Executive Summary

Blue Coat ProxySG appliances utilizing MACH5 WAN Optimization allow IT organizations to accelerate and secure the delivery of business applications for all users across the distributed enterprise - including those near Internet gateways, as well as in branch offices, data centers, and even individual end points. As part of the MACH5 WAN Optimization framework, MAPI Protocol Optimization can be implemented across the network to increase productivity and profits by improving user performance while reducing costs.

What is MAPI Protocol Optimization?

MAPI Protocol Optimization is the use of in-depth knowledge of the Messaging Application Programming Interface (MAPI) protocol to accelerate user response time. By acting as a proxy between the client and server, and having a detailed understanding of how the MAPI protocol functions, ProxySG appliances can anticipate user requests, resulting in data retrieval before clients have even requested it. Due to the traditionally "chatty" nature of MAPI, the performance improvement can be considerable.

Why should I perform MAPI Protocol Optimization in my network?

Microsoft Outlook is the most common enterprise e-mail application, and is often paired with Microsoft Exchange Server. As enterprises continue to trend toward consolidating servers, which requires more WAN deployments (branch and remote locations), e-mail application users experience debilitating response times not only while sending and receiving e-mail, but also while accessing group message folders or changing calendar elements. With MAPI Protocol Optimization, ProxySG appliances can consolidate RPC messages to reduce the number of round-trips required over the WAN to satisfy requests, and also download user e-mail real-time to the local ProxySG appliance, even after users have logged out of Outlook. These optimizations effectively minimize delays associated with waiting for data retrieval, and thus allow users to stop waiting on applications and start being more productive.

How does MAPI Protocol Optimization work?

MAPI Protocol Optimization is possible because ProxySG appliances have the ability to terminate user requests as if they were the server and initiate connections to other ProxySG appliances across the WAN in which they can intelligently make requests. Because of this split proxy implementation [one proxy on each side of the WAN], optimizations are available that would not be possible with a standalone solution.

MAPI Optimization – Batching

Blue Coat’s MAPI Optimization has the ability to minimize user response time by implementing Batching. MAPI RPC transmissions are broken into blocks of data with a maximum size of 32KB. Whether the client or server is sending data, the data transmission requires that the receiver acknowledge the last block of data before sending the next block. The delay associated with each of these acknowledgements, therefore, represents time spent waiting instead of data sent. With Batching, the Blue Coat appliance closest to the sender (client or server) can immediately acknowledge the data sent, allowing the sender to continue transmitting data. Once all of the data has been received by the Blue Coat appliance, it transmits it to the appliance across the WAN. By Batching multiple RPC messages into large chunks, the number of round-trips over the WAN is minimized.
As a full MAPI proxy, Blue Coat ProxySG appliances can improve Outlook performance by transparently intercepting MAPI and sending batch requests to minimize the number of round-trips to the server.

MAPI Optimization – Keep-alive
In an effort to decrease response time even further, especially for organizations that experience considerable delays when users log on to Outlook in the morning, Blue Coat’s MAPI Optimization has the ability for the appliance to stay connected and continue to retrieve a user’s e-mail even after they have logged out of Outlook. This Keep-Alive feature is important for any network where users must wait a considerable amount of time to retrieve e-mail when they log on to Outlook, or for small WAN links that may be overwhelmed when clients initially log on and retrieve e-mail. With Keep-Alive, the local and remote ProxySG appliances maintain “warm” connections between them after users have logged off; these connections are used to retrieve user e-mail as though the user was still signed in, and populate the byte cache dictionaries of both proxies on each side of the WAN. The result is that when users sign on, the e-mail is already in the local appliance’s byte cache and ready for immediate retrieval at LAN speed. Note that, as implemented by Blue Coat, this does not result in mail being moved from the server, flagged as read or otherwise changed; it is merely cached locally to accelerate future access.

The Blue Coat Difference

Application Level Proxy
Many vendors claim to support MAPI Optimization because they do generic TCP optimization such as Byte Caching or Compression. Blue Coat’s MACH5, however, has a true MAPI Proxy built right into the appliance. Having an application level proxy means that ProxySG appliances have more control over MAPI connections, and have the ability to perform application specific optimizations not available with generic TCP optimization.

Ease of Deployment
Blue Coat’s MAPI optimization uses Endpoint Mapper technology to determine the dynamic data ports for MAPI traffic. This means that ProxySG appliances are able to easily identify and accelerate MAPI traffic. There is no need to identify applications based on cumbersome Service Interface UUIDs as in other solutions.