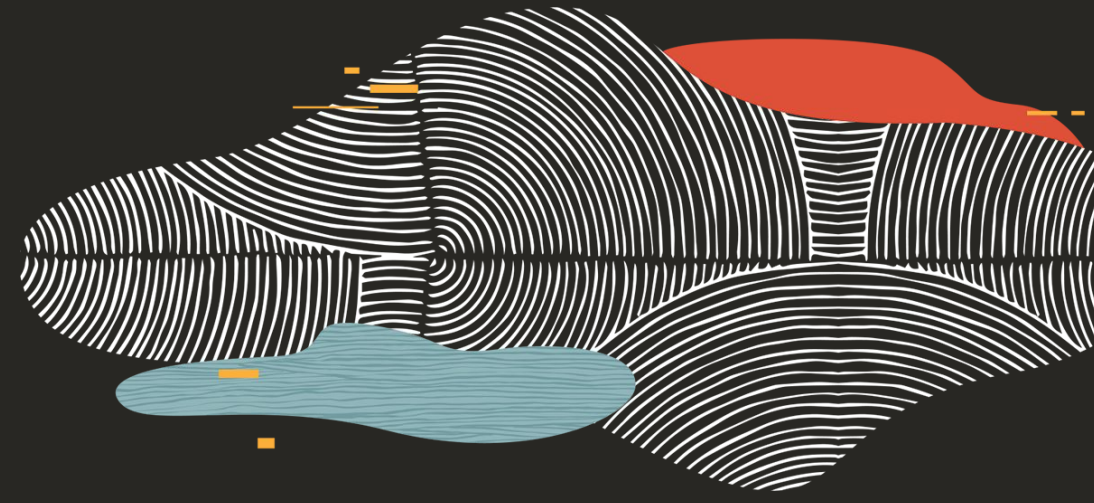
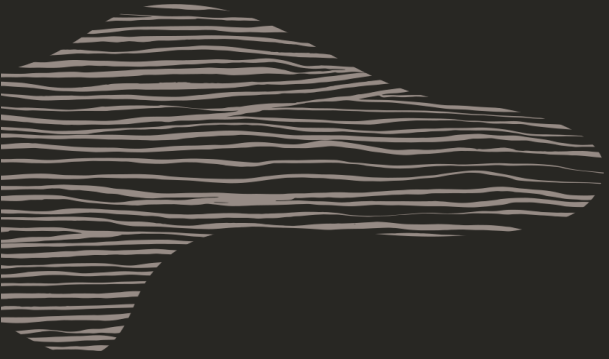




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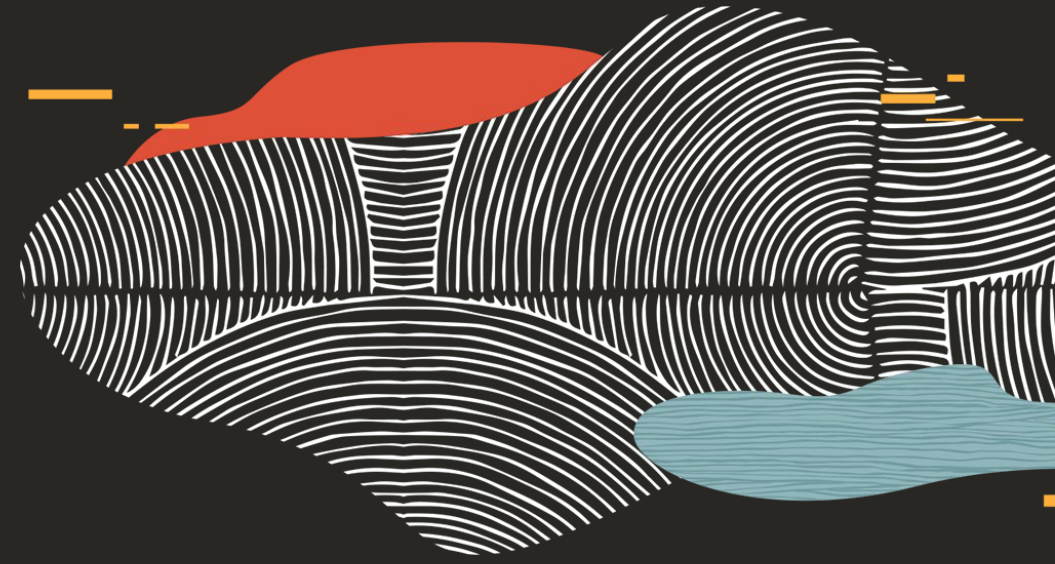
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<https://www.oracle.com/pt/cloud/solutions/hpc.html>

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Cloud Solution Hub, Bangalore



# Oracle's latest HPC implementation

Clear differentiator for OCI

## Safe harbor statement

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The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.



## Speaker Bio

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Jayshree Chatterjee  
Solution Engineer | Speaker  
Oracle, Cloud Solution Hub Bengaluru  
[www.linkedin.com/in/jayschat](http://www.linkedin.com/in/jayschat)  
Twitter: @BigBrainBargain

# Program agenda

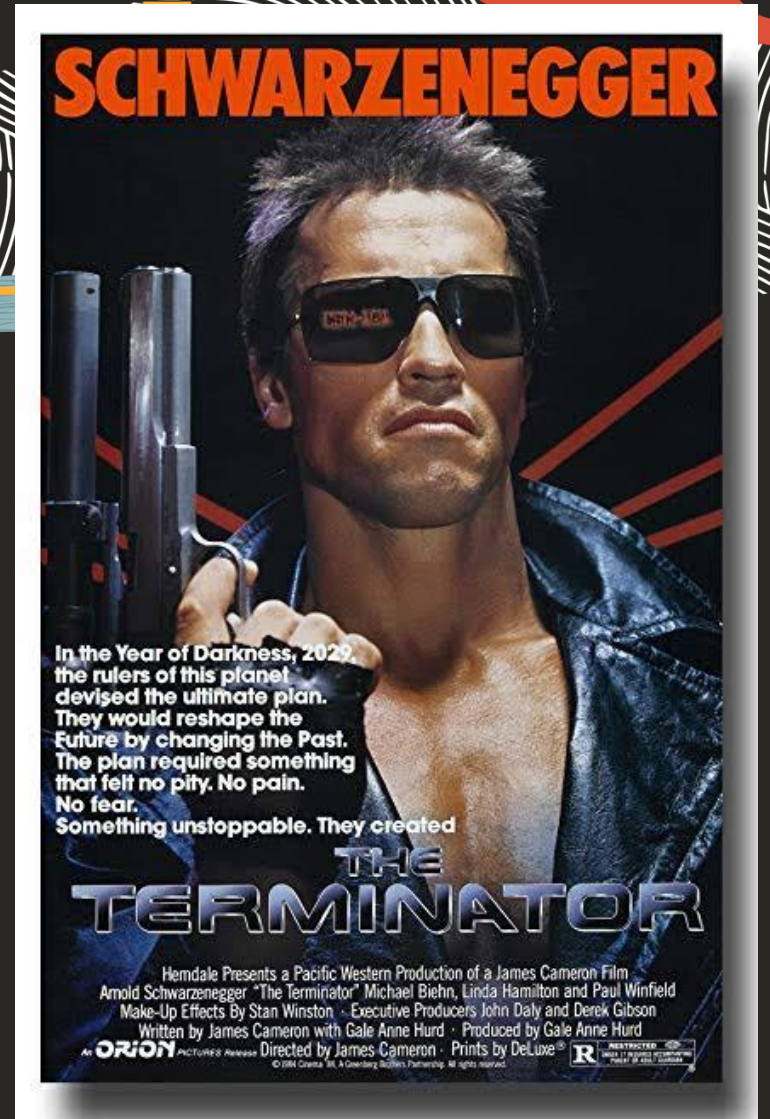
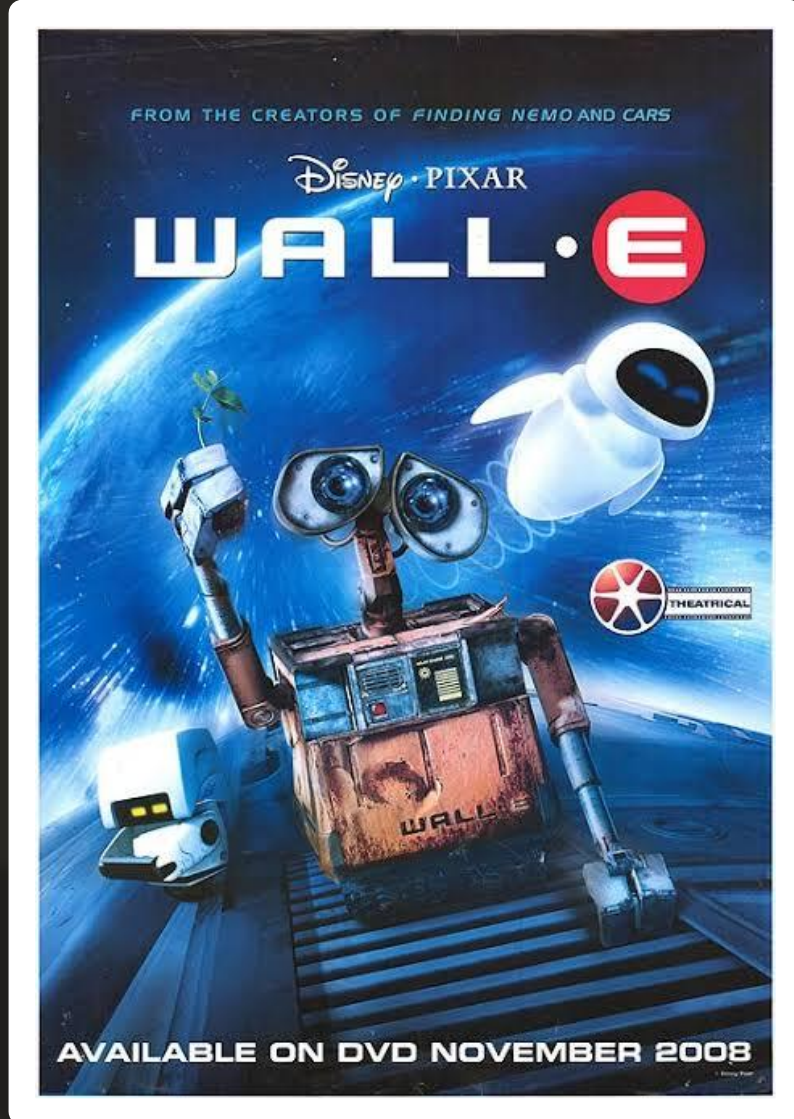
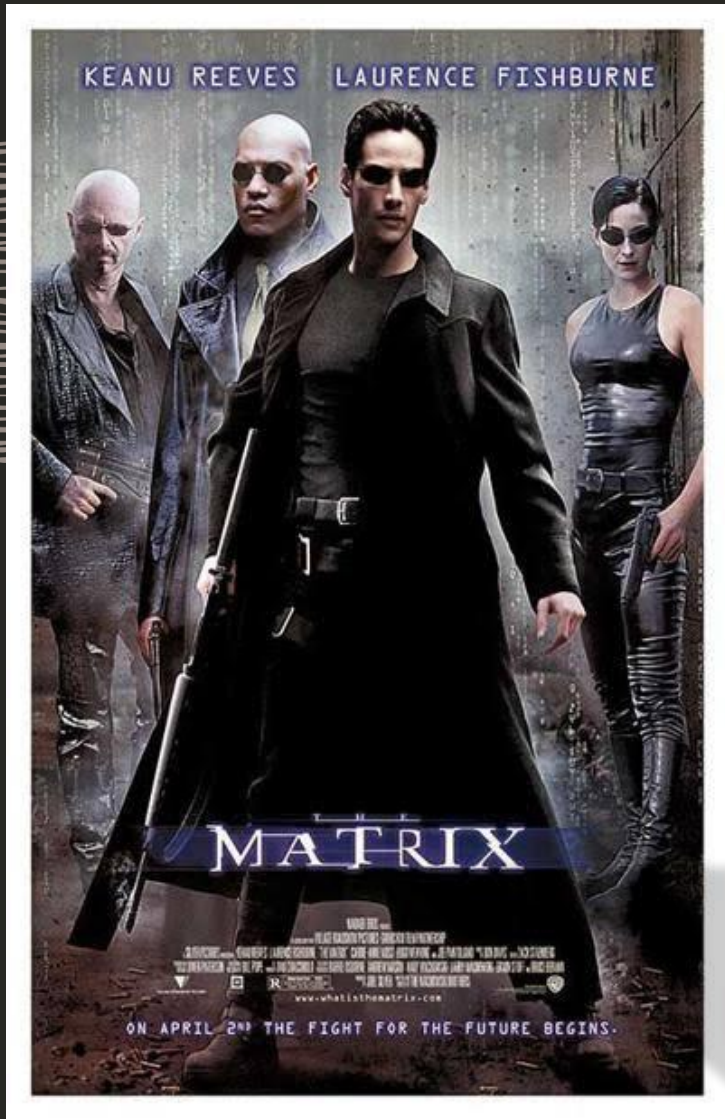
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- 1 What is HPC?
- 2 Is HPC a beta version of a supercomputer?
- 3 How to solve an HPC problem?
- 4 HPC Architecture on OCI
- 5 Performance Advantage on OCI

# Program agenda

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# DD 2020 : Data Deluge



335 PB / month

Global mobile data traffic of wearable devices



884 TB / aircraft flight

Flights are now fitted with sensors making travel industry IOT enabled.

80%

Digital Payments

Total transactions expected to hit 726 Billion



2.5 Quintillion Bytes/ day

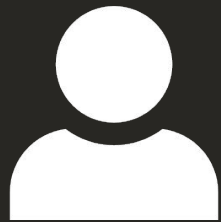
Expected to grow at an exponential pace

# High Performance Computing



# Parallel Programming

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1 Person □ 10 Tasks  
10 Minutes



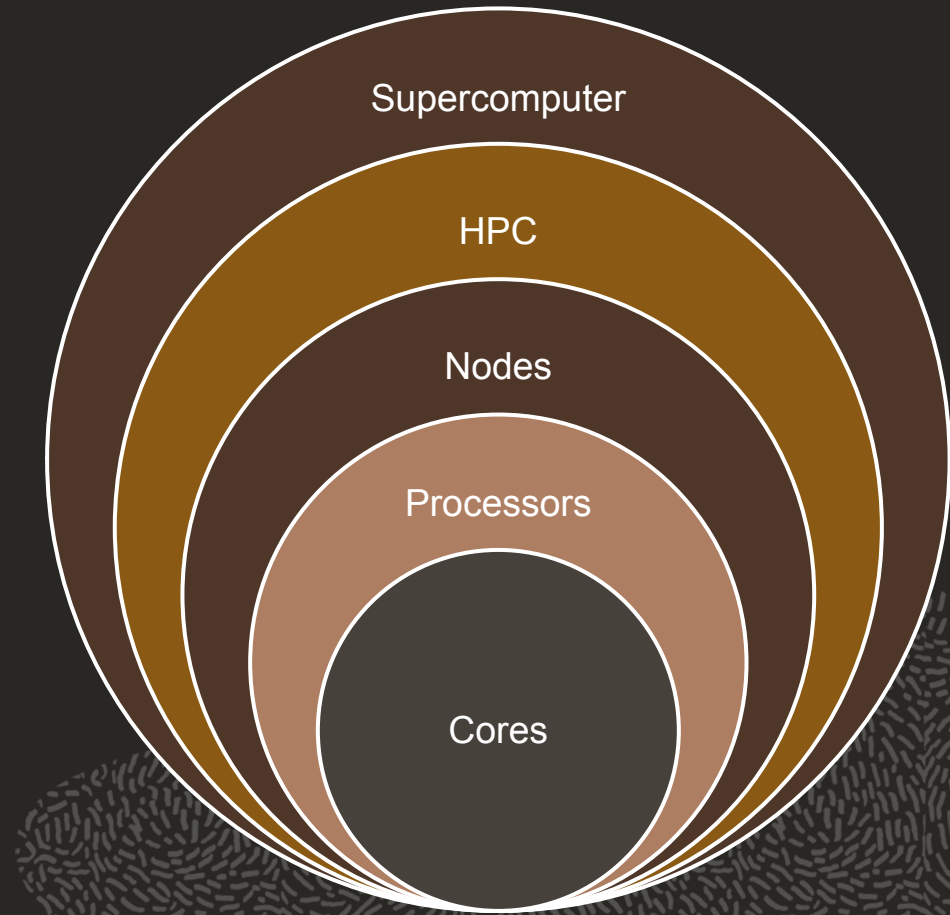
10 People □ 10 Tasks  
?

# Program agenda

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# What is a Supercomputer?

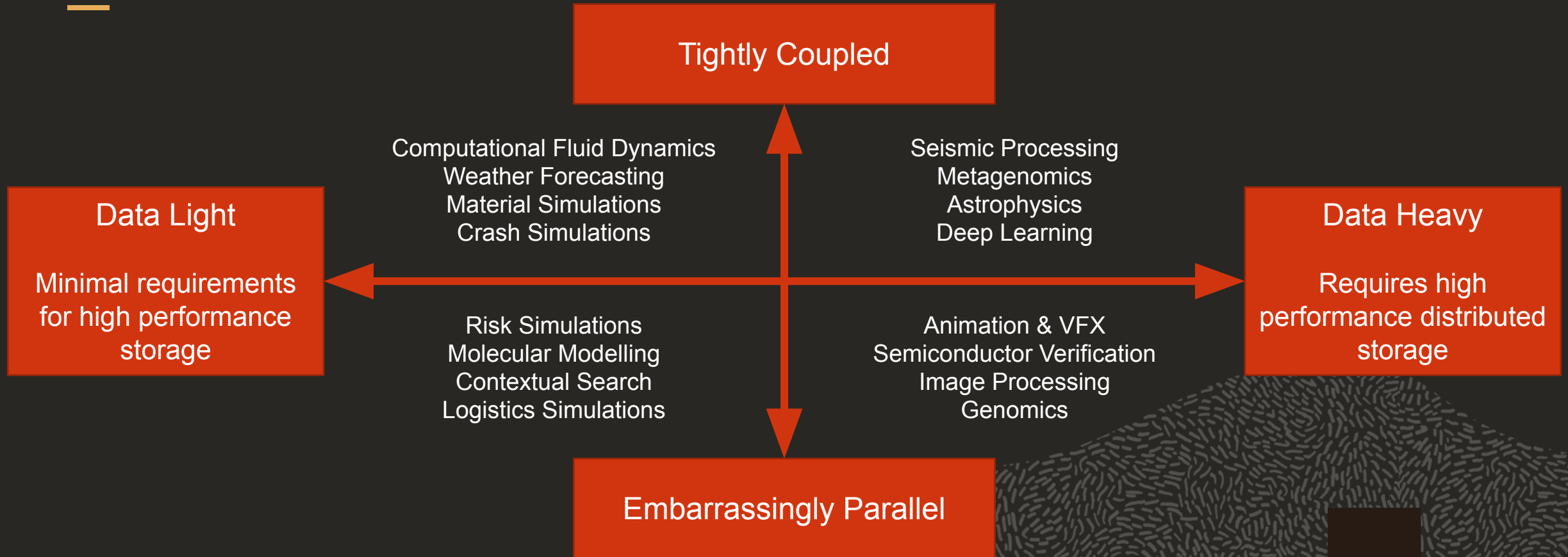


## How is HPC Different?

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Supercomputer	HPC
More Money	Lower Expenses
Specialised Expertise	Ease of Management
Specialised Problems	Applied to wide range of problems

# Typical HPC Workload



## Program agenda with highlight

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- 1 What is HPC?
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USE  
R



CLUSTER  
MANAGER



COMPUTE  
HARDWARE



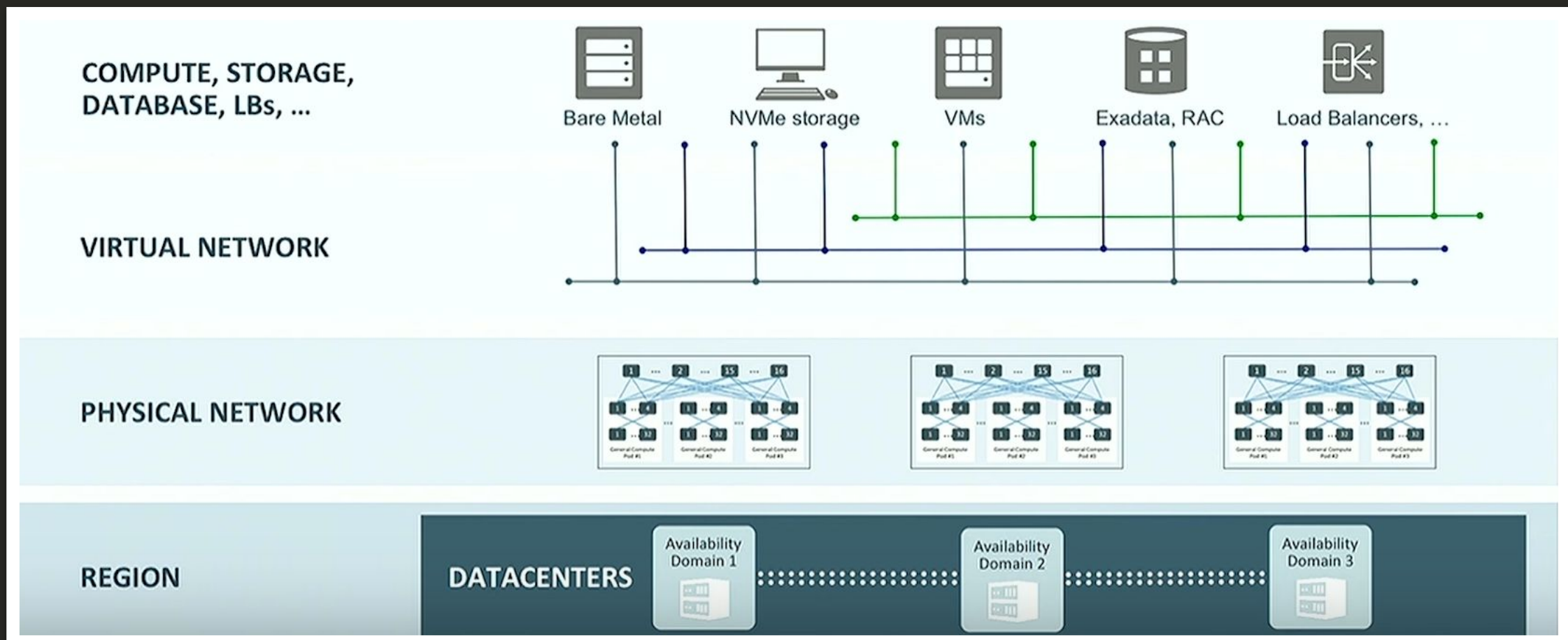
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## Program agenda with highlight

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# Gen 2 OCI Architecture



# HPC on OCI

Shape	Instance Type	OCPU	Memory (GB)	Local Disk	Network Bandwidth	Max VNICs Total: Linux	Max VNICs Total: Windows
<b>BM.HPC2.36</b>	<b>X7-based high frequency compute</b>	<b>36</b>	<b>384</b>	<b>6.4 TB NVMe SSD (1 drive)</b>	<b>1 x 25 Gbps</b> <b>1 x 100 Gbps RDMA</b>	<b>50</b>	<b>1</b>



# High Performance Computing (HPC) Demo

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## Program agenda with highlight

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# Benchmarking



# HPC on OCI v/s Others



- Lower TCO than on-premises and competing clouds



- Superior performance backed by industry first end-to-end SLA



- Compute options for any HPC workload – CPU or GPU



- 36% lower TCO

- 2-10X better performance

- Low-latency, flat networks

- 100 Gbps networking

- No resource oversubscription



# Summary

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- ✓ BM HPC on OCI : On-Premise like Performance
- ✓ No Virtualization + No jitter
- ✓ Secure, isolated RDMA network + No Oversubscription
- ✓ > 20,000 cores in a single RDMA Cluster
- ✓ Latency <  $2\mu\text{s}$  vs  $15\mu\text{s}+$  on other clouds

## HPC Customer Use Case 1 : Cargojet

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Create multiple clones without sparse snapshot clone

Run I/O intensive workload without in memory licensing

## HPC Customer Use Case 2 : Zenotech

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Avoid noisy neighbours

Handle scale-up bursts for customers

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**“It’s a no brainer. We got to move our HPC workload to the cloud and we got to move it to the Oracle Cloud”**

Thank you

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**Jayshree Chatterjee**

Solution Engineer  
Cloud Infrastructure Team, Oracle

A large, stylized graphic of the text 'Q&A' in a white, serif font. The background is a vibrant, abstract pattern of overlapping shapes in shades of purple, red, and orange, with intricate geometric patterns like a woven basket or a complex circuit board design. The overall aesthetic is modern and artistic.