**Optimize Your Storage Infrastructure by Diagnosing the Health of Your Virtualized Environment**

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We're entering a new information era. Today's organizations need to contend with the fact that billions of users—relying on millions of apps—will generate gargantuan quantities of content. According to IDC, the digital universe could balloon to 44 zettabytes of information by 2020. This data explosion not only creates demand for new services but also reinforces the need for companies to optimize their storage infrastructure and capabilities.

Today's virtualized datacenters provide the operational foundation for the constantly expanding universe of applications for both business and IT. Ensuring that a wide variety of apps remain available as high performance virtual images across diverse hardware and infrastructure platforms is a major challenge, as well as an essential requirement for business success. Within these realities of increasingly complex IT environments, infrastructure performance management has become both difficult and expensive. Given the scale of these environments, it's a tall order to achieve performance and reliability objectives.

**THE CHALLENGE HOLDS THE KEY**
To unlock maximum performance in virtualized datacenters, organizations need to evaluate, understand, and optimize storage management. Yet when a plethora of management tools are used for this purpose, it can be tough to discern the big picture. Using a range of disparate tools rather than one reliable one can result in narrow views of applications and infrastructure, leaving an incomplete visual of the data center as a whole. This generally results in slow and inefficient workflows around key IT service management functions, leading to costly and inefficient triage requirements.

Yet while information is central to the challenge facing organizations, it's also key to the solution. Without accurately diagnosing the health of your virtualized environment, it's nearly impossible to identify the relevant issues to ensure that your storage infrastructure can run optimally, maximizing application performance. Some administrators simply throw more hardware at storage problems to try to tame the data glut. But this is an inefficient strategy since doing so takes additional resources and adds more complexity to your storage infrastructure—without being based on the needed intelligence that would reveal exactly what you're trying to fix.

A simple analogy is that it's important to have a solid awareness about a specific health problem before you undergo treatment through medication or surgery. You wouldn't just schedule brain surgery for a headache without first having an MRI to determine whether there's abnormal tissue in the brain from an injury or illness. Just as having reliable diagnostic information is key to helping you maintain good personal health, such diagnostics on your storage infrastructure also are vital to

maintaining and improving the performance of your virtualized data center. When you have the information you need about your infrastructure, the organization can make needed changes early to prevent small problems from becoming bigger ones. The goal is finding a way to easily pinpoint and access any concerning issues up front so that IT can make fast adjustments to ensure peak performance for critical applications and workloads.

**FOREST, TREES & LEAVES**
Many storage installations fail because administrators don't have the accurate information they need about their IT environment's capacity, performance, and throughput needs. To address complex infrastructure challenges and decrease the cost of infrastructure performance management, companies need a single solution for storage optimization to empower better decision making while lowering resource usage. The ideal solution should enable efficient infrastructure control, in turn improving the quality of service and controlling costs.

When it comes to storage, instead of falling back on expensive hardware solutions, what makes more sense is to move your apps to the appropriate storage tier to keep things running smoothly. However, before you can do so, you need to have a clear visual of the lay of the land—a simple solution that allows you to see the forest, the trees, *and* the leaves. In short, if you have the tools to understand your current data storage utilization, then your storage data can be transformed into powerful answers that hold the key to improved virtualized data center performance for the future.

Ideally, such a solution should use proactive monitoring of the storage environment, continuously collecting data for on-demand analysis and ensuring that the environment always runs at peak efficiency. If the solution provides predictive alerting, it can eliminate outages and guarantee infrastructure stability. What's more, by aligning with data environment policies, the right storage optimization solution can also guarantee that SLAs are aligned with business requirements.

**Getting a Health Check**
Since you've invested considerable resources into your storage virtualization environment and carefully implemented data protection, it's important to know that your storage services will deliver the level of availability and efficiency that you require. As a first step, here are some questions for administrators to ask about their virtualized infrastructure:

- Are you getting the most out of your storage solution investment?

- Have you recently conducted an assessment of your infrastructure?

- Do you have insight into the performance, utilization and health of your

storage infrastructure?

- Do you regularly tune your storage environment as application data and related workloads change?

- Have you balanced your capacity and performance requirements with the proper storage tier?

- Are you identifying issues, before they impact your customers, services and revenue?

Since it's not always easy to thoroughly conduct an infrastructure health check on IBM Virtualized Storage Infrastructure or other solution, online tools are available to help administrators validate existing configurations, past decisions, and future storage infrastructure optimization plans. Imagine having all critical IT data source details into the performance and availability of infrastructure components combined into one dashboard to inform your decision making across physical, virtual, and cloud environments. When you can visualize the entire data center performance in a single, easy-to-use interface rather than via multiple tools, you can realize higher utilization of existing infrastructure assets.

You can get this type of comprehensive picture into your IT infrastructure's health—ensuring your storage is truly optimized—with such a tool. Key features that you want in your assessment tool include:

- **Infrastructure optimization.** You need deep visibility into the performance, utilization, and health of your virtualized infrastructure.

- **Proactive monitoring.** You need ongoing infrastructure monitoring to get a heads-up on issues before they occur.

- **Business insights.** You need operational intelligence from storage performance data to help you make more informed business decisions.

- **Cost optimization.** You need the ability to identify the highest storage performance, at the lowest cost and risk, by aligning business requirements with correct assets.

The goal of such a health check on your storage system is to garner insights into your infrastructure's resilience and measure its performance, utilization, and data risk levels. By utilizing a health assessment tool for your storage system, you'll be able to catch overload situations within nodes, caches, and SAN ports, identify

performance bottlenecks before they impact business, and eliminate unnecessary over-usage, aligning the lowest cost storage system based on workload performance requirements. In short, when you have hard data about your storage infrastructure to use for analysis, the guessing game ends and you can make an accurate diagnosis of your system—which is an essential first step to an effective cure.