



# Virtual LoadMaster™ Datasheet

Industry's best virtual load balancer...  
maximum value, flexibility and performance



# Cloud & Virtual Application Delivery

Kemp's Virtual LoadMaster is a fully featured load balancer and application delivery controller (ADC) that supports all the major application workloads with easy-to-use templates. It offers key features such as SSL offload along with advanced authentication and traffic delivery options.

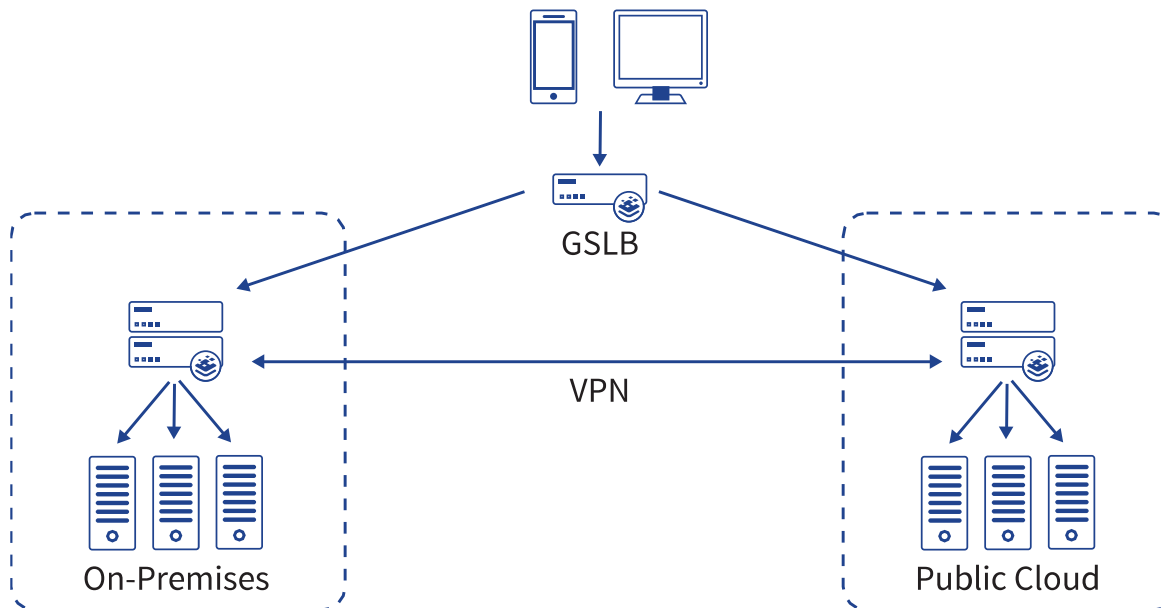


Figure 1- LoadMaster Hybrid Topology

## Deliver Anywhere

Virtual LoadMaster (VLM) instances can be deployed on all major hypervisors and on leading public cloud services with a consistent set of features regardless of where deployed. Consistency across a wide range of platforms greatly simplifies cloud migration and hybrid cloud deployments with seamless migration and reduced management complexity.

## Flexible Licensing

Virtual LoadMaster can be licensed using permanent or subscription licenses on each instance, or with metered licensing across multiple Virtual LoadMaster instances. Metered licensing provides the flexibility to deploy and retire load balancing resources on-demand, greatly simplifying DevOps environments and application scaling.

## Easily Managed

Regardless of where Virtual LoadMasters are deployed, a consistent administration interface is presented via Web UI, API and Kemp 360 Central. Kemp 360 Central provides cross-platform configuration and monitoring of load balancing resources to simplify the administration of multi-load balancer environments. The LoadMaster API (RESTful and PowerShell) enables automation of load balancer deployment, configuration and administration and integration of load balancer operations with DevOps and hypervisor management frameworks.

## Support Subscriptions

LoadMaster support subscriptions offer flexibility, simplicity and value to meet your application delivery requirements and challenges. Support subscriptions are annual and can be upgraded and downgraded as application delivery demands change for maximum flexibility. The tiers are mapped to common customer challenges and requirements, simplifying the task of selecting the appropriate feature set and support levels.

LoadMaster annual subscriptions (VLM-500, VLM-3000 and VLM-MAX) and cloud (AWS & Azure) pay-as-you-go include an Enterprise Plus support subscription as standard.

### LoadMaster Support Subscription Tiers

Each subscription tier adds to the features and services delivered by lower tiers as follows

STANDARD SUPPORT	ENTERPRISE SUPPORT	ENTERPRISE PLUS SUPPORT
10x5 Customer Support	24x7 Customer Support	24x7 Customer Support
Software Updates	Software Updates	Software Updates
Security Patches	Security Patches	Security Patches
L4-L7 Application Delivery	L4-L7 Application Delivery	L4-L7 Application Delivery
	Edge Security Pack	Edge Security Pack
	Intrusion Prevention	Intrusion Prevention
	Kemp 360 Vision - managed service for application monitoring & preemptive alerting	Kemp 360 Vision - managed service for application monitoring & preemptive alerting
	Kemp 360 Central - centralized management & orchestration software	Kemp 360 Central - centralized management & orchestration software
		WAF with rule updates
		GSLB with IP Reputation
		Floating License

## Features

### L4-L7 Application Delivery

#### General

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- Server Load Balancing (SLB) for TCP/UDP based protocols
- TLS (SSL) Offload
- Layer 7 Content Switching
- Transparent caching for HTTP/HTTPS
- Compression of static and dynamic HTTP/HTTPS content
- HTTP/2 Support
- Up to 1,000 Virtual and 1,000 Real Servers
- NAT-based forwarding
- Support for Direct Server Return (DSR) configurations
- Configurable S-NAT support
- VLAN Trunking (802.1Q)
- Link interface bonding (802.3ad)
- IPv6 support for addressing and features
- IPv6 - IPv4 bidirectional conversion

#### Health Checking

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- Aggregated health checks
- ICMP health checking
- Layer 7 checking against any target server port
- Active/Hot Standby configurations for High Availability
- Stateful Failover
- Scale-out Clustering
- Aggregated health checks

#### Session Persistence

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- Source IP (L4)
- TLS (SSL) SessionID (L4)
- HTTP/HTTPS Browser-session (L7)
- HTTP/HTTPS WebClient-session (L7)
- RDP Login ID (L7)
- Port Following for mixed HTTP/HTTPS sessions
- Session reconnection for Microsoft RDS

#### Scheduling and Balancing Methods

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- SDN Adaptive
- Round Robin
- Weighted Round Robin
- Least Connection

- Weighted Least Connection
- Agent-based Adaptive
- Chained Failover (Fixed Weighting)
- Source-IP Hash
- Layer 7 Content Switching
- Global Server Load Balancing (GSLB)
- AD Group based traffic steering

#### SSL/TLS Features

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- Configurable TLS (1.0, 1.1, 1.2, 1.3) and SSL (2.0, 3.0)
- Support for EV (Extended Validation) certificates
- OCSP certificate validation
- Server Name Identification (SNI) support
- Support for up to 1,000 TLS (SSL) certificates
- Automated TLS (SSL) certificate chaining
- Certificate Signing Request (CSR) generation
- FIPS 140-2 Level 1 (Level 2 on FIPS models)
- STARTTLS mail protocols (POP3, SMTP, IMAP)

#### Administration

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- Change auditing
- Web User Interface (WUI)
- SSH & physical console
- RESTful and PowerShell APIs
- VMware vRealize Orchestrator
- Context based help (WUI)
- Real time display of performance and availability
- Application templates
- Remote syslogd support
- Automated configuration backup
- Selective restore of configuration
- Connection draining
- Comprehensive logging and reporting
- SNMP support
- Diagnostic shell with in-line tcpdump

#### Security

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- Permit/Deny Access Control Lists
- IP address filtering
- IPsec Tunnel support
- DDoS mitigation, including L7 rate-based attacks
- IPsec VPN to Azure, AWS and public clouds
- Authenticated NTP

## Features

### Kemp 360 Central

- Centralized management and orchestration
- Included with Enterprise support subscription, and Enterprise Plus support subscription
- LoadMaster configuration management
- Automated LoadMaster backups
- Centralized & scheduled firmware updates
- LoadMaster logfile consolidation
- Performance management
- 3<sup>rd</sup> party load balancer support

### Kemp 360 Vision

- Managed service for application monitoring & preemptive alerting
- Included with Enterprise support subscription, and Enterprise Plus support subscription
- 24/7 automated issue escalation service
- Proactive issue management
- Integrated with Kemp Support ticketing

### Edge Security Pack

- Microsoft TMG replacement
- Pre-authentication
- Multi-domain authentication & SSO
- X.509 client certificate authentication
- Custom login forms
- Two-factor authentication
- SAML, Active Directory, RADIUS & LDAP
- Forms to Forms based authentication

### Intrusion Prevention

- Snort compatible IPS
- Permit/Deny IP by address
- Automated IP reputation updates for GSLB

### Web Application Firewall (WAF)

- Real-time application threat mitigation
- Daily rule updates
- Threats mitigated
  - Cookie tampering
  - Cross site request forgery
  - Cross site scripting
  - Data loss prevention
  - SQL injection
  - PCI-DSS Section 6.6 compliance

### Global Server Load Balancing (GSLB)

#### Scheduling and Balancing

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

#### Security

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- Black List (Access Control List)
- IP reputation filtering with automatic updates
- DDoS mitigation

#### Health Checking & Failover

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- ICMP health checking of server farm machines
- Layer 4 TCP checking
- HTTP/HTTPS health check
- Active/Active High Availability

# LoadMaster Licensing Options

## Perpetual Licensing

Perpetual licenses are available across all cloud and hypervisor platforms. Apply a support subscription to a perpetual license to define the support level and features enabled.

	VLM-500	VLM-3000	VLM-MAX	VLM-GEO
<b>Public Cloud</b> (Azure & AWS)	✓	✓	✓	✓
<b>Hypervisor</b> (Hyper-V, VMware, XEN, KVM, VirtualBox)	✓	✓	✓	✓

## Subscription Licensing

Subscription licenses are available for one or three years on all cloud and hypervisor platforms. Enterprise Plus support subscription included as default.

	VLM-500	VLM-3000	VLM-MAX
<b>Public Cloud</b> (Azure & AWS)	✓	✓	✓
<b>Hypervisor</b> (Hyper-V, VMware, XEN, KVM, VirtualBox)	✓	✓	✓

## PAYG Licensing

PAYG (Pay-As-You-Go) licenses provide hourly usage licenses on Azure and AWS that includes platform usage and Kemp instance licensing. All PAYG Virtual LoadMasters include daily WAF and GEO (GSLB) rule updates and Edge Security Pack as standard and do not require any additional subscription purchase.

	VLM-FREE	VLM-500	VLM-3000	VLM-MAX
<b>Public Cloud</b> (Azure & AWS)	✓	✓	✓	✓

## Metered Licensing

Metered Licensing (MELA) offers a monthly subscription option based on aggregate peak usage by licensed Virtual LoadMaster instances. A single metered license enables the deployment of Virtual LoadMaster instances on any supported cloud or hypervisor platform with no license limits on the instance capacity.

	MELA-1G	MELA-10G	MELA-25G	MELA-50G	MELA-100G
Aggregate Throughput	1 Gbit	10 Gbit	25 Gbit	50 Gbit	100 Gbit
Max. Virtual LoadMaster Instances	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Platform - Cloud & Hypervisor	✓	✓	✓	✓	✓

# LoadMaster Platform Support

## Virtual LoadMaster on Hypervisor

Virtual LoadMaster is available on Hyper-V, VMware, XEN, KVM and VirtualBox.

	VLM-500	VLM-3000	VLM-MAX
<b>Subscription Tiers Supported</b>	All	All	All
Licensing model supported	Perpetual, Subscription	Perpetual, Subscription	Perpetual, Subscription
<b>Licensed Performance</b>			
Load Balancer Throughput	500 Mbps	3 Gbps	Uncapped*
SSL TPS	500	4,000	Uncapped*
Concurrent Layer 4 Connections	3,000,000	3,000,000	Uncapped*
Max Servers/ Virtual Clusters	1,000/1,000	1,000/1,000	1,000/1,000

## Virtual LoadMaster on Cloud

Virtual LoadMaster is available on Azure and AWS and their Government variants.

	VLM-500	VLM-3000	VLM-MAX
<b>Subscription Tiers Supported</b>	All	All	All
Licensing model supported <sup>§</sup>	BYOL, PAYG	BYOL, PAYG	BYOL, PAYG
<b>Licensed Performance</b>			
Load Balancer Throughput	500 Mbps	3 Gbps	Uncapped*
SSL TPS	500	4,000	Uncapped*
Concurrent Layer 4 Connections	3,000,000	3,000,000	Uncapped*
Max Servers/ Virtual Clusters	1,000/1,000	1,000/1,000	1,000/1,000

§ BYOL (Bring-Your-Own-License) instances are subject to cloud platform charges based on the VM size deployed. PAYG (Pay-As-You-Go) is an hourly billing scheme that includes the Kemp license and cloud platform charges.

\* Performance dependent on allocated system resources.