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Trusted Advisor FAQs

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For more information about Trusted Advisor, see the [Trusted Advisor](#) section of the AWS Support FAQs.

Service Limit Check Questions

Q. What service limits do you check?

The following table shows the limits that Trusted Advisor checks. For information about limits, see [AWS Service Limits](#).

Service	Limits
Amazon Elastic Compute Cloud (Amazon EC2)	Elastic IP addresses (EIPs) Reserved Instances - purchase limit (monthly) On-Demand instances (see Notes)
Amazon Elastic Block Store (Amazon EBS)	Active volumes Active snapshots General Purpose (SSD) volume storage (GiB) Provisioned IOPS Provisioned IOPS (SSD) volume storage (GiB) Magnetic volume storage (GiB)
Amazon Kinesis Streams	Shards

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(Amazon RDS)	Cluster roles DB instances DB parameter groups DB security groups DB snapshots per user Event subscriptions Max auths per security group Option groups Read replicas per master Reserved Instances Storage quota (GiB) Subnet groups Subnets per subnet group
Amazon Simple Email Service (Amazon SES)	Daily sending quota
Amazon Virtual Private Cloud (Amazon VPC)	Elastic IP addresses (EIPs) Internet gateways VPCs
Auto Scaling	Auto Scaling groups Launch configurations
AWS CloudFormation	Stacks
Elastic Load Balancing (ELB)	Active load balancers
Identity and Access Management (IAM)	Groups Instance profiles Policies Roles Server certificates Users

Note: Data for EC2 On-Demand instance limits is available only for these AWS Regions:

Asia Pacific (Tokyo) [ap-northeast-1]
Asia Pacific (Singapore) [ap-southeast-1]
Asia Pacific (Sydney) [ap-southeast-2]
EU (Ireland) [eu-west-1]
South America (São Paulo) [sa-east-1]



US West (Oregon) [us-west-2]

Note: Trusted Advisor does not currently track regional limits for EC2 On-Demand instances. By default, this limit is 20 on-demand instances per account, per region.

In cases where you have reached this regional limit, you might be unable to launch new on-demand instances even though Trusted Advisor will indicate that you have not reached any of your per-instance type limits within that region. For more detail on EC2 On-Demand limits, please refer to [How many instances can I run in Amazon EC2](#).

We are constantly working on including more services in the Service Limits check. Your [feedback](#) is really helpful to us.

Q. What are the default service limits?

For a list of the default service limits and instructions for requesting increases, see [AWS Service Limits](#).

Q. How can I get the Service Limit data with command-line tools?

You can retrieve Service Limit data using the AWS CLI. This [AWS Command Line Interface](#) command displays the regions Trusted Advisor has flagged as approaching or reaching the limit for Amazon EC2 on-demand instance utilization, sorted by region name.

```
aws support describe-trusted-advisor-check-result --language en --check-id ew7HH017J9 --query 'result.sort_by(flaggedResources[?status!=`ok`],&metadata[2])[].metadata' --output table
```

You can check any of the limits covered by Trusted Advisor using this method. For more details, see [Check Categories, IDs, and Report Columns](#).

Reserved Instance Optimization Check Questions



We calculate the recommendation based on the usage in the last completed calendar month. For example, if it is the 25th of April, the recommendation is based on data from March 1 to March 31.

Q. Does the recommendation consider volume discounts?

No, the recommendation uses standard pricing. Actual results may vary on discounted pricing tiers. We recommend contacting your sales representative by completing the [AWS Sales & Business Development](#) form to review a more detailed optimization plan if you are receiving volume discounts.

Q. I just purchased a new Reserved Instance. Why isn't it showing up in the recommendation?

New Reserved Instance purchases are updated on a daily basis. Refresh the check 24 hours after you make your purchase to see the new recommendation. Also note that the check does not include third-party Reserved Instances [purchased from the Reserved Instance Marketplace](#).

Q. How do you calculate the optimized number of Reserved Instances?

Our system analyzes the hourly usage history during the previous calendar month across all consolidated accounts. The system calculates the number of running instances in each Availability Zone and for each type of instance. An hourly cost is determined by aggregating the cost of all instances that ran the previous month, whether they ran as On-Demand or as a Reserved Instance. In addition to the hourly usage charges, the system calculates a fixed charge by amortizing the one-time upfront fees for each Reserved Instance already purchased.

By adding the aggregated hourly charges and the amortized upfront fees, the system is able to determine your baseline cost for the month. The system then incorporates the hourly and amortized upfront costs for additional Partial Upfront Reserved Instances, and the amortized upfront costs of any existing Reserved Instances into the calculation. Given the baseline cost based on the previous usage, and the costs for adding additional Partial Upfront Reserved Instances, the system uses a simple gradient descent algorithm to determine the number of Partial Upfront Reserved Instances that would result in the lowest overall cost.



The upfront fee for each Reserved Instance is amortized over the period of the Reserved Instance. In simple terms, if the upfront fee was \$1200, and the term length was one year, the system will divide \$1200 by 12 months, resulting in a cost of \$100 per month.

Q. I have many accounts, and the Availability Zones are different for each one. How do you account for that?

We normalize all Availability Zones across all Consolidated Billing accounts and reflect the values using the primary payer account mapping.

Q. Do you include other Reserved Instance types in the recommendation?

Only Partial Upfront Reserved Instances are recommended by this check. However, hourly usage charges and amortized upfront fees for other Reserved Instance types are included in the calculation.

Q. Why are there separate sections for 1 year and 3 year Reserved Instances?

Customers have a choice between buying 1 year and 3 year term Reserved Instances from AWS. This check assumes you will purchase Reserved Instances for either 1 year or 3 year terms, not both. As a result, recommendations for purchasing additional 1 year or 3 year term Reserved Instances are not additive across both term lengths, so recommendations are called out separately.

To illustrate: In a recommendation for three additional 1 year Reserved Instances or four additional 3 year Reserved Instances, we are recommending the purchase of three or four Reserved Instances respectively, not a total of seven additional Reserved Instances.

Q. Are all instance types included in the recommendation?

Recommendations are available for Amazon Linux/UNIX and Windows Reserved Instances. The calculation excludes usage and recommendations for Red Hat Enterprise Linux, SUSE Linux Enterprise, Amazon RDS, Amazon ElastiCache, and others.



rates when calculating the optimized number of Reserved Instances.

Q. I have third-party Reserved Instances from the Reserved Instance Marketplace. Do you include those in the results?

No; only Reserved Instances offered directly by AWS are included. If you have [Reserved Instances from third-party sellers](#), those Reserved Instances are not accounted for by this check.

Q. Does the recommendation include any money I make if I sell my existing Reserved Instances to purchase the recommended Partial Upfront Reserved Instances?

The system does not include any money that could result from the sale of existing Reserved Instances when calculating the optimal number of Partial Upfront Reserved Instances.

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