

# Monitoring & Reporting Summary



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# CloudWatch Exam Tips



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**CloudWatch** - a monitoring service to monitor your AWS resources, as well as the applications that you run on AWS.



# CloudWatch Exam Tips



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## Host Level Metrics Consist of:

- CPU
- Network
- Disk
- Status Check



Ram Utilization - is a custom metric.

Custom Metrics - minimum granularity is 1 minute.

# CloudWatch Exam Tips



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**Terminated Instances** - You can retrieve data from any terminated EC2 or ELB instance after its termination. CloudWatch Logs by default are stored indefinitely.



# CloudWatch Exam Tips



## Metric Granularity

- 1 minute for detailed monitoring
- 5 minutes for standard monitoring

Cloudwatch can be used on premise - Not restricted to just AWS resources. Can be on premise too. Just need to download and install the SSM agent and Cloudwatch agent.



# EBS - Different Volume Types



5 Different Types of EBS Storage;

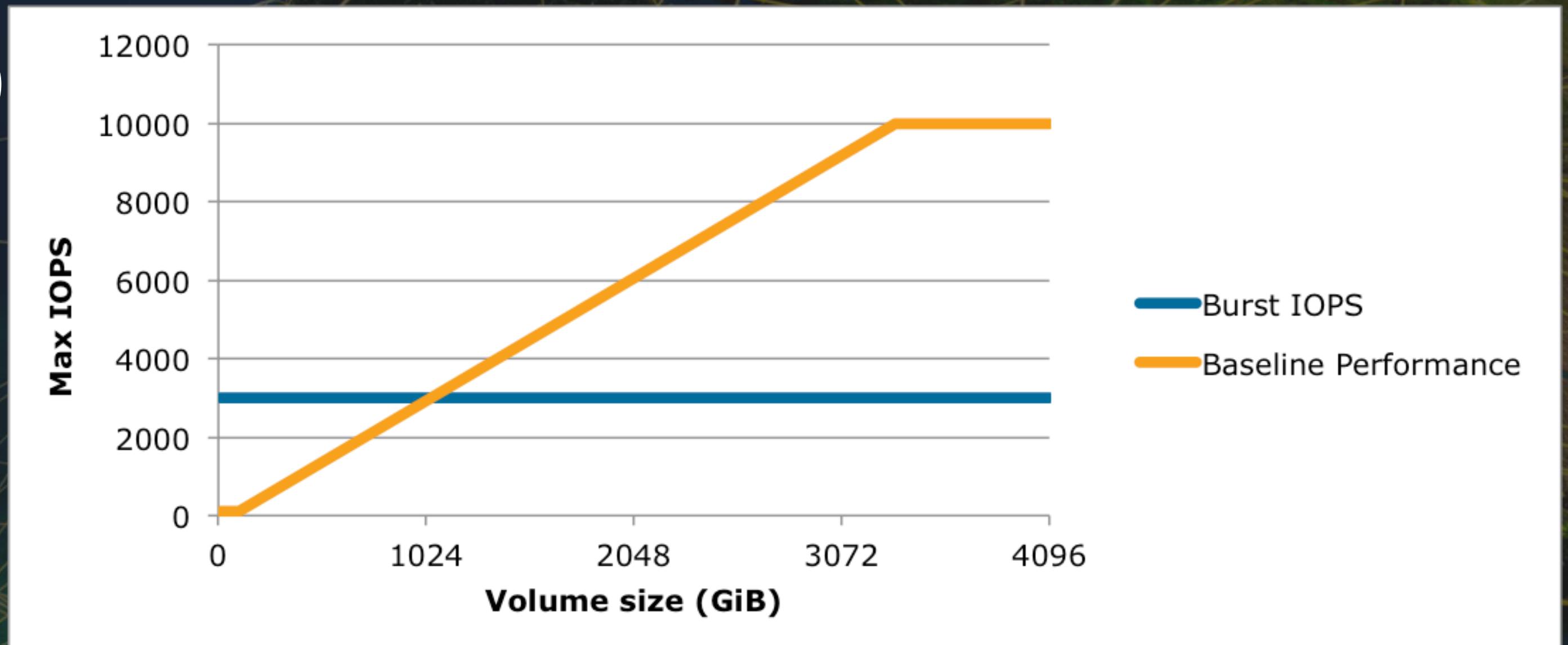
- General Purpose (SSD)
- Provisioned IOPS (SSD)
- Throughput Optimised Hard Disk Drive
- Cold Hard Disk Drive
- Magnetic



# EBS Exam Tips



**Key IOPS Metrics** - You can burst up to 3000 IOPS. If you need more than 3000 but less than 10,000 just increase the volume size. Anything over 10,000 IOPs move to



# CloudWatch vs CloudTrail?



- CloudWatch monitors performance.
- CloudTrail monitors API calls in the AWS platform.





# ELB - Monitoring Types

4 Different Ways To Monitor Your Load Balancers;

- CloudWatch metrics
- Access logs
- Request tracing
- CloudTrail logs



# Access Logs - Exam Tips



Access Logs can store data where the EC2 instance has been deleted. For example say you have a fleet of EC2 instances behind an auto scaling group. For some reason your application has a load of 5XX errors which is only reported by your end customers a couple of days after the event. If you aren't storing the web server logs anywhere persistent, it is still possible to trace these 5XX errors using Access Logs which would be stored on S3.

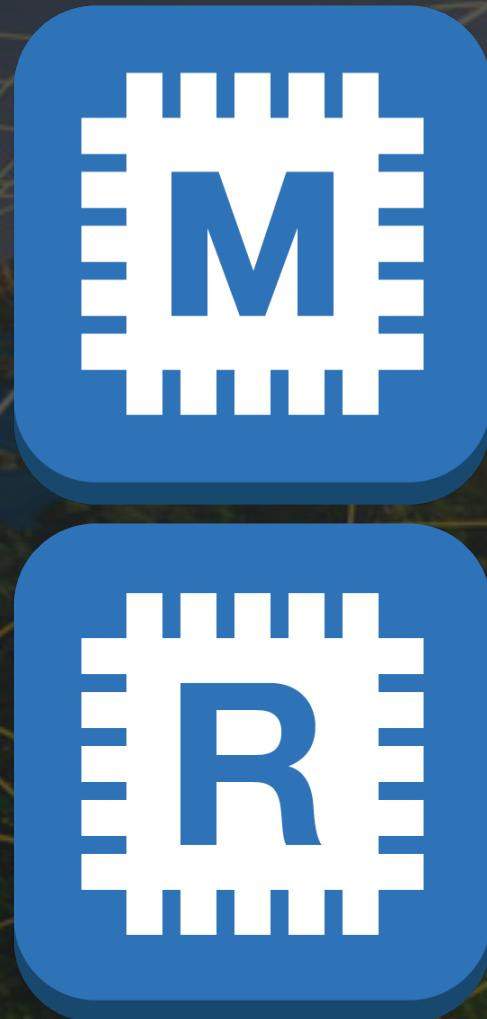


# Elasticache



From our previous courses you will remember that ElastiCache consists of two engines:

- Memcached
- Redis



<http://docs.aws.amazon.com/AmazonElastiCache/latest/UserGuide/CacheMetrics.WhichShouldIMonitor.html>



# Elasticache Exam Tips

When it comes to monitoring our caching engines there are 4 important things to look at:

- CPU Utilization
- Swap Usage
- Evictions
- Concurrent Connections



# CloudWatch Dashboard Exam Tips



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**CloudWatch** - Dashboards are multi-region and can display any widget to any region. To add the widget, change to the region that you need and then add the widget to the dashboard.

Remember to save!!



# Billing Alarms Exam Tips



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**Billing Alarms** - You can create Billing Alarms to automatically alert you for when you go above a pre-defined cost that you set.



# AWS Organizations Exam Tips



## AWS Organizations

- Centrally Manage Policies Across Multiple AWS Accounts
- Control Access To AWS Services
- Automate AWS Account Creation And Management
- Consolidate Billing Across Multiple AWS Accounts



# AWS Resource Groups Exam Tips



- TAG Everything!
- Resource Groups are a way of grouping tags.
- You can use resource groups with AWS Systems manager to automate tasks



# EC2 Options



- **On Demand** - allow you to pay a fixed rate by the hour (or by the second) with no commitment.
- **Reserved** - provide you with a capacity reservation, and offer a significant discount on the hourly charge for an instance. 1 Year or 3 Year Terms
- **Spot** - enable you to bid whatever price you want for instance capacity, providing for even greater savings if your applications have flexible start and end times.
- **Dedicated Hosts** - Physical EC2 server dedicated for your use. Dedicated Hosts can help you reduce costs by allowing you to use your existing server-bound software licenses.

# AWS Config Rules - EXAM TIPS



## Compliance checks:

- Trigger
  - Periodic
  - Configuration changes
- Managed Rules
  - About 40 (at time of recording)
  - Basic, but fundamental...

# AWS Config Rules - EXAM TIPS



## Permissions needed for Config:

- AWS Config requires an IAM Role with
  - Read only permissions to the recorded resources.
  - Write access to S3 logging bucket
  - Publish access to SNS

(Console will optionally create these for you.)

# AWS Config Rules - EXAM TIPS



## Restrict Access:

- Users need to be authenticated with AWS and have the appropriate permissions set via IAM policies to gain access.
- Only Admins needing to set up and manage Config require full access.
- Provide read only permissions for Config day-to-day use.

# AWS Config Rules - EXAM TIPS



## Monitoring Config:

- Use CloudTrail with Config to provide deeper insight into resources.
- Use CloudTrail to monitor access to Config, such as someone stopping the Config Recorder.

# AWS Config Rules - EXAM TIPS



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AWS Config FAQs

<https://aws.amazon.com/config/faq/>

# CloudWatch vs CloudTrail vs Config?



- CloudWatch monitors performance.
- CloudTrail monitors API calls in the AWS platform.
- AWS Config records the state of your AWS environment and can notify you of changes.



# Health Dashboards Exam Tips



## Health Dashboards Consist of:

- Service Health Dashboard
- Personal Health Dashboard



## Personal Health Dashboard - AWS

Personal Health Dashboard provides alerts and remediation guidance when AWS is experiencing events that may impact you.