



expedia group

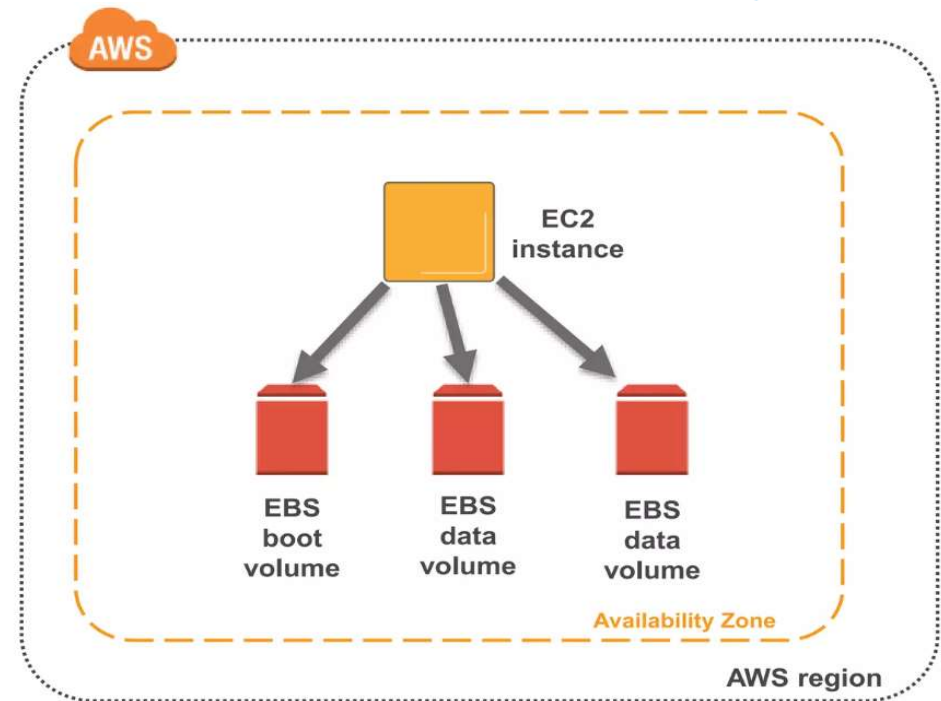
EXPEDIA INC.

Suggesting Amazon EBS Volume Type

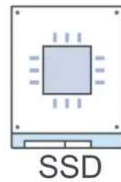


AMAZON EBS VOLUMES

- An Amazon EBS volume is a durable, block-level storage device that you can attach to EC2 instance.
- 20X Better than off the self disk drive



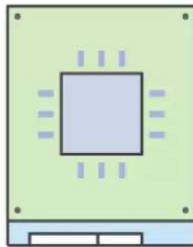
TYPES OF AMAZON EBS VOLUME



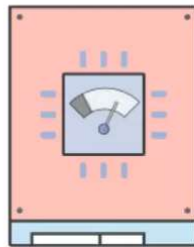
SSD



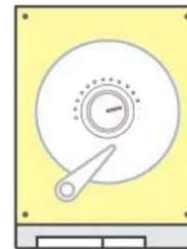
HDD



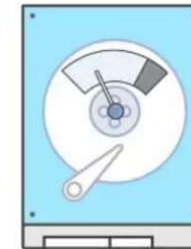
General Purpose
SSD



Provisioned IOPS
SSD



Throughput Optimized
HDD



Cold
HDD

REQUIREMENTS OF EXPEDIA, INC.



Expedia's website provide quick and responsive service

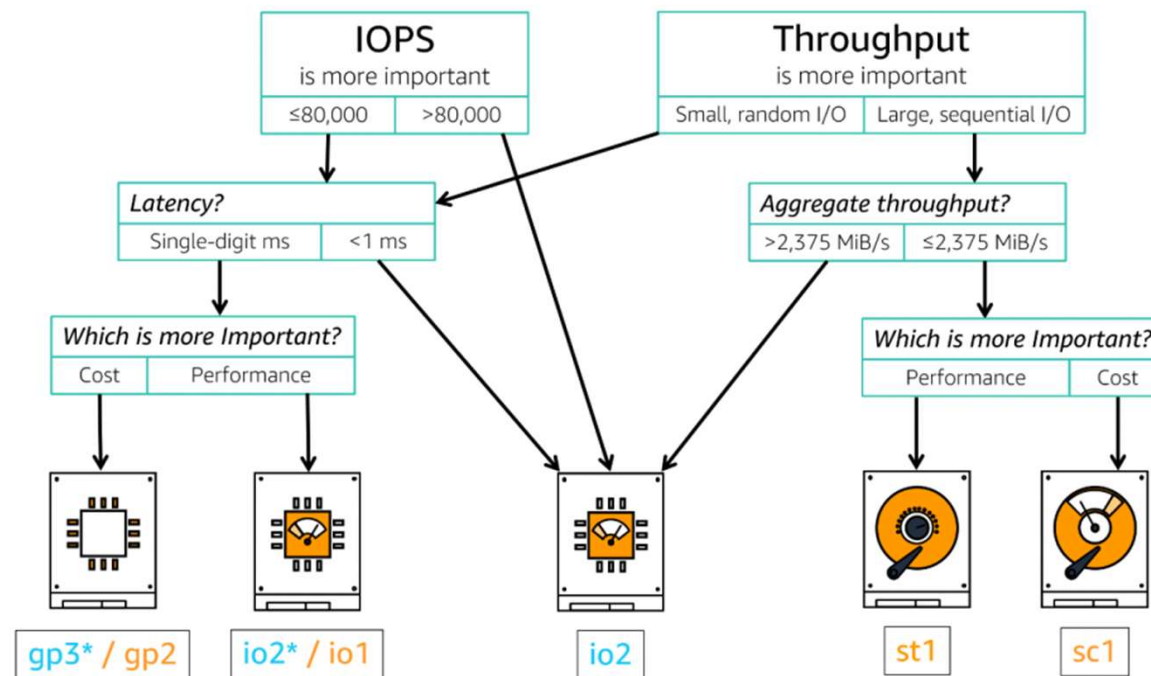
Minimal network latency

No occurrence of Site abandonment

High level of availability at different locations

Cost effective

CHOOSING THE BEST SOLUTION



* AWS recommends using the newest storage types for new implementations

RECOMMENDATION



Provisioned IOPS SSD (io1)

- Ideal volume type for I/O-intensive workloads at upmost performance
- SSD-backed volumes are optimized for transactional workloads involving frequent read/write operations with small I/O size
- Provisioned IOPS(SSD) can provide required level of performance for ESS.
- Ensures ESS can run in locations physically close to customers
- Minimal network latency at all locations

PERFORMANCE USING io1



- Fulfilment of ESS requires to be errorless and quick data access
- Volume size 4GiB – 16 TiB
- Up to 64,000 IOPS per volume
- 99.9% durability
- Up to 50 IOPS/GiB for io1.
- Multi-attach support

COST AND POTENTIAL SAVINGS



- Provisioned IOPS SSD (io1) Volumes costs
\$0.125 per GB-month of provisioned storage
AND \$0.065 per provisioned IOPS-month
- Paying only what we use
- Reducing cost with Elasticity
- Avoiding overprovision
- Uncompromised ESS performance without
expensive hardware





SECURITY CONSIDERATIONS

- Encryption using AWS Key Management Service (KMS)
- Creating EBS Snapshots of all volumes
- Access control using Amazon IAM
- Monitoring using AWS CloudTrail
- Topmost Disaster recovery
- Compliance with variety of regulations

BENEFITS OF CLOUD-BASED SOLUTION ARCHITECTURES VS ON-PREMISES

- Scalability
- Cost Savings
- Flexibility and Accessibility
- Security
- Reliability
- Innovation



CONCLUSION



- io1 Amazon EBS SSD volume type have required performance characteristics
- Cost optimization can be achieved using various techniques
- ESS will perform smoothly and lower latency transactions
- Security measures implementation assuring data privacy
- Benefits of Cloud solutions over On premises



REFERENCES

- <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-volume-types.html#vol-type-ssd>
- <https://docs.aws.amazon.com/emr/latest/ManagementGuide/emr-plan-storage.html>
- <https://aws.amazon.com/ebs/pricing/Monitoring-using-AWS-CloudTrail>
- <https://digitalcloud.training/amazon-ebs/>



THANK YOU!

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