

# GEO Global Server Load Balancer

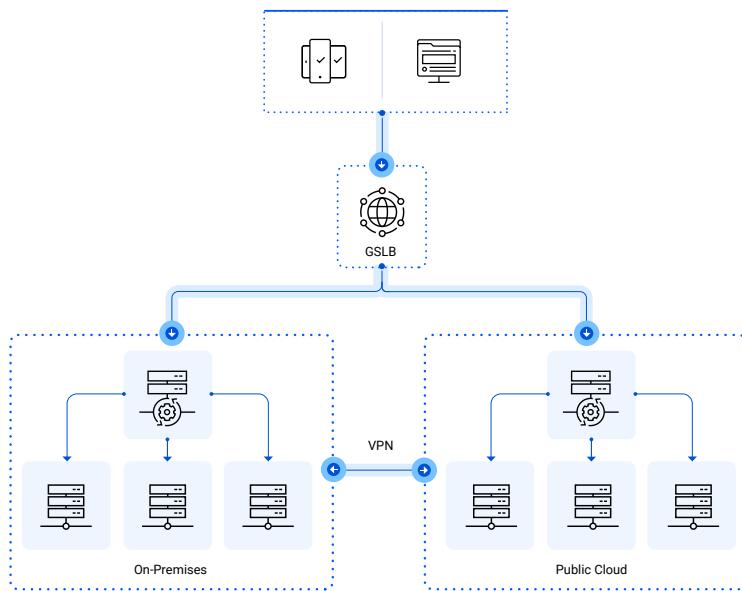
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DATA SHEET

## Global Load Balancing, High Availability, and Recovery

Kemp's GEO Global Server Load Balancer (GSLB) provides multi-site business continuity and optimized geographic-based redirection of traffic for the best client experience. In the event of a service disruption or the need to scale capacity, mission-critical traffic is seamlessly redirected based on predefined policies to minimize impact and the need for manual intervention. It does this by intelligently managing the application's Domain Name Service (DNS) configuration to direct traffic to the most appropriate site, based on the policies defined on GEO.

The diagram below illustrates a typical use of GEO in a LoadMaster deployment to manage traffic in a hybrid cloud environment:



In this example, GEO GSLB is implemented between two datacenters – one on-premises and one in a public cloud. GEO constantly monitors both locations and can make intelligent decisions when events occur. GEO might, for example, be configured to manage the sites in an active/passive manner by directing all traffic to the on-premises site and only directing traffic to the public cloud when the on-premises site becomes unreachable.

Similarly, GEO could be configured to manage the sites in an active/active manner by moving traffic over to the cloud site whenever the on-premises site is reaching maximum capacity, thereby providing efficient and economical use of cloud resources.

## Flexible Deployment

The same powerful GEO GSLB functionality and feature set can be deployed as either:

- **A standalone virtual appliance** -- VLM-GEO – that supports all major hypervisors and leading public cloud services. Consistency across a wide range of platforms greatly simplifies cloud migration and hybrid cloud deployments with seamless migration and reduced management complexity.
- **Part of the feature set of a LoadMaster virtual or hardware appliance** -- combining the power of LoadMaster Server Load Balancing with GEO's global server load balancing. LoadMaster and GEO support the same wide set of virtual hypervisors, and GEO is also available on all LoadMaster hardware models.

## Licensing and Support Subscriptions

- Standalone VLM-GEO GSLB is available with a perpetual license that can be combined with either Standard 10x5 Customer Support or 24x7 Enterprise Support. IP Reputation database updates are included with both subscription levels.
- GEO GSLB features can be enabled on a LoadMaster by purchasing Enterprise Plus Support, which includes updates to the IP Reputation database.

## Easily Managed

Regardless of how GEO is deployed, a consistent administration interface is presented via Web UI and RESTful API (which also has a PowerShell module). The API enables automation of configuration and management tasks, as well as integration with existing DevOps and hypervisor management frameworks.

## GEO Sizing

For VLM-GEO: Use the following as general guidance when provisioning a virtual machine in your chosen hypervisor to host standalone VLM-GEO.

	15000 QPS	30000 QPS	45000 QPS
Memory	4 GB	8 GB	32 GB
CPU Speed	2.2 GHz	3.0 GHz	3.8 GHz

For GEO running on LoadMaster: the indicated levels of free memory will be required to support the indicated QPS levels.

## Features

### Standard Features

- Multi-site Load Balancing
- Support for both A (IPv4) and AAAA (IPv6) DNS records
- VLAN Trunking (802.1Q)
- Link Interface Bonding (Modes supported: 802.3ad, Link Failover)
- Scale to 256 nodes per FQDN
- Use ECS (EDNS Client Subnet) to provide improved client geolocation for all GSLB scheduling methods

### Global Load Balancing Scheduling Methods

- **Client Subnet** – route traffic based on the client subnet as indicated by EDNS
- **Round Robin** – similar to round robin server load balancing, each site is returned one after another as requests arrive
- **Weighted Round Robin** – like round robin, but sites are returned more or less frequently according to their configured weights
- **Fixed Weighting** – sites with the highest weight are returned until none are available; after which, the next highest weighted sites are returned
- **Real Server Load** – uses LoadMaster health statistics to determine site health and returns the ‘healthiest’ site
- **Regional** – site returned is based on client proximity to defined geographic regions
- **Location Based** – site returned is based on client’s geographic location coordinates

### Security

- Access Control Lists (allow and deny lists)
- IP Reputation database with daily automatic updates for DDoS mitigation
- DNSSEC for Cache Poisoning Prevention and Validation of Origin

## Health Checking & Failover

- ICMP health checking of server farm resources
- Check by single IP address or IP address clusters
- Layer 4 TCP checking of site health
- HTTP/HTTPS checking of site health
- GEO High Availability Pairing (Active/Passive)
- GEO Partner Pairing (Active/Active)

## Administration

- Fully configurable using Web User Interface (WUI)
- Secure HTTPS (WUI) and SSH remote access
- Easy start and maintenance using wizards
- FQDN Configurations can be edited and tuned on-the-fly
- Real time performance and availability displays
- Export logs to remote log collectors (syslog)
- Download software updates for GEO firmware
- SNMP support for event traps & performance metrics

## Supported Hypervisors and Cloud

- Amazon Web Services (AWS)
- KVM
- Microsoft Azure
- Microsoft Hyper-V
- Nutanix
- Oracle Virtual Box
- VMware vCenter/vSphere/ESXi
- XEN

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