

Optimizing Oracle Data Backup with NetApp C-Mode SnapMirror and F5 BIG-IP WOM

F5® BIG-IP® WAN Optimization Manager™ (WOM) enables optimization of data replication by NetApp C-Mode SnapMirror and reduces replication time to disaster recovery (DR) sites. Save time and money by adding the inline deduplication, security, and adaptive compression provided by BIG-IP WOM to SnapMirror's already impressive optimization algorithms.

Replicating Data over the WAN

SnapMirror is a data replication software from NetApp used to mirror data from one or more NetApp storage systems across a LAN or WAN. Its storage deduplication and network compression capabilities put SnapMirror at the leading edge of replication technology.

Yet the amount of data that must be transferred via SnapMirror to keep a replication site up to date is often simply too great for the slower-speed connections typical in a WAN environment. While SnapMirror can be used locally, in a DR solution it is generally deployed to communicate over the WAN. In many organizations, WAN limitations create a bottleneck that prevents the DR site from being fully up to date if it's needed.

Solution

When deployed on two F5 BIG-IP® Local Traffic Manager™ (LTM) devices, BIG-IP WOM solves this replication problem by improving the throughput of the WAN connection. With additional compression and deduplication capabilities that complement those of SnapMirror, BIG-IP WOM improves the rate at which data is transferred and secures the connection between the DR site and the production data center. The joint solution enhances SnapMirror replication performance over the WAN.

BIG-IP WOM enables organizations using SnapMirror to:

- Accelerate data replication across the WAN.
- Mitigate the effects of latency.
- Increase the distance between the data center and the DR site.
- Prioritize replication transfer with guaranteed bandwidth.
- Deduplicate packet data—in addition to SnapMirror's optimizations of resting data—to reduce the bandwidth required for transfers over the WAN.

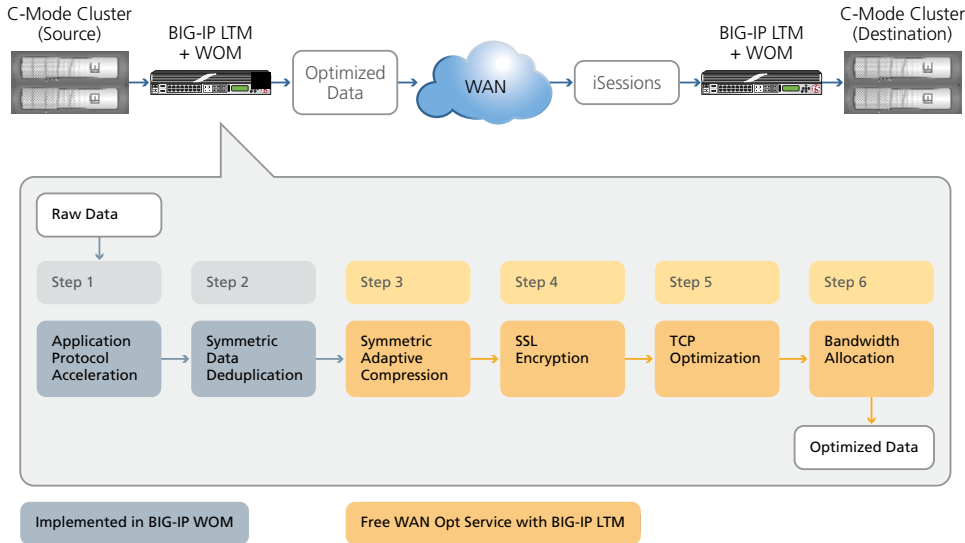
Key features

- **Deduplication**—Delivers additional deduplication to complement that performed by SnapMirror
- **F5® iSessions®**—Creates secure tunnels between production and DR data centers
- **F5® TCP Express™**—Enables state-of-the-art optimization of TCP connections
- **Rate Shaping**—Allocates bandwidth to optimize SnapMirror traffic usage

Key benefits

- **Increase Performance**—Reduces data replication time
- **Improve Efficiency**—Maximizes bandwidth utilization
- **Enhance Security**—Encrypts replication traffic sent over the WAN
- **Extend DR Site Distance**—Mitigates latency and optimizes replication traffic

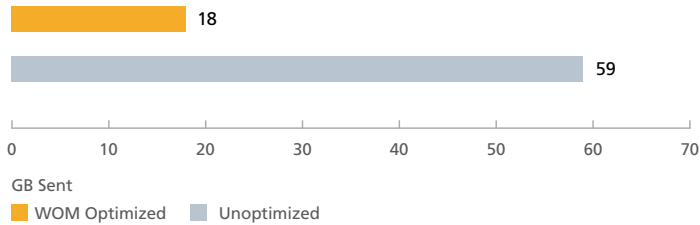
BIG-IP WOM delivers these benefits by layering optimization techniques onto the F5® TMOS® platform.



BIG-IP WOM secures and accelerates SnapMirror traffic.

Evidence

A test with a 976 GB Oracle database demonstrated the power of BIG-IP WOM to improve replication by SnapMirror for C-Mode. Compared to an initial baseline sync, BIG-IP WOM improved replication time by 30 percent and reduced the WAN bandwidth used by 10 times. When 59 GB of data were added and an incremental SnapMirror replication cycle was run, BIG-IP WOM reduced the WAN bandwidth used by 3.5 times.



Replication of 59 GB of incremental data reduced WAN bandwidth used to less than one third.

Learn more

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

Product overview

[BIG-IP WAN Optimization Manager](#)

Datasheet

[BIG-IP WAN Optimization Manager](#)

White papers

[F5 BIG-IP WOM in Data Replication Environments](#)

[BIG-IP WOM Performance](#)

Podcast

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