



SUSE Linux Enterprise

Public Cloud Guide

Public Cloud Guide

SUSE Linux Enterprise

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This guide explains how to use SUSE Linux Enterprise in public clouds.

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<https://documentation.suse.com> 

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About this guide

This chapter provides information about this guide itself and how to use it.

This guide explains how to use SUSE Linux Enterprise in public clouds.

This guide contains the following:

Chapter 1, Getting started

SUSE—together with the cloud service providers—offers different products and plans to cater to a variety of use cases. Find out which works best for you.

Chapter 2, Public cloud images

SUSE offers a variety of different product images for different use cases in partner cloud provider frameworks. Learn how to find the image that meets your use case.

Chapter 3, Managing cloud instances

SUSE Linux Enterprise in public clouds is managed almost like on bare metal or in virtual environments. Learn about what is different in the cloud.

1 Available documentation

Online documentation

Our documentation is available online at <https://documentation.suse.com>[↗]. Browse or download the documentation in various formats.



Note: Latest updates

The latest updates are usually available in the English-language version of this documentation.

SUSE Knowledgebase

If you run into an issue, check out the Technical Information Documents (TIDs) that are available online at <https://www.suse.com/support/kb/>[↗]. Search the SUSE Knowledgebase for known solutions driven by customer need.

Release notes

For release notes, see <https://www.suse.com/releasesnotes/>[↗].

In your system

For offline use, the release notes are also available under </usr/share/doc/release-notes> on your system. The documentation for individual packages is available at </usr/share/doc/packages>.

Many commands are also described in their *manual pages*. To view them, run `man`, followed by a specific command name. If the `man` command is not installed on your system, install it with `sudo zypper install man`.

2 Improving the documentation

Your feedback and contributions to this documentation are welcome. The following channels for giving feedback are available:

Service requests and support

For services and support options available for your product, see <https://www.suse.com/support/>.

To open a service request, you need a SUSE subscription registered at SUSE Customer Center. Go to <https://scc.suse.com/support/requests>, log in, and click *Create New*.

Bug reports

Report issues with the documentation at <https://bugzilla.suse.com/>.

To simplify this process, click the *Report an issue* icon next to a headline in the HTML version of this document. This preselects the right product and category in Bugzilla and adds a link to the current section. You can start typing your bug report right away.

A Bugzilla account is required.

Contributions

To contribute to this documentation, click the *Edit source document* icon next to a headline in the HTML version of this document. This will take you to the source code on GitHub, where you can open a pull request.

A GitHub account is required.



Note: *Edit source document* only available for English

The *Edit source document* icons are only available for the English version of each document. For all other languages, use the *Report an issue* icons instead.

For more information about the documentation environment used for this documentation, see the repository's README.

Mail

You can also report errors and send feedback concerning the documentation to doc-team@suse.com. Include the document title, the product version, and the publication date of the document. Additionally, include the relevant section number and title (or provide the URL) and provide a concise description of the problem.

3 Documentation conventions

The following notices and typographic conventions are used in this document:

- `/etc/passwd`: Directory names and file names
- `PLACEHOLDER`: Replace `PLACEHOLDER` with the actual value
- `PATH`: An environment variable
- `ls`, `--help`: Commands, options, and parameters
- `user`: The name of a user or group
- `package_name`: The name of a software package
- `Alt`, `Alt-F1`: A key to press or a key combination. Keys are shown in uppercase as on a keyboard.
- `File`, `File > Save As`: menu items, buttons
- `AMD/Intel` This paragraph is only relevant for the AMD64/Intel 64 architectures. The arrows mark the beginning and the end of the text block. `<`
- `IBM Z, POWER` This paragraph is only relevant for the architectures `IBM Z` and `POWER`. The arrows mark the beginning and the end of the text block. `<`
- `Chapter 1`, `“Example chapter”`: A cross-reference to another chapter in this guide.
- Commands that must be run with `root` privileges. You can also prefix these commands with the `sudo` command to run them as a non-privileged user:

```
# command
> sudo command
```


- Commands that can be run by non-privileged users:

```
> command
```

- Commands can be split into two or multiple lines by a backslash character (`\`) at the end of a line. The backslash informs the shell that the command invocation will continue after the end of the line:

```
> echo a b \  
c d
```

- A code block that shows both the command (preceded by a prompt) and the respective output returned by the shell:

```
> command  
output
```

- Notices



Warning: Warning notice

Vital information you must be aware of before proceeding. Warns you about security issues, potential loss of data, damage to hardware, or physical hazards.



Important: Important notice

Important information you should be aware of before proceeding.



Note: Note notice

Additional information, for example about differences in software versions.



Tip: Tip notice

Helpful information, like a guideline or a piece of practical advice.

- Compact Notices



Additional information, for example about differences in software versions.



Helpful information, like a guideline or a piece of practical advice.

1 Getting started

SUSE—together with the cloud service providers—offers different products and plans to cater to a variety of use cases. Find out which works best for you.

1.1 Products

The following SUSE products are available for public cloud:


- SUSE Linux Enterprise Server (SLE) (<https://www.suse.com/products/server/>) ↗
- SUSE Linux Enterprise Micro (<https://www.suse.com/products/micro/>) ↗
- SUSE Linux Enterprise Server for SAP Applications (<https://www.suse.com/products/sles-for-sap/>) ↗
- SUSE Manager (<https://www.suse.com/products/suse-manager/>) ↗
- SUSE Liberty Linux (<https://www.suse.com/products/suse-liberty-linux/>) ↗
- Rancher Prime (<https://www.rancher.com/products/rancher-platform>) ↗
- NeuVector Prime (<https://www.suse.com/products/neuvector/>) ↗
- openSUSE Leap (<https://get.opensuse.org/leap/>) ↗

 To constantly adjust and improve SUSE's offerings, availability of products and versions is subject to change and may differ between cloud frameworks.

1.2 Cloud service providers

SUSE publishes product images in the following cloud service provider (CSP) frameworks:

- Amazon Web Services
- Microsoft Azure
- Google Cloud

 SUSE images are also available in other providers' frameworks. These images are generally created and published by the provider.

Please note that this list may change. If you are interested in becoming a SUSE partner, visit <https://www.suse.com/partners/cloud-service-providers/> for more information.

1.3 Plans

SUSE—together with the cloud service providers—offers different plans to cater to a variety of use cases. While details differ depending on the cloud framework, usually there are two types of subscriptions.

Bring your own subscription (BYOS)

Bring your own subscription (BYOS) images are useful if you already have a support contract with SUSE and want to move your workloads to the public cloud. An instance launched from a BYOS image is equivalent to a physical machine that just received a SUSE Linux Enterprise Server installation from the SLES installation image. After creation, use registercloudguest to register the instance with the SUSE-operated update infrastructure in the cloud framework or use the SUSEConnect to register the system with SUSE Customer Center using the entitlements you already have. Connect your system to your own running RMT or SUSE Manager infrastructure in the same way you connect systems in your data center.

BYOS instances make it easier to manage extensions such as LTSS or kernel live-patching. Extensions for PAYG instances can only be used in conjunction with SUSE Manager.

Pay as you go (PAYG)

Pay as you go (PAYG) images are used to create on-demand instances. When an instance is first booted, it automatically registers with a local update server. Once the system finishes booting, it is ready to use.

Create an instance when you need it and delete it when you are done. While in use, you have access to updates from SUSE through the automatically configured repositories. You only pay for the resources you use. Upcharges over the basic cloud prices may apply, depending on the image and framework.

PAYG instances include support through the cloud service provider or priority support from SUSE. For details, refer to [Section 1.4, "Support"](#).

In summary, if you already have a direct relationship with SUSE you generally want to start out with BYOS. You can still use PAYG for on-demand excess capacity.

TABLE 1.1: FEATURE COMPARISON

Plan	Bring your own subscription (BYOS)	Pay as you go (PAYG)
Customer relationship	with CSP and SUSE	with CSP
Pricing	per instance and license	per use
Registration	with a local update server, your RMT or SUSE Manager infrastructure, or directly with the SUSE Customer Center	with a local update server upon instance creation
Support	full support by SUSE	by CSP; by SUSE only with priority support
Extended ESPOS ¹ or LTSS ² support	available	only if included in image base product
Extensions	no limitations	only with SUSE Manager

¹ ESPOS: [Extended Service Pack Overlay Support \(https://www.suse.com/support/policy-products/#hpc\)](https://www.suse.com/support/policy-products/#hpc) ↗

² LTSS: [Long-Term Service Pack Support \(https://www.suse.com/products/long-term-service-pack-support/\)](https://www.suse.com/products/long-term-service-pack-support/) ↗



Important: Switching plans

Switching from BYOS to PAYG or vice-versa is only possible on Microsoft Azure through the Hybrid Benefit program. For all other cloud providers, you remain on the plan you initially selected for as long as the instance is running. The only way to switch plans is to start with the other image and rebuild your system.

For more information on the Microsoft Azure Hybrid Benefit program, refer to <https://azure.microsoft.com/pricing/hybrid-benefit/> ↗.

Important: Do not register PAYG instances with the SUSE Customer Center

Registering PAYG instances with the SUSE Customer Center or your own RMT server will create conflicts that are not easily solved. Only register BYOS instances. PAYG instances are automatically registered against the correct update server.

1.4 Support

Regardless of the public cloud you use and the plan you choose, SUSE has you covered with support. Support is dependent on whether you "bring your own subscription" (BYOS) or you use SUSE Linux Enterprise "on-demand" (PAYG). For more information about BYOS and PAYG, refer to [Section 1.3, "Plans"](#).

BYOS

BYOS instances are supported by SUSE under the terms of your SUSE subscription. For an overview of SUSE's support subscriptions, refer to <https://www.suse.com/support/>.

PAYG

Regular PAYG instances include support through the cloud service provider which in turn is supported by SUSE. If you have a problem, *always contact your CSP for assistance*. They provide 1st and 2nd level support, and will work with SUSE for L3 support as required.

Important: Microsoft Azure basic images

Microsoft Azure also offers a basic PAYG image that only includes updates. Instances created from this image are *not eligible for support*.

PAYG with SUSE Priority Support

SUSE offers 24x7 priority support for the PAYG versions of the following products:

- SUSE Linux Enterprise Micro
- SUSE Manager
- Rancher Prime
- NeuVector Prime

You can transact priority support through the Amazon Web Services and Microsoft Azure marketplaces, where you will see two different listings: A global one and one for EMEA Orders Only. Two listings are needed as there are different regulations to comply with, but the images and the support offering are identical. Select the correct listing for your organization's CSP account:

- For Amazon Web Services, it depends on the tax address of the account, see <https://aws.amazon.com/tax-help/location>.
- For Microsoft Azure, it depends on the sold to address of the account, see <https://learn.microsoft.com/azure/cost-management-billing/manage/change-azure-account-profile>.
- For Google Cloud, it depends on the billing country of the account, see <https://support.google.com/cloudidentity/answer/3530790>.

For a complete list of countries that are eligible to transact priority support through the CSP's marketplaces, and the correct listing for each country, refer to *Appendix B, Geographical availability*.



Important: Other countries

If the billing or tax address of your organization's CSP account is located in a country not listed in *Appendix B, Geographical availability*, you currently cannot transact priority support through the CSP's marketplaces.

SUSE is committed to making priority support available in more countries. In the meantime, you can still use SUSE PAYG products with regular support from the CSP. If you want support by SUSE, use a BYOS version.

For more information, refer to the *SUSE Technical Support Policy* (<https://www.suse.com/support/policy/>) and the support statement for SUSE Linux Enterprise in *Appendix A, Support*.

For information on how to contact the SUSE support team and report problems, refer to the *SUSE Technical Support Guide* (<https://www.suse.com/support/handbook/>).

1.5 Supported instance types

To find out what types of instances are supported by each provider, refer to the [SUSE Public Cloud Instance Support Matrix \(https://www.suse.com/support/public-cloud-support/\)](https://www.suse.com/support/public-cloud-support/). Select your SUSE Linux Enterprise product and your cloud provider to see a list of supported instance types.

2 Public cloud images

SUSE offers a variety of different product images for different use cases in partner cloud provider frameworks. Learn how to find the image that meets your use case.

2.1 Image lifecycle

All SUSE public cloud images follow a refresh cycle up to the point of deletion. The refresh cycle follows a 'rolling' three month time frame. What this means:

- Images in an active state are refreshed every three months. Replaced images are moved to the deprecated state.
- If a critical security vulnerability occurs, images in active and inactive states are updated as soon as possible once the fix for the affected code is available. For images in active state the three month timer restarts with this forced replacement. SUSE is committed to address all security vulnerabilities disclosed through the Common Vulnerabilities and Exposures process (CVE) and a score of 9.0 or greater in the Common Vulnerability Scoring System (CVSS). For more information about the effects and rating of CVEs, refer to the [SUSE CVE database \(https://www.suse.com/security/cve/\)](https://www.suse.com/security/cve/) ↗.

The life cycle of an image consists of four different states:

SUSE PUBLIC CLOUD IMAGE STATES

Active

Active images are fully supported and refreshed at least every three months. The duration lasts until the image is replaced by a newer image version.

Inactive

Inactive images are supported following the rules of LTSS or ESPOS and will only get refreshed for critical security updates. The duration term is defined by the product. For more information, refer to <https://www.suse.com/de-de/support/policy-products/#cloud> ↗

Deprecated

Deprecated images may no longer be supported. The status of support depends on the support status of the product in the image. Deprecated images do not get refreshed and are not made available in regions added after an image has been set to deprecated. At the end of the six month deprecation period, images are subject to deletion. It is strongly discouraged to use deprecated images to create new instances.

Deleted

Deleted images are no longer supported or available for instance creation.



Important: Only use active images for new instances

It is strongly recommended to only use active images to launch instances for new deployments.

2.2 Naming scheme

Names for SUSE's public cloud images consist of multiple parts that contain information about the product, its version, a time stamp indicating the release date of the image, and more. The general naming scheme for SUSE's public cloud images is as follows:

PRODUCT - FLAVOR - vVERSION - VIRTUALIZATION - STORAGE - ARCHITECTURE - TAXID - GEN

Not all components of this naming scheme are used in all frameworks.

SUSE PUBLIC CLOUD IMAGE NAMING SCHEME

PRODUCT

Abbreviated name of the product in lower case letters, e.g. suse-sles-15-sp3 or suse-manager-4-1-proxy. This part may also be “search-optimized” per cloud framework. For example the prefix suse- helps when searching for SUSE in the general catalog in Amazon Web Services.

FLAVOR

Images can have different flavors such as chost or byos. If it is the default image of a product, this part will be omitted. Multiple FLAVOR attributes may be combined in an image name. For example sles-15-sp3-chost-byos is an image build based on SUSE Linux Enterprise Server 15 SP3 build as a container host using a BYOS (Bring Your Own

Subscription) billing model. Images without byos in the name are set up the image is set up for PAYG (Pay As You Go) billing. For more information about the different billing models, refer to [Section 1.3, “Plans”](#).

SUSE LINUX ENTERPRISE FLAVORS

- byos : Bring your own subscription (BYOS) image
- chost : Minimal container host image
- hardened : Pre-hardened images, see [Section 2.5, “Hardened Images”](#)
- hpc : SUSE Linux Enterprise High Performance Computing image
- sap : SUSE Linux Enterprise Server for SAP Applications image
- sapcal : SAP Cloud Application Library image

Not all flavors are available for all cloud frameworks; some are provider-specific.

AMAZON WEB SERVICES FLAVORS

- ecs : Amazon Elastic Container Service image

MICROSOFT AZURE FLAVORS

- basic : PAYG image that only includes updates but no support
- standard : Fully supported PAYG image

VERSION

Upload date of the image in the format vYYYYMMDD (ISO 8601).

VIRTUALIZATION (AWS-only)

SUSE no longer supports or publishes para-virtualized images. The virtualization type was encoded as pv (para-virtualized) or hvm (hardware-assisted virtual machine). The hvm part of the image name has been retained in an effort to not break backward compatibility.

STORAGE (AWS-only)

SUSE no longer publishes images that are based on hard disk (magnetic) backed storage. This used to be encoded as mag. All published images are backed by SSD. The ssd part of the image name has been retained in an effort to not break backward compatibility.

ARCHITECTURE

Either x86_64 or arm64. SUSE no longer supports or publishes 32 bit x86 images. Images with the i386 identifier are visible in Public Cloud Information Tracker data.

TAXID

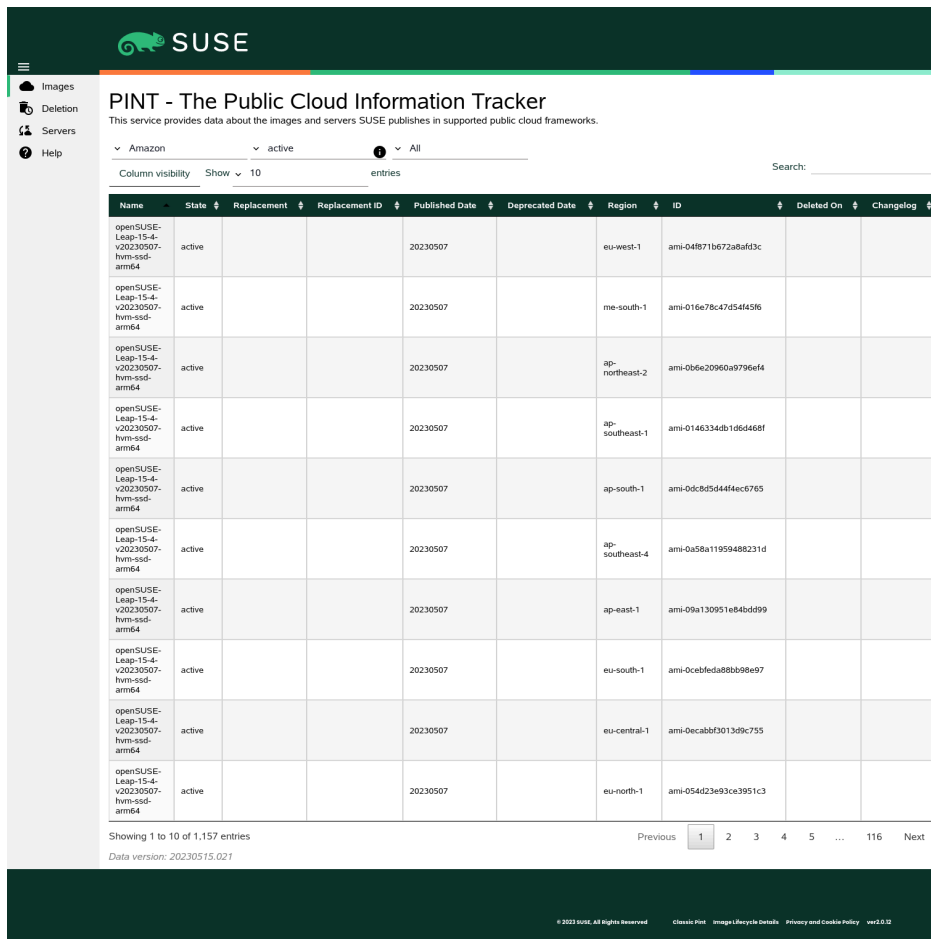
Either `llc` or `ltd`. Only for images with SUSE priority support. For more information, refer to [Section 1.4, "Support"](#)

GENERATION (Microsoft Azure-only)

appended as `gen2` for 2nd Generation VMs.

2.3 Public Cloud Information Tracker

The Public Cloud Information Tracker (PINT) provides information about the images SUSE publishes and servers that are part of the SUSE operated update infrastructure. PINT is available at <https://pint.suse.com/> and provided as an API and command-line tool with the `python3-susepubliccloudinfo` package from the [Public Cloud Module](#) repository.



The screenshot shows the SUSE PINT web interface. The header includes the SUSE logo and navigation links for Images, Deletion, Servers, and Help. The main content area displays a table of public cloud information for Amazon. The table has columns for Name, State, Replacement, Replacement ID, Published Date, Deprecated Date, Region, ID, Deleted On, and Changelog. The table lists 10 entries, all with a state of 'active' and a published date of 20230507. The entries are for various regions including eu-west-1, me-south-1, ap-northeast-2, ap-southeast-1, ap-south-1, ap-southeast-4, ap-east-1, eu-south-1, eu-central-1, and eu-north-1.

Name	State	Replacement	Replacement ID	Published Date	Deprecated Date	Region	ID	Deleted On	Changelog
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		eu-west-1	ami-04871b672a8afd3c		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		me-south-1	ami-016e78c47d54456		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		ap-northeast-2	ami-0b6e20960a9796f4		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		ap-southeast-1	ami-0146334db1d65468f		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		ap-south-1	ami-0dc8d5444fc6765		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		ap-southeast-4	ami-0a58a11959488231d		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		ap-east-1	ami-09a130951e84bd99		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		eu-south-1	ami-0cebfe8a88bb98e97		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		eu-central-1	ami-0ecabb3013d9c755		
openSUSE-Leap-15.4-v20230507-hvm-ssd-arm64	active			20230507		eu-north-1	ami-054d23e93ce3951c3		

Showing 1 to 10 of 1,157 entries
Data version: 20230515.021

FIGURE 2.1: OVERVIEW OF SUSE PUBLIC CLOUD INFORMATION TRACKER (PINT)

Use the drop-down lists to view images, servers, or both, and filter by cloud framework, region, or image state. You can also search for strings and adjust the columns and the number of results per page.

2.3.1 Images view

The following columns are shown in the Images view. Some columns depend on the the cloud frameworks.

COLUMNS IN THE Images VIEW

Name

Name of the image. For more information about the image naming scheme, refer to [Section 2.2, "Naming scheme"](#).

State

State of the image. Can be one of All states, active, inactive, deprecated, or deleted. Note that All States excludes images in the deleted state. Deleted images may be viewed by explicitly selecting deleted as the image state. For more information about image stated, refer to [Section 2.1, "Image lifecycle"](#).

Replacement

Name of the image that replaces another.

Replacement ID

ID of the image that replaces another. Only shown for Amazon, Oracle, and Alibaba; images on Google and Microsoft do not have IDs.

Published Date

Publication date of the image. Displayed in the format YYYYMMDD (ISO 8601).

Deprecated Date

Date the image was deprecated by a newer one. Displayed in the format YYYYMMDD (ISO 8601). Only shown for deprecated or deleted images.

Project

Project of the image. Projects are used to organize Google Cloud Platform resources. Only shown for Google Cloud Platform.

Region

Region of the image.

Environment

Environment of the image. Only shown for Microsoft Azure.

ID

Unique identifier of the image. While the Name of an image is the same across different regions, the *ID* is unique.

URN


Uniform Resource Name of an image. While the *Name* of an image is different across the environments, the URN is the same. Only shown for Microsoft Azure.

Deleted on

Date the image was deleted in the format YYYYMMDD (ISO 8601). Only shown for deleted images.

Changelog

Link to a detailed changelog and a software bill of materials (SBOM). For more information, refer to [Section 2.4, "Change information"](#)

Image changelogs are only available for images that replace others. For initial images of new product versions, refer to the product's [release notes \(https://www.suse.com/releasenotes\)](https://www.suse.com/releasenotes) .

2.3.2 Servers view

The following columns are shown in the Servers view:

COLUMNS IN THE Servers VIEW

Name

Host name of the server. Region servers do not have host names. Host names are not DNS resolvable.

IP

IP address of the server.

Region

Region of the server. For optimal performance SUSE provides servers in most regions of a cloud framework.

Type

One of [regionserver-sles](#), [regionserver-sap](#), or [smt](#). In every framework where SUSE operates an update infrastructure, the [regionserver](#) systems are randomly distributed across regions and the [smt](#) servers are available in most regions. Every region has [update](#) servers assigned.

2.4 Change information

Whenever a new image gets released, you can review changes compared to the previously released image. Search for an image in [PINT \(https://pint.suse.com/\)](https://pint.suse.com/) and click on its entry in the *Changelog* column.

Image change information is divided into different categories:

Image configuration changes

This category describes changes in the image setup; for example, if a new service was enabled, kernel parameters were changed, or if packages were added or removed.

CVE fixes

This category lists security fixes in the image. Entries are cross linked to the [SUSE CVE database \(https://www.suse.com/security/cve/\)](https://www.suse.com/security/cve/). For more information, refer to [Section 2.1, "Image lifecycle"](#).

Package version changes

This category lists all packages that had version changes compared to the previous image and the version in that image.

Package change logs

This category shows a concatenated changelog of all packages that had changes.

Software bill of materials (SPDX)

This category shows an SBOM in the [Software Package Data Exchange](#) format. [SPDX](#) is an open standard backed by the Linux Foundation. For more information, refer to <https://spdx.dev/>.

Software bill of materials (CycloneDX)

This category shows an SBOM in the [CycloneDX](#) format. This format is backed by the Open Worldwide Application Security Project (OWASP) foundation. For more information, refer to <https://cyclonedx.org/>.



Note: Change information for new product versions

Please note that that image change information is only available for *updated* images, meaning for images that replace previous images of the same product version.

For initial images of new product versions, refer to the product's release notes at <https://www.suse.com/releasesnotes>.

To allow for automatic retrieval of image change information, all URLs follow the schema:

<https://publiccloudimagechangeinfo.suse.com/FRAMEWORK/IMAGE/CHANGES.html>

- *FRAMEWORK* is the cloud framework as used in the **pint** command-line tool; i.e. one of alibaba, amazon, google, microsoft, or oracle.
- *IMAGE* is the name of the image as shown by PINT, e.g. suse-sles-15-sp3-byos-v20220127-hvm-ssd-x86_64.
- *CHANGES* is the category of the changes, i. e. one of cve_fixes, image_changes, package_changelogs, or package_version_changes. Do not forget the .html extension to complete the URL.

2.5 Hardened Images

To improve overall security, SUSE provides hardened images of some products. The images are hardened using OpenSCAP, a collection of open source tools that implement the Security Content Automation Protocol (SCAP).

For more information and instructions on how to harden instances with OpenSCAP, refer to [Section 3.3, "Hardening instances"](#).

3 Managing cloud instances

SUSE Linux Enterprise in public clouds is managed almost like on bare metal or in virtual environments. Learn about what is different in the cloud.

3.1 Registering instances

Like other SUSE products, SUSE Linux Enterprise in public clouds has to be registered to receive updates. There are different ways to register, depending on the image flavor chosen for the instance.

- PAYG instances are registered automatically against the SUSE-operated update infrastructure in the cloud framework region, or a geographically close region. The `guestregister.service` manages the registration on first boot.



Important: Do not register PAYG instances with the SUSE Customer Center

Registering PAYG instances with the SUSE Customer Center or your own RMT server will create conflicts that are not easily solved. Only register BYOS instances. PAYG instances are automatically registered against the correct update server.

- BYOS instances have to be registered manually with your SUSE registration key. You can register with the cloud framework's SUSE update servers, the SUSE Customer Center, or your own SUSE Manager or RMT infrastructure.

There are two different ways to register BYOS instances:

1. Any BYOS instance can be registered with the SUSE Customer Center or your own SUSE Manager or RMT infrastructure using `SUSEConnect`. Refer to [Section 3.1.2, "Register with SUSEConnect"](#) for instructions.
2. BYOS instances with `cloud-regionsrv-client` version 9.3.0 or higher can be registered with the cloud framework's SUSE update servers using `registercloudguest`. Using the cloud framework's update servers will result in faster package downloads. Registrations are

forwarded from the update server to the SUSE Customer Center, so your cloud instances show up in your SUSE account and count against the system count of your subscription. Refer to [Section 3.1.1, “Register with `registercloudguest`”](#) for instructions.

Important: `registercloudguest` limitations

Not all products and flavors can be registered with `registercloudguest`.

- Container host (`chost`) images are optimized for container workloads and contain only a few packages outside of the bare minimum to make containers run. These images do not contain `registercloudguest`, but you can register instances with the SUSE Customer Center first, install the necessary packages and then register with the SUSE-operated update infrastructure in the cloud framework region. Refer to [Procedure 3.1, “Switching from SUSEConnect to `registercloudguest`”](#) for instructions.
- SUSE Linux Enterprise Micro (`sle-micro`) 5.1 and 5.2 images do not contain `registercloudguest`. To register an instance, use the command `transactional-update register`. Refer to the [SUSE Linux Enterprise Micro Administration Guide \(https://documentation.suse.com/sle-micro/html/SLE-Micro-all/sec-transactional-update.html#sec-register-command\)](https://documentation.suse.com/sle-micro/html/SLE-Micro-all/sec-transactional-update.html#sec-register-command) for more information. Images of SLE Micro 5.3 and later versions include `registercloudguest` and can be registered as described in [Section 3.1.1, “Register with `registercloudguest`”](#).
- SUSE Manager (`suse-manager`) can only be registered with the SUSE Customer Center.

In summary, use `registercloudguest` to register with the local cloud update infrastructure to benefit from faster downloads. Use `SUSEConnect` to register with SUSE Customer Center or your own SUSE Manager or RMT infrastructure.

3.1.1 Register with `registercloudguest`

To register a BYOS instance with `registercloudguest`, run:

```
# registercloudguest -r REGISTRATION_CODE -e EMAIL_ADDRESS
```

Replace `REGISTRATION_CODE` with a valid registration code. Replace `EMAIL_ADDRESS` with the e-mail address associated with the SUSE account you or your organization uses to manage subscriptions.

BYOS instances created from images with a datestamp of `20220103` or *later* contain all required packages. For BYOS instances created from images with a date stamp *prior* to `20220103`, perform the following steps:

PROCEDURE 3.1: SWITCHING FROM SUSEConnect TO registercloudguest

1. Check if the `cloud-regionsrv-client` package is installed:

```
# rpm -q cloud-regionsrv-client
```

If the package is not installed or older than version 9.3.0, install or update it.

For instances created from images with a date stamp prior to `20220103`, you first have to enable the `Public Cloud Module`. For SUSE Linux Enterprise 15 SP4, run:

```
# SUSEConnect -p sle-module-public-cloud/15.4/x86_64
```

For other versions or a complete list of modules and their product identifiers, run `SUSE-Connect --list-extensions`.

Install `cloud-regionsrv-client`. Depending on your cloud framework, you will need some additional packages.

- For Amazon EC2 run:

```
# zypper in cloud-regionsrv-client cloud-regionsrv-client-plugin-ec2 \
regionServiceClientConfigEC2 regionServiceCertsEC2
```

- For Microsoft Azure run:

```
# zypper in cloud-regionsrv-client cloud-regionsrv-client-plugin-azure \
regionServiceClientConfigAzure regionServiceCertsAzure
```

- For Google Compute Engine run:

```
# zypper in cloud-regionsrv-client cloud-regionsrv-client-plugin-gce \
regionServiceClientConfigGCE regionServiceCertsGCE
```

2. Disconnect your instance from the SUSE Customer Center:

```
# registercloudguest --clean
```

Do *not* use `SUSEConnect -d`; it will no longer work.

3. Connect the instance to the SUSE update infrastructure in the public cloud. Replace `REGISTRATION_CODE` with a valid registration code. Replace `EMAIL_ADDRESS` with the e-mail address associated with the SUSE account you or your organization uses to manage subscriptions.

```
# registercloudguest -r REGISTRATION_CODE -e EMAIL_ADDRESS
```

This will only register the base product and any recommended products. For instances created from images with a datestamp later than `20220103`, it will also set up the repositories for the `Public Cloud Module`.

3.1.2 Register with SUSEConnect

To register a BYOS instance with `SUSEConnect`, run:

```
# SUSEConnect -r REGISTRATION_CODE -e EMAIL_ADDRESS
```

Replace `REGISTRATION_CODE` with a valid registration code. Replace `EMAIL_ADDRESS` with the e-mail address associated with the SUSE account you or your organization uses to manage subscriptions.

To register with your own registration server, also provide its URL:

```
# SUSEConnect -r REGISTRATION_CODE -e EMAIL_ADDRESS --url URL
```

If the instance was already registered with `registercloudguest`, perform the following steps:

PROCEDURE 3.2: SWITCHING FROM `registercloudguest` TO `SUSEConnect`

1. Disconnect your instance from the SUSE-operated update infrastructure in the cloud framework:

```
# registercloudguest --clean
```

2. Uninstall the `cloud-regionsrv-client` package and its dependencies:

```
# zypper rm -u cloud-regionsrv-client
```

3. Clean up the registration status:

```
# SUSEConnect --cleanup --url https://scc.suse.com
```

4. Register the instance with **SUSEConnect**.

- To connect the instance to the SUSE Customer Center, run:

```
# SUSEConnect -r REGISTRATION_CODE -e EMAIL_ADDRESS
```

- To connect the instance to the your own registration server, run:

```
# SUSEConnect -r REGISTRATION_CODE -e EMAIL_ADDRESS --url URL
```

3.2 Deregister instances

If you are to decommission an instance, remember to deregister it before termination. This will ensure that the system gets removed from the SUSE Customer Center and is no longer counted against your subscription.

1. Run **SUSEConnect --status-text** to check the registration status.

2. If the system is registered, check if the file `/var/log/guestregister` exists. This usually indicates the system was registered with **registercloudguest**.

3. Deregister the system:

- If a system was registered with **registercloudguest**, run:

```
# registercloudguest --clean
```


- If a system was registered with **SUSEConnect**, run:

```
# SUSEConnect -d
```

If this does not work, make sure the package `cloud-regionsrv-client` is not installed. It may have been installed after the system was registered.

3.3 Hardening instances

To improve overall security, SUSE provides hardened images of some products. The images are hardened using OpenSCAP, a collection of open source tools that implement the Security Content Automation Protocol (SCAP) maintained by the National Institute of Standards and Technology (NIST). OpenSCAP supports automated configuration, vulnerability and patch checking, technical control compliance activities, and security measurement.

To harden a system, OpenSCAP uses security rules that define certain security measures. Multiple rules can be combined into profiles. For more information, refer to the OpenSCAP documentation at <https://www.open-scap.org/resources/documentation/> .

3.3.1 Pre-hardening

Hardened images are pre-hardened to the extent they can safely be hardened without causing problems in public cloud frameworks. Certain rules can only be applied after instance creation, for example:

- Rules that require having passwords set up. Passwords would have to be public if configured during the image build. This would defeat the purpose of a secret password.
- Rules that affect the network configuration. Networking is set up during instance creation, therefore it is not possible to limit access during image build.
- Rules for custom partitioning. SUSE's public cloud images are partitioned to meet the requirements of the framework in which they are released. If your system needs to meet standards that require separate file systems for given directories, we recommend that you build your own images and use LVM or move those directories onto attached disks to get the strictest data separation possible.
- Rules to remove packages. SUSE's public cloud images cater to a wide range of use cases. Even if the number of packages is limited, it is impossible to determine what packages an instance requires.

3.3.2 Available OpenSCAP profiles

After instance creation, you can use the installed `openscap` packages to complete the hardening process using any of the following profiles:

Standard ([standard.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/standard.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/standard.profile>) ↗)

Basic OpenSCAP system security standard.

CIS Server Level 2 ([cis.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/cis.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/cis.profile>) ↗)

The Center for Internet Security Server Level 2 profile is considered to be “defense in depth” and is intended for environments where security is paramount. The recommendations associated with this profile can have an adverse effect on your organization if not implemented appropriately or without due care. For more information, refer to <https://www.cisecurity.org> ↗.

Department of Defense STIG ([stig.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/stig.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/stig.profile>) ↗)

The Defense Information Systems Agency publishes *Security Technical Implementation Guides (STIGs)* for the Department of Defense. The STIG profile replaces the previous CIS Level 3 profile and provides all recommendations that are STIG-specific. Overlap of recommendations from other profiles, i.e. CIS Level 1 and Level 2, are present in the STIG profile as applicable. For more information, refer to <https://public.cyber.mil/stigs/> ↗.

HIPAA Security Rule ([hipaa.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/hipaa.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/hipaa.profile>) ↗)

In response to the *Health Insurance Portability and Accountability Act (HIPAA)* of 1996, the U.S. Department of Health and Human Services developed *Security Standards for the Protection of Electronic Protected Health Information*, commonly known as the HIPAA Security Rule. It establishes national standards to protect individuals' electronic personal health information (e-PHI) that is created, received, used, or maintained by a covered entity. For more information, refer to <https://www.hhs.gov/hipaa/for-professionals/security/index.html> ↗.

Payment Card Industry Data Security Standard ([pci-dss.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pci-dss.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pci-dss.profile>)

The *Payment Card Industry Data Security Standard (PCI DSS)* is a set of requirements to guide merchants to protect cardholder data. It is maintained by the PCI Security Standards Council (SSC) that was founded by all five major credit card brands Visa, MasterCard, American Express, Discover, and JCB. For more information, refer to https://www.pcisecuritystandards.org/document_library.

All profile files are available in the [ComplianceAsCode](https://github.com/ComplianceAsCode/content/tree/master/products/sle15/profiles) (<https://github.com/ComplianceAsCode/content/tree/master/products/sle15/profiles>) repository.

For a complete list of rules that have been applied during pre-hardening, refer to [pcs-hardening.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pcs-hardening.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pcs-hardening.profile>). This profile is a combination of the [STIG](#) and [CIS](#) profiles minus rules that can only be applied after instance creation.

Images of SUSE Linux Enterprise Server for SAP Applications are hardened using a modified version of the profile called [pcs-hardening-sap.profile](https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pcs-hardening-sap.profile) (<https://github.com/ComplianceAsCode/content/blob/master/products/sle15/profiles/pcs-hardening-sap.profile>). Users may need to make additional modifications to the system configuration depending on individual application needs.



Important: Recommended profiles

SUSE recommends using either the [CIS](#) or the [STIG](#) profile. You can use other profiles at your own discretion.

3.3.3 Hardening instances with OpenSCAP

To evaluate an instance, you can run:

```
> sudo oscap xccdf eval \  
  --profile stig ❶ \  
  --results /tmp/results.xml ❷ \  
  --report /tmp/report.html ❸ \  
  --stig-viewer /tmp/stigviewer.xml ❹ \  
  /usr/share/xml/scap/ssg/content/ssg-sle15-ds-1.2.xml ❺
```

- ❶ Specifies the profile to use, e.g. [stig](#) or [cis](#).

- ② Saves the results of the evaluation to `/tmp/results.xml`
- ③ Generates a HTML report called `/tmp/report.html` in addition to the results in XML.
- ④ Saves the results to `/tmp/stigviewer.xml`, which can be imported into the [DISA STIG Viewer](#). Refer to <https://public.cyber.mil/stigs/srg-stig-tools/> for information about DISA STIG Viewer.
- ⑤ [Scap Security Guide \(SSG\)](#) policy file in the `datastream (ds)` format. Make sure to select the correct version for your instance. To list all available policies, run: `ls -l /usr/share/xml/scap/ssg/content/ssg-*-ds.xml`. For more information about a particular policy, run `oscap info` on the file.

The evaluation process usually takes a few minutes, depending on the number of selected rules.

To remediate an instance, add the `--remediate` parameter:

```
> sudo oscap xccdf eval --remediate\  
  --profile stig \  
  --results /tmp/results.xml \  
  --report /tmp/report.html \  
  --stig-viewer /tmp/stigviewer.xml \  
  /usr/share/xml/scap/ssg/content/ssg-sle15-ds-1.2.xml
```

3.3.4 More information

For more information on how to harden your SUSE Linux Enterprise system with OpenSCAP, refer to the article [Hardening SUSE Linux Enterprise with OpenSCAP](https://documentation.suse.com/compliance/all/html/SLES-openscap/article-openscap.html) (<https://documentation.suse.com/compliance/all/html/SLES-openscap/article-openscap.html>). For general information on OpenSCAP, refer to the [SCAP Security Guide](https://www.open-scap.org/security-policies/scap-security-guide/) (<https://www.open-scap.org/security-policies/scap-security-guide/>).

A Support

Find the support statement for SUSE Linux Enterprise and general information about technology previews below. For details about the product lifecycle, see <https://www.suse.com/lifecycle>.

If you are entitled to support, find details on how to collect information for a support ticket at <https://documentation.suse.com/sles-15/html/SLES-all/cha-adm-support.html>.

A.1 Support statement for SUSE Linux Enterprise

To receive support, you need an appropriate subscription with SUSE. To view the specific support offerings available to you, go to <https://www.suse.com/support/> and select your product.

The support levels are defined as follows:

L1

Problem determination, which means technical support designed to provide compatibility information, usage support, ongoing maintenance, information gathering and basic troubleshooting using available documentation.

L2

Problem isolation, which means technical support designed to analyze data, reproduce customer problems, isolate problem area and provide a resolution for problems not resolved by Level 1 or prepare for Level 3.

L3

Problem resolution, which means technical support designed to resolve problems by engaging engineering to resolve product defects which have been identified by Level 2 support.

For contracted customers and partners, SUSE Linux Enterprise is delivered with L3 support for all packages, except for the following:

- Technology previews.
- Sound, graphics, fonts, and artwork.
- Packages that require an additional customer contract.

- Some packages shipped as part of the module *Workstation Extension* are L2-supported only.
- Packages with names ending in `-devel` (containing header files and similar developer resources) will only be supported together with their main packages.

SUSE will only support the usage of original packages. That is, packages that are unchanged and not recompiled.

A.2 Technology previews

Technology previews are packages, stacks, or features delivered by SUSE to provide glimpses into upcoming innovations. Technology previews are included for your convenience to give you a chance to test new technologies within your environment. We would appreciate your feedback! If you test a technology preview, please contact your SUSE representative and let them know about your experience and use cases. Your input is helpful for future development.

Technology previews have the following limitations:

- Technology previews are still in development. Therefore, they may be functionally incomplete, unstable, or in other ways *not* suitable for production use.
- Technology previews are *not* supported.
- Technology previews may only be available for specific hardware architectures.
- Details and functionality of technology previews are subject to change. As a result, upgrading to subsequent releases of a technology preview may be impossible and require a fresh installation.
- SUSE may discover that a preview does not meet customer or market needs, or does not comply with enterprise standards. Technology previews can be removed from a product at any time. SUSE does not commit to providing a supported version of such technologies in the future.

For an overview of technology previews shipped with your product, see the release notes at https://www.suse.com/releasenotes/x86_64/public-cloud .

B Geographical availability

SUSE offers 24x7 priority support for the PAYG versions of the following products:

- SUSE Linux Enterprise Micro
- SUSE Manager
- Rancher Prime
- NeuVector Prime

You can transact priority support through the Amazon Web Services and Microsoft Azure marketplaces, where you will see two different listings: A global one and one for EMEA Orders Only. Two listings are needed as there are different regulations to comply with, but the images and the support offering are identical. Select the correct listing for your organization's CSP account:

- For Amazon Web Services, it depends on the tax address of the account, see <https://aws.amazon.com/tax-help/location>.
- For Microsoft Azure, it depends on the sold to address of the account, see <https://learn.microsoft.com/azure/cost-management-billing/manage/change-azure-account-profile>.
- For Google Cloud, it depends on the billing country of the account, see <https://support.google.com/cloudidentity/answer/3530790>.

TABLE B.1: MARKETPLACE LISTINGS OF SUSE PRODUCTS BY COUNTRY

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Afghanistan (AF)	n/a	n/a	Global
Åland Islands (AX)	n/a	n/a	Global
Albania (AL)	n/a	n/a	Global
Algeria (DZ)	n/a	n/a	Global
American Samoa (AS)	n/a	n/a	Global
Andorra (AD)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Angola (AO)	n/a	n/a	Global
Anguilla (AI)	n/a	n/a	Global
Antarctica (AQ)	n/a	n/a	Global
Antigua and Barbuda (AG)	n/a	n/a	Global
Argentina (AR)	n/a	n/a	Global
Armenia (AM)	n/a	EMEA	Global
Aruba (AW)	n/a	n/a	Global
Australia (AU)	Global	Global	Global
Austria (AT)	EMEA	EMEA	Global
Azerbaijan (AZ)	n/a	n/a	Global
Bahamas (BS)	n/a	n/a	Global
Bahrain (BH)	n/a	n/a	Global
Bangladesh (BD)	Global	n/a	Global
Barbados (BB)	n/a	n/a	Global
Belarus (BY)	n/a	EMEA	Global
Belgium (BE)	EMEA	EMEA	Global
Belize (BZ)	n/a	n/a	Global
Benin (BJ)	n/a	n/a	Global
Bermuda (BM)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Bhutan (BT)	n/a	n/a	Global
Bolivia, Plurinational State of (BO)	n/a	n/a	Global
Bonaire (BQ)	n/a	n/a	Global
Bosnia and Herzegovina (BA)	n/a	n/a	Global
Botswana (BW)	n/a	n/a	Global
Bouvet Island (BV)	n/a	n/a	Global
Brazil (BR)	n/a	n/a	Global
British Indian Ocean Territory (IO)	n/a	n/a	Global
Brunei Darussalam (BN)	n/a	n/a	Global
Bulgaria (BG)	EMEA	EMEA	Global
Burkina Faso (BF)	n/a	n/a	Global
Burundi (BI)	n/a	n/a	Global
Cambodia (KH)	n/a	n/a	Global
Cameroon (CM)	EMEA	n/a	Global
Canada (CA)	Global	Global	Global
Cape Verde (CV)	n/a	n/a	Global
Cayman Islands (KY)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Central African Republic (CF)	n/a	n/a	Global
Chad (TD)	n/a	n/a	Global
Chile (CL)	Global	Global	Global
China (CN)	n/a	n/a	Global
Christmas Island (CX)	n/a	n/a	Global
Cocos (Keeling) Islands (CC)	n/a	n/a	Global
Colombia (CO)	n/a	Global	Global
Comoros (KM)	n/a	n/a	Global
Congo (CG)	n/a	n/a	Global
Congo, the Democratic Republic of the (CD)	n/a	n/a	Global
Cook Islands (CK)	n/a	n/a	Global
Costa Rica (CR)	n/a	n/a	Global
Côte d'Ivoire (CI)	n/a	n/a	Global
Croatia (HR)	EMEA	EMEA	Global
Curaçao (CW)	n/a	n/a	Global
Cuba (CU)	n/a	n/a	n/a
Cyprus (CY)	EMEA	EMEA	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Czech Republic (CZ)	EMEA	EMEA	Global
Denmark (DK)	EMEA	EMEA	Global
Djibouti (DJ)	n/a	n/a	Global
Dominica (DM)	n/a	n/a	Global
Dominican Republic (DO)	n/a	n/a	Global
Ecuador (EC)	n/a	n/a	Global
Egypt (EG)	EMEA	n/a	Global
El Salvador (SV)	n/a	n/a	Global
Equatorial Guinea (GQ)	n/a	n/a	Global
Eritrea (ER)	n/a	n/a	Global
Estonia (EE)	EMEA	EMEA	Global
Ethiopia (ET)	n/a	n/a	Global
Falkland Islands (Malvinas) (FK)	n/a	n/a	Global
Faroe Islands (FO)	n/a	n/a	Global
Fiji (FJ)	n/a	n/a	Global
Finland (FI)	EMEA	EMEA	Global
France (FR)	EMEA	EMEA	Global
French Guiana (GF)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
French Polynesia (PF)	n/a	n/a	Global
French Southern Territories (TF)	n/a	n/a	Global
Gabon (GA)	n/a	n/a	Global
Gambia (GM)	n/a	n/a	Global
Georgia (GE)	n/a	n/a	Global
Germany (DE)	EMEA	EMEA	Global
Ghana (GH)	n/a	n/a	Global
Gibraltar (GI)	n/a	n/a	Global
Greece (GR)	EMEA	EMEA	Global
Greenland (GL)	n/a	n/a	Global
Grenada (GD)	n/a	n/a	Global
Guadeloupe (GP)	n/a	n/a	Global
Guam (GU)	n/a	n/a	Global
Guatemala (GT)	n/a	n/a	Global
Guernsey (GG)	n/a	n/a	Global
Guinea (GN)	n/a	n/a	Global
Guinea-Bissau (GW)	n/a	n/a	Global
Guyana (GY)	n/a	n/a	Global
Haiti (HT)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Heard Island and McDonald Islands (HM)	n/a	n/a	Global
Holy See (Vatican City State) (VA)	n/a	n/a	Global
Honduras (HN)	n/a	n/a	Global
Hong Kong (HK)	n/a	n/a	Global
Hungary (HU)	EMEA	EMEA	Global
Iceland (IS)	n/a	EMEA	Global
India (IN)	Global	Global	Global
Indonesia (ID)	Global	Global	Global
Ireland (IE)	EMEA	EMEA	Global
Iran (IR)	n/a	n/a	n/a
Iraq (IQ)	n/a	n/a	Global
Isle of Man (IM)	n/a	n/a	Global
Israel (IL)	n/a	n/a	Global
Italy (IT)	EMEA	EMEA	Global
Jamaica (JM)	n/a	n/a	Global
Japan (JP)	n/a	n/a	Global
Jersey (JE)	n/a	n/a	Global
Jordan (JO)	n/a	n/a	Global
Kazakhstan (KZ)	n/a	n/a	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Kenya (KE)	EMEA	EMEA	Global
Kingdom of Saudi Arabia (SA)	EMEA	EMEA	Global
Korea, Democratic People's Republic of (KP)	n/a	n/a	n/a
Korea, Republic of (KR)	Global	Global	Global
Kiribati (KI)	n/a	n/a	Global
Kuwait (KW)	n/a	n/a	Global
Kyrgyzstan (KG)	n/a	n/a	Global
Lao People's Democratic Republic (LA)	n/a	n/a	Global
Latvia (LV)	EMEA	EMEA	Global
Lebanon (LB)	n/a	n/a	Global
Lesotho (LS)	n/a	n/a	Global
Liberia (LR)	n/a	n/a	Global
Libyan Arab Jamahiriya (LY)	n/a	n/a	Global
Liechtenstein (LI)	n/a	EMEA	Global
Lithuania (LT)	EMEA	EMEA	Global
Luxembourg (LU)	EMEA	EMEA	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Macao (MO)	n/a	n/a	Global
Macedonia, the former Yugoslav Republic of (MK)	n/a	n/a	Global
Madagascar (MG)	n/a	n/a	Global
Malawi (MW)	n/a	n/a	Global
Malaysia (MY)	Global	Global	Global
Maldives (MV)	n/a	n/a	Global
Mali (ML)	n/a	n/a	Global
Malta (MT)	EMEA	EMEA	Global
Marshall Islands (MH)	n/a	n/a	Global
Martinique (MQ)	n/a	n/a	Global
Mauritania (MR)	n/a	n/a	Global
Mauritius (MU)	n/a	n/a	Global
Mayotte (YT)	n/a	n/a	Global
Mexico (MX)	n/a	n/a	Global
Micronesia, Federated States of (FM)	n/a	n/a	Global
Moldova, Republic of (MD)	n/a	n/a	Global
Monaco (MC)	n/a	EMEA	Global

Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
Mongolia (MN)	n/a	n/a	Global
Montenegro (ME)	n/a	n/a	Global
Montserrat (MS)	n/a	n/a	Global
Morocco (MA)	n/a	n/a	Global
Mozambique (MZ)	n/a	n/a	Global
Myanmar (MM)	n/a	n/a	Global
Namibia (NA)	n/a	n/a	Global
Nauru (NR)	n/a	n/a	Global
Nepal (NP)	n/a	n/a	Global
Netherlands (NL)	EMEA	EMEA	Global
New Caledonia (NC)	n/a	n/a	Global
New Zealand (NZ)	Global	Global	Global
Nicaragua (NI)	n/a	n/a	Global
Niger (NE)	n/a	n/a	Global
Nigeria (NG)	n/a	EMEA	Global
Niue (NU)	n/a	n/a	Global
Norfolk Island (NF)	n/a	n/a	Global
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Norway (NO)	EMEA	EMEA	Global

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Philippines (PH)	n/a	n/a	Global
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United Arab Emirates (AE)	n/a	EMEA	Global
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Country (Code)	AWS Marketplace	Azure Marketplace	Google Cloud Marketplace
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