Price-to-Performance Comparison of Load Balancers
About KEMP

KEMP Technologies provides a robust and comprehensive set of Load Balancing and Application Optimization/Delivery features meeting the needs of a wide range of Service Provider, Data Center and Enterprise customers.

KEMP LoadMaster line of Load Balancers integrates powerful, stable, full-featured load balancers with layer-7 content switching, SSL acceleration, and security. KEMP focuses on consistently delivering simple-to-use yet high-performing products and delivering more value than the competition. Thus, the Standard version of KEMP LoadMasters include the most advanced features such as HTTP Compression, Caching, and can act as an alternative to the network security and protection solution - Microsoft’s Threat Management Gateway (TMG) without any hidden costs.

KEMP’s entire award-winning LoadMaster product line of hardware appliances, virtual appliances, cloud and bare metal OS solutions have a common Load Balancing feature set and interface, allowing for simple portability as needs and requirements change.
**Intent of the Document**

This document is intended to represent the price/performance value of the KEMP LoadMasters when compared to F5 Networks BIG-IP LTM Load Balancers.

**Key Points**

- The Products under comparison are:
  - KEMP Virtual LoadMaster (VLM), F5’s BIG-IP LTM VE
  - KEMP Hardware LoadMaster (LM), F5’s BIG-IP LTM

- The parameters under comparison are: Throughput (Gbps) and SSL TPS (2K)

- For a fair comparison, the products have been benchmarked with the same features set and performance

- The common features set includes: HTTP Compression, Caching, Global Traffic Management (GEO), TMG Replacement package (Pre-Authentication, Single-Sign On (SSO), Logging), Support for API Interface.

- The pricing of the products under comparison has been sourced from public data

- The performance data for comparison is has been sourced from the company published Specifications as available to general public
Core Features

Load Balancer Throughput – Measures how much traffic a load balancer can process during a given interval, usually per second, and is critical measure for high transaction applications, especially where there are many bi-directional client/server and server/server communication flows that must traverse the load balancer.

SSL Transactions Per Second (TPS) – Websites and web applications that require secure communication leverage SSL and TLS to ensure this. The handling of the underlying processes to facilitate this secure communication can be resource intensive on workload servers, especially where virtual machines are in use. Load balancers are designed to handle the handshaking, key exchange and encryption/decryption that must take place more efficiently and are in an ideal location to do so in the flow of traffic. Additionally, serving as the termination endpoint for secured application traffic flows allows a load balancer to apply business logic-driven rules to portions of the traffic that it otherwise would be blind to.

Inclusion of Common Optimization Features

Global Server Load Balancing (GSLB) – Supports the distribution of web services across dispersed data centers. This simplifies the steps required to stretch a single namespace for an application across multiple targets that can be across regions or the world.

TMG Replacement Features (ESP) - Defines common enhanced reverse proxy features often associated with Microsoft Forefront TMG such as SSO, Pre-Authentication and Endpoint Authentication. These functions allow for improved UX and are commonly used for the secure publishing of internal resources to external entities.

Caching/Compression – Optimizes application traffic flow by saving bandwidth between the client and the load balancer as well as between the load balancer and the server. This allows requests to get answered faster increasing the performance of applications with high numbers of users and high numbers of transactions.
KEMP LoadMaster provides the same performance as F5’s BIG-IP at up to **4x lesser price**. While KEMP provides Global Server Load Balancing, HTTP Compression, Caching and IPv6 as Standard features, F5 provides such features only with their “Better” License Edition.

All KEMP LoadMaster ADCs includes Basic 1 year Hardware Maintenance and Telephone Support at no extra cost, F5 Networks require purchase of Support at an additional charge.

Key Security features such as Single Sign On (SSO), Pre-Authentication and Logging are included as Standard features on all KEMP models, while F5 requires purchasing of additional module (APM - approximately $11,000).

KEMP’s virtual line of Load Balancers supports greater number of hypervisor platforms compared to F5 virtual Load Balancers.
Virtual Load Balancers

Key Highlights

Flexible deployment options
Highly competitive functionality and value for private and hybrid cloud
Low acquisition costs compared to similarly performing hardware
*True* pay-as-you-need cost model
### Performance Comparison Data

<table>
<thead>
<tr>
<th>Vendor</th>
<th>KEMP VLM</th>
<th>F5 Networks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>VLM-200</td>
<td>VE-200M</td>
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<tr>
<td>USD (MSRP)</td>
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<td>1st Year Tel. Support</td>
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<tr>
<td>Performance</td>
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<td>Max Throughput (in Gbps)</td>
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<td>SSL TPS (2K)</td>
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<tr>
<td>Concurrent Connections</td>
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<tr>
<td>Key Features</td>
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<td>Full L4/L7 ADC</td>
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<td>HTTP Compression</td>
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<td>TMG Replacement [Pre-auth, SSO, Logging (ESP)]</td>
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<td>✓</td>
<td>✓</td>
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<td>API Based Administration</td>
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<tr>
<td></td>
<td>Oracle Virtual Box</td>
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</tbody>
</table>

*All listed pricing is sourced from public data based on US currency MSRP

*The performance data for comparison is based on the published Specification as available to general public.
High-Performance Virtual Load Balancer Comparison

High Throughput at a fraction of the cost

When comparing the throughput of High Performance virtual load balancers (5Gb+), the KEMP VLM-10G not only includes the first year of support but also provides the same throughput as the VE-10G at 2/3rd the price.
**Mid-level Virtual Load Balancer Comparison**

**High Throughput at a fraction of the cost**

In the Mid-Level Load Balancer category the KEMP VLM-2000 provides close to the same throughput as the VE-3G at nearly 1/3rd the price. As with all LoadMasters, the VLM-2000 also includes 1st year Support at no extra cost.
In the Entry-Level Load Balancer arena the KEMP VLM-200 provides the same throughput as the VE-200M at 1/4th the price. As with all LoadMasters, the entry-level VLM-200 also includes 1st year Support at no extra cost.
High-Performance Virtual Load Balancer SSL Comparison

More SSL TPS per Dollar

The KEMP VLM-10G supports more SSL TPS and hypervisor platforms when compared to the F5 BIG-IP LTM VE-10G at 1/5th the price.
Hardware Load Balancers
Hardware Load Balancers

Key Highlights

ASIC-based SSL acceleration
Guaranteed performance not affected by virtualized components
Rack-and-go deployment model with low architecture requirements
The predictability native to hardware-based appliances
## Performance Comparison Data

<table>
<thead>
<tr>
<th>Vendor Model</th>
<th>KEMP LM</th>
<th>F5 Networks</th>
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<tbody>
<tr>
<td></td>
<td>LM-2400</td>
<td>LM-2600</td>
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<tr>
<td>USD (MSRP)</td>
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<td>Module Add On Price (MSRP)</td>
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<tr>
<td>Support</td>
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<td>Included</td>
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</tbody>
</table>

### Performance

- **Max Throughput (Gbps)**: 1.2, 1.7, 3.4, 8.8, 5, 5, 10, 10
- **L4 Concurrent Connections**: 4,300,000, 8,600,000, 12,800,000, 25,600,000, 5,000,000, 5,000,000, 10,000,000, 10,000,000
- **SSL TPS (2K Keys)**: 200*, 1,000, 2,500, 7,000, 2,000, 4,000, 4,500, 9,000

### Key Features

- **Caching**: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- **HTTP Compression**: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- **TMG Replacement [Pre-auth, SSO, Logging (ESP)]**: ✓ ✓ ✓ ✓ Add On Add On Upgrade to Best Upgrade to Best
- **GEO (Global Traffic Management)**: Add-On Add-On Add-On ✓ Add-On GTM Add-On GTM Upgrade to Better Upgrade to Better
- **API Support**: REST REST REST REST SOAP, REST SOAP, REST SOAP, REST SOAP, REST

### Hardware

- **Number of Power Supplies**: 1 1 1 2 1 1 1 1
- **Redundant Power Supply**: x x x ✓ optional optional optional optional
- **Gigabit Ethernet Ports**: 4 4 8 8 8 8 8 8
- **10G Fiber Ports (SPF)**: n/a n/a n/a n/a 2 n/a n/a n/a
- **10G Ethernet Fiber Ports (SPF+)**: n/a n/a n/a 2 2 optional 2 optional 2 optional 2 optional
- **Typical Power Consumption**: 163.8W 163.8W 198.8W 184.5W 74W 74W 95W 95W
- **Rack Height**: 1U 1U 1U 1U 1U 1U 1U 1U
- **Storage Disk**: SSD SSD SSD SSD Hard Disk Hard Disk Hard Disk Hard Disk
- **Standard Memory**: 1GB 2GB 4GB 8GB 8GB 8GB 16GB 16GB

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* The performance data for comparison is based on the published Specification as available to general public.
High-Performance Hardware Load Balancer Comparison

High Throughput at a fraction of the cost

When comparing the throughput of high performance hardware load balancers, the LM-5400 not only includes first year support but provides close to the same throughput as the F5’s BIG-IP LTM at approximately 1/2 the price.

![Graph comparing throughput and cost per Gbps for different load balancers. The LM-5400 offers 8.8 Gbps at $18,000, close to the F5’s 10 Gbps at $30,000, and significantly lower than the F5’s 10 Gbps at $42,000.]
Mid/Entry-level Hardware Load Balancer Comparison

High Throughput at a fraction of the cost

When comparing Mid/Entry-Level hardware Load Balancers for price/performance, the LM-3600 provides close to the same throughput and the same basic functionality as the F5’s LTM-2xxx at 1/2 the price and includes Basic 1 year Support at no extra cost.
High-Performance Virtual Load Balancer Comparison

More SSL TPS per Dollar

The KEMP LM-5400 includes basic 1 year Support and supports higher SSL TPS as compared to the F5 BIG-IP LTM 4000s at nearly 1/2 the price.
Summary

**KEMP stands true to its values and helps customers gain the best ROI**

KEMP LoadMaster provides comparable performance to F5’s BIG-IP LTM at up to 4x less in acquisition cost.

While KEMP provides GSLB, Compression/Caching and IPv6 as Standard features, F5 provides such features only with their Better and Best License Edition.

While all KEMP LoadMasters include 1st year Support at no extra cost, F5 Networks requires the customers to purchase Support at additional charges.

KEMP delivers the most advanced Security features such as Single Sign On (SSO), Pre-Authentication, Two-Factor Authentication Support and Security Group validation as Standard features while F5 requires purchasing an APM module priced at approximately $11,000 USD MSRP.

KEMP’s virtual line of Load Balancers support a greater number of hypervisor platforms compared to F5 virtual Load Balancers.