# Virtual LoadMaster™ GEO

**Solution Brief**

# Optimized Performance and Resilience for Geographically Distributed Web Infrastructures

Virtual LoadMaster™ GEO (VLM-GEO) offers the ability to move past the single datacenter, allowing for multi datacenter and hybrid cloud load balancing and high availability. VLM-GEO ensures that even when a primary site is down, traffic is diverted to disaster recovery or alternate sites. Virtual LoadMaster™ GEO also includes the ability to ensure clients seamlessly connect to their fastest performing and geographically closest datacenter.

## Flexible

The Virtual LoadMaster™ GEO offers the same management interfaces as Kemp's Server Load Balancer (LoadMaster™) hardware appliances, including all the foundation technology such as syslog logging, email notifications, interface bonding, and Gigabit support. Virtual LoadMaster™ GEO provides advanced application health checking, to ensure that clients are not directed to unavailable services or datacenters. Health checking can occur at the services level or even the site level, allowing for flexible decision making on when traffic should be diverted per Fully Qualified Domain Name (FQDN).

## Traffic Management

Virtual LoadMaster™ GEO offers "Round Robin" load balancing for all active datacenters, which includes support for weights and a chained failover option for disaster recovery. Virtual LoadMaster™ GEO securely and seamlessly integrates with LoadMaster™ to offer "Real Server Load" load balancing, in which Virtual LoadMaster™ GEO uses local datacenter metrics provided by LoadMaster™, allowing clients to connect to the least busy datacenter. Added to this is location awareness of your clients which results in your clients being redirected to the most appropriate datacenter based on their location.

## Resilience

Virtual LoadMaster™ GEO can be deployed in a distributed (Active/Active) high availability configuration, with both appliances securely synchronizing information. Introducing Virtual LoadMaster™ GEO in your existing Authoritative Domain Name Services (DNS) requires minimal integration work and risk, allowing you to fully leverage your existing DNS investment. Virtual LoadMaster™ GEO is easy to set up, and easy to manage. Virtual LoadMaster™ GEO is a self-contained virtualized appliance that doesn't require the additional installation of software on your servers. Network management is made easy, administrators can deploy new servers and take individual servers offline for routine maintenance without disrupting services to end-users. Integrating the Virtual LoadMaster™ GEO into an existing DNS infrastructure can be done with no service impact and allows for distributed administration.

# Virtual LoadMaster™ GEO

## Features and Specifications version 7.2

## High Availability & Reliability

Virtual LoadMaster™ GEO helps prevent service outages by quickly detecting server and datacenter failures and then directing traffic. Monitoring and load balancing are based on layers 3 and 4 of the Open Systems Interconnection Basic Reference Model (OSI). Included in High Availability is the ability to have two appliances, protecting against introduction of a single point of hardware/network connectivity failure. Each individual Virtual LoadMaster™ GEO can also be configured to provide network link-layer redundancy.

## Location Awareness

Virtual LoadMaster™ GEO can determine the location of a client in real time and direct them to the most appropriate datacenter based on this location resulting in intelligent redirection of clients to the closest resource that can service their request.

## Speed

Virtual LoadMaster™ GEO's intelligence ensures that your mission-critical servers are continuously available and performing reliably. Virtual LoadMaster™ GEO can monitor server and application load. This information is then used to intelligently direct user requests to the most available cluster. By intelligently redirecting traffic, Virtual LoadMaster™ GEO eliminates server overload conditions and round trip propagation delays to deliver a better quality of experience for connected users.

## Hybrid Cloud

Virtual LoadMaster™ GEO can balance traffic across on-premises and cloud environments to support auto-scaling of multi-cloud and hybrid applications and seamless application failover between environments.

## Scalability

Virtual LoadMaster™ GEO solves the scalability "dilemma" by continuing to support increasing network server workloads and still providing high reliability.

- **Intelligent distribution of traffic across server arrays or data centers**
- **Reduction in the need for increasingly larger and more expensive servers to accommodate increases in network traffic**
- **Enables many inexpensive servers to function as a single, virtual server.**
- **Removal of single point of failure**
- **Support for scheduled addition or removal of servers, and routine server maintenance without disrupting service to the end user.**

## Standard Features

- Multi-site Load Balancing
- VLAN Trunking (802.1Q)
- Link Interface Bonding (Modes supported: 802.3ad, Link Failover)
- Up to 15,000 DNS Queries Per Second (QPS)

## Health Checking and High Availability

- Single IP address
- IP address clusters
- DNSSEC support
- IP Blacklisting
- A (IPv4) and AAAA (IPv6) record support
- ICMP health checking of server farm machines
- Layer 4 TCP checking
- Automatic reconfiguration for defective real server machines
- High availability (Active/Passive) pairs
- Partners (Active/Active) pairs
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## Administration

- Fully configurable using Web User Interface (WUI)
- Secure, SSH and HTTPS (WUI) remote access
- Easy start and maintenance using wizards
- WUI-based Help Assistant
- FQDN Configurations can be edited and tuned on-the-fly
- Real time performance and availability displays
- Remote syslogd support
- Download software updates for GEO firmware
- WUI Log Reporting with Tabbed Browser Support
- SNMP support for event traps & performance metrics
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## Scheduling and Balancing Methods

- Round Robin
- Weighted Round Robin
- Chained Failover (Fixed Weighting)
- Real Server Load
- Proximity and Location Based

## Security

- Black List (Access Control List system)
- IP address filtering
- DDoS mitigation

## Technical Specifications

- Hypervisors Supported:
- Microsoft Hyper-V
- VMware vSphere (ESXi)
- KVM
- XEN
- Oracle Virtual Box
- Microsoft Azure
- Amazon Web Services (AWS)

* Specifications are subject to change without prior notice.