Cloud Automation Stack
Technical Readiness Assessment

Overview

This checklist prepares customers to use the itopia Cloud Automation Stack (CAS) to deploy a scalable, production-ready enterprise Microsoft RDS (Remote Desktop Services) deployment to Google Cloud.

The checklist is designed for "super administrators" who are trusted with complete control over the company's Google Cloud resources.

As you go through the checklist, take into account your own business and operations needs.

Checklist

Use the checklist below to track the high-level tasks for creating a new CAS deployment. Click on each task for more information.

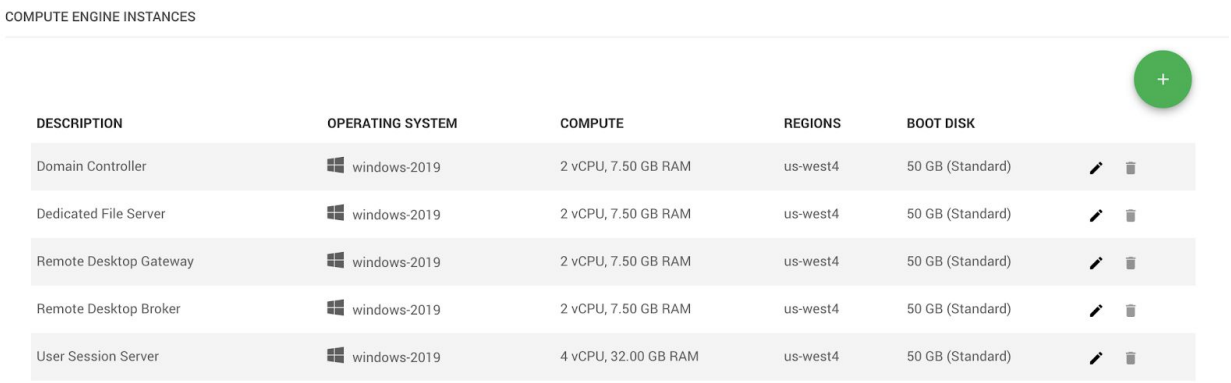
- ❏ Provision a Google Cloud subscription and project
- ❏ Subscribe to itopia CAS from the Google Cloud Marketplace
- ❏ Log in to the CAS console and perform the initial configuration
- ❏ Plan your configuration
- ❏ Create your deployment
- ❏ Perform post-deployment tasks
- ❏ Next Steps

Google Cloud Subscription and Project

Each itopia deployment is provisioned with a set of infrastructure VMs and a default User Session Server for a Microsoft Remote Desktop Services (RDS) environment to provision, manage and host end-user Cloud Desktops.

The Google Cloud project must have adequate resource quotas for the initial deployment, and the CAS Administrator must have **Owner** credentials on the Google Cloud project.

Here's resourcing for a typical initial deployment (non-redundant infrastructure):


COMPUTE ENGINE INSTANCES

DESCRIPTION	OPERATING SYSTEM	COMPUTE	REGIONS	BOOT DISK
Domain Controller	windows-2019	2 vCPU, 7.50 GB RAM	us-west4	50 GB (Standard)
Dedicated File Server	windows-2019	2 vCPU, 7.50 GB RAM	us-west4	50 GB (Standard)
Remote Desktop Gateway	windows-2019	2 vCPU, 7.50 GB RAM	us-west4	50 GB (Standard)
Remote Desktop Broker	windows-2019	2 vCPU, 7.50 GB RAM	us-west4	50 GB (Standard)
User Session Server	windows-2019	4 vCPU, 32.00 GB RAM	us-west4	50 GB (Standard)

NOTES:

- Google Cloud subscription cannot be a *Trial* subscription because this subscription type is limited to provisioning only one or two VMs.
- If the customer already has a Google Cloud Subscription, confirm the owner of the Google Cloud Project *(chosen for provisioning)* is also an owner on the existing master billing account for the Google Cloud Subscription.

If you do not have a Google Cloud subscription, please start here.

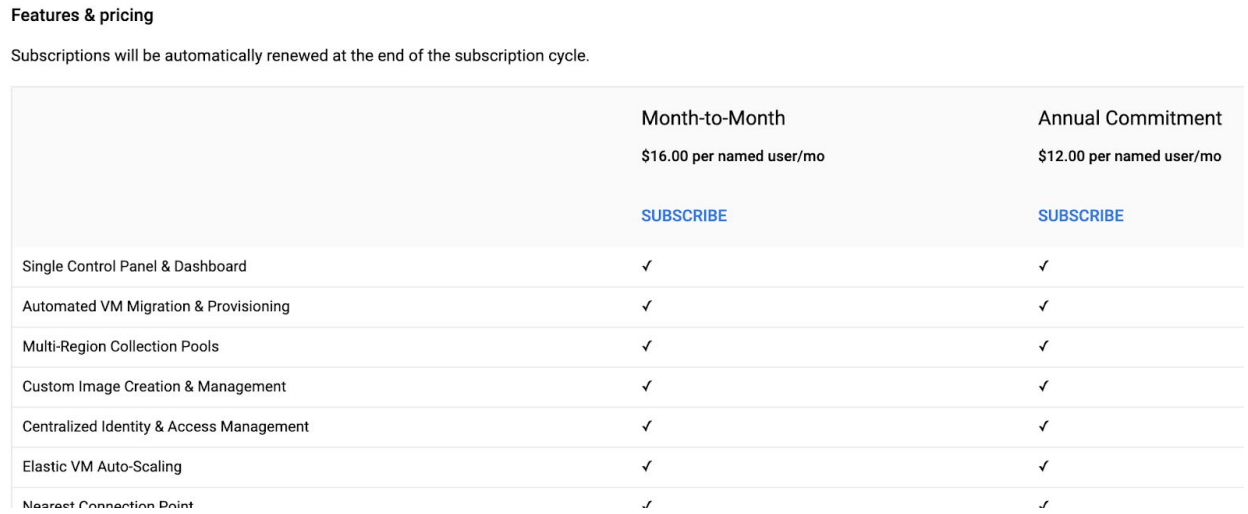
Related Help Articles

- Sign-up for Google Cloud

Google Cloud Marketplace Subscription for itopia CAS

Once signed-in to your Google Console and the itopia-CAS specific project is specified, open the itopia CAS Google Cloud Marketplace Solution.

Click **VIEW ALL PLANS** and then click **SUBSCRIBE** on the plan which best suits your needs, *Month-to-Month* or *Annual Commitment*. Enterprise volume-based pricing is also available by checking with your itopia CAS Account Executive.



Features & pricing

Subscriptions will be automatically renewed at the end of the subscription cycle.

	Month-to-Month $16.00 per named user/mo SUBSCRIBE	Annual Commitment $12.00 per named user/mo SUBSCRIBE
Single Control Panel & Dashboard	✓	✓
Automated VM Migration & Provisioning	✓	✓
Multi-Region Collection Pools	✓	✓
Custom Image Creation & Management	✓	✓
Centralized Identity & Access Management	✓	✓
Elastic VM Auto-Scaling	✓	✓
Nearest Connection Point	✓	✓

Related Help Articles

- Sign-up to itopia CAS in the Google Cloud Marketplace

itopia CAS Portal Login Credentials

Once the Google Cloud Marketplace Subscription process is complete, activate your itopia CAS Subscription. You can use your G Suite credentials as your SSO for the CAS Portal. You can also choose custom login credentials.

G Suite SSO allows itopia customers to leverage the security, compliance, flexibility and convenience native to G Suite.

Specifically, Administrators can centralize user account management, and automatically add or remove user access to applications based on group membership.

Related Help Articles

- Create, Edit, Manage CAS Admin Accounts
- Reset CAS Admin Passwords

Customizing your itopia CAS Deployment

The CAS Portal includes a Deployment Wizard which allows customers to quickly and easily provision each deployment.

The following settings must be configured for each deployment; consider the appropriate configuration for each setting for your environment

Username Suffix
The username login identifier *(text after '@' in a username)* to be used by end-users when logging into their Cloud Desktop *(i.e. username@suffix)*.

Internal DNS Name
Name for your CAS Active Directory Domain. If you are planning to configure a Trusted AD environment, this domain name must be unique within your network. If you are configuring an Extended AD environment, this will be the same as your existing AD domain.

External DNS Name
The public DNS that resolves the domain request over the public internet. Customers can use their current domain *(or a subdomain)*. Customers **must be able** to generate an SSL certificate as well as create a DNS A Records in this DNS zone for the deployment.

Operating System
Customers can choose from three versions of Windows Servers. The choice is most often based on the desired end-user experience.

- Windows Server 2012R2 provides RDS users with a Windows 8 user experience
- Windows Server 2016 provides RDS users with a WIndows 10 user experience
- Windows Server 2019 provides RDS users with a Windows 10 user experience

Active Directory Configuration
Customers have four options for configuring their Active Directory in CAS. Your choice will be driven by whether the customer wants end-users to retain their existing user attributes (credentials and security groups) or create a separate set of user attributes in a standalone AD Forest.

- Local AD Forest
- Extend to an existing AD Domain *(i.e. existing on-premise)*

- AD Trust *(i.e. existing on-premise)*
- Google Managed Service for Microsoft Active Directory

User Profile Disk
By default, itopia deployments leverage FSLogix Profile Containers to provide persistent profile data across multiple host servers. You can also configure:

- User Profile Disks *(provide similar functionality; this technology is superseded by FSLogix)*
- Non-persistent profiles that do not preserve user files and settings between sessions *(typically used in QA or training deployments)*

Dedicated File Server
The default configuration creates a separate file server. No end users sessions will be hosted in the server, it will host only data. A separate server will be created for end-user sessions.

Customers may also leverage a managed storage solution by using the NetApp Cloud Volumes option. Be sure to register with NetApp via Google Cloud Marketplace before starting your deployment.

Configuring your itopia CAS Deployment

Choose a Google Cloud Region(s)

The key to the best user experience for Microsoft RDS is deploying to a Google Cloud Region close to your end-users. SInce end-users connect to their Cloud Workspace sessions over RDP, low network latency (<100ms) between the end-user device and the Google Cloud Region hosting the user's Cloud Workspace is key. Measure latency to any Google Cloud Region here.

Itopia CAS supports deploying to multiple Google Cloud Regions. Since end-users are organized into collections, each collection can be hosted in the Google Cloud Region closest to its users.

Estimated Number of Users

Insert the estimated number of users to be created for this deployment so a more accurate Google cost estimate can be provided before the deployment is provisioned.

Redundancy and Scale for Infrastructure VMs

Administrators may choose to deploy any roles in the CAS deployment with full redundancy for high availability. The RD Gateway (and RD Web), RD Broker, and Domain Controllers may each be configured as a single or redundant instance from within the Deployment Wizard.

RD Broker

The RD Broker role can be deployed in the following configurations:

- **Multi-role with the User Session Server** - This option installs a single RD Broker role on the first User Session Server in each region. This option is only recommended for very small deployments or testing purposes
- **Dedicated RD Broker** - The RD Broker role is installed on a dedicated server in each region. This offers better scalability but does not offer high availability
- **Redundant RD Broker** - Two RD Broker servers are installed in each region in a High Availability config. This requires the use of a Microsoft SQL server backend to house the RD Broker database; this SQL instance is deployed as a Google Cloud SQL instance.

RD Gateway

The RD Gateway role can be deployed as either a single server or a redundant pair in each region. If deployed as a redundant pair, a Google Cloud load balancer interface is also created.

Domain Controller

Each region requires at least one Active Directory domain controller that is deployed by CAS; this domain controller serves as the management target for all administrative actions and ensures that the CAS deployment has a reliable connection to Active Directory. In the Deployment Wizard, you may elect to deploy redundant domain controllers for increased resiliency.

In almost all situations, it is recommended to deploy redundant Domain Controllers; the exception is if you are creating the deployment using the *Extended AD* model **and** the existing AD domain already has other domain controllers in the Google Cloud regions that will host the CAS deployment.

Post-Deployment Configuration

The following post-deployment tasks (in the Tasks Module) must be finished before the deployment is complete and ready to provision workloads.

DNS A Record

Once the deployment is provisioned, a task is created in the Task Module providing instructions *(DNS and external IP)* for creating a DNS A Record. Once this work is complete, mark the task as complete by clicking on the blue Complete button.

SSL Certificate

Once the deployment is provisioned, a task is created in the Task Module to upload the SSL certificate (.pfx format) generated against the External DNS Name chosen earlier. Once the SSL certificate is uploaded and password entered, mark the task as complete by clicking the blue Complete button.

Microsoft RDS Licensing

Once the deployment is provisioned, a task is created in the Task Module to enter the Microsoft RDS License Configuration *(License Program and Code)*. Once this information has been entered, mark the task as complete by clicking the blue Complete button.

Next Steps

Now that your deployment is up and running, you can proceed to customizing your Cloud Desktops and provisioning users.

Create a Custom Image

Use the Images Module in CAS to create or import a custom server image that includes the applications and configurations you want to provide for your Cloud Desktops.

Create Collection Pools

To support different sets of users with different workloads, consider creating multiple Collection Pools with different server images and VM sizes to optimize the end-user experience.

Create Users

Once your Collection Pools are ready to go with your custom images, use the Users Module to create or import users into CAS and grant them access to their Cloud Desktops.