

This guide provides an overview of how SAP Business One works with Google Cloud Platform (GCP), and provides details that you can use when planning the implementation of a new SAP Business One system.

For more information about how to deploy SAP Business One on GCP, see the [SAP Business One deployment guide](/solutions/sap/docs/sap-business-one-deployment-guide/) (/solutions/sap/docs/sap-business-one-deployment-guide).

SAP supports Business One on GCP with either SAP HANA or Microsoft SQL Server.

This guide, as well as the [SAP Business One Deployment Guide](/solutions/sap/docs/sap-business-one-deployment-guide/) (/solutions/sap/docs/sap-business-one-deployment-guide), covers Business One with SAP HANA only.

SAP HANA is an in-memory, column-oriented, relational database that provides high-performance analytics and real-time data processing. SAP Business One is business management software designed for small and medium-sized enterprises.

When running SAP Business One and SAP HANA on GCP, customers can leverage ease of provisioning, high scalability, and redundant GCP infrastructure capabilities to run their business-critical workloads cost-effectively. GCP provides a set of physical assets, such as computers and hard disk drives, and virtual resources, such as Compute Engine virtual machines (VMs), located in Google data centers around the world.

When you deploy SAP Business One and SAP HANA on GCP, you deploy to VMs running on Compute Engine. Compute Engine VMs provide persistent disks, which function similarly to physical disks in a desktop or a server, but are automatically managed for you by Compute Engine to ensure data redundancy and optimized performance.

For information from SAP about SAP Business One, see the [SAP Help Portal](https://help.sap.com/viewer/p/SAP_BUSINESS_ONE) (https://help.sap.com/viewer/p/SAP_BUSINESS_ONE).

GCP consists of many cloud-based services and products. When running SAP products on GCP, you mainly use the IaaS-based services offered through [Compute Engine](/compute/docs/) (/compute/docs/) and [Cloud](#)

[Storage \(/storage/docs/\)](/storage/docs/), as well as some platform-wide features, such as [tools \(/docs/overview/developer-and-admin-tools\)](/docs/overview/developer-and-admin-tools).

See the [GCP platform overview \(/docs/overview/\)](/docs/overview/) for important concepts and terminology. This guide duplicates some information from the overview for convenience and context.

For an overview of considerations that enterprise-scale organizations should take into account when running on GCP, see [best practices for enterprise organizations \(/docs/enterprise/best-practices-for-enterprise-organizations\)](/docs/enterprise/best-practices-for-enterprise-organizations).

GCP offers three main ways to interact with the platform, and your resources, in the cloud:

- The Google Cloud Console, which is a web-based user interface.
- The `gcloud` command-line tool, which provides a superset of the functionality that Cloud Console offers.
- [Client libraries \(/sdk/cloud-client-libraries\)](/sdk/cloud-client-libraries), which provide APIs for accessing services and management of resources. Client libraries are useful when building your own tools.

Important: If you are using the `gcloud` command-line tool, always make sure that you are using the latest version of the GCP SDK. To install the latest version of the GCP SDK, see the [gcloud install instructions \(https://cloud.google.com/sdk/download\)](https://cloud.google.com/sdk/download).

SAP deployments typically utilize some or all of the following GCP services:

Service	Description
VPC Networking (/compute/docs/networking)	Connects your VM instances to each other and to the Internet. Each instance is a member of either a legacy network with a single global IP range, or a recommended subnet network, where the instance is a member of a single subnetwork that is a member of a larger network. Note that a network cannot span GCP projects, but a GCP project can have multiple networks.
Compute Engine (/compute/)	Creates and manages VMs with your choice of operating system and software stack.
Persistent disks (/compute/docs/disks/)	Persistent disks are available as either standard hard disk drives (HDD) or solid-state drives (SSD).

Service	Description
Google Cloud Console (https://console.cloud.google.com/)	Browser-based tool for managing Compute Engine resources. Use a template to describe all of the Compute Engine resources and instances you need. You don't have to individually create and configure the resources or figure out dependencies, because the Cloud Console does that for you.
Cloud Storage (/storage/)	You can back up your SAP database backups into Cloud Storage for added durability and reliability, with replication.
Stackdriver Monitoring (/monitoring/)	Provides visibility into the deployment, performance, uptime, and health of Compute Engine, network, and persistent disks. Stackdriver collects metrics, events, and metadata from GCP and uses these to generate insights through dashboards, charts, and alerts. You can monitor the compute metrics at no cost through Stackdriver Monitoring.
Cloud IAM (/iam/docs/)	Provides unified control over permissions for GCP resources. Control who can perform control-plane operations on your VMs, including creating, modifying, and deleting VMs and persistent disks, and creating and modifying networks.

You can use the [pricing calculator](#) (/products/calculator/) to estimate your usage costs. For more pricing information, see [Compute Engine pricing](#) (/compute/pricing), [Cloud Storage pricing](#) (/storage/pricing), and [Stackdriver pricing](#) (/stackdriver/pricing_v2).

GCP resources are subject to quotas. If you plan to use high-CPU or high-memory machines, you might need to request additional quota. For more information, see [Compute Engine resource quotas](#) (/compute/quotas)

The following VM types are officially supported by SAP for production use on GCP.

GCP Instance Type	vCPU	Memory(GiB)	Operating System	CPU Platform

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n1-highmem-32	32	208	SLES 12 SP1 SLES 12 SP1 for SAP SLES 12 SP2 SLES 12 SP2 for SAP	Intel Broadwell
n1-highmem-64	64	416	SLES 12 SP1 SLES 12 SP1 for SAP SLES 12 SP2 SLES 12 SP2 for SAP	Intel Broadwell

The operating system you choose must be compatible with the version of SAP Business One you plan to install. For more information see the [SAP product availability matrix](https://apps.support.sap.com/sap/support/pam) (<https://apps.support.sap.com/sap/support/pam>). For more information about different instance types and their use cases, see the [machine types](/compute/docs/machine-types) (</compute/docs/machine-types>) documentation.

SAP HANA is an in-memory database, so data is mostly stored and processed in memory. Protection against data loss is provided by saving the data to a persistent storage location.

To achieve optimal performance, the storage solution used for SAP HANA data and log volumes should meet SAP's storage KPIs. Google has worked with SAP to certify SSD persistent disks for use as the storage solution for SAP HANA workloads, as long as you use one of the [supported VM types](/solutions/sap/docs/sap-business-one-planning-guide#vm_types) (/solutions/sap/docs/sap-business-one-planning-guide#vm_types). VMs with 32 or more vCPUs and a 834 GB volume for data and log files can achieve up to 400 MB/sec for writes, and 400 MB/sec for reads.

Storage for SAP HANA backup is configured with standard HDD persistent disks. Standard HDD persistent disks are efficient and economical for handling sequential read-write operations, but are not optimized to handle high rates of random input-output operations per second (IOPS). SAP HANA uses sequential IO with large blocks to back up the database. Standard HDD persistent disks provide a low-cost, high-performance option for this scenario.

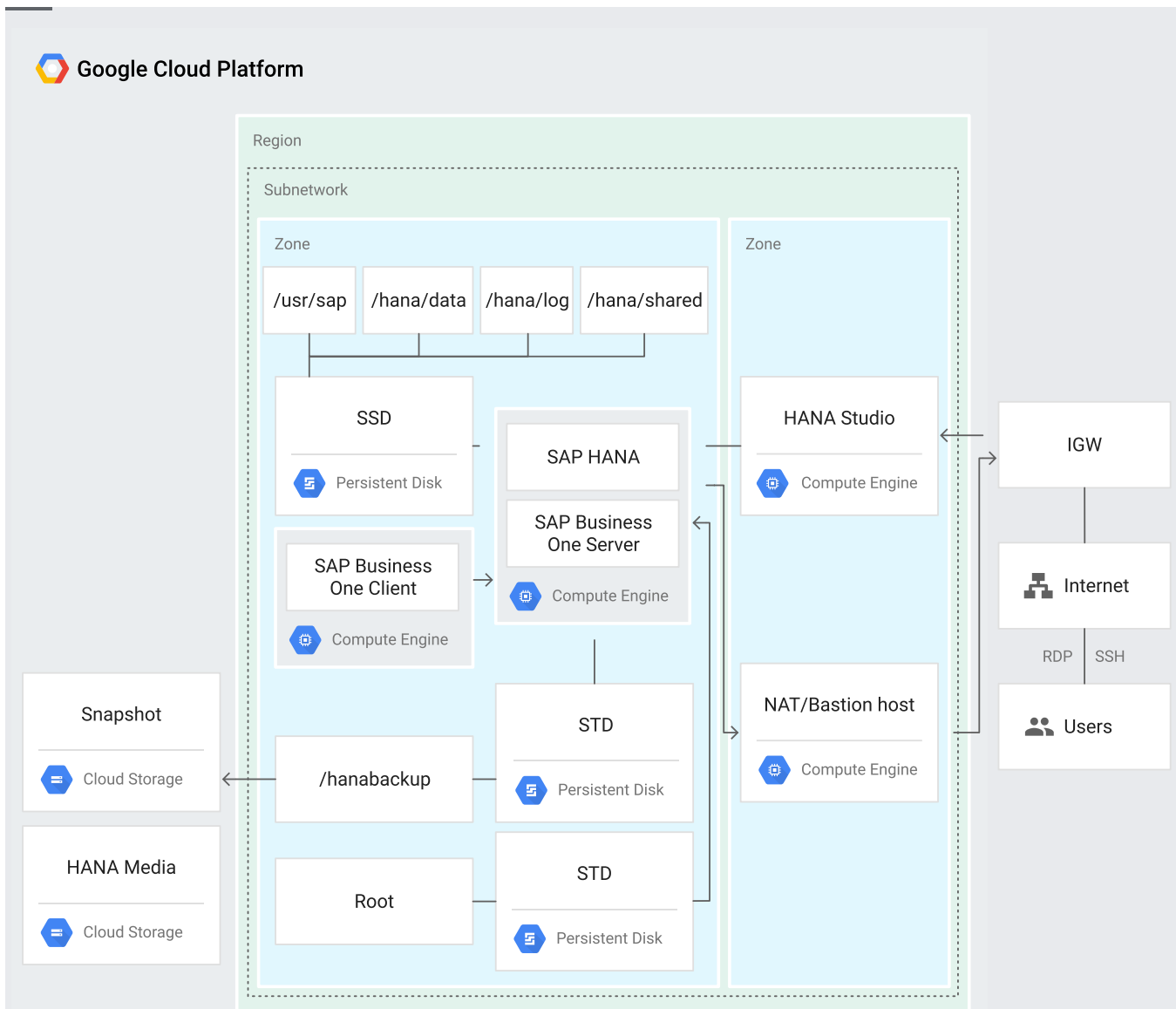
The SAP HANA backup volume size is designed to provide optimal baseline and burst throughput as well as the ability to hold several backup sets. Holding multiple backup sets in the backup volume makes it easier to recover your database if necessary.

See the [supported VM types](/solutions/sap/docs/sap-business-one-planning-guide#vm_types) (/solutions/sap/docs/sap-business-one-planning-guide#vm_types) table.

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Running SAP Business One and SAP HANA on GCP requires you to bring your own license (BYOL). For more information about SAP licensing, contact SAP.

For the purpose of this guide, you can follow the steps to create your VM instance, and apply your existing license to the instance before the grace period ends.



You deploy SAP Business One using a single-node architecture that has the following components:

- One Compute Engine instance for the SAP HANA database and for SAP Business One Server, with SSD persistent disks having a size greater than 834 GB, and a network bandwidth of up to 16 Gbps. The SSD persistent disk is partitioned and mounted to `/hana/data` to host the data.
- Compute Engine firewall rules restricting access to instances.
- Persistent disk for backup of SAP HANA database.
- Automated SAP HANA database installation with a configuration file that you create.
- An optional Compute Engine VM as a bastion host.
- An optional, but recommended, subnetwork with a custom topology and IP ranges in the GCP region of your choice. The SAP HANA database and the other Compute Engine instances are

launched within this subnetwork. You can use an existing subnetwork for SAP HANA.

- An optional, but recommended, Internet gateway configured for outbound Internet access for your SAP HANA and other instances. This guide assumes you are using this gateway.
- An optional Compute Engine VM for SAP HANA Studio. This is an optional step that isn't discussed in these SAP Business One guides. To learn more, see the [SAP Hana deployment guide](/solutions/sap/docs/sap-hana-deployment-guide) (/solutions/sap/docs/sap-hana-deployment-guide).
- An optional Compute Engine VM for SAP Business One Client, for administration.

The deployment uses an optional NAT bastion host for accessing SAP HANA, so that an external IP is not exposed. The bastion host is deployed in the same subnetwork as the SAP Business One Server instance.

You can use Cloud Storage to back up your local backups available in `/hanabackup`. This mount should be sized equal to or greater than the data mount.

Google Cloud customers either with a Production Support Role or with Enterprise Support can request assistance with the provisioning and configuration of the Google Cloud resources that are required for SAP systems. Google Cloud Production-level support or Enterprise support is required for support of SAP systems in production environments.

For more information about Google Cloud support options, see [Google Cloud Support](/support/) (/support/).

For SAP product-related issues, log your support request with [SAP support](https://support.sap.com/support-programs-services/about/getting-started.html) (https://support.sap.com/support-programs-services/about/getting-started.html). SAP evaluates the support ticket and, if it appears to be a Google Cloud infrastructure issue, transfers the ticket to the Google Cloud queue.

- To complete the tasks necessary for deployment, see the [SAP Business One deployment guide](/solutions/sap/docs/sap-business-one-deployment-guide) (/solutions/sap/docs/sap-business-one-deployment-guide).

