This page presents important concepts about running SAP on Google Cloud. This page assumes that you are familiar with SAP application architectures.

For a broad overview of Google Cloud, see Google Cloud Overview (/docs/overview/).

Google Cloud has an ongoing partnership with SAP to provide SAP-certified infrastructure for all of your SAP systems. You can even choose Google Cloud to power SAP cloud offerings, like SAP S/4HANA Cloud, SAP Ariba, SAP HANA Enterprise Cloud, and the SAP Cloud Platform itself.

Whether you are responsible for the core, mission-critical SAP applications in a large-scale enterprise or for similarly critical SAP applications in a small enterprise, Google Cloud can help you leverage your SAP data in innovative ways, all while running your SAP applications more reliably, securely, and cost-effectively.

Some of the advantages of running SAP on Google Cloud include:

- Google's private fiber network, which provides a global, secure, and scalable foundation for your SAP deployments and lets you optimize for performance or cost (/network-tiers/).

- Automation tools, such as Cloud Deployment Manager (/deployment-manager/), and flexible deployment options that help you move your SAP environment to the cloud and to deploy at your own pace.

- A flexible virtualized architecture that lets you resize your machines (/solutions/sap/docs/modifying_vm_configurations) as your enterprise grows and scale your infrastructure (/blog/products/sap-google-cloud/best-practices-for-sap-app-server-autoscaling-on-google-cloud) to match the variations in your workloads, so you can avoid paying for what you don't need.

- Some of the largest SAP-certified virtual machines (VMs) (/solutions/sap/docs/certifications-sap-hana#certified_vms_for_sap_hana) on the market.

- Built-in features, such as Compute Engine <u>live migration</u>
  (/compute/docs/instances/live-migration) and <u>automatic restart</u>
  (/compute/docs/instances/setting-instance-scheduling-options#autorestart), that minimize downtime for infrastructure maintenance.

- Opportunities to innovate with the Google Cloud <u>databases</u> (/products/databases/), <u>data analytics</u> (/products/big-data/), <u>smart analytics</u> (/solutions/smart-analytics/), <u>AI and machine learning</u> (/products/ai/), and data integration capabilities.

Google Cloud works closely with SAP to ensure that the Google Cloud infrastructure are certified by SAP for all of your SAP solutions, ensuring high performance and reliability.

For the full list of SAP-certified solutions, see:

- <u>Certifications for SAP applications on GCP</u> (/solutions/sap/docs/certifications-sap-apps)

- <u>Certifications for SAP HANA on GCP</u> (/solutions/sap/docs/certifications-sap-hana)

SAP runs on Google Cloud under a *bring-your-own-license (BYOL)* model.

With the BYOL model, you must obtain your SAP software licenses from SAP or an SAP reseller, and ensure that you are in compliance with SAP's licensing terms and agreements. Google Cloud does not sell or otherwise provide licenses for SAP software.
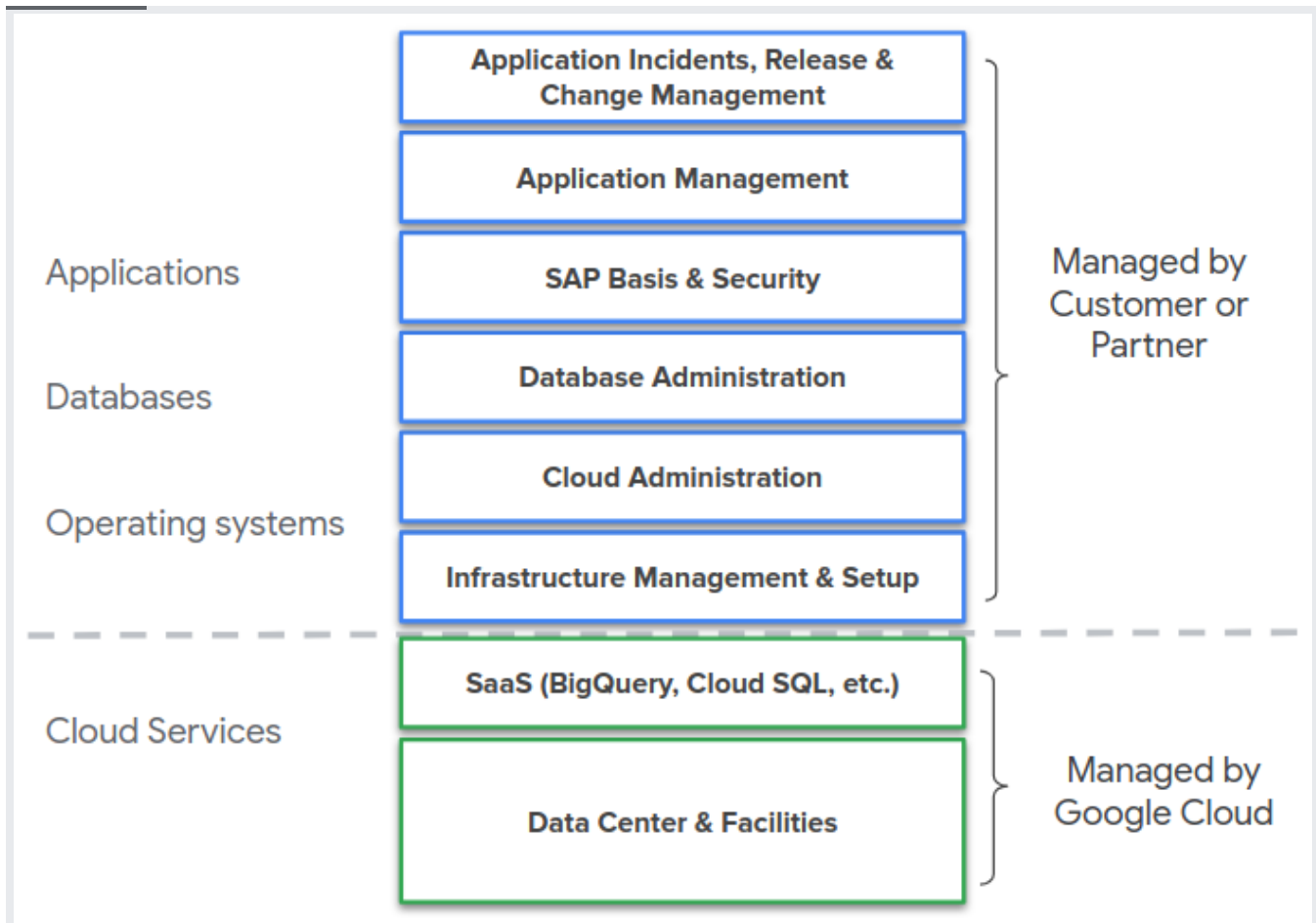
SAP provides access to an online repository of their latest products and solutions called the <u>SAP Cloud Appliance Library</u> (https://www.sap.com/products/cloud-appliance-library.html). SAP Cloud Appliance Library is a fully automated deployment library that customers can use to

rapidly deploy new SAP software on Google Cloud for non-production scenarios. Many of the SAP solutions are provided with a free trial or developer edition license.

Google Cloud Marketplace offers ready-to-go development stacks with SAP HANA Express, which is provided with an SAP software developer license that does not incur fees. Google Cloud Marketplace also contains other SAP-related offerings, such as partner-managed services for SAP and SAP-optimized operating systems. For all SAP-related offerings, see Google Cloud Marketplace (https://console.cloud.google.com/marketplace/browse?q=sap).

Google Cloud uses a self-service model in which you, or a managed-service provider that you hire, configures, deploys, and controls your Google Cloud infrastructure and services. The figure below displays the services that are managed by Google Cloud and the services that are managed by you or your services partner. For a full list of products that Google Cloud offers, see Products and services (/products/).

For a list of partner service providers, see the Google Cloud Partner Directory (https://cloud.withgoogle.com/partners/).

If your SAP systems experience problems while running on Google Cloud, you can open a support ticket with either SAP Support or Google Cloud Support.

If you open a ticket with SAP and the root of the problem appears to be in the Google Cloud infrastructure, SAP Support routes the ticket to Google Cloud Support. If you open a ticket with Google Cloud and the root of the problem appears to be in the SAP systems, Google Cloud Support directs you to open a ticket with SAP Support.

To get support from Google Cloud for your SAP deployments, you need either of the following Google Cloud support plans:

- Production-level Role-Based Support

- Enterprise Support

To receive support from SAP, your SAP deployment on Google Cloud must meet SAP certification requirements and you must be subscribed to one of the required Google Cloud support plans.

For more information, see:

- Getting support for SAP on Google Cloud (/solutions/sap/docs/getting-support)

- SAP Note 2456406 - SAP on Google Cloud: Support Prerequisites (https://launchpad.support.sap.com/#/notes/2456406) (requires an SAP account)

- Certifications for SAP applications on Google Cloud (/solutions/sap/docs/certifications-sap-apps)

- Certifications for SAP HANA on Google Cloud (/solutions/sap/docs/certifications-sap-hana)

When you deploy SAP solutions on Google Cloud, you first provision the Google Cloud infrastructure. After the infrastructure is in place, you install your SAP systems.

There are several ways to deploy SAP solutions on Google Cloud.

When you deploy your SAP solutions manually, you are in complete control of the configuration and deployment of both the Google Cloud infrastructure and your SAP systems.

You can deploy SAP solutions on Google Cloud manually by using any one of the following interfaces:

- The Google Cloud Console (https://console.cloud.google.com/)

- The gcloud command-line tool (/sdk/gcloud/), which is part of the Cloud SDK

- The Google Cloud APIs (/apis/)

After the Google Cloud infrastructure is ready, you install the SAP systems by following the SAP product documentation, which is available from the SAP Help Portal (https://help.sap.com/viewer/index).

You can use Cloud Deployment Manager (/deployment-manager/) with configuration templates that Google Cloud provides for SAP solutions to automate the deployment of SAP-certified Google Cloud infrastructure. For SAP HANA deployments, Deployment Manager can also install SAP HANA.

When you use the configuration templates that are provided by Google Cloud, the resulting deployments conform to SAP certification requirements, as well as both SAP and Google Cloud best practices for OS, disk configuration and sizing, and database clustering and installation.

The templates are intended to quickly deploy example SAP systems. To adapt the templates to your requirements, you can fork, alter, and enhance them.

You can use the SAP Cloud Appliance Library (https://www.sap.com/products/cloud-appliance-library.html) to automatically deploy a wide variety of SAP solutions on Google Cloud (https://cal.sap.com/catalog#/solutions?provider=ea003cd7-b45a-4fad-80c9-1eead0477e10). The SAP solutions are subject to SAP's licensing terms, which provide trial, educational, and developer options, among others.

The Google Cloud infrastructure that is deployed by the SAP Cloud Appliance Library can incur charges, so be sure to clean up your deployments when they are no longer needed.

You can use the Google Cloud Marketplace (https://console.cloud.google.com/marketplace/browse?q=sap) to rapidly deploy SAP HANA Express on Google Cloud. The Marketplace also includes SAP-specific offerings from a variety of Google Cloud partners that deploy infrastructure and solutions.

SAP & Database Solution	Deployment options

SAP & Database Solution	Deployment options
SAP S/4HANA	Deployment Manager[1] (#fn-1) Manual deployment SAP Cloud Appliance Library
SAP BW/4HANA	Deployment Manager[1] (#fn-1) Manual deployment SAP Cloud Appliance Library
SAP Business Suite	Deployment Manager[1] (#fn-1) Manual deployment SAP Cloud Appliance Library
SAP HANA	Deployment Manager[2] (#fn-2) Manual deployment SAP Cloud Appliance Library
SAP BusinessObjects BI	Manual deployment SAP Cloud Appliance Library
SAP Hybris	Manual deployment SAP Cloud Appliance Library
SAP Business One, version for SAP HANA	Manual deployment SAP Cloud Appliance Library
SAP Business One, version for MSSQL	Manual deployment
SAP ASE	Deployment Manager[1] (#fn-1) Manual deployment
SAP MaxDB	Deployment Manager[1] (#fn-1) Manual deployment
IBM Db2 for SAP	Deployment Manager[1] (#fn-1) Manual deployment

Table notes:

1. Configures and deploys only the VM instances and storage, which provides certification-compliant infrastructure on which you install and configure your SAP systems and components

2. Optionally, if you provide the SAP HANA installation media, installs the SAP HANA software in addition to the Google Cloud infrastructure.

Partners can help you move to, build on, and work in the cloud. Both Google Cloud Consulting Services and the many trusted partner services have the SAP and Google Cloud expertise to help you assess, plan, migrate, operate, and optimize your SAP landscapes on Google Cloud.

Trusted Google Cloud partners are available to help you migrate to, build on, and work in the cloud. Some global services partners, such as Accenture, Atos, Deloitte, and HCL, have created Google Cloud-specific business units to help customers migrate key workloads and applications to Google Cloud.

Partners also offer managed services for SAP environments on Google Cloud, including services such as account and resource administration, OS administration and patching, backup and recovery, and SAP Basis services.

To find the partners that have the specializations and expertise to meet your needs, search our global network of Google Cloud Partners (https://cloud.withgoogle.com/partners/?search=sap).

Google Cloud Professional Services (/consulting/) can provide you with the experts who can help you assess, plan, deploy and optimize your SAP systems on Google Cloud.

- Cloud assessment services – Advisory services to help you develop an efficient and effective plan for your cloud adoption journey. Typical services include total cost of ownership, technical, security and compliance, and licensing.

- Proof-of-concept services – Services to help you test SAP on Google Cloud. For example: SAP ECC migration to SAP HANA or SAP S/4HANA, SAP Business Warehouse (BW) migration to SAP HANA or SAP BW/4HANA, SAP OS/DB migrations, new SAP solution implementation.

- Migration services – Services to migrate existing SAP environments or systems to Google Cloud. For example: all-on-Google Cloud SAP migrations, hybrid SAP migrations, single

SAP system migrations, disaster recovery.

- Packaged solutions – Bundled software and service offerings from SAP Partners that combine SAP software, licenses, implementation, and managed services on Google Cloud.

- ISV software solutions – Partner software solutions for the migration, integration, and operation of SAP solutions on Google Cloud.

If you are new to Google Cloud and want to try out some of the Google Cloud products and services, see Quickstarts and videos at Getting Started with Google Cloud (/gcp/getting-started/). These are not specific to SAP.

For training about Google Cloud that is a little more in depth, see Google Cloud training (/training/).

If you already have some experience with Google Cloud and want that experience recognized, become Google Cloud Certified (/certification/).

If you are interested in getting hands-on experience with a wider variety of products, check out:

- Qwiklabs (https://www.qwiklabs.com/)

- Google Developers Codelabs (https://codelabs.developers.google.com/)

SAP also offers tutorials for SAP on Google Cloud. See the Tutorial Navigator on the SAP Developer website (https://developers.sap.com/tutorial-navigator.html?search=Google).

For more information about SAP on Google Cloud, see SAP on Google Cloud (/solutions/sap/). If you are familiar with AWS or Microsoft Azure, the following topics map their services to similar services on Google Cloud:

- Map AWS services to Google Cloud products (/free/docs/map-aws-google-cloud-platform)

- [Map Microsoft Azure services to Google Cloud products](/free/docs/map-azure-google-cloud-platform)