

STACKIT

Pricing models

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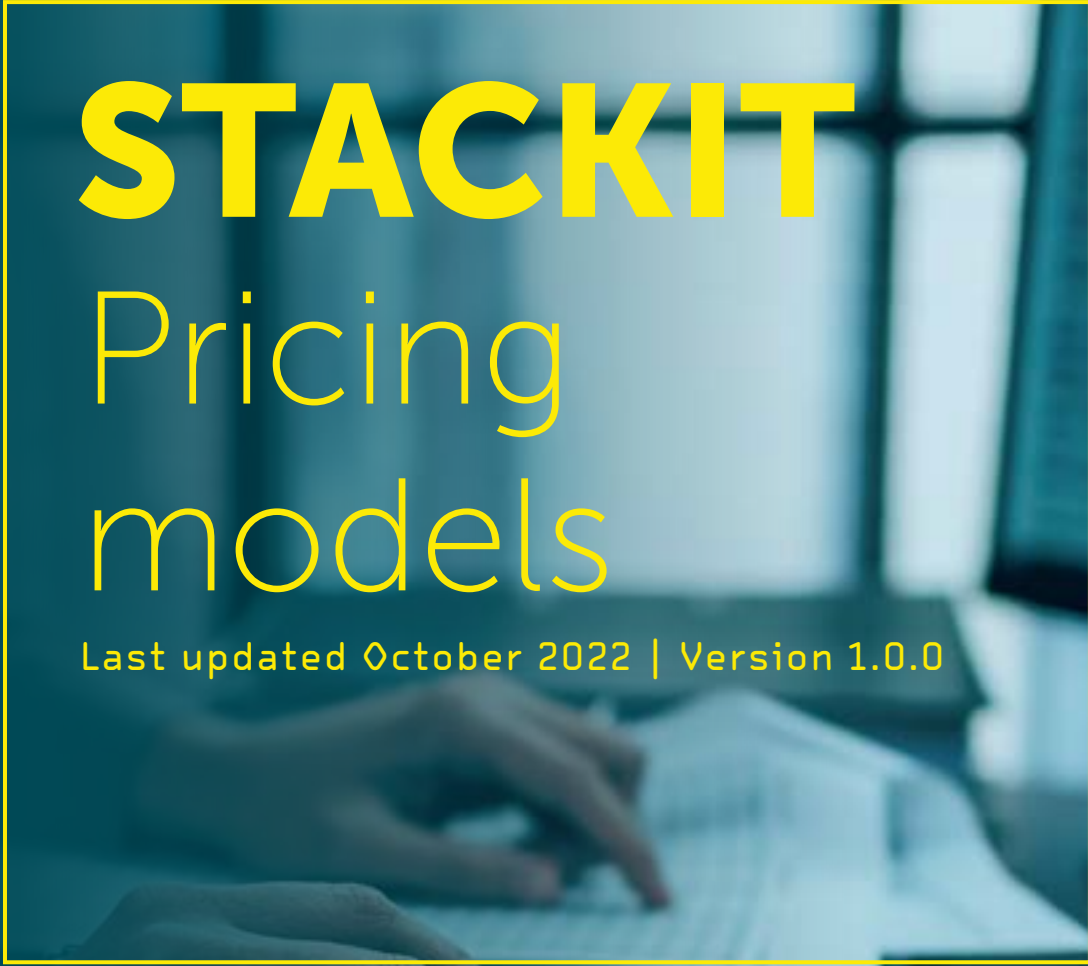


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STACKIT Cloud Services

Cloud services increase entrepreneurial flexibility and therefore not only form the technological basis for business digitalization but are also a key lever for realizing IT cost saving potential. Modern cloud-based IT technologies are generally not monolithically, but dynamically constructed from a variety of cloud services.

This makes it possible to develop scalable applications and run them in modern environments. The STACKIT Cloud provides the basis for this with monthly billing on a pay-as-you-go model. Users only pay for what they actually use. To ensure that the invoice containing different billing units remains comprehensible even

with complex and multi-level service provision, the pricing models of the STACKIT Cloud are transparently presented in this document.

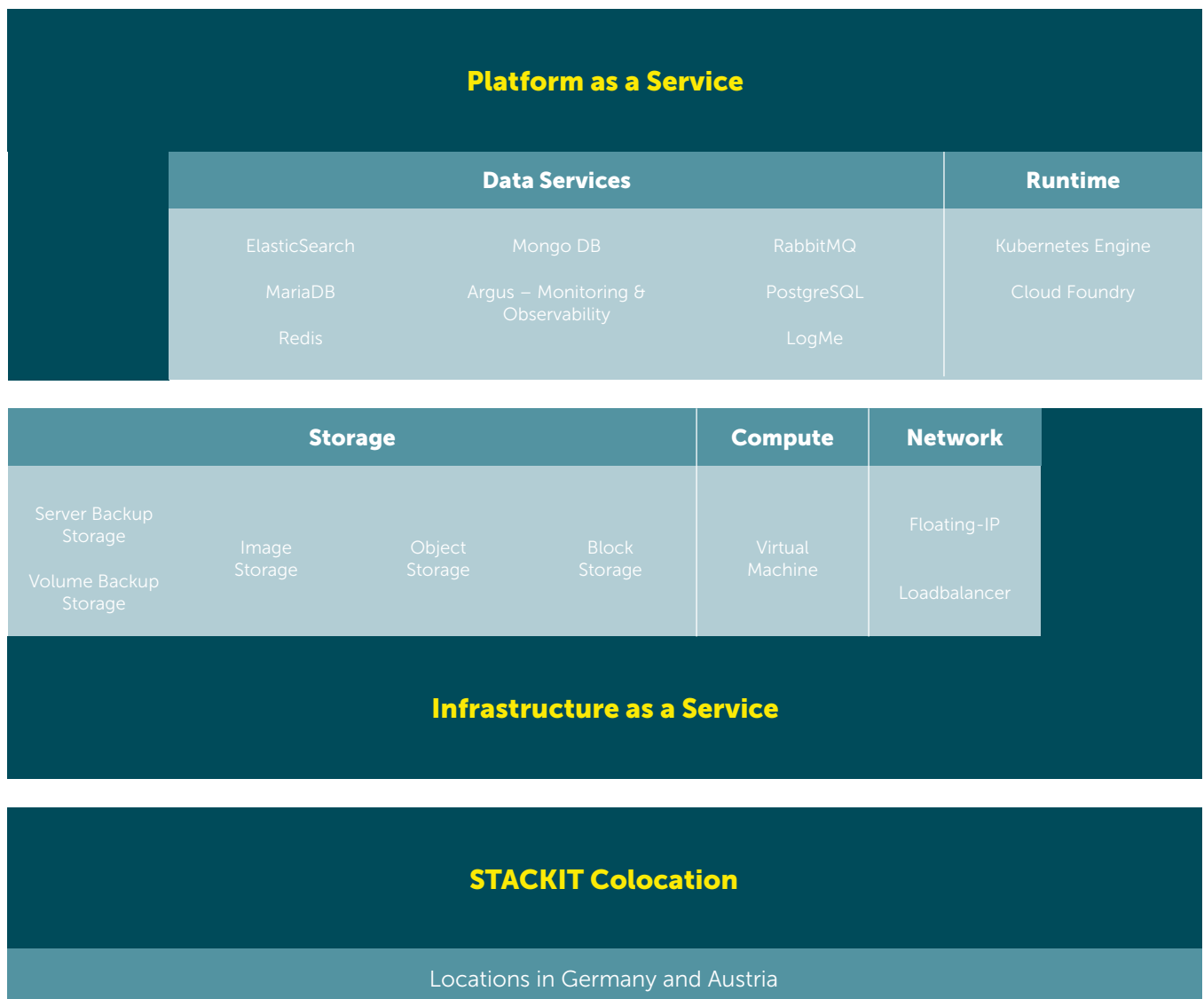


Figure 1: The STACKIT Cloud service portfolio

INFRASTRUCTURE AS A SERVICE (IAAS)



STACKIT IaaS products give users the flexibility to expand IT resources on demand, quickly provide new applications and optimize the availability of infrastructure. With STACKIT, this takes

place through compute, storage and network – the basic elements of the STACKIT infrastructure.

| Storage | | | | Compute | Network |
|-----------------------|---------------|----------------|---------------|-----------------|--------------|
| Server Backup Storage | Image Storage | Object Storage | Block Storage | Virtual Machine | Floating-IP |
| Volume Backup Storage | | | | | Loadbalancer |

Infrastructure as a Service

At the heart of Infrastructure as a Service is the virtual machine (VM), which runs web servers with various images for individual application

cases. STACKIT offers various storage services in compliance with the European General Data Protection Regulation. Furthermore, it offers the

floating IP and load balancer network resources, which ensure stable and secure data transfer.

STACKIT Compute Engine

The STACKIT Compute Engine provides IT resources over the Internet in the form of servers.

Virtual Machine (VM)



STACKIT offers users a wide range of possible combinations of processor (vCPU), memory (RAM), and operating system (OS Image) for the utilization of the virtual machine. It is possible to choose the optimum server from a wide variety of prefabricated variations (flavors) according to requirements.

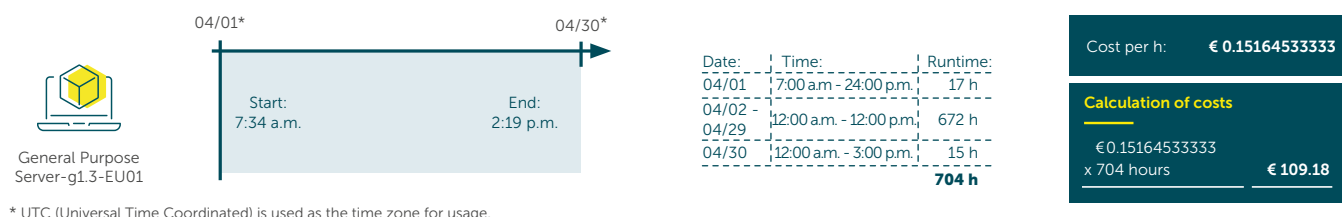
During the order process, each VM must be assigned to an availability zone (AZ).

STACKIT offers single availability zones (single AZ) and metro availability zones. With a single availability zone, the VM is assigned to the respectively selected AZ. It is independent of other VMs and is not backed up in the event of an AZ failure. In the metro setup, the VM or the data storage has a fixed assignment to a region, but no fixed assignment to an availability zone. A region consists of three or more availability zones and defines physically separate locations. It is ensured that all AZs of a region are always assigned in the same country. In the metro setup, data is automatically mirrored in at least two different

availability zones so that a VM in another AZ is automatically restarted in the event of an AZ failure.

With STACKIT, services are billed per started hour. The usage of each resource is individually recorded. The individual usage of identical VMs is consolidated for each project and billed on a monthly basis.

Example 1: Virtual Machine

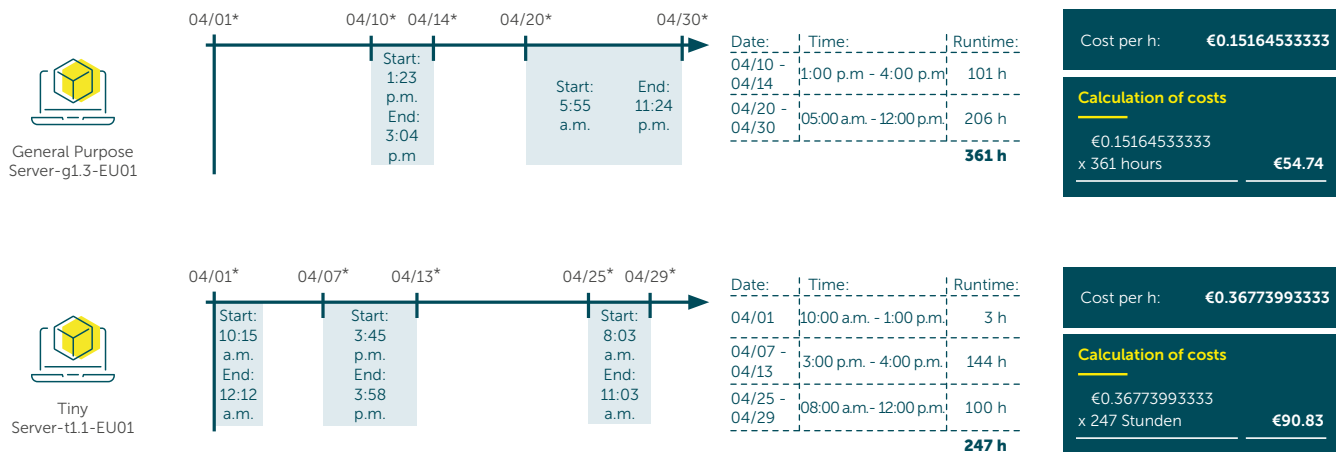


The user uses a VM with the flavor „General Purpose Server-g1.3-EU01“ in April. On 04/01, the server is started at 7:34 a.m. and is used for a total runtime of 17 hours on the first day.

The VM is active for the entire month and is deleted at 2:19 p.m. on 04/30. On the last day, it therefore runs for exactly 15 hours.

The sum of all hours gives a total runtime of 704 h, which is billed for €109.18.

Example 2: Virtual Machine



* UTC (Universal Time Coordinated) is used as the time zone for usage.

In this example, two different VM types are acquired in April. Both run irregularly and are not fully utilized for

the whole month. Each type of server is shown individually per project.

STACKIT STORAGE



STACKIT features two different storage technologies: Block Storage and Object Storage. The billing models

of Block Storage and Object Storage are fundamentally different. Object Storage is billed exclusively per fully gigabyte-hour and it is independent of the VM. During the measured period, the provisioned storage is calculated on a per-gigabyte basis. Block Storage involves dynamic hard disk storage, for which two service items are billed.

The hard disks are directly connected to a virtual machine and enable rapid data exchange. It is possible to flexibly choose from a selection of different performance classes according to the requirements.

STACKIT Object Storage

STACKIT Object Storage can store files in a flat structure using an S3-compatible protocol. The files are directly found and retrieved as objects in a large storage pool via a unique

identifier. This architecture makes Object Storage extremely scalable and is ideal for storing large quantities of unstructured data. The actual used data quantity forms the calculation

basis for billing. This is recorded in GB-hours and multiplied by the currently valid list price.

Example: Object Storage

MONTHLY USAGE IN GB-HOURS

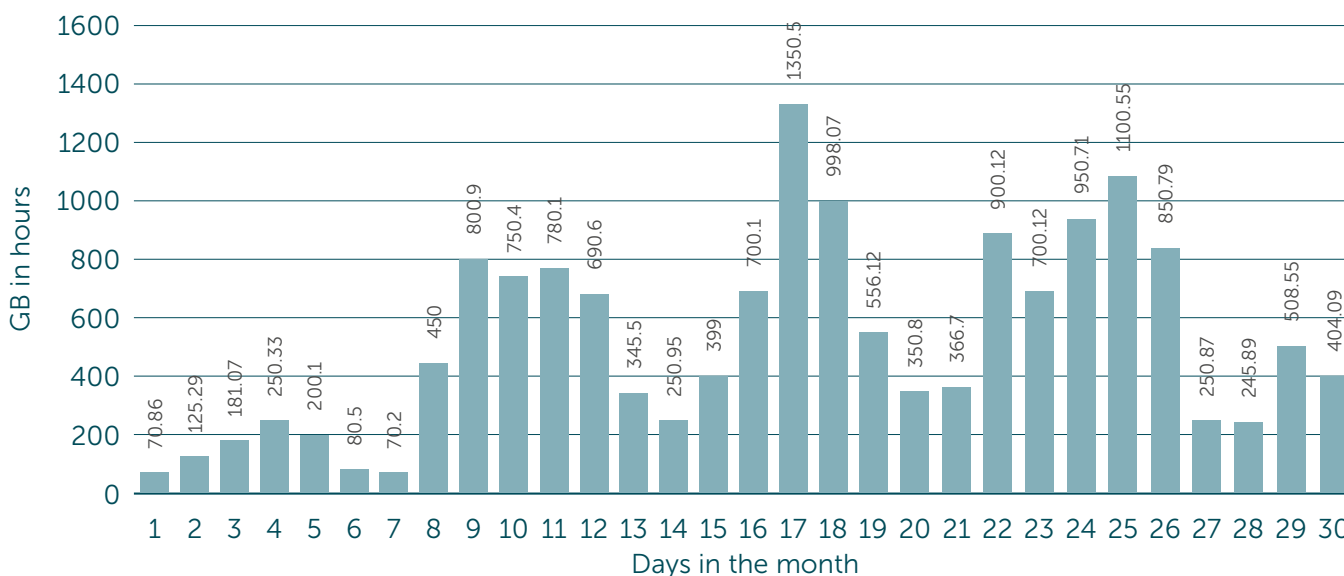


Figure 2: Monthly usage in GB-hours

The use of Object Storage can fluctuate significantly depending on the actual usage during the month. Usage is recorded in megabytes and an exact value is measured every 15 minutes. The total of these values gives the amount for the

billing month and is then rounded up to the nearest GB-hour. However, billing takes place at the end of the service provision (at the end of the month at the latest). The total usage in the example shown above is 15,679.78 GB-hours.

This corresponds to 15,680 GB-hours and €0.58 on the invoice (15,680 GB/h * €0.00003697772).

STACKIT Block Storage

Block Storage divides the data into blocks, which are stored as separate pieces, each with a unique identifier. Each block is independent of one another and can be configured to work with different operating systems. STACKIT Block Storage provides storage as disk volumes for VMs and snapshots. As with VMs, Block Storage also offers the option to choose between availability zones.

Two service items are recorded and billed for each Block Storage disk.

- Capacity
- Performance

Unlike with Object Storage, the capacity-related costs of usage are not based on the actual used memory in this case, but the reserved memory. The reserved memory capacity can be dynamically adjusted. In the process,

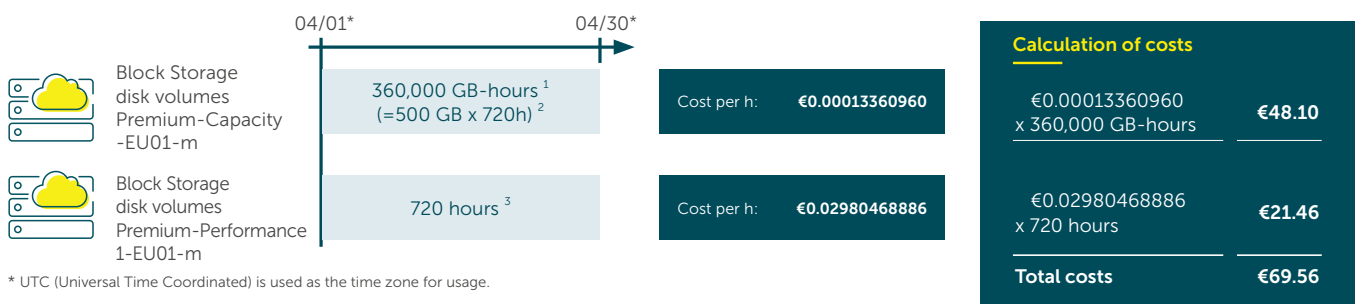
the price for the provisioned disk capacity is independent of the performance flavors.

This is the portion of the costs in which the price for each disk is billed per hour or part thereof. This occurs even if the disk volume is not connected to a virtual machine. The user can choose from the performance classes opposite (Figure 3).

| Performance-Klasse | API name | IOPS | Max.bandwidth |
|----------------------|------------------------|--------|---------------|
| Performance Class 0 | storage_premium_perf0 | 120 | 25 Mbyte/s |
| Performance Class 1 | storage_premium_perf1 | 500 | 50 Mbyte/s |
| Performance Class 2 | storage_premium_perf2 | 1,000 | 100 Mbyte/s |
| Performance Class 4 | storage_premium_perf4 | 2,000 | 150 Mbyte/s |
| Performance Class 6 | storage_premium_perf6 | 5,000 | 200 Mbyte/s |
| Performance Class 8 | storage_premium_perf8 | 10,000 | 250 Mbyte/s |
| Performance Class 10 | storage_premium_perf10 | 15,000 | 300 Mbyte/s |
| Performance Class 12 | storage_premium_perf12 | 20,000 | 350 Mbyte/s |

Figure 3: Overview of individual performance classes

Example: Block Storage



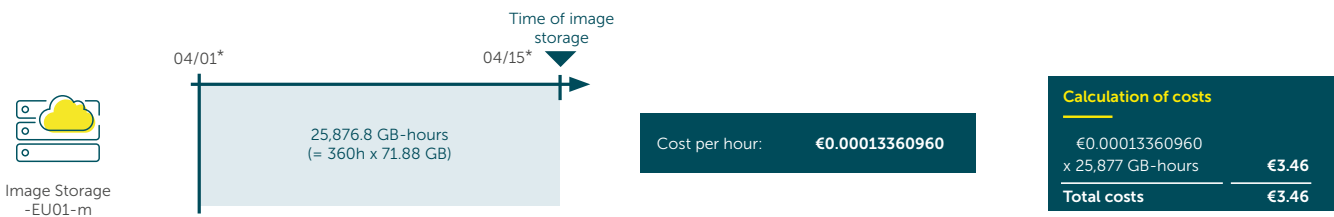
STACKIT Image Storage

An operating system is added for the use of virtual machines. For this reason, a minimum requirement of storage is already occupied upon purchase. The size of this storage volume

varies depending on the installed operating system. Image Storage stores an image of the operating system and is billed exclusively as a metro AZ. Billing takes place per started hour per

gigabyte for each image. There is no charge for the performance class.

Example: Image Storage



* UTC (Universal Time Coordinated) is used as the time zone for usage.

On 04/15, the user opts for a central storage location for his operating system image with a usage value of 25,876.8 GB.

25,877 GB with total cost of €3.46 is shown on the invoice.

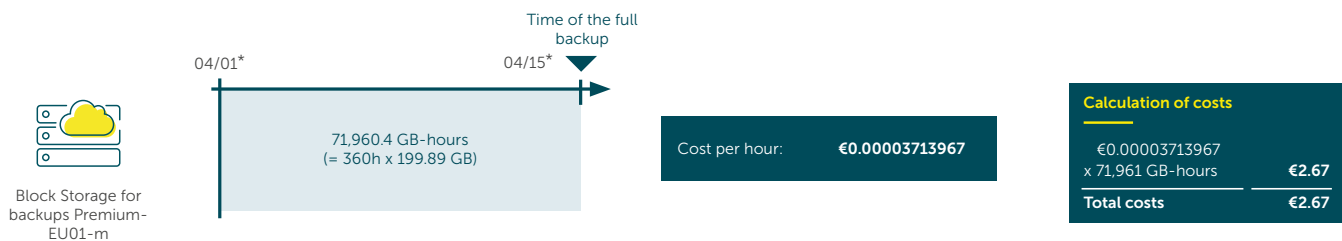
STACKIT Volume Backup Storage

Backup Storage is logically and physically separated from Block Storage. It is used to back up disk volumes and provides data storage for the separately acquired Block Storage. Backup Storage offers the user a choice between full and incremental backups. Both variants are available for metro and single availability zones. As the name suggests, a full backup involves backing up the entire storage data.

This generally corresponds to the size of the target disk volume. The costs therefore always relate to the total storage volume, even if the data is unchanged since the last full backup. An incremental backup must always refer to a full backup. Only changes in relation to the specified full backup are backed up. An incremental backup has the same calculation basis and units as a full backup, although it is

billed at a discounted rate (10%). The recovery time for both types of backup largely depends on the respective backup size and the performance class of the used disk volume. The price for full and incremental backups is based on the hours on the started hours.

Example: Full Backup Storage



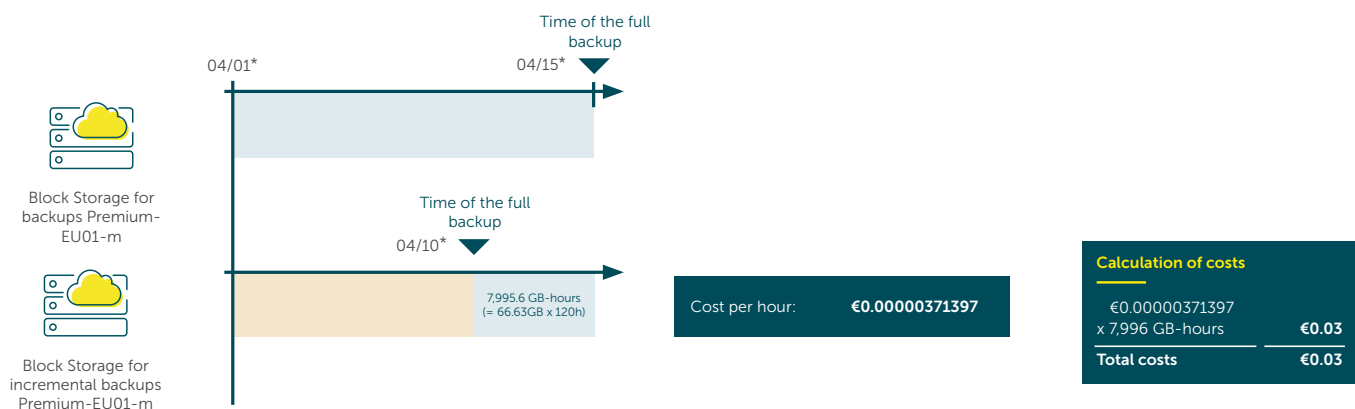
* UTC (Universal Time Coordinated) is used as the time zone for usage.

A single full backup is carried out in April on 04/15. The total storage volume is the same size as the selected

disk volume and has a value of 199.89 GB at this point in time. According to the arrangement set out above,

71,961 GB-hours are subject to charge at the end of the month.

Example: Incremental Backup Storage



* UTC (Universal Time Coordinated) is used as the time zone for usage.

Only the data since the last full backup are subject to charge in the case of an incremental backup. This change

in volume between 04/10 and 04/15 amounts to 7,995.6 GB-hours.

Therefore, fully 7,996 GB-hours are shown on the invoice.

STACKIT Snapshot

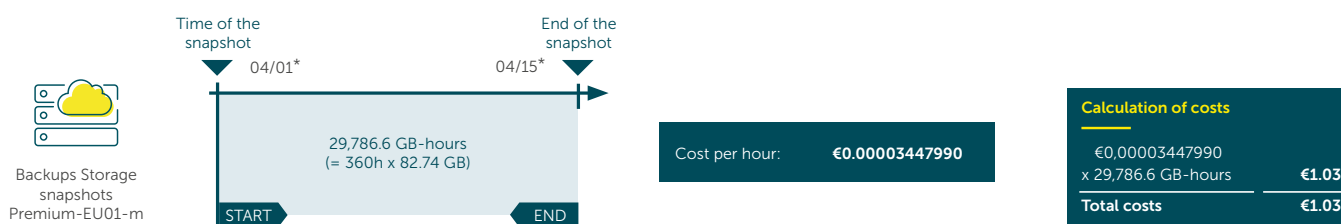
STACKIT offers the option to create snapshots for existing data storage. A snapshot is a copy of the current state of the server's data. This state of the data can be recovered at a future point in time. In order not to lose the

current state, a new volume with the same size as the original is used.

As backup and recovery are not part of the snapshot, it is clearly differentiated from the Backup Storage. This is also

reflected in the fact that no charge is incurred for performance. The capacity of the snapshot is recorded per GB-hour or part thereof per snapshot and cumulated on the invoice for all snapshots used in the project.

Example: STACKIT Snapshot



*UTC (Universal Time Coordinated) is used as the time zone for usage.

In the period from 04/01 to 04/15, the user creates a snapshot with a data

size of 82.74 GB. The invoice shows a cost of €1.03, comprising the full

gigabyte value of 29,787 GB and the currently valid price.

STACKIT Server Backup Management

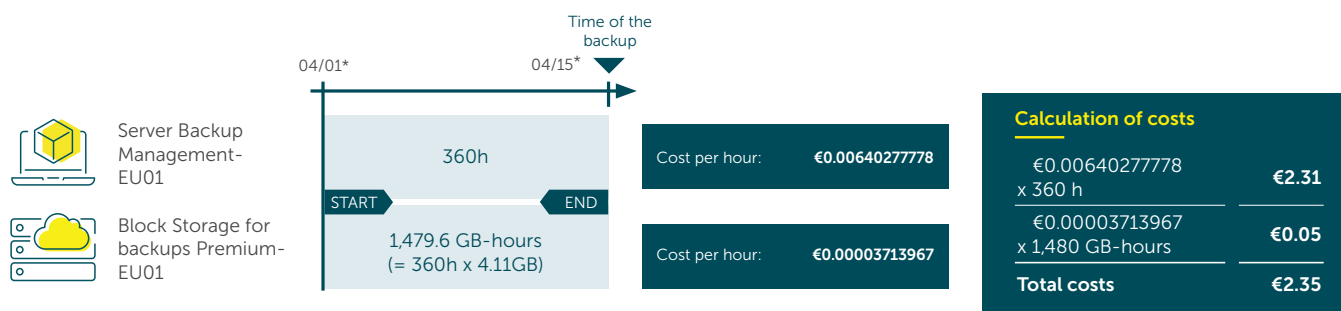
STACKIT Server Backup Management enables servers to be automatically backed up and recovered without assistance. To protect the data, recovery interval settings and a summary of performed backups are available at all times.

Billing for this service comprises the Backup Management and Backup

Storage service items. The Backup Management service item is billed per started hour for each server for which the user has activated Backup Management. Billing for this service ends as soon as Server Backup Management is terminated or the server assigned to Server Backup Management is deleted.

Just like with the STACKIT Service Backup Management, the cost calculation for Backup Storage is based on the started hours per gigabyte for each backup.

Example: STACKIT Server Backup Management



*UTC (Universal Time Coordinated) is used as the time zone for usage.

In this case, on the one hand the service provision consists of Backup Management, which accounts for a total time of 360 h. On the other hand it

consists, it consists of Backup Storage with a volume of 1,479.6 GB. Both components are included in the invoice and give a total cost of €2.35.

STACKIT NETWORK

STACKIT Network is a secure connectivity service. With an Internet connection, the system can be configured, individually expanded and protected against unauthorized access. By default, STACKIT VMs only receive internal IP addresses. However, public addresses can be added as needed.

STACKIT Floating IP



* UTC (Universal Time Coordinated) is used as the time zone for usage.

Between 04/02 and 04/28, the user acquires a floating IP. The period of use amounts to exactly 624 h, which

is likewise included in the invoice at the end of the month and multiplied by the exact hourly price.

STACKIT Router IP

Besides the floating IP, the router IP also allows VMs to access the Internet using Source Network Address Trans-

lation (SNAT). It is therefore, as well automatically allocated when the first VM is created in a web-based project.

The costs for this service are billed on an hourly basis (see floating IP example).

STACKIT Egress Traffic

With STACKIT, outgoing data traffic is forwarded in GB per month. This is currently free of charge.

PLATFORM AS A SERVICE



The STACKIT Platform as a Service offerings are based on the cloud infrastructure components and provide various data, container, and runtime services in enterprise quality.

Individual services can be acquired via the STACKIT Portal, CLI, or API, and individual components can be selected during the order process according to the required performance.

Platform as a Service

| | Data Services | | | Runtime |
|---------------|------------------------------------|------------|-------------------|---------|
| ElasticSearch | Mongo DB | RabbitMQ | Kubernetes Engine | |
| MariaDB | Argus – Monitoring & Observability | PostgreSQL | Cloud Foundry | |
| Redis | | LogMe | | |

STACKIT RUNTIME

STACKIT Runtime is part of the Platform as a Service offering and makes applications available online for users in a runtime environment within a few minutes.

STACKIT Cloud Foundry

As an open-source platform, STACKIT Cloud Foundry provides the infrastructural properties required to roll out and run applications on the STACKIT Cloud in just a few moments. The configuration of the infrastructure from the network to Runtime is managed by STACKIT. The user can independently select the settings for their organization in the STACKIT Portal.

This includes the selection of the organization quota limits.

This storage limitation defines the maximum amount of resources that is shared over all the applications in the organization. This value can serve as a guide for the cost budget when the maximum usage is reached. The user does not constantly pay for the

individual resources that are selected as the quota limit here, but only the actually used computing capacity. The costs are the same irrespective of the selected quota and are passed on in megabytes per started hour for the used memory.

Example: Cloud Foundry „Small“

| | |
|-----------------------------|----------------|
| Cost per hour | €0.00004093510 |
| Costs per megabyte RAM/hour | 125,878.03 MB |
| Total costs: | €5.15 |
| 125,879 MB * €0.00004093510 | |

Example: Cloud Foundry „Extra Large“

| | |
|-----------------------------|----------------|
| Cost per hour | €0.00004093510 |
| Costs per megabyte RAM/hour | 125,878.03 MB |
| Total costs: | €5.15 |
| 125,879 MB * €0.00004093510 | |



The total costs for the Small Cloud Foundry and the Extra-Large Cloud Foundry amount to the same value, as the total usage of both Cloud

Foundry instances is identical, despite the different quota. Services used in Cloud Foundry, such as databases, messaging, caching, logging, are not

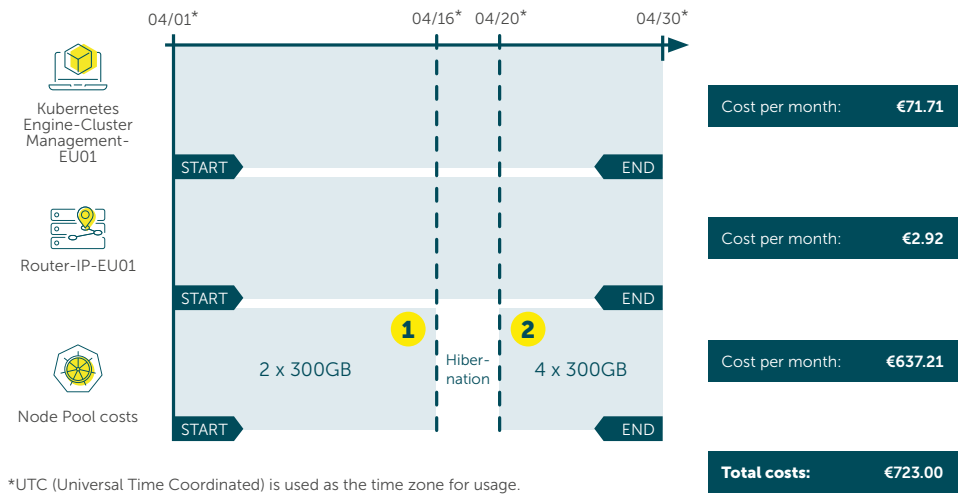
included in the Cloud Foundry price and are billed separately according to the respectively applicable pricing model (see below).

STACKIT Kubernetes Engine

STACKIT Kubernetes Engine (SKE) is a container service that speeds up and simplifies work in the cloud environment. Individually configured clusters can be created in the self-service user interface. This includes the number of

nodes as well as the availability zone, various VM types, and the storage type, including the data volume. The cost items in the Kubernetes cluster are transparently explained in the diagram below.

Example: STACKIT Kubernetes



*UTC (Universal Time Coordinated) is used as the time zone for usage.

Calculation of costs

| | |
|--|----------------|
| General Purpose Server-g1.3-EU01-m/ h | €0.30329066667 |
| Block Storage for disk volumes Premium-Capacity-EU01/ h | €0.00009076380 |
| Block Storage for disk volumes Premium-Performance 4-EU01/ h | €0.04877130904 |
| Maximum number of nodes 4 | |

1 Calculation of node pool costs

| | | |
|--------------------|----------------------|----------------|
| Virtual Machine: | €0.30329066667 | |
| | x 360 h x 2 | €291.16 |
| Performance: | €0.04877130904 | |
| | x 360 h x 2 | €35.12 |
| Capacity | €0.00009076380 | |
| | x 360 h x 2 x 300 GB | €19.60 |
| Total costs | | €273.09 |

2 Calculation of node pool costs

| | | |
|--------------------|----------------------|----------------|
| Virtual Machine: | €0.30329066667 | |
| | x 240 h x 4 | €288.00 |
| Performance | €0.04877130904 | |
| | x 240 h x 4 | €46.82 |
| Capacity: | €0.00009076380 | |
| | x 360 h x 4 x 300 GB | €26.14 |
| Total costs | | €364.12 |

The user continues to expand his sales channels and opens an online shop. Due to the increased flexibility and working efficiency, he opts for the STACKIT Kubernetes service on 04/01. Two node pools are active until 04/15 and

are put into hibernation mode on 04/16. There is no charge for the node pools during this period. The user launches a marketing offensive on 04/20 and expands his online range.

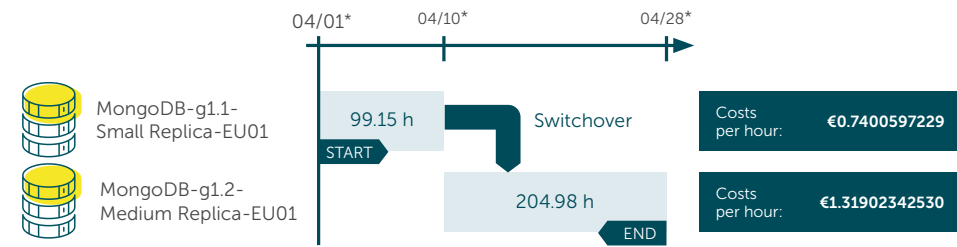
So many interactions take place on his online shop that two further nodes are automatically added via autoscaling to distribute the load and continue to ensure smooth operation.

STACKIT Data Services

STACKIT offers several data services. Various Platform as a Service plans are available to users, depending on the requirements. These are recorded rounded up to the nearest hour and have a fixed hourly price. Billing takes place on a cause-related basis per

started hour according to the current-ly valid prices. The price includes all components assigned to the service plan (compute, storage, network, etc.). The resources mentioned are not billed separately, but are included in the package. During the period of service

provision, the user has the option to change the size of the service at any time.



* UTC (Universal Time Coordinated) is used as the time zone for usage

| Calculation of costs | |
|----------------------------------|----------------|
| €0.74005972295 x 100 h | €74.00 |
| €1.31902342530 x 205 GB-hours | €270.60 |
| Total costs | €344.60 |

On 04/01, he acquires the Small Replica database and uses it until 04/10 with a total runtime of 99.15 (~100) hours. On 04/10, he opts for an upgrade to a Medium Replica. This database runs for 204.98 (~205) hours

until 04/28 and is deleted on this day. After being used until the month end closing, the services form two billing items with a total usage of 305 h and a total cost of €344.60. This billing example also serves as a guide for the

other Platform as a Service offerings (ElasticSearch, MariaDB, Redis, RabbitMQ, PostgreSQL, LogMe).

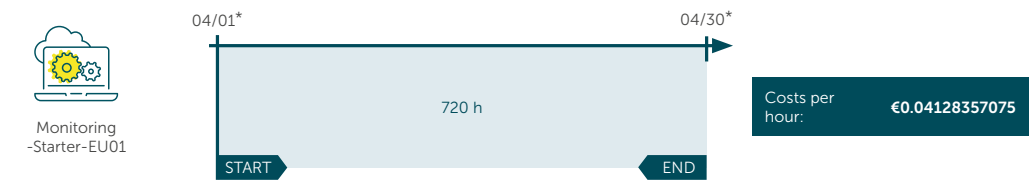
STACKIT Argus

Argus is a versatile monitoring/observability service that analyzes the technical data of various predefined

targets. A target is a web address in the OpenMetrics format on which the service can call up the customer me-

trics. The collected data is visualized in the customizable dashboard using different types of diagrams.

Example: STACKIT Argus



* UTC (Universal Time Coordinated) is used as the time zone for usage.

| Calculation of costs | |
|---------------------------|---------------|
| €0.04128357075 x 720 h | €29.72 |
| Total costs | €29.72 |

In the monthly period shown above, the service is used for a total duration of 720 h. This value is multiplied by the cost per hour.

The result of €29.72 is billed in the invoice at the end of the month.

IMPRINT



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STACKIT – EU SECURE. EASY. STRAIGHTFORWARD.

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Publisher

Schwarz IT KG

STACKIT

Stiftsbergstraße 1

74172 Neckarsulm

E-Mail: info@stackit.de

Website: www.stackit.de

Tel.: +49 (0) 7132-30-474747

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