SteelFusion – Monitoring, Reporting & Management

Your organization has implemented a converged infrastructure, with Riverbed's SteelFusion platform as a key component. Centralized & secure data, rapid provisioning capability, an enhanced Business Continuity capability and a lower TCO are all now vital to maintain and deliver to the business.

Eliminating branch office IT systems and storage enables a simplified and rapid provisioning capability plus a back-up and recovery solution that can be measured in minutes and at all times data is secure and protected within the Head Office IT environment.

SteelFusion means the organization benefits from a significantly reduced RPO metric. Previously measured in hours or working days 'RPO' (Recovery Point Objective) can now be calculated in minutes, or even seconds, and will typically be just before the outage or failure occurred. The 'RTO' (Recovery Time Objective) can also be updated to reflect this new paradigm.

As the IT Department can now respond more rapidly to an incident the Business Continuity Team can update the 'BIA' (Business Impact Analysis) to reflect that rapid provisioning, less risk of data loss & faster recovery metrics are now constantly deliverable by the SteelFusion platform.

However, It is vital that the key components of SteelFusion are monitored 24 x 7 x 365 to ensure the environment is always able to deliver these advanced capabilities, additionally the overall WAN Optimization performance from the Steelheads supporting the converged infrastructure has to be fully optimized or SteelFusion may be compromised. Hawk-Eye's RPAM platform is the most advanced and comprehensive tool available to support these key objectives;

a) ensuring the Steelhead platforms and WAN Optimization environment is working at maximum efficiency, and

b) that the specific 'data performance' metrics associated with the SteelFusion environment are fully operational and able to support the enhanced RPO and RTO service levels and rapid provisioning now expected by the business.

SteelFusion Reporting and Performance Metrics

SteelFusion's monitoring and reporting capability is an 'add-in' module to Hawk-Eye's RPAM platform that is deployed to monitor the Steelhead estate. RPAM measures and reports on the multiple performance metrics that ensure your WAN Optimization environment is engineered effectively and capable of supporting the converged infrastructure.

Hawk-Eye's SteelFusion module actively support the IT department's on-going task to ensure the environment can continually meet all of its objectives; it focuses on the following three key areas of operation:

- License sizing of SteelFusion Core and Edges
- Performance monitoring
- Service Level Agreements (SLA) and fault monitoring

## *Sizing of SteelFusion Core and Edge*

In SteelFusion, there is no admission control or hard limits as opposed to SteelHeads, there is no alarms or warnings when you come close. This does not mean that there is no limit and that those limits are to be ignored, it simply means that unless you are very vigilant it is easy to exceed and potential cause reduced performance or system failures. To make matter worse Riverbed does not provide an aggregated overview of how close a particular SteelFusion Core or Edge are to its limits. This is for none of the license limits; number of Edges, number of LUNs, data-set size, BlockStore size or IOPS limits.

Steel-Eye for SteelFusion provide is a complete overview of all equipment together with all relevant sizing metrics for SteelFusion and to ensure easy understanding for technical as well as non-technical we always apply a percentage of its capacity and our traffic light system (greed, amber and red). This gives an unprecedented level of visibility and continually ensures that you do not roll out more data than the equipment can support saving on support staff and budget. When you have visibility and alerting, you do not have to worry about putting out fires and you can walk closer to the edge without worrying about failures or problems.

Performance monitoring

One of the reasons to use SteelFusion is that regular WAN Optimization might not provide enough performance if the service is centralized due to various conditions. Since such system is critical of nature it is equally important to ensure that the performance is not degraded due to the SteelFusion hardware or configurations. SteelFusion takes advantage of the latest and greatest technology to yield the best performance, uptime and data security for the best possible ROI making the business more robust, secure and productive. This has the drawback that support personnel need to understand new technology and see across silo borders from network to storage to virtualization technologies.

Steel-Eye for SteelFusion collects the most important performance metrics, automatically associate and calculate relevant data to apply our traffic colouring schema. A simple example of such is measuring the speed of disks (IOPS) in the Edge. We extract the metric from the SteelFusion Edge aggregate that over time draw a graph of the average, peak and 95th percentile utilization. Then we add the spec'd limit of the specific model to the graph and do a calculation of how many samples there was above or close to the limit to colour the graph green, amber or red. Then if any parameter is above the limit or our/Riverbeds guideline a recommendation will be made how to remedy the problem.
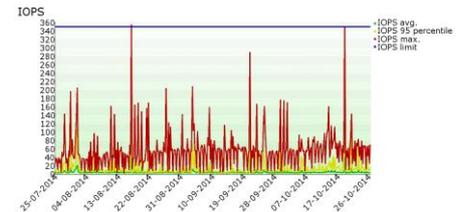
This ensure a non-technical performance overview of the SteelFusion estate, but also have concrete recommendation for where and what to tune to the technical support staff. Our aim is to give the visibility to change things before it impact user performance and to direct the technical teams across silos to a specific problem so there will be no finger pointing.

Service Level Agreement (SLA) and Fault Monitoring

Most businesses recognize the importance of good SLA monitoring. These tools ensure that the correct risk analysis for both personnel and equipment. An example is adding to much redundancy is both costly and add additional complexity to the environment demanding more skills on the technical staff as on the other hand too little results in downtime and loss of production and earnings. SteelFusion has many moving parts and is untraditional in the way it operates in the environment. Depending on its configuration and use case higher or lower uptime and connectivity is required, unfortunately there is not a single SLA report within the SteelFusion ecosystem. The SteelFusion simply put only tracks real-time connectivity there is no historical data.

Steel-Eye for SteelFusion collects data every 5 minutes and commit that in our back-end database, then from the thousands of data samples SLA's are calculated and coloured. Steel-Eye collects data from both the SteelFusion Core, Edge and storage, but also from other relevant network equipment like WAN gateways and firewall. Steel-Eye presents a range of SLA's, this does not only include IP connectivity, but also on a software level between SteelFusion Core, Edge and storage so any software related faults is also caught.

Steel-Eye for SteelFusion gives the business the best tool available to analyse risk factors based on the most important parts of SteelFusion, it delivers historical data at least 3 months back. This means if there is parts that fall outside the business policy it is easily identified what part and Steel-Eye will give suggestions on how to improve the service level agreements.

Steel-Eye for SteelFusion

When choosing technology like SteelFusion, the business leverage the best technology available for protecting and centralizing data. SteelFusion fuses technologies from the network, storage, server and virtualization teams into a single unit so it is essential to monitor and to manage this across teams and not just within a single business unit. Steel-Eye for SteelFusion is the only purpose build monitoring, alerting and reporting system available. It includes all parts to SteelFusion into a report so that nothing slips through the cracks and no issue falls between departments or teams.