Billable Workloads 📝

Wiz [license](#) usage is based on the number of billable workloads in your environment. Counts and trendlines of billable workloads are displayed on the ⚙ [Settings > Licenses](#) page.

To estimate the size of your environment before fully connecting Wiz, use the [resource discovery scripts](#). Then, use the [Billable Monthly Workload Calculator](#) to estimate your billable workloads.

After Wiz is fully connected, you can [generate a CSV of billable workloads per Project](#). To view a list of all the billable workloads in your environment, go to the Inventory and filter by the property Billable Workload by Wiz ([direct link](#)).

Workload types & ratios

Billable workloads are calculated based on both the average size of your environment and your total usage of scanning services:

- [Compute workloads](#)—Monthly average, based on daily counts
- [Data workloads, non-OS disk workload, and registry container image workload](#)—Monthly sum, based on scan frequency
- [Runtime Sensor workload](#)—Monthly average, based on hourly counts

> ℹ️ Wiz CLI and Wiz Admission Controller are not counted as billable workloads, nor are any workloads or scans related to [preview features](#).

Compute workloads

As every cloud provider uses different terminology, we consider five types of compute workloads:

> ✅ We recommend you to use the links in the tables to determine quantities for the [Billable Monthly Workload Calculator](#). Note that a small discrepancy between the Security Graph and the ⚙ [Settings > Licenses](#) page [is expected](#).

	AWS	GCP	Azure	OCI	On-prem K8s
[Virtual machines](#)	EC2 instances, LightSail instances	Compute instances	Scale Set VMs, Compute VMs	Compute instances	—

Container hosts	Supported VMs running containers				All K8s nodes
Serverless functions	Lambda Functions	Cloud Functions	Functions, Azure App Services	—	—
Serverless containers	ECS containers, SageMaker Domains, SageMaker Endpoints, and EKS on Fargate	GKE Autopilot containers, Cloud Run Revisions	Azure Container Instances, Azure Container Apps	—	—

These types of compute workloads are counted for billable workloads even if workload scanning is not performed on them (whether due to failed scans or deliberate exclusions); this is because Wiz still provides CSPM coverage for them.

Resources that are not scanned by the Workload Scanner (i.e., disk scanning is not performed; only cloud scanning) generate a fifth type of compute workload called Asset Metadata:

	VMware vSphere	Linode
Asset Metadata	vSphere ESXi Host, vSphere Virtual Machine	Linode Managed MongoDB, Linode Managed MySQL, Linode Managed PostgreSQL, Linode Instance, Linode LKE Cluster, Linode Object Storage Bucket

Compute workload ratios

Based on the total number of compute workloads in your environment, billable workloads are calculated using the following scan ratios, based on monthly averages:

- 1 virtual machine = 1 billable workload
- 1 container host = 1 billable workload
- 50 serverless functions = 1 billable workload
- 10 serverless containers = 1 billable workload
- 10 asset metadata = 1 billable workload

> ℹ️ Virtual machines that host containers are effectively counted twice, once as VMs and again as container hosts. This is by design.

Data workloads, non-OS disk workload, and registry container image workload

> ✅ We recommend you to use the links in the table to determine quantities for the Billable Monthly Workload Calculator. Note that a small discrepancy between the Security Graph and the ⚙️Settings > Licenses page is expected.

	AWS	GCP	Azure	OCI

Buckets	S3 Buckets	GCP Buckets	Blob Storage Containers	OCI Buckets
PaaS databases[1]	AWS RDS—MySQL, Aurora (PostgreSQL/ MySQL), MariaDB, PostgreSQL, and MSSQL	GCP Cloud SQL—MySQL, PostgreSQL, and MSSQL	Azure SQL—MSSQL	—
Data warehouses	DynamoDB	BigQuery	—	—
Non-OS disks[2]	Supported VMs (see above)			
Registry container images	Container images stored in the registry			—

☑ IaaS (aka self-managed) databases are not counted for billable workloads.

☑ Refers only to workload scanning of non-OS disks. Data scanning of VMs (both OS and non-OS disks) is not counted for billable workloads.

Data workload, non-OS disk workload, and registry container image workload ratios

The number of resources scanned successfully per scan is divided by the ratio and rounded up to the nearest integer to determine the sub-total billable workloads. Then, depending on the scan frequency[1], all sub-totals are summed to determine the number of monthly billable workloads. The scan ratios are:

- 100 buckets scanned = 1 billable workload
- 2 PaaS databases scanned = 1 billable workload
- 10 data warehouse table scanned = 1 billable workload
- 30 non-OS disks scanned = 1 billable workload
- 300 container images stored in the registry scanned = 1 billable workload

☑ You can define different scan frequencies for public and private buckets. Learn how to do it.

Runtime Sensor workload

If Wiz Runtime Sensors are deployed in your environment, they are counted as separate billable workloads, in addition to the compute workloads (e.g. Kubernetes clusters) they monitor and protect.

One Sensor is deployed per cluster node, so a single cluster may require multiple Sensors. Moreover, as the number of nodes changes, so too does the number of Sensors.

Runtime Sensor workload ratios

1 Sensor deployed for 24 hours = 1 billable workload.

Furthermore, one Sensor is deployed for every cluster node. This cluster, for instance, would require three Sensors:
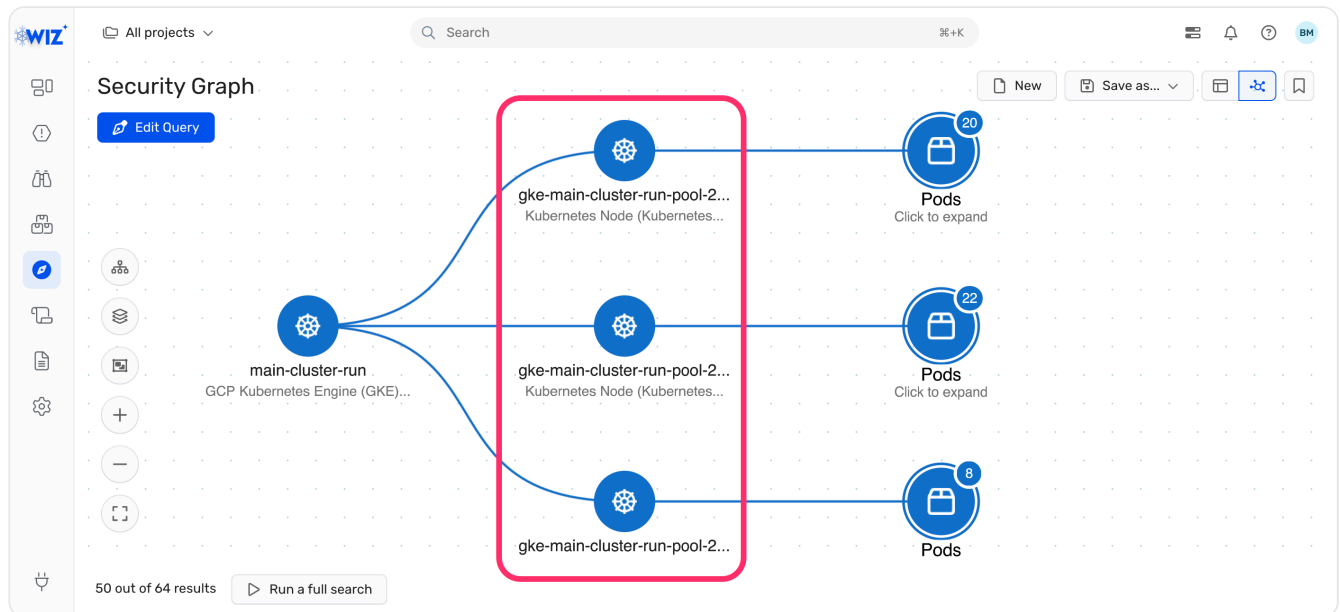
Because one Sensor is deployed for every cluster node, and because many clusters scale in and out multiple times per day, the number of deployed Sensors is counted on an hourly basis, and then averaged to calculate the daily total. Similarly, daily totals are averaged to calculate monthly totals. See the sample calculations.

Example calculations

Math is hard, and Wiz scans many different types of workloads that are converted to billable workloads using different ratios.

These examples illustrate how billable workloads are calculated for different workloads and different time periods:

- Daily count
- Monthly compute workload averages
- Monthly registry container image workload sums
- Monthly data workload and non-OS disk workload sums
- Runtime Sensor averages
- Annual average

Here are again the calculation ratios:

> ⌄ **Compute workload ratios**
>
> - 1 virtual machine = 1 billable workload
> - 1 container host = 1 billable workload
> - 50 serverless functions = 1 billable workload
> - 10 serverless containers = 1 billable workload

- 10 asset metadata = 1 billable workload

⌄ Data workload, non-OS disk workload, and registry container image workload ratios

- 100 buckets scanned = 1 billable workload
- 2 PaaS databases scanned = 1 billable workload
- 10 data warehouse table scanned = 1 billable workload
- 30 non-OS disks scanned = 1 billable workload
- 300 container images stored in the registry scanned = 1 billable workload

⌄ Runtime Sensor workload ratio

1 Sensor deployed for 24 hours = 1 billable workload

Daily count

Start with a simple case. Consider an environment with the following numbers of different workloads:

Workload type	Quantities
Compute	- 175 virtual machines (of which 75 are container hosts, so 100 are not container hosts) - 75 container hosts (i.e. VMs hosting containers) - 300 serverless functions - 100 serverless containers - 100 asset metadata
Non-OS disk, data, and registry container images	- 200 buckets scanned - 4 PaaS databases scanned - 30 table instances scanned - 60 non-OS disks scanned - 300 container images stored in the registry scanned
Runtime Sensor	10 Runtime Sensors deployed for all 24 hours of the day

The daily count would be:

Billable workloads = (175 virtual machines) + (75 container hosts) + (300 serverless functions ÷ 50) + (100 serverless containers ÷ 10) + (100 asset metadata ÷ 10) + (200 bucket scans ÷ 100) + (4 PaaS databases ÷ 2) + (30 table instances ÷ 10) + (60 non-OS disks scanned ÷ 30) + (300 registry container images ÷ 300) + 10 Sensors = 296

Monthly compute workload averages

The same basic calculations are performed to determine monthly averages: the daily counts are summed and divided by the number of days in the month. For serverless functions and serverless

containers, these monthly averages are then divided by the ratio to determine the number of monthly billable workloads.

For example, using the [billable workload calculator](#):

> ⚠️ Because the number of compute workloads often fluctuates during the month, the number of monthly billable workloads generated by compute workloads can differ substantially from calculator results.

Monthly registry container image workload sums

Unlike compute workloads, which are averaged over the course of a month, registry container image workloads are simply summed (similarly to [non-OS disk and data workloads](#)): the number of resources scanned successfully per scan is divided by the ratio to determine the number of billable workloads. Then, all sub-totals are summed to determine the number of monthly billable workloads.

You can set the maximum number of versions (tags) per distinct container image to scan in each repository (for scanning images stored in the registry only) and the scan frequency.

> ⚠️ Increasing the number of versions scanned and/or increasing the frequency of scanning increases the number of billable workloads generated by scanning container images stored in the registry, and vice versa.

For instance, consider a registry with:

- 500 distinct images (assuming for simplicity's sake that each has at least 3 tags)
- The register Connector is configured to scan at most 3 tags (hence 500 × 3 = 1500 total images are scanned every time)
- Daily scans

Using the [billable workload calculator](#):

Now, consider a registry with:

- 200 distinct images (assuming for simplicity's sake that each has at least 5 tags)
- The register Connector is configured to scan at most 5 tags (hence 200 × 5 = 1000 total images are scanned every time)
- weekly scans

Using the [billable workload calculator](#):

Monthly data workload and non-OS disk workload sums

Unlike compute workloads, which are averaged over the course of a month, data and non-OS disk workloads are simply summed (similar to registry container image workloads): the number of resources scanned successfully per scan is divided by the ratio to determine the number of billable workloads. Then, all sub-totals are summed to determine the number of monthly billable workloads.

For example, using the billable workload calculator:

Reducing the scan frequencies lowers the number of resulting billable workloads. For example, using the billable workload calculator:

Runtime Sensor averages

Consider an environment with a single Kubernetes cluster that always has at least 1 node but can scale in and out throughout the day in response to varying demand. Depending on both the day of the week and the time of the day, the number of nodes in the cluster might vary significantly.

To calculate the average number of deployed Sensors, Wiz counts the number of Sensors every hour and then divides by the number of hours. Over three days (and assuming for simplicity's sake that the number of nodes only changes every 4 hours), that might look like:

Day	Number of Kubernetes nodes (and Runtime Sensors) deployed						Raw daily averages	Billable workloads
	12am-4am	4am-8am	8am-12pm	12pm-4pm	4pm-8pm	8pm-12am		
Sunday	1	1	2	2	1	1	1.33	2
Monday	2	2	3	4	4	2	2.83	3
Tuesday	2	3	5	5	4	3	3.66	4

For this three-day period:

Billable workloads = (2 + 3 + 4) ÷ 3 days = 3

> ✅ Monthly totals for Sensor billable workloads are calculated in a similar fashion, i.e. by averaging the daily totals across the entire month.

Consider also a large environment, where 100 Sensors are deployed for 6 hours each and 50 Sensors are deployed for 24 hours each. This would result in a daily average of:

Billable workloads = [(100 Sensors × 6 hours) + (50 Sensors × 24 hours)] ÷ 24 hours = 75

Daily averages are, in turn, averaged to calculate monthly averages. In a month with 30 days, if the daily averages were 75 for ten days, 80 for ten days, and 100 for ten days, this would result in a monthly average of:

Billable workloads = [(75 × 10 days) + (80 × 10 days) + (100 × 10 days)] ÷ 30 days = 85

Annual average

To calculate the total number of billable workloads in your environment over the course of multiple months or a year, the monthly sub-totals of billable workloads from all sources (i.e. compute workloads, non-OS disk scans, data workloads, and Sensors) are averaged:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Compute workloads	250	250	275	275	300	300	275	300	275	300	325	325
Non-OS disk scans	50	50	60	60	60	60	60	60	65	65	65	65
Data workloads	100	90	80	90	100	100	110	110	120	120	120	120
Runtime Sensors	20	20	25	25	25	25	20	20	20	25	25	20
Monthly totals	420	410	440	450	485	485	465	490	480	510	535	530

Annual total billable workloads = average of the twelve monthly totals = (5700 ÷ 12) = 475

Generate a CSV of billable workloads per Project

You can programmatically generate a CSV of billable workloads per Project using the code recipe below.

The prerequisites are:

- A service account with `read:project` and `read:license` permissions, and the authentication credentials for that service account. Learn about using the Wiz API and adding a service account.
- Your Wiz API Endpoint URL, e.g. `https://api.eu1.app.wiz.io/graphql`, which is listed on your Profile > User Settings > Tenant page.

The output CSV includes: Project name and ID; compute workloads count; data workloads count; total workloads; and start/end times.

FAQ

Questions? Take a look at the FAQ.

Updated about 2 months ago

Did this page help you?   👍 **Yes**   👎 **No**