

Solution Brief: CIFS/SMB2 Deep Dive Report

Preface

In a corporate network, applications, protocols and users continually change, branch offices are opened or closed, servers are added and removed, and software is upgraded or reconfigured. Traditionally organizations have 4 silos for managing the corporate IT environment; Network, Applications, Server and Storage, but there can be limitations associated with this approach as these 4 groups are not always aware of the changes made by other teams within the business. Until recently the organisations simply required that the Network team maintained connectivity keeping the Application, Server & Storage teams happy.

Performance Challenges:

- » *SMB-Signed traffic prevents application acceleration*
- » *Misconfigured or unsupported SMB versions, different RiOS versions have different protocol support that might not be configured by default*
- » *Client/server operating system might not be supported by RiOS*
- » *Extremely hard to get an overview in Steelheads/CMC*

Solution

- » *Using the proven RPAM technology we analyse each optimized connection for application acceleration issues*

Benefits

- » *See the percentage of traffic that is suffering performance issues*
- » *Lower time to resolution on performance problems*
- » *Problems are shown by category, Steelhead, client and server to pinpoint specific areas to address*
- » *Document your Steelhead estate is running at its absolute best*

WAN optimization vs. Network, Application, Server and Storage Teams

With the introduction of WAN optimization, the borders of the 4 silos (or teams) are becoming more blurred; the Network team is not simply moving data from A to B, but also responsible for the optimization of the applications critical to the business. These interdependencies mean that changes made for valid operational reasons by the various teams can adversely affect the performance of other key areas in a way that could not have been predicted

Fill the gaps between network, server and storage teams

With a CIFS/SMB2 deep dive report, we can help you fill the gaps between the Network, Application, Server and Storage teams, identifying the traffic being optimized (or not optimized, or no longer being optimized) by the Steelhead. Analysing data held within RPAM platform means; we can identify pressure points in the Steelheads, and analyse individual sessions and protocols using a mixture of syslog, SNMP and CLI (Command Line Interface). This gives us a truly unique view of the health of a protocol over time, by location, by Steelhead Server and users that cannot be achieved by any other management platform

CIFS/SMB2 protocol

CIFS (SMB v1) and the later SMB v2, SMB v2.1 and now SMB v3 protocols are big and complex.

- Depending on some of the following
- Client operating system is Windows 2000, XP, 7, Linux, Mac or something else.
- Server operation system is Windows 2000, 2003, 2008, 2012, Linux, NAS
- Functionality of the server, eg. Domain controller, domain member, print server etc.
- Steelhead membership of the domain (workstation, BDC or RODC)
- SMB security features like SMB-signing, to prevent man-in-the-middle attacks
- Service being used, like file transfers, print spooling, AD sync
- And other metrics like file locking and different applications like CAD apps and MS Office.

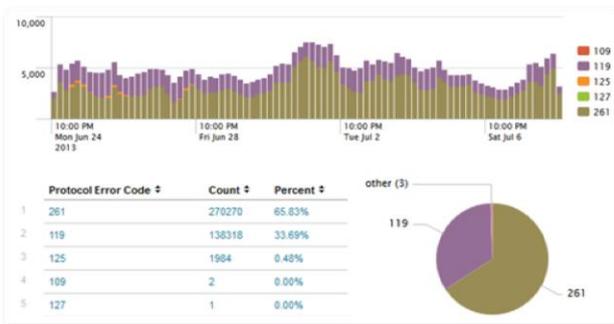
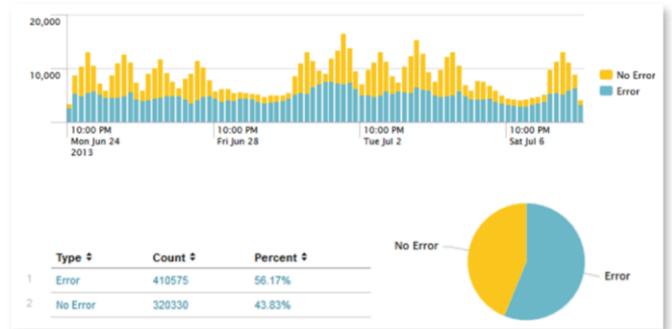
Optimization needs to be configured correctly at all times and even more importantly checked that it's working as expected, ensuring that network performance continually meets the needs of the business and the end-users. Unfortunately the Steelhead has only limited visibility in these areas and from the GUI/CLI and it can be very hard to analyse the logs, current connections and hundreds of other metrics required to identify performance issues. With a "CIFS/SMB deep dive report" we do all that for you

Get the Overview, quickly!

The report introduces easy to understand graphs, explanations and technical recommendations giving you an overview of the health, and state of the CIFS/SMB protocol optimization, it also—provides details for operational staff so they can quickly and effectively start implementing changes to re-establish optimum performance. We will collect data for 14 days and then write a report for you...

Errors vs. No Errors

There will almost always be errors, what is interesting is the percentage of errors over time, to get a quick overview we graph over time the number of errors and no errors (degraded performance for the user). This means that you can make an informed decision identifying quickly and easily if corrective action is required.



Protocol Errors

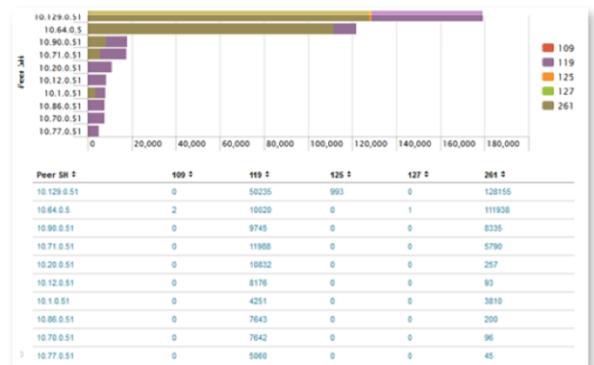
RPAM collects and categorises all of the protocol errors seen over the reporting period, it then cross-references them with the official Riverbed error codes to identify the type of error. Some of the more common errors are “119 Security signatures are required on the server” or “261 SMB2 blade disabled in Steelhead”. With this enhanced level of detail it quickly identifies

what part of the application is causing the performance degradation, additionally understanding if the Steelhead or server needs to be re-configured. The protocol errors section also gives you the exact percentage of the “Protocol Errors” graph with the count of how many times the individual error were detected.

The Top 10's

To understand what branches, Steelheads, servers or clients that needs configuration we will create 3 top 10 lists each with its own angle of view

“Top 10 Steelhead Peer with Errors”, provides you a detailed view of which Steelheads are causing the most problems. Use this data to prioritise the Steelheads needing immediate corrective action and identify if they are Data Centre or Branch Steelheads.



“Top 10 Server IPs” and “Top 10 client IPs”, generates a detailed view showing which servers and clients are experiencing the most problems.