This page lists the SAP application solutions that are certified by SAP to run on Google Cloud. The page also lists the operating systems and Google Cloud infrastructure that SAP certifies for use with the SAP application solutions.

The certifications on this page do not apply to SAP HANA. For SAP HANA, see Certified SAP HANA configurations on GCP (/solutions/sap/docs/certifications-sap-hana) or the SAP HANA Hardware Directory (https://www.sap.com/dmc/exp/2014-09-02-hana-hardware/enEN/iaas.html#categories=Google%20Cloud%20Platform).

The content of this page is for informational purposes only. The official source of certification information for SAP applications on Google Cloud is SAP Note 2456432 (https://launchpad.support.sap.com/#/notes/2456432).

The following table lists the SAP application solutions that are certified to run on Google Cloud, as well as the operating systems and the Compute Engine VM families that they are certified to run with.

For SAP application solutions that use SAP HANA, such as S/4HANA or BW/4HANA, the VM support requirements for SAP HANA apply if SAP HANA is installed on the same VM as the application system.

For a detailed list of the certified VM types, including their SAPS numbers, see the following section, Certified Compute Engine machine types (#sap-certified-vms).

For more information about the supported operating systems, see Operating system support for SAP NetWeaver on Google Cloud (/solutions/sap/docs/netweaver-os-support).

| SAP solution | Supported database options | Supported operating systems | Certified VM types |
|---|---|---|---|

| SAP solution | Supported database options | Supported operating systems | Certified VM types |
|---|---|---|---|
| SAP NetWeaver AS, ABAP/Java<br>SAP S/4HANA (3-tier configuration)<br>SAP BW/4HANA (3-tier configuration)<br>SAP ECC<br>SAP Business Suite<br>SAP NetWeaver Business Warehouse<br>SAP Landscape Transformation Replication Server (SLT)<br>SAP Solution Manager<br>SAP BusinessObjects BI Suite | SAP HANA<br>SAP Adaptive Server Enterprise (ASE)<br>SAP MaxDB, SAP liveCache, and SAP Content Server<br>IBM Db2<br>Microsoft SQL Server | SUSE Linux Enterprise Server (11, 12, 15)<br>Red Hat Enterprise Linux (6, 7)<br>Microsoft Windows Server 2012 R2 and above | Compute-optimized (#sap-certified-vms-compute-optimized)<br>General-purpose (#sap-certified-vms-gen-purpose)<br>Custom (#sap-certified-vms-custom) |
| SAP Business One | SAP HANA | SLES 11 SP4 | n1-highmem-32<br>n1-highmem-64 |
| | Microsoft SQL Server | Microsoft Windows Server | Any Google Compute Engine instance that satisfies Business One hardware requirements (https://help.sap.com/doc/0110003587000002446120 11e/9.3/en-US/B1_Hardware_Requirements_Guide.pdf) |
| SAP Hybris | SAP HANA<br>Microsoft SQL Server<br>MySQL | Linux<br>Microsoft Windows Server | Any Google Compute Engine instance that satisfies SAP Hybris minimum requirements |

You can use any of the following general-purpose, compute-optimized, or custom machine types for SAP NetWeaver workloads.

The SAPS numbers for each machine type in the following sections are calculated using the minimum CPU platform that SAP certifies the machine type to use. The numbers listed here are for general reference only. For the SAPS numbers that are formally certified by SAP, see SAP Note 2456432 (https://launchpad.support.sap.com/#/notes/2456432).

Predefined machine types have a fixed set of resources. To define your own machine type, see Custom machine types (#sap-certified-vms-custom).

Before selecting a machine type for use, confirm that it is available in the region and zones that you need.

For more information about each Compute Engine machine type, including its regional and zonal availability, see Machine types (/compute/docs/machine-types).

The compute-optimized c2-standard machine types that are certified for SAP applications are optimized for compute-intensive workloads. Compute-optimized machine types have a higher CPU thread speed, improved single threaded processing, and higher SAPS per core.

The c2-standard machine types offer the highest performance per core on Compute Engine. Built on Intel Cascade Lake, the latest generation Intel scalable processors, the c2-standard machine types offer up to 3.1 Ghz base frequency, and 3.8 Ghz all-core-turbo.

For more information, see C2 machine types (/compute/docs/machine-types#c2_machine_types).

| Compute-optimized machines | vCPUs | Memory (GB) | Minimum CPU platform | SAPS |
|---|---|---|---|---|
| `c2-standard-4` | 4 | 16 | Intel Cascade Lake | 5,189 |
| `c2-standard-8` | 8 | 32 | Intel Cascade Lake | 10,750 |
| `c2-standard-16` | 16 | 64 | Intel Cascade Lake | 20,770 |
| `c2-standard-30` | 30 | 120 | Intel Cascade Lake | 36,405 |
| `c2-standard-60` | 60 | 240 | Intel Cascade Lake | 70,683 |

With a balance of vCPUs and memory, general-purpose machine types offer the best price-performance ratio for a variety of workloads.

Compute Engine offers the general-purpose machine types in both standard and high-memory configurations.

For more information, see General-purpose machine type family (/compute/docs/machine-types#general_purpose).

The N2 machine types are the second generation of the Compute Engine general-purpose machines. SAP-certified configurations of the `n2-standard` machines have 4 GB of memory per vCPU. The SAP-certified configurations of the `n2-highmem` machines have 8 GB of memory per vCPU.

| N2 general-purpose machines | vCPUs | Memory (GB) | Minimum CPU platform | SAPS |
|---|---|---|---|---|
| **n2-highmem machine types** | | | | |
| n2-highmem-2 | 2 | 16 | Intel Cascade Lake | 2,230 |
| n2-highmem-4 | 4 | 32 | Intel Cascade Lake | 5,150 |
| n2-highmem-8 | 8 | 64 | Intel Cascade Lake | 10,130 |
| n2-highmem-16 | 16 | 128 | Intel Cascade Lake | 19,370 |
| n2-highmem-32 | 32 | 256 | Intel Cascade Lake | 35,580 |
| n2-highmem-48 | 48 | 384 | Intel Cascade Lake | 54,680 |
| n2-highmem-64 | 64 | 512 | Intel Cascade Lake | 70,520 |
| n2-highmem-80 | 80 | 640 | Intel Cascade Lake | 82,250 |
| **n2-standard machine types** | | | | |
| n2-standard-4 | 4 | 16 | Intel Cascade Lake | 4,730 |
| n2-standard-8 | 8 | 32 | Intel Cascade Lake | 10,270 |

| N2 general-purpose machines | vCPUs | Memory (GB) | Minimum CPU platform | SAPS |
|---|---|---|---|---|
| n2-standard-16 | 16 | 64 | Intel Cascade Lake | 19,320 |
| n2-standard-32 | 32 | 128 | Intel Cascade Lake | 35,730 |
| n2-standard-48 | 48 | 192 | Intel Cascade Lake | 52,980 |
| n2-standard-64 | 64 | 256 | Intel Cascade Lake | 69,450 |
| n2-standard-80 | 80 | 320 | Intel Cascade Lake | 81,870 |

The N1 machine types are the first generation of the general-purpose machine types. SAP-certified configurations of the `n1-standard` machines have 3.75 GB of memory per vCPU. The SAP-certified configurations of the `n1-highmem` machines have 6.5 GB of memory per vCPU.

| N1 general-purpose machines | vCPUs | Memory (GB) | Minimum CPU platform | SAPS |
|---|---|---|---|---|
| **n1-highmem machine types** | | | | |
| n1-highmem-2 | 2 | 13 | Intel Broadwell | 1,290 |
| n1-highmem-4 | 4 | 26 | Intel Broadwell | 3,580 |
| n1-highmem-8 | 8 | 52 | Intel Broadwell | 7,550 |
| n1-highmem-16 | 16 | 104 | Intel Broadwell | 14,670 |
| n1-highmem-32 | 32 | 208 | Intel Broadwell | 27,920 |
| n1-highmem-64 | 64 | 416 | Intel Broadwell | 51,372 |
| n1-highmem-96 | 96 | 624 | Intel Skylake | 70,030 |
| **n1-standard machine types** | | | | |
| n1-standard-8 | 8 | 30 | Intel Broadwell | 7,680 |
| n1-standard-16 | 16 | 60 | Intel Broadwell | 14,620 |
| n1-standard-32 | 32 | 120 | Intel Broadwell | 27,720 |
| n1-standard-64 | 64 | 240 | Intel Broadwell | 50,230 |

| N1 general-purpose machines | vCPUs | Memory (GB) | Minimum CPU platform | SAPS |
|---|---|---|---|---|
| `n1-standard-96` | 96 | 360 | Intel Skylake | 68,650 |

Custom machine configurations allow you to tailor the size of your Compute Engine VM to your workload.

When you configure a custom machine, to ensure support from SAP, you must conform to memory-to-vCPU ratios that are based on the machine type you are customizing and SAP guidelines.

For the first-generation N1 general-purpose machine types, you can configure your machine to have one vCPU or any even number of vCPUs up to 96, with either 3.75 or 6.5 GB of memory per vCPU.

Custom configurations of the second-generation N2 general-purpose machine types are not yet supported by SAP.

Custom machine types need to be evaluated by SAP before SAP will support them. Because the capacity (SAPS) of a custom machine configuration is not predetermined, SAP cannot guarantee that a configured custom machine will be suitable to run Business Suite workloads without first reviewing the configuration.

Open an SAP support ticket against SAP component `BC-OP-LNX-GOOGLE` or `BC-OP-NT-GOOGLE` to indicate your interest in a custom VM for an SAP deployment. The SAP/Google platform team will review your configuration to confirm it meets SAP supportability requirements.

For more information, see:

- SAP Note 2456432 (https://launchpad.support.sap.com/#/notes/2456432)
- Creating a VM Instance with a Custom Machine Type (/compute/docs/instances/creating-instance-with-custom-machine-type)