GCP Sole-Tenant Nodes - Windows 11 on GCP

Overview

The **GCP Sole-Tenant Nodes with Frame** deployment option allows customers to run virtual desktops and applications on **dedicated physical hosts within Google Cloud Platform (GCP)**.
This model is required for **Windows 11 workloads** on GCP and is currently supported **only for customers using Bring-Your-Own (BYO) Microsoft licensing**.

This option is ideal for customers with **strict regulatory, licensing, or workload-isolation needs** who want to leverage Frame on GCP while retaining full hardware control.

By provisioning workloads on GCP Sole-Tenant Nodes, organizations gain:

- **Dedicated hardware isolation** for improved security and compliance
- **Full control over VM placement** to meet software licensing requirements
- **Predictable performance** by preventing noisy-neighbor scenarios

Description

To run **Windows 11 workloads** on Google Cloud Platform (GCP) within the Dizzion Frame platform, the deployment **must use GCP Sole-Tenant Nodes**.
This configuration ensures compliance with **Microsoft licensing requirements** and supports the use of **customer-provided Windows 11 images**.

Prerequisites

Before enabling GCP Sole-Tenant Nodes in Frame, ensure the following requirements are in place:

- An existing **GCP Cloud Account** integrated with Frame
- **BYO Windows licensing** for Windows 11 workloads
- If using a **BYO Image**, a Windows 11 image must be prepared and imported according to GCP requirements **or** you can use a **Frame-managed Image (recommended)**

- **Required IAM permissions** in the GCP project to support Sole-Tenant Node deployment and image operations
- An **active Dizzion Support request** to enable Sole-Tenant configuration for the Frame account

Workflow

Step 1 – Contact Dizzion Support

> Sole tenancy flow is applied the moment the Windows 11 image family is selected when creating an account

Step 2 – Choose or Prepare the Windows 11 Image

You can use a **Frame-managed Image** or prepare your own **BYO Windows 11 Image**.

If you need to create your own image, follow the official GCP guidance for Windows image creation and import:

GCP Official Guide. As a final step, install the **Frame Guest Agent**: Frame Agent Setup Tool (FAST), then import the newly created master image into your GCP Cloud Account.

Extra guide: Please note that preparing and importing BYO image can also be done by following this guide:

Step 1 – Create the Windows 11 VHD
• In VirtualBox, create a new VM and select Windows 11 (64-bit).
• Enable UEFI boot in settings (System > Motherboard > Enable EFI).
• Create the disk in VHD format.
• Install Windows 11 and configure as needed.
• Shut down the VM when ready.

Step 2 – Upload the VHD to Cloud Storage
• Create or choose a GCS bucket (e.g. `image-builder-raw-images`).
• Upload the VHD:
`gsutil cp "C:\Path\to\Windows11.vhd" gs://image-builder-raw-images/`

Step 3 – Import the Image into GCP
Run the following command to import your VHD as a custom image:
`gcloud compute images import windows11baseimage --source-file gs://image-builder-raw-images/Windows11.vhd --guest-os-features=UEFI_COMPATIBLE --byol`

Step 3 – Add Additional IAM Permissions

Please make sure the following IAM roles are added for the GCP Cloud Account:

- `roles/compute.storageAdmin`
- `roles/dns.admin`
- `roles/iam.serviceAccountUser`
- `roles/compute.admin`

> **Note:** For customers who added a GCP Cloud Account after November 12th, **2024**, these IAM permissions are already assigned.

Step 4 – Deploy Frame Account on Sole-Tenant Nodes

After enablement is complete, you can create **Frame Accounts** and deploy **workloads on Sole-Tenant Nodes** using your Windows 11 image.

Step 5 – Validate Deployment

Verify that virtual machines launch successfully on dedicated **Sole-Tenant Nodes**, and confirm that **licensing requirements** and **expected performance** characteristics are met.

Example from GCP Console:
Example GCP Console Screenshot

Cost Considerations

GCP Sole-Tenant Nodes generally have **significantly higher costs** than standard shared compute instances.

Customers should:

- Work with their **GCP Account Team** to review pricing
- Consider **Committed Use** or **Sustained Use** agreements
- Evaluate costs **before deployment**

> **Important:** Dizzion does **not control GCP pricing** and strongly recommends evaluating cost implications before enabling this feature.

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