



# Unified Acceleration with F5 BIG-IP LTM and BIG-IP WAN Optimization Manager

F5® BIG-IP® Local Traffic Manager™ (LTM) speeds applications through a variety of network improvements. BIG-IP® WAN Optimization Manager™ (WOM) allows two BIG-IP devices to optimize and secure connections between data centers, maximizing your bandwidth usage without the cost of upgrading connections. Together they improve your network responsiveness and adaptability.

## Optimizing Data Transfer Across the WAN

With BIG-IP LTM, you can load balance, optimize, and monitor pools of servers through their network connections. You can direct traffic in the manner you deem most appropriate by using a combination of built-in functionality and the ability to customize how traffic is handled through F5 iRules® and profiles. BIG-IP LTM also has adjustable reporting of outages—from near real time to five minutes or more. Functionality called iSessions enables you to extend this capability over the WAN between two data centers.

But extending the functionality and applying the free optimizations that come bundled with BIG-IP LTM is not always enough for managing traffic over a busy WAN connection. When upgrading your network connection is not viable or not an attractive option, you are left with making the existing bandwidth work more effectively for your organization. Indeed, since the cost of bandwidth upgrades goes up at a non-linear rate, it is almost always more cost effective to find solutions to improve the performance of existing WAN connections rather than to increase the size of the pipe.

In the normal course of business, there is generally a lot of information passed between two data centers that is duplicated—either actually duplicated, such as repeated sends of similar email headers, or duplicated as a shared resource, such as the massive number of documents that contain your corporate logo. The ability to detect and reduce these duplications, but in a manner that doesn't introduce more overhead than just transferring duplicates, is critical to getting the most out of your WAN. Also critical to improved WAN performance is the ability to implement protocol-specific or application-specific optimizations. CIFS, for example, is a very chatty protocol that, when handled correctly, doesn't necessarily need all the overhead it introduces. Removing unnecessary overhead while keeping the reliability of communications is key to doing more over the same WAN connection.

And that's where BIG-IP WOM comes in. It deduplicates data transferred over the WAN, and it optimizes some of the most common application-layer protocols, using the local BIG-IP device's knowledge of the state of the connection to intelligently answer chatty communications messages. All together, that means less data on your WAN and more space to grow. This combination of BIG-IP LTM and BIG-IP WOM minimizes or even eliminates bandwidth upgrades that would cost you every month for years to come.

## Key features

- **Deduplication**—Sends repetitive data only once, and then retrieves it from the local cache
- **Application Protocol Acceleration**—Provides options to fine-tune how your most used application layer protocols are transferred or to use an application profile
- **Secure Tunneling**—Passes encrypted and optimized traffic between two BIG-IP LTM devices
- **Compression**—Compresses data on-the-fly and decompress on the other end with no changes to your applications

## Key benefits

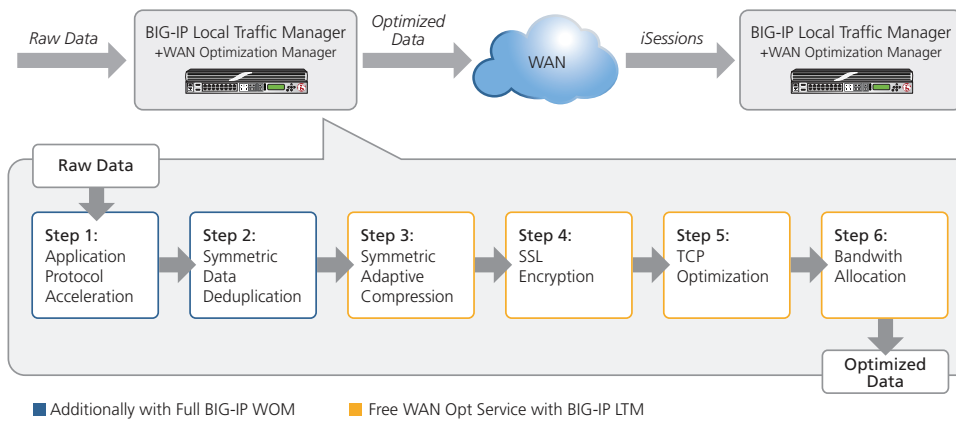
- **Increased Performance**—Improves response times over long-distance or lossy WAN connections
- **Increased Efficiency**—Maximizes bandwidth utilization
- **Cost Savings**—Reduces WAN costs and offloads CPU-intensive processes from servers
- **Improved Security**—Encrypts your data as it crosses the WAN with no changes to your applications

## Solution

BIG-IP WAN Optimization Manager (WOM) enables you to:

- Accelerate data transfer (from applications to replication) across the WAN.
- Mitigate the effects of latency.
- Optimize existing bandwidth to transfer the same data.
- Guarantee bandwidth and prioritize traffic.
- Meet standards for data backups and recovery times.

BIG-IP WOM does this by layering optimization techniques onto the F5 TMOS® operating system, as illustrated in the following graphic.



## Learn more

For more information about BIG-IP WOM solutions, use the search function on [f5.com](http://f5.com) to find these resources.

### Product overview

[BIG-IP WAN Optimization Manager Overview](#)

### Datasheet

[BIG-IP WAN Optimization Manager Datasheet](#)

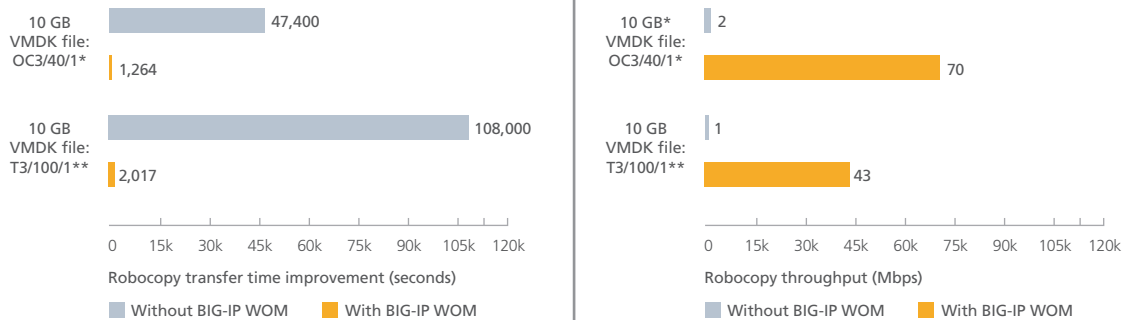
### Technical brief

[BIG-IP WOM Performance](#)

### Podcast

[Byte Caching, Compression and WAN Optimization](#)

## Example



\*OC3 (155 Mbps/sec) with 40 milliseconds of latency and 1% packet loss    \*\*T3 (45 Mbps/sec) with 100 milliseconds of round trip latency and 1% packet loss

Typical improvements offered by BIG-IP LTM and BIG-IP WOM for CIFS file transfers, where a large VMware virtual disk (VMDK) file was transferred through the BIG-IP WOM tunnel.

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