



How Tier3 Technologies WAN Optimization Solutions Accelerate Microsoft Exchange

Microsoft Exchange has become the corporate standard in email, calendaring, and workforce productivity. As a result, significant time and IT resources go into creating a robust, reliable, high-performance Exchange environment. IT departments regularly consider deploying additional exchange servers, moving servers to branch offices, and even adding more bandwidth in order to improve Exchange performance. Microsoft also has a “cached mode” to improve the perceived performance of Exchange email and the associated MAPI protocol. This mode enables email to store messages locally for quicker access. Cached mode also attempts to perform key transactions in the background, synchronizing changes while allowing users to continue to work. Cached mode manages bandwidth use by only downloading headers on slow connections. In addition Microsoft Office Outlook 2003/2007/2010 clients can connect to Exchange servers over the Internet by using the RPC over HTTP(S) Windows networking component. The protocol wraps MAPI or encrypted MAPI remote procedure calls (RPCs) with an HTTPS layer allowing for secure communication between client and server.

The Tier3 Technologies WAN Optimization Solution can significantly improve Exchange operations by utilizing Steelhead appliances, which simultaneously address bandwidth constraints and the combined effects of latency and protocol inefficiencies. Our solution combines fine grain data reduction and compression to perform data streamlining, reducing bandwidth utilization by 60 percent to 99 percent. Transport streamlining and application streamlining minimize protocol chattiness, eliminating 65 percent to 98 percent of packet round trips across the WAN. The application streamlining module for MAPI is unique in the market for its ability to directly address the specific MAPI protocol inefficiencies. Our solution can reduce the time needed to send and receive emails across the WAN, calendaring and other common actions. Additionally, we can reduce the bandwidth requirements of email and attachments. Even with all the benefits of local message caching, intelligent bandwidth use, reduced server and network load, the Steelhead appliance still provides significant performance improvements due to its MAPI Exchange application streamlining optimizations. Tier3 solutions can also operate in secure customer environments where email encryption is used (often by default) between the client and host servers, without impacting security. Performance is now improved as much as for unencrypted email.

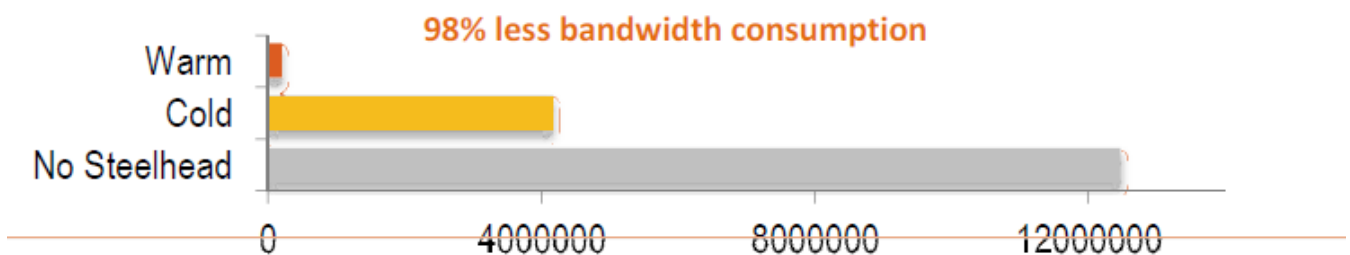
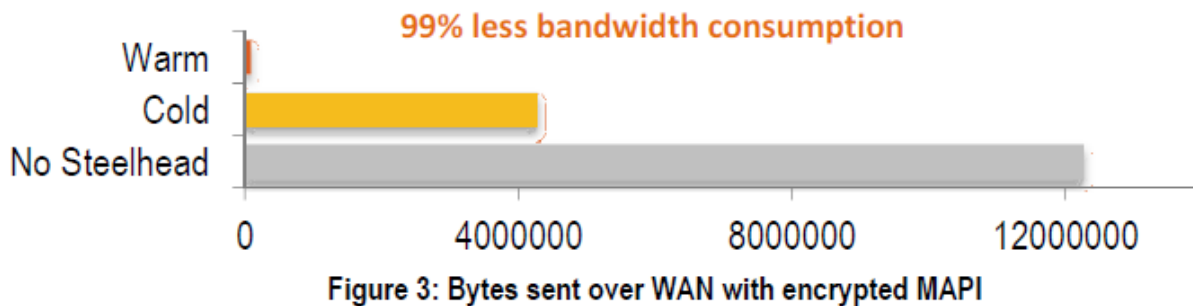
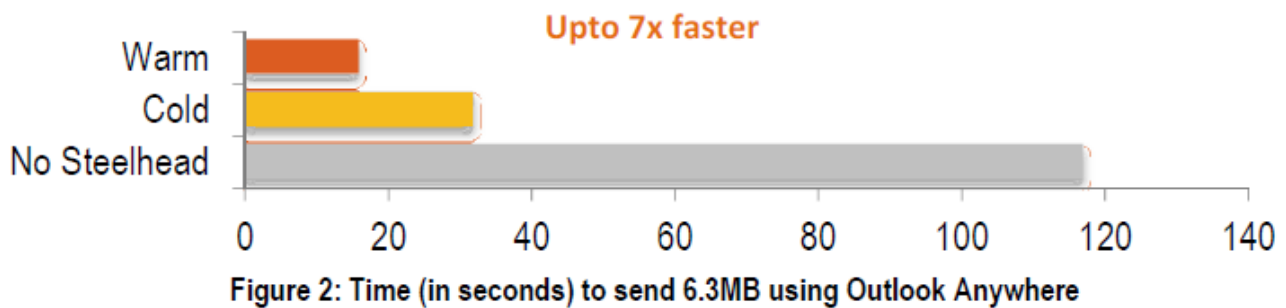
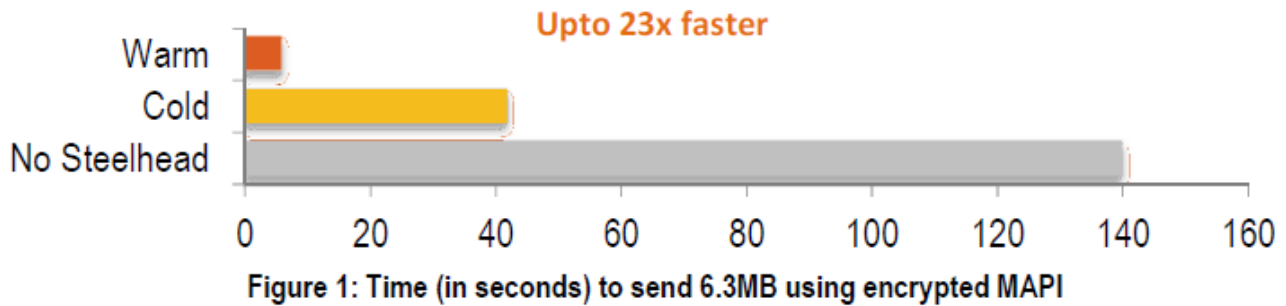
Testing Parameters

To show the effectiveness of the Steelhead appliance, we performed a “send file attachment” operation with Outlook 2010 – Exchange 2010 (cached mode). The send time is defined by when the send button is clicked to when the message disappears from the client’s outbox.

- Outlook 2010 and Exchange 2010
- Encrypted MAPI
- Outlook Anywhere with encrypted MAPI tunneled over HTTPS
- 1544 Kbit/sec and 100ms RTT. SH 2020 CFE and SFE.
- VM Windows 7 client, VM Windows 2008 R2 64-bit server
- Data pulled from Network Nightmare using netstat
- 6.2 MB PPT file attachment

Test Results

- 23 times faster transmission for a sender and recipient in the same branch using encrypted MAPI
- Seven time faster transmission when using Outlook Anywhere
- Outlook Anywhere
- Up to 99% reduction in bandwidth utilization for encrypted and unencrypted MAPI



Deploying Tier3 Technologies Steelhead appliances for Microsoft Exchange deployments provides multiple benefits, including:

- **Improved productivity.** By accelerating email performance, users spend less time sending and receiving email. Collaboration via email requires less waiting. IT managers receive fewer complaints regarding email performance.
- **Reduced WAN impact and costs.** Other network applications perform better when the WAN is no longer congested by redundant email traffic. By dramatically reducing redundant email traffic, IT managers can also avoid bandwidth upgrades or even reduce bandwidth costs to branch offices.
- **Consolidate Exchange servers.** Improved email performance means that IT managers can consolidate exchange servers, dramatically reducing infrastructure complexity and reducing both the capital and operational expenses associated with Exchange.

If the Tier3 Technologies WAN Optimizations solution can improve the performance of Microsoft Exchange in such a dramatic way – imagine what it can do for the rest of your network traffic.

Call Tier3 today to find out how we can help your network performance.

At Tier3 Technologies, we save companies money on IT – period.