# Streaming Gateway Appliance

Organizations who have users on the Internet must determine how their users will access their Frame workload VMs in a private network. For these use cases, organizations can provide their users with corporate VPN access or deploy the Frame Streaming Gateway Appliance (SGA), a secure reverse proxy that supports the Frame Remoting Protocol (FRP). SGA enables organizations to grant their users secure access to their virtualized applications and/or desktops without the use of a VPN.

## Considerations

Frame provides two options for deploying one or more SGAs. Administrators should review the following considerations to determine which deployment approach fits their requirements.

| | **Manual SGA Deployment** | **Auto SGA Deployment** |
|---|---|---|
| Infrastructure | Required for AHV-based accounts. Supported for public cloud accounts. | Supported for public cloud accounts. |
| Networking | Requires customer-managed networking. | Requires Frame-managed networking. |

1. **Auto SGA Deployment:** Frame will provision all of the required network resources (e.g., SGA VPC, security groups/firewall rules, SGA VM(s), VPC/VNET peer, and SGA VMs. SGA VMs will have public IP addresses. Frame will also provision, for SGA 3.X only, a load balancer if more than one SGA VM is required).
2. **Manual SGA Deployment:** Customers manually deploy and register their SGAs and configure their networking/firewall rules. They also provision and configure, for SGA 3.X only, a load balancer if more than one SGA VM is required.

Manual SGA deployments are required when customers have specifc networking requirements (e.g., inbound firewall, WAF, and/or load balancer requirements, prohibition on workload VMs having public IP addresses, outbound NAT or zero-trust Internet access requirements, etc.) that Auto SGA deployment cannot satisfy. In these scenarios, the customer ensures that all SGA and Frame VM network prerequisites are satisfied in order for users to be able to access their workload VMs via a manually deployed SGA Cluster.

**IMPORTANT:** Upgrading from one SGA version to the next version requires termination and recreation of the SGA VMs. Scheduled downtime may be required.

# SGA Versions

| SGA Version | Considerations |
| --- | --- |
| SGA 3 (out-of-support) | • Supports FRP7 and FRP8.<br>• Requires DNS A record with a wildcard SGA domain name, TLS/SSL public key certificate with the wildcard SGA domain name, and load balancer for high-availability deployments.<br>• For FRP8, each SGA VM must be accessible through its own public IP address. |
| SGA 4 | • Supports FRP8 only.<br>• Managed within Frame Console.<br>• Each SGA VM must be accessible through its own public IP address. |

# SGA VM Sizing

For customers who are manually deploying SGA VMs (customer-managed networking), customers should start with a configuration for each SGA VM:

- 2 vCPUs
- 4 GB RAM

This configuration ensures the VM can support ~1 Gbps bandwidth of Frame Remoting Protocol data. Frame recommends a sizing target of 500 Mbps per 2 vCPUs to allow users to burst their bandwidth consumption.

The total number of concurrent users for the 500 Mbps bandwidth per 2 vCPU budget is dependent on the bandwidth consumed for the Frame sessions. Bandwidth consumption may be estimated based on user workload profiles:

- 1 Mbps per Frame session for office productivity applications, CPU-only VMs, under 30 fps, 2K or less monitors
- 5 Mbps per Frame session for CAD applications, GPU-backed VMs, up to 60 fps, 2K or less monitors

- 10 Mbps or greater per Frame session for video editing/animation/sustained playback, GPU-backed VMs, up to 60 fps, 2K or less monitors

In an office productivity use case, for example, where CPU-only VMs are used with standard 1920 x 1080 displays, the default (2 vCPU, 4 GB RAM) VM configuration could support 500 concurrent users. For 1,000 concurrent users, the same organization would need to leverage at least a 4 vCPU, 8 GB RAM VM. An 8 vCPU, 16 GB RAM VM could support 2,000 concurrent users for this use case.

Customers who are deploying SGA VMs behind a load balancer for high-availability can incrementally add SGA VMs as their Frame bandwidth consumption increases.

**Note**

Customers manually deploying SGA VMs in public cloud (customer-managed networking) should ensure they select a non-burstable instance type with sufficient network performance. Public cloud providers may constrain CPU utilization and/or restrict network bandwidth with lower cost instance types.

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