



Enhancing NetApp SnapVault Performance with F5 BIG-IP WOM

NetApp SnapVault is a disk-to-disk backup tool that optimizes network backup traffic to reduce the amount of data flowing over your network while, also providing a correct copy of your data at the destination. To achieve this goal, SnapVault uses “change only” transmission, replicating only the blocks of data that have changed since the last update. Sometimes remote backup can get bogged down because of the volume of data, distance, or quality of connection between the source and destination. When over-the-WAN disk-to-disk backup needs to feel like over-the-LAN to meet your target Recovery Point Objectives and Recovery Time Objectives, F5® BIG-IP® WAN Optimization Module™ (WOM) can help.

NetApp SnapVault

SnapVault is a disk-to-disk backup tool useful for copying your data from one storage system to another. By using disk-to-disk backup technology, it reduces backup times and improves backup reliability. Given a near-line backup target, you can move from the backup to tape without affecting your primary or secondary storage systems in any way. This transfers the bulk of the backup window out of your system’s run-time and into a standalone process. Because the backup is disk-based and a complete copy, restores are vastly simplified, especially in accidental file deletion scenarios. By providing a backup target that enables you to browse to the impacted files and selectively restore them, there is no delay finding the correct tape, seeking to the correct file, and then beginning the restore.

While SnapVault has some features that help improve performance with remote disk-to-disk targets, the performance of all applications degrades as latency and loss rates on the WAN connection increase. This is a function of what happens to IP connections as distance increases and the quality of the connection decreases.

BIG-IP WAN Optimization Module

BIG-IP WAN Optimization Module provides the necessary extra boost when using SnapVault over the WAN. It improves TCP/IP performance overall, compresses and deduplicates data being transferred over the WAN connection, and encrypts your data while it is in transport over the WAN—all without making any required changes to your SnapVault configuration.

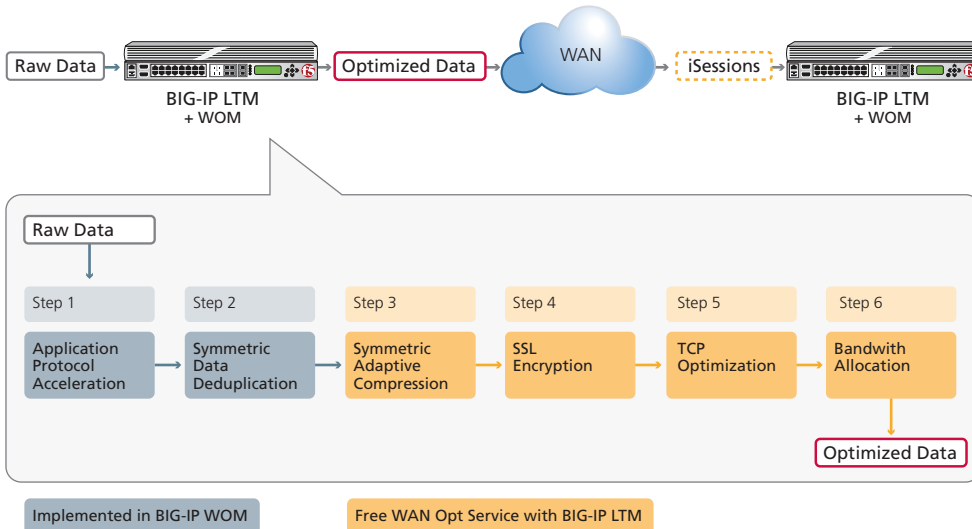
BIG-IP WOM also provides all of these benefits for every application running over the WAN, which means you have a point-to-point secure tunnel that improves your TCP/IP connections, reduces the data being transmitted with deduplication, and compresses what is left. This gives you more room on your WAN connection for growth without necessitating a costly upgrade purchase.

Key features

- **TCP Optimization**—Provides LAN-like performance over the WAN
- **Integrated Encryption**—Protects your data over the WAN
- **Symmetric Adaptive Compression**—Reduces bandwidth without changing your application
- **Symmetric Deduplication**—Reduces bandwidth by removing cross-stream duplication
- **Rate Shaping**—Allocates bandwidth to optimize SnapVault traffic usage

Key benefits

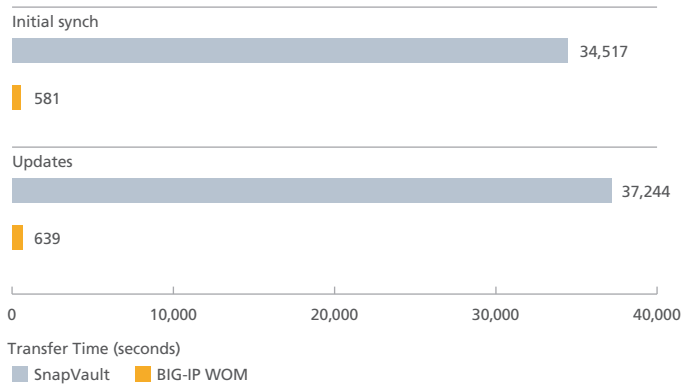
- **Increase Performance**—Reduces disk-to-disk backup time
- **Increase Efficiency**—Maximizes bandwidth utilization
- **Improve Security**—Encrypts traffic sent over the WAN
- **Extend the Distance to Your DR Site**—Mitigates latency and optimize traffic



BIG-IP WOM on either end of your connection increases bandwidth utilization, encrypts the data being transferred, and speeds your remote disk-to-disk backup timeframes.

Example

Utilizing a 155 megabit connection with 100 ms of latency and 0.1% packet loss, BIG-IP WOM provided a 59x improvement for SnapVault usage.



Tested utilizing 18 GB of initial data and 22 GB of updates.

Learn more

For more information about BIG-IP WOM solutions, use the search function on f5.com to find these resources.

Product overview

[BIG-IP WAN Optimization Module](#)

Datasheet

[BIG-IP WAN Optimization Module](#)

White papers

[F5 BIG-IP WAN Optimization Module in Data Replication Environments](#)

[BIG-IP WAN Optimization Module Performance](#)

Podcast

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

F5 Networks, Inc. 401 Elliott Avenue West, Seattle, WA 98119 888-882-4447 www.f5.com

F5 Networks, Inc.
Corporate Headquarters
info@f5.com

F5 Networks
Asia-Pacific
apacinfo@f5.com

F5 Networks Ltd.
Europe/Middle-East/Africa
emeainfo@f5.com

F5 Networks
Japan K.K.
f5j-info@f5.com

