

# LoadMaster Bare Metal



## High-performance application delivery on Industry standard hardware

KEMP LoadMaster for bare metal offers the scalability, feature depth and security required to enable resilient delivery of a wide range of application workloads for organizations of all sizes and capabilities on industry standard hardware platforms. LoadMaster simplifies application delivery with easy management via web UI, API and KEMP 360 Central with a compelling TCO and outstanding customer support.

### The Benefits of KEMP LoadMaster

#### Resilient

LoadMaster can enhance application availability and resilience with the option for Highly Available (HA) pairing of appliances and geographic server load balancing (GSLB) removing single points of failure in the data center and also across data centers. Application server health checks enable redirection of traffic to healthy servers and the optional KEMP 360 Vision service provides 24/7 proactive support to ensure continuous application availability.

#### Secure

As the access point for applications, LoadMaster provides authentication and attack mitigation services to prevent malicious and unauthorized access to application resources. The Edge Security Pack (ESP) enables pre-authentication of clients (LDAP, Active Directory, RADIUS and SAML) while the Web Application Firewall (WAF) offers continuous application level protection through daily rule updates.

#### Easily Managed

LoadMaster appliances can be managed via the intuitive web UI, via API (PowerShell/RestFUL) or via KEMP 360 Central. Application templates simplify deployment and optimization, while the API provides an easy way to automate configuration and management tasks whether through DevOPS toolsets or operational frameworks.

#### Scalable

As application delivery demands grow, LoadMaster can scale by clustering multiple servers together into a single ADC entity. As well as scaling to meet increasing capacity requirements, clustering also provides resilience as the failure of a cluster member is gracefully handled with remaining members continuing to provide service.

#### Low Cost of Ownership

LoadMaster delivers performance and functionality at a compelling price point when measured against the key metrics of SSL transactions per second, application throughput and active connections. Coupled with the low operational overheads delivered by features such as application templates and our world class customer support services, organizations can achieve significant TCO reductions on application delivery.

#### Fully Featured

LoadMaster includes a comprehensive set of features to enable deployment of application delivery and interfaces and API to integrate with existing authentication, logging, management and provisioning systems.

### Feature Subscriptions

LoadMaster subscriptions offer flexibility, simplicity and value to meet your application delivery requirements and challenges. 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. This also offers additional value of up to 40% when compared to individually selecting features.

#### LoadMaster Feature Subscription Tiers

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

<b>Standard</b>	<b>Enterprise</b> <i>Incl. Standard Features</i>	<b>Enterprise Plus</b> <i>Incl. Enterprise Features</i>
10x5 Customer Support	24x7 Customer Support	WAF with rule updates
Software Updates	Edge Security Pack (ESP)	GSLB with IP Reputation
Security Patches	Intrusion Prevention	Floating License
L4-L7 Application Delivery	KEMP 360 Vision	
	KEMP 360 Central	

### Features

#### L4-L7 Application Delivery

##### General

- 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
- Up to 1000 Virtual and 1000 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

- 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

- 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

- 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

- Configurable TLS (1.0, 1.1, 1.2) and SSL (2.0, 3.0)
- Support for EV (Extended Validation) certificates
- OCSF 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
- STARTTLS mail protocols (POP3, SMTP, IMAP)

**Administration**

- 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**

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

**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

**KEMP 360 Central**

- LoadMaster Configuration Management
- Automated LoadMaster backups
- Centralized & scheduled firmware updates
- LoadMaster logfile consolidation
- Performance Management
- 3<sup>rd</sup> party ADC support

**KEMP 360 Vision**

- 24/7 Automated issue escalation service
- Proactive issue management
- Integrated with KEMP Support ticketing

**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**

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

**Security**

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

**Health Checking & Failover**

- ICMP health checking of server farm machines
- Layer 4 TCP checking
- Automatic reconfiguration for defective real server
- Active/Active High Availability

LoadMaster for Bare Metal

	LMB-1G	LMB-2G	LMB-5G	LMB-10G
<b>Subscription Tiers Supported</b>	All	All	All	All
<b>Licensed Performance<sup>†</sup></b>				
Load Balancer Throughput	1 Gbps	2 Gbps	5 Gbps	10 Gbps
SSL TPS	1,000	1,000	10,000	20,000
Concurrent Layer 4 Connections	5,000,000	5,000,000	5,000,000	5,000,000
Max Servers/ Virtual Clusters	100/256	1000/1000	1000/1000	1000/1000

† All figures are maximum licensed values. Actual performance is dependent on the blade configuration including processor, memory, networking, and overall system architecture. L4 concurrent connections will scale linearly with additional installed RAM.

The page <https://kemptechnologies.com/loadmaster-hardware-compatibility-list/> contains details on the hardware platforms supported by LoadMaster for Bare Metal.