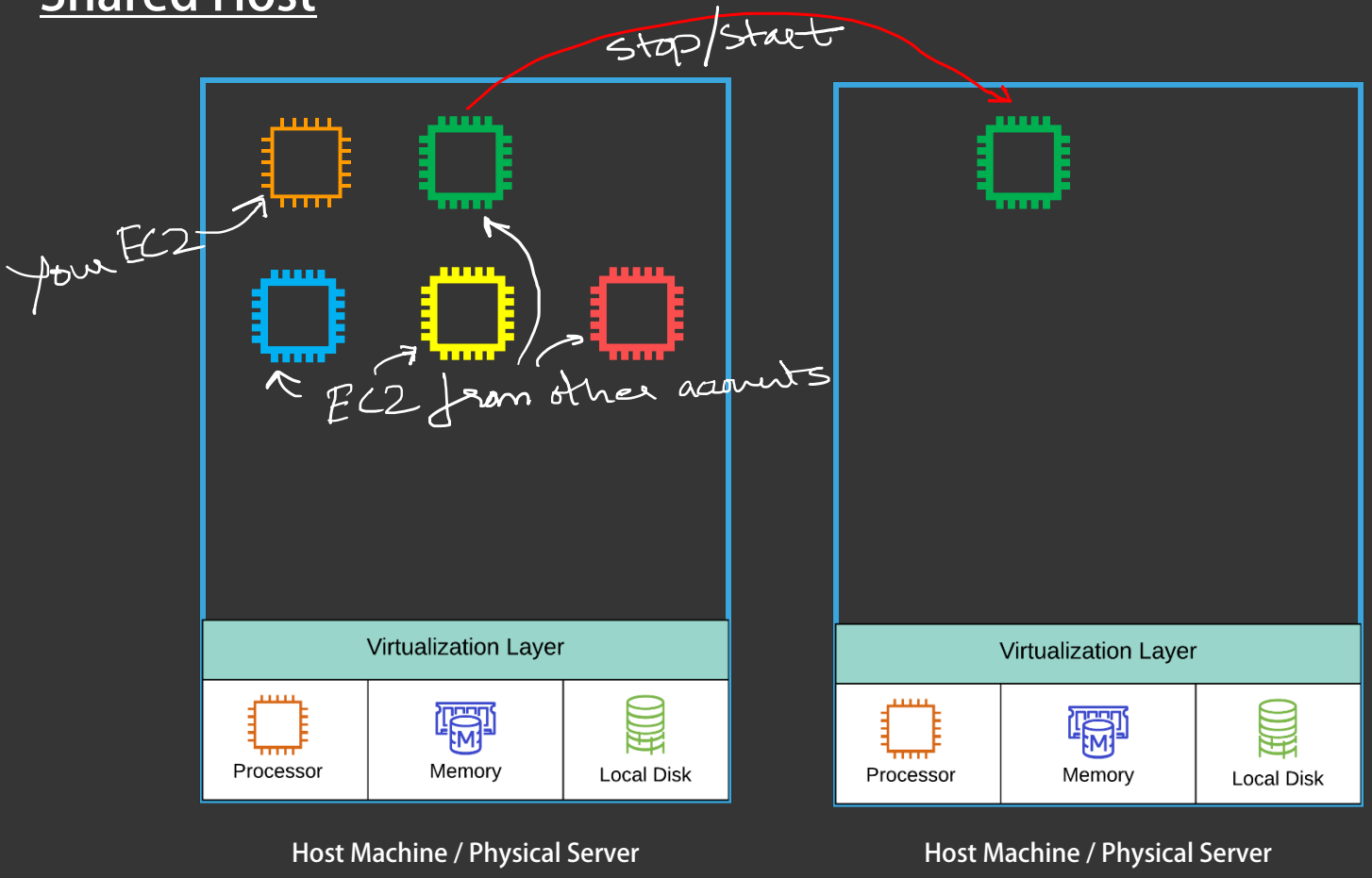
Dedicated Host

- The underlying Host system is dedicated for your use. Only you can launch instances on this Host machine. It gives you additional visibility and control over how instances are placed on a physical server to meet compliance requirements

Dedicated Instance

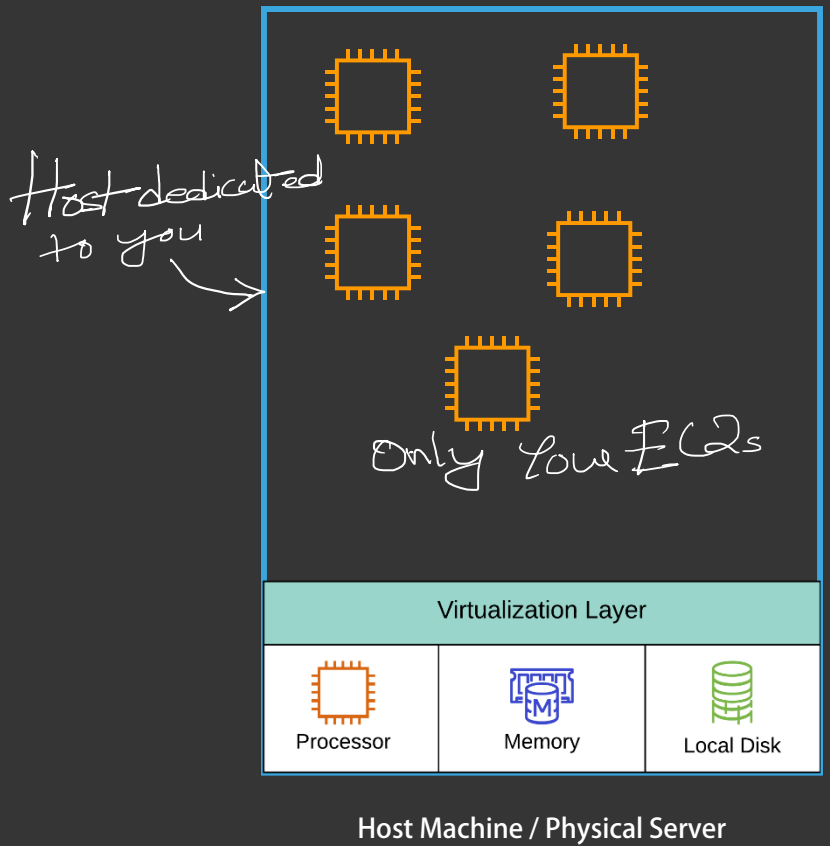
- Instances are isolated from each other at the host hardware level but the customer does not have control over where/how the instances are placed.

Shared Host



- Host machine is not dedicated to you. Any other AWS account can have their EC2s in the same host.
- If you stop and start your instances, it's highly likely that the instance will start back on another host machine.

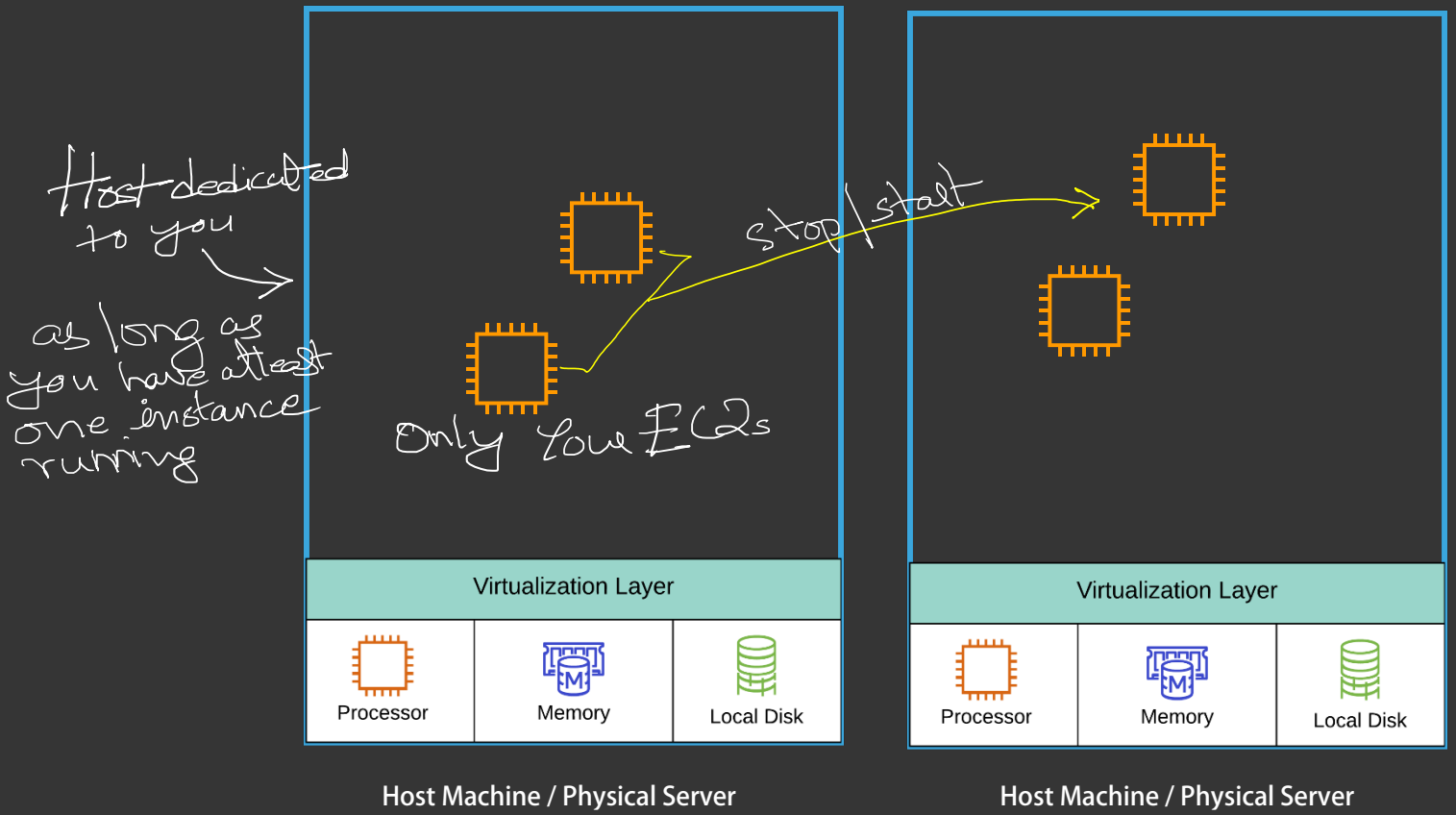
Dedicated Host



- Host machine is dedicated to you. No other AWS account can have their EC2s in the same host as yours.
- You can assign core/hardware based licenses which can be applied on the instances running on the host machine.
- You can ensure you meet regulatory compliance which require you to run your instances in a non-shared environment.

Dedicated Instance

- Similar to dedicated hosts, the host machine is dedicated to you but only as long as you have at least one instance running on it.



- You can ensure you meet regulatory compliance which require you to run your instances in a non-shared environment.
- If you shut down all the instances on the host, you will lose the host machine and when started again, they will most likely be on another host.

Future of Instances

Nitro System

Custom AWS Hardware level hypervisor frees up host server resources used up by traditional software-based hypervisors which allows AWS to provision more EC2s per Host and provide lower costs per EC2.

AWS Outposts

Extend the AWS cloud to your on-prem using AWS provided fully configured hardware rack which can run EC2 instances, EBS volumes etc. inside your on-prem.

AWS Outposts