

HOW TO SIMPLIFY YOUR HYBRID CLOUD INFRASTRUCTURE WITH AI

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Introduction

Did you know [90 percent of the world's data](#) was created in the last two years? And currently, there are two and a half quintillion bytes of data created every single day worldwide?

As the cloud continues gaining popularity among modern economies, organizations are realizing that their traditional data infrastructures simply can't keep pace anymore. Not only that, but business leaders also crave the flexibility and scalability offered by hybrid cloud environments. **It's a demand driven by market demands to not just manage, but also harness the power of today's exponential growth in data.**

As the amount of data generated and consumed continues to explode, it's no surprise that almost [80 percent of businesses](#) have shifted their data storage and management processes to a hybrid cloud structure or that **98 percent plan to make the shift by 2021.**

*2,500,000,000,000,000,000
bytes of data created daily*

– IBM



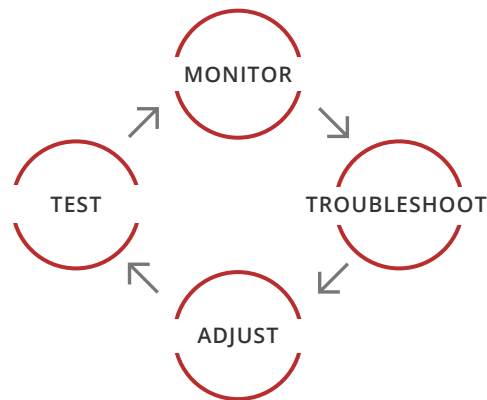
*Of businesses have shifted their data
storage and management processes
to a hybrid cloud structure*

– IBM



As companies collect more and more data each day, it's increasingly important that business leaders employ database operations that not only integrate seamlessly with their existing systems, but also ensure fast, non-disruptive data delivery across platforms and applications.

However, implementing fast storage doesn't always simplify operations, leaving IT teams left to troubleshoot and monitor hybrid structures around the clock. This kickstarts an endless cycle of IT patchwork that holds your business back, making it harder to scale and innovate.



The Core Challenge:

Your IT department is heads down on constant operational support with less time to focus on digital transformation. Not only does this leave them consumed with never-ending tasks, but it puts your business at greater risk of wasted resources and missed opportunities to improve operations.



The Solution:

An artificial intelligence (AI) driven solution that not only automates your data management but simplifies your entire infrastructure. Today's technology offers autonomous operations that, when paired with machine learning, take the guesswork out of data management and watch over your environment for you.

In this ebook, we explore how artificial intelligence can optimize your storage hardware, simplify your software and streamline cross-stack applications – all while creating more time for IT to innovate.

If you're thinking, "How do I know if an AI-driven solution is right for me?" you're not alone. Many organizations question including artificial intelligence in their business processes. But AI exists to support, not disrupt.



So How Do You Know if You're Ready for AI?

Simply having a hybrid cloud infrastructure isn't enough for today's growing enterprise workflows. If you're grappling with whether or not you should invest in the technology, here are a few challenges AI addresses:



Reducing Downtime

Most organizations use multiple applications and software that, when operated in a hybrid data environment, experience a slight hesitation in data delivery. This pause is referred to as the app-data gap, and it occurs when the delivery of data between application and infrastructure is disrupted — resulting in downtime that affects your business.

By continuously optimizing VM performance, AI can deliver a higher percentage of availability, ensuring your infrastructure maintains consistent uptime.





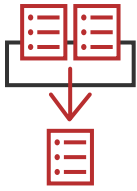
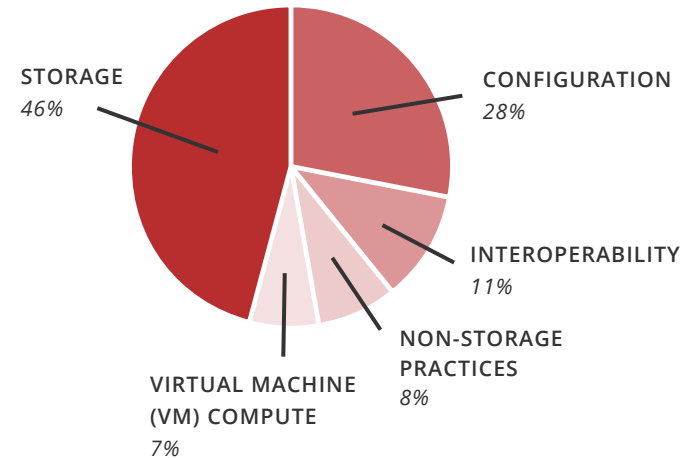
Preventative Maintenance

Let's take another look at the app-data gap. Historically, the app-data gap has been considered a storage-related issue. However, in a [recent report](#), the HPE AI tool Nimble Storage found that was only half of the equation.

While 46 percent of problems were related to storage, 54 percent of issues began elsewhere: configuration (28%), interoperability (11%), non-storage practices (8%) and virtual machine (VM) compute (7%)

With machine learning, AI is able to take a deeper look into the root of infrastructure disruptions or delays, no matter how complex they may be.

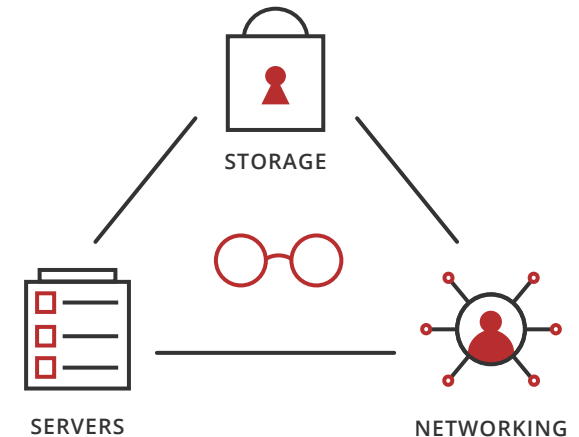
CAUSES OF THE APP-DATA GAP



Simplifying Structure

With so many layers in the infrastructure stack, hybrid data models are too complex to be left fully in the hands of a single IT team. IT departments can't predict and preemptively prevent both hardware and software malfunctions 24/7/365. As system errors occur throughout the infrastructure stack, traditional IT solutions are only able to pinpoint disruptions at a device and application level, rather than across layers, giving you limited insight into the degree of impact.

When coupled with machine learning, artificial intelligence removes the limited layer visibility created by conventional infrastructure management methods and allows you 100 percent cross-stack visibility.





Relax – AI Does it For You

When you deploy an autonomous storage solution, your infrastructure is reverse engineered to work for you based on machine learning and historical configurations. But in a market dominated by vendors who claim to offer ‘best-in-class’ support, how do you know which AI solution is worth it?



Introducing HPE InfoSight™ Predictive Analytics

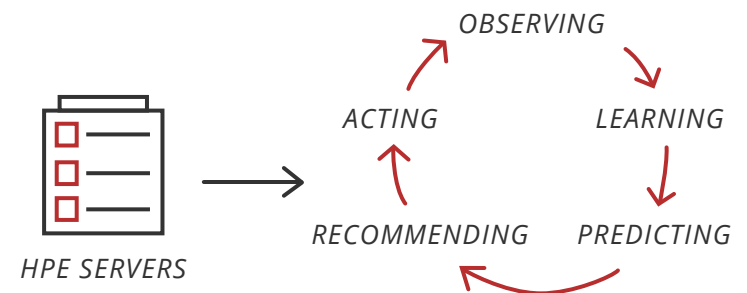
Powered by HPE Nimble Storage, InfoSight provides cross-stack analytics to HPE 3PAR Storage systems.

Every second, your HPE 3PAR Service Processor (SP) collects telemetry data that spans the entire lifecycle of your storage environment from past to present. With HPE InfoSight, this data is cataloged, dissected and displayed to provide an informative overview of the health and status of your arrays.

With so many layers operating at once, staying up-to-date on the current health, performance and bandwidth of your entire infrastructure stack is almost impossible. Thanks to InfoSight's steady-state monitoring and global visibility, this information is gathered and displayed in near-real-time, eliminating the guesswork and headache from traditional management strategies.

HPE InfoSight optimizes your data management processes in three simple steps:

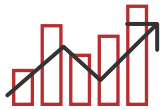
- ① Simplifies your virtual environment
- ② Reduces needed resources from IT
- ③ Uncovers digestible cross-stack analytics



InfoSight's analytic engine highlights system details, capacity and performance trends, best practices and software recommendations, wellness summaries, alerts and more.



The Top Three Benefits Offered by InfoSight™



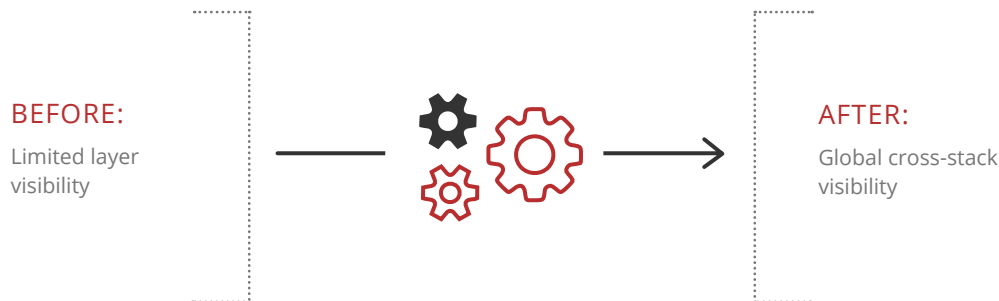
① Automated Analytics

InfoSight's predictive analytics software predicts and resolves 86 percent of software and hardware malfunctions before you even know they exist.

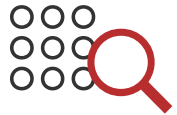
Going deeper...

As InfoSight analyzes and correlates sensors across your infrastructure stack, you get full visibility into the current health of your hardware and a comprehensive view of your host, network and storage layers—all collected and consolidated into a user-friendly platform *without any human management*.

Sensor data provides comprehensive measurements that, without advanced machine learning, only tell part of the story. Artificial intelligence allows InfoSight to take a deep dive into your analytics, gaining a full, modeled understanding of the ideal environments for workloads and applications. This understanding ensures that all efforts to predict, remedy and maintain operational excellence are backed by domain expertise.



The Top Three Benefits Offered by InfoSight™



② Expert IT

Using AI, InfoSight monitors and manages your entire data environment for you — resulting in 85 percent less time spent on manual troubleshooting.

Going deeper...

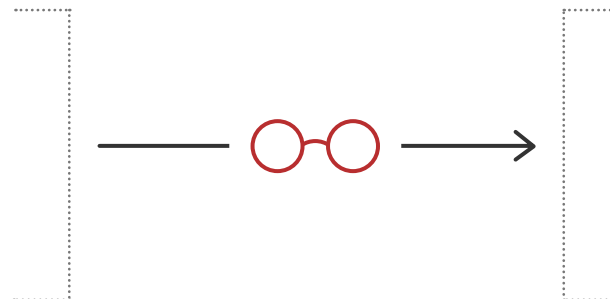
Hybrid infrastructures operate on many different layers, making it difficult for IT to get visibility into the maze of potential concerns. With machine learning, InfoSight elevates the support experience by lessening the burden placed on your IT department. Plus, by automatically optimizing VM performance, InfoSight delivers 99.99 percent availability for consistent uptime.

InfoSight's advanced recommendation engine pinpoints potential concerns that could have a negative impact on your IT equipment's (ITE) performance, workloads, server health and more through signature detection. By identifying notable signatures among data patterns, InfoSight gives your system the information it needs to optimize. And with rapid root cause analysis, AI quickly resolves the issue, determines the cause and employs digital signatures to other HPE systems globally to ensure the same issue never occurs twice.

Did you know that an average of \$5,600 is lost per minute of downtime?

BEFORE:

Fragmented IT priorities,
hours spent sifting through
graphs and numbers



AFTER:

Consistent monitoring, no
more after-hour calls to IT,
99.999% availability



The Top Three Benefits Offered by InfoSight™



③ Forecasting Needs

It doesn't stop at predictive analytics. InfoSight's advanced machine learning capabilities offer insights and recommendations for future capacity needs and performance requirements.

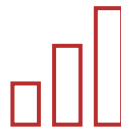
Going deeper...

InfoSight offers detailed reports that extend throughout your entire infrastructure lifecycle. While your cloud applications may not deteriorate over time, your ITE and server storage will. Not only that, but your ever-changing business needs will cause your infrastructure and support demands to shift.

InfoSight's autonomous operations continuously optimize and adapt to work better for your VM. InfoSight goes deeper into your system than traditional IT tools, anticipating the performance, equipment and solutions needed based on historical configurations and autoregression.

BEFORE:

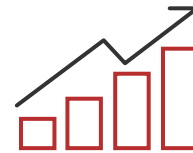
Limited view of potential growth, jaded view of deployed arrays



AFTER:

Advanced recommendations on future capacity and storage needs





Self-Managing | Self-Resolving | Self-Improving

AI-driven operations simplify your entire data ecosystem, giving you a better understanding of the operations driving your workloads.



Meet Your Global Dashboard

As your data is collected via the HPE 3PAR SP, InfoSight's platform displays information in a robust, yet user-friendly interface. And with a fully customizable reporting tool, you have the flexibility you need to get the most out of your data.

The easy-to-use dashboard gives you an exhaustive view of all deployed arrays with informative infographics that make large subsets of data easy-to-digest. Metric information collected from the HPE 3PAR SP is consolidated and displayed within the following categories:

- ✓ Configuration
- ✓ Wellness
- ✓ Analytics
- ✓ Virtualization
- ✓ Performance

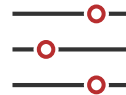


Checking All the Boxes

In a hybrid environment, the need for constant physical troubleshooting places an enormous burden on IT administrators. IT teams want to focus on business-driving innovation, but when their days are spent on operational intervention they are held back by outdated platform solutions that no longer have a place in your business.



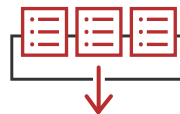
24/7 Monitoring



Capacity Forecasting



Predictive Resolution



Resource-Management



Expert Cross-Stack Analysis



Ready to Optimize Your Data Management Processes?

HPE InfoSight™ transforms how enterprises manage, store and support data and information. Through autonomous machine learning, InfoSight™ facilitates optimized processes that reduce wasted time and resources while empowering you to simplify planning. Our solutions experts understand that the right IT solutions and services can move your business forward. MicroAge is proud to be a certified **Platinum Partner with Hewlett Packard Enterprise** with 39 current authorizations and certifications.



Your business solutions should be as unique as your needs.

Contact a MicroAge expert today!

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🌐 www.microage.com

RESOURCES

<https://www.ibm.com/blogs/watson/2016/07/10-industries-using-big-data-win-big/>

<https://www.ibm.com/blogs/cloud-computing/2018/10/19/survey-multicloud-management-tools/>

<https://assets.ext.hpe.com/is/content/hpedam/documents/a00018000-8999/a00018502/a00018502enw.pdf>

<https://community.hpe.com/t5/Servers-The-Right-Compute/HPE-InfoSight-Playing-in-a-league-of-its-own-and-now-available/ba-p/7030281#.XZ-eUZNKjUI>

<https://blogs.gartner.com/andrew-lerner/2014/07/16/the-cost-of-downtime/>

<https://www.hpe.com/us/en/solutions/infosight.html>

