

Solution Guide

Solving Today's Top 5 IT Performance Management Challenges

Insights by:

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IT Performance is an important concern due to the complicated nature of application architectures—including layers of virtualization, network complexity, advanced storage infrastructures, and the silo-like nature of IT domains. The problems of performance often lead to missed service level agreements, overspending, and brittle infrastructure that does not seamlessly meet the needs of business.

Taneja Group provides analysis and consulting for the technology industry through research and guidance targeted at the technology market. Galileo uses infrastructure performance monitoring expertise to improve utilization, planning, and administration. Experts from these organizations have collaborated to find answers to five critical challenges facing IT administrators:

- **How can I better prevent system slowdowns?**
- **How can I troubleshoot problems in my environment faster?**
- **How can I best size my environment?**
- **How do I keep my environment running optimally?**
- **How can I gain predictive operational insight into my environment?**

Challenge #1: Preventing System Slowdowns

While critical system failures gather more attention, performance slowdowns remain a concern due their ability to negatively effect an organization's bottom line. For that reason, prevention is vital. When an administrator is in a reactive state, solving a performance issue can typically waste nearly a third of their workday. That is why it is so important to be proactive instead. This requires the right tools, accurate data, and efficient use of time. Visibility is the first key principal to great performance management that prevents slowdowns. For the practitioner, this visibility has to be both real and practical—not merely theoretical.

The right tools can quickly identify system details, provide detailed views of devices, and give proactive alerts—so you can isolate problems before they go critical.

Proactive monitoring benefits from constant data collection and ongoing data retention—along with predictive threshold monitoring and the fast, accurate detection of performance changes. If you can visually review and analyze your assets across your IT environment with a unified, single-pane-of-glass view; you will be well ahead of the game. By pinpointing where in the data center a performance slowdown is occurring; this view can examine server environments, storage environments, bandwidth bottlenecks, power allocation, virtualization environments, and more.

Challenge #2: Troubleshooting Problems Quickly

A number of challenges face IT administrators when the time comes to diagnose a problem within their environment—including heterogeneous infrastructure, different computing languages, a lack of common metrics, personnel with varying areas of expertise, and different domains. Servers, storage, SAN, and other areas all have their own specific requirements—and frequently different administrators as well. This makes fast, efficient troubleshooting an ongoing challenge.

The correct tool—and it is almost certainly better to use one comprehensive tool than several competing monitors—will provide you with accurate data on what the problems are and where they occur. It will act like a crystal ball that supplies real, actionable data with end-to-end capture and collection. The tool should be able to set alerting parameters into hypothetical or theoretical conditions that do not necessarily reflect current data-center conditions—but may reflect data-center conditions that could occur in the near or long-term future.

Challenge #3: Right-Sizing Infrastructure

In most typical IT infrastructure environments, bigger is not always immediately better. While running undersized can hurt performance, running oversized can just as easily hurt expenditure. Carefully scaling infrastructure to need is always the most cost-effective. This disciplined approach requires accurate data—along with the analytics to support capacity planning, resource allocation, and future purchase decisions. In short, unused or underutilized resources are wasteful. At the same time, it is important to anticipate future needs.

The right solution will show you real numbers that prove how well you are running.

This is not just a matter of telling you when you need more. A system that returns accurate percentages—including capacity data from different corners of your environment—can help you reallocate resources and perhaps even downsize your hardware footprint where possible. At the same time, predictive analytics help you anticipate future needs that may stress or even exhaust your current resources. It is also very helpful to be able to enter hypothetical parameters to see how a data center will react to a set of certain circumstances in the near or long-term future. This allows you to predict the impact of future sizing decisions. It is also useful to note recurring alerts coming from a certain area of a data center. These can help you determine where you will likely need to expand or upgrade in the near future.

Challenge #4: Keeping Infrastructure Running Optimally

Once you have a fast-running, trouble-free IT infrastructure sized correctly to your needs; one important question remains: How do you keep it that way? In order to maintain the best performance, an optimized environment supported by true data and actionable analysis is vital. The right solution for most organizations will offer automated support of IT optimization methods, running at all times to provide administrators with both current and historical information on the performance of their environment.

But what would such a solution look like? Imagine a system that will return—on a daily basis—a list of critical action items to address. On a weekly basis, it will perform health checks to provide intelligence on potential issues surrounding capacity, availability, and overall performance.

An increasing number of data centers face the issue of cloud migration and managing hybrid environments. With this in mind; it is important to have the capability to use historically collected information to “size” CPU, memory, network, storage performance, and capacity. This gives Cloud providers accurate, fact-based resource requirements for costing and proposals. This capability is useful when assembling existing customer workloads for the “what-if” scenarios that allow you to determine what to move to the cloud first. You can then size and relate that to the costs that cloud providers give you. Once migrated with the right tools, you can validate any SLA or verify that you are getting the value you anticipated from the Cloud Provider. Additionally, you can both ensure that you are getting the CPU, memory and response times you were promised and determine if certain times or days are slower.

Challenge #5: Gaining Predictive Operational Insight

It is not enough to simply look backward. Unfortunately, that is exactly what a purely reactive approach to infrastructure performance management forces you to do. It is important to remain proactive in order to head-off performance issues before they have the opportunity to become genuine failures.

You should ideally be not only predictive, but intelligently predictive. That means you do not simply look forward by the week or month. Rather, you anticipate long-term needs. Big data requires predictive analytics—telling you exactly what will happen when you subject your infrastructure environment to such stresses as a heavier workload or additional users.

With accurate reporting, your Key Performance Indicators (KPIs) and performance reporting provide the real picture through enterprise and alerting dashboards. The right tools will automate these tasks in an easy-to-navigate way. That way, you can get right down to valuable, actionable data across servers, storage, SAN, applications, and more. With all your IT enterprise environment information in one place, you do not have to hunt for or sort through it. This makes management and reporting effortless. You should be able to identify actionable activities to prevent IT performance problems before they occur. Your enterprise performance reporting should be customizable—allowing you to shape your data views by business role, technology, business unit, or application based on tags or defined alerting. Finally, this should all support your monitoring objectives—whether your IT environment is comprised of data centers on premise, operates in the Cloud, or consists of a hybrid approach.

About the Authors

Mike Matchett is a senior analyst at Taneja Group. He brings over 20 years of experience in managing and marketing IT data center solutions particularly at the nexus of performance, capacity and virtualization. Currently he is focused on IT optimization for virtualization and convergence across servers, storage and networks, especially to handle the requirements of mission-critical applications, Big Data analysis, and the next generation data center. Mike has a deep understanding of systems management, IT operations, and solutions marketing to help drive architecture, messaging, and positioning initiatives. He has previously worked at a senior level in services, marketing, and product management at a diverse portfolio of companies ranging from large enterprises like Dell Storage and BMC, to successful startups like BGS and Akorri (acquired by NetApp).

Taneja Group, Inc.

Taneja Group is a premiere boutique analyst firm providing analysis and consulting for the technology industry. All our research and guidance is targeted at technology vendors, IT end users and the venture capitalists. Taneja Group's analysts cover technologies in the following areas: all aspects of storage, server virtualization, WAN Optimization, storage and application acceleration, eDiscovery and corporate governance. Cloud storage, Big Data and Data Center Convergence are inherently covered in these segments. The data center is undergoing a fundamental metamorphosis and our analysts are at the forefront of advising clients in terms of which technologies are crucial and when they should be implemented, for maximum effectiveness. For the eDiscovery industry we cover all aspects of the litigation workflow as well as related business processes including governance, compliance, records management, and data retention management.

Tim Conley and Chris Churchey are co-founders of Galileo Performance Explorer® and former IBM systems architects and engineers. Each specialize in core IT infrastructure—Conley in storage performance and Churchey in server performance. Originally developed as a proprietary tool used by the ATS Group—a systems integration firm that Conley and Churchey founded in 2001—during client consulting engagements, Galileo is now available to everyone and was the industry's first, integrated and cloud-based infrastructure performance management suite. They are long-time advocates and consultants for CIOs, data center managers, and system administrators with SMBs, Fortune 500 companies, and government agencies. They have more than 60 years of combined experience in system implementations, upgrades/migrations, backups/recoveries, performance analysis, and capacity planning.

Galileo Performance Explorer

Galileo Performance Explorer® is the industry's first cloud-based and integrated infrastructure performance management (IPM) suite for servers, storage, SAN and applications. Designed by data center experts from real-world implementations, Galileo improves IT utilization and capacity planning with proactive, convenient performance monitoring that has proven easy to use. It delivers hundreds of analytical perspectives on server, storage, SAN and virtualization environments for key decision makers that go far beyond reactive alarms. Built on an innovative SaaS architecture, Galileo installs in minutes without onsite data or expensive hardware requirements. Automatic collection of real-time data, with quick, easy, graphical reporting via an intuitive web interface, offers access to custom dashboards with full drilldown into data details, anywhere, anytime.



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