

# ESSENTIAL GUIDE TO UNIFIED OBSERVABILITY WITH NETAPP DATA INFRASTRUCTURE INSIGHTS

Discover the power of unified end-to-end observability and improve operations with intelligent insights across on-premises, hybrid, and multi-cloud infrastructure

# TABLE OF CONTENTS

- 03** Overview
- 04** Why Data Infrastructure Insights
- 06** End-to-end unified observability
- 07** Understand your infrastructure with dynamic visualizations
- 08** Correlation analysis
- 10** Alerts and anomaly detection
- 12** User-friendly interface
- 13** Summary and next steps

# OVERVIEW

This guide details how Data Infrastructure Insights can solve the biggest challenges impacting your entire data infrastructure to ultimately achieve peak performance and availability through a range of advanced capabilities.

## **End-to-end unified observability**

Seamlessly integrate with your existing suite of NetApp data storage solutions as well as other vendor platforms to achieve centralized visibility of your data infrastructure.

## **Powerful visualizations**

Data Infrastructure Insights comes with a suite of out-of-the-box dashboards that you can easily customize. Spend less time setting up or manually correlating data and more time discovering valuable insights and focusing on critical tasks.

## **Correlation analysis**

By analyzing the relationships between storage and workloads, you can quickly identify the true root cause of issues and how to resolve them.

## **Alerts and anomaly detection**

Using machine learning algorithms, Data Infrastructure Insights can baseline normal activity and alert teams when unusual behavior has been detected.

Here's everything you'll want to know to get up and running with Data Infrastructure Insights.

# WHY DATA INFRASTRUCTURE INSIGHTS?

As the intelligent data infrastructure company, NetApp is empowering organizations to take full control of their entire data infrastructure by making it more seamless, dynamic, and unlocking higher performance than ever before.

But achieving the best performance possible is not without its challenges, and organizations face complex infrastructure problems holding them back.

## CHALLENGES

- 1 **Lack of unified visibility** across all infrastructure, whether it's on-prem, in the cloud, or hybrid.
- 2 **Poor performance optimization** and ongoing issues with bottlenecks, troubleshooting and fine-tuning applications.
- 3 **Capacity planning errors** creating a mismatch in forecast resource requirements.
- 4 **Security and compliance requirements** across all infrastructure and different geographies.
- 5 **Managing costs** to achieve top performance without increasing resources.

Data Infrastructure Insights delivers unparalleled visibility like never before, giving organizations full visibility of their entire data infrastructure and the ability to solve its most critical problems.

With Data Infrastructure Insights, you'll be able to:

## **IMPROVE CUSTOMER SATISFACTION**

Prevent major infrastructure issues before they affect end users.

- You'll be better equipped to meet customers' demands with proactive monitoring of your complete environment.
- You can visualize your topology with automated discovery to see end-to-end service paths.
- You'll know exactly how your systems are performing and how they're being used.
- When a performance-level violation is detected, you get the necessary data to quickly and accurately determine the root cause. With that analysis, you can be confident that you're keeping up with customer demand.

## **PROACTIVELY PREVENT FAILURES**

Reduce mean time to resolution (MTTR) by up to 90%.

- With advanced analytics, identify which resources are greedy and degraded.
- Correlation analysis matches services to infrastructure to help identify the root cause of a problem faster.
- You can also set up advanced conditional alerts, which save you time dealing with false positives.
- Finally, intelligent insights based on machine-learning technology alert you to potential issues and recommend solutions before they become major problems.

## **OPTIMIZE PERFORMANCE AND REDUCE CLOUD INFRASTRUCTURE COSTS BY AN AVERAGE OF 33%.**

With resources in play from your on-premises data centers to multiple public clouds, it's hard to know what's really in use and what can be freed up, leading to an increase in cloud spend.

- Re-provision applications to less-costly infrastructure by easily identifying unused or abandoned resources.

This is how Data Infrastructure Insights makes monitoring easier and creates unparalleled insights across your entire data infrastructure.

# END-TO-END UNIFIED OBSERVABILITY

It's easy to integrate both your existing suite of NetApp data storage solutions as well as other vendor platforms to gain a better understanding of every part of your infrastructure.

## Multi-cloud deployments

Data Infrastructure Insights supports major cloud providers like AWS and Azure. Native integrations with these cloud providers enable you to monitor and manage storage and compute resources within each platform, giving you a unified view of your resources across different clouds.

## NetApp file and block storage

Data Infrastructure Insights collects data from NetApp storage systems by leveraging APIs and integrations provided by NetApp. These APIs allow Data Infrastructure Insights to gather information about storage performance, capacity utilization, configuration settings, and other relevant metrics, providing real-time monitoring of your NetApp file and block storage systems.

## Comprehensive infrastructure coverage

Collect different data metrics like logs from cloud instances, virtual machines, storage systems, and network devices, as well as performance and configuration data from a wide range of sources:

- Major storage providers like Dell EMC, Pure, and IBM
- Configuration management databases like ServiceNow and Ansible
- Kubernetes
- VMware
- NetApp ONTAP, StorageGRID, and E-Series
- Azure NetApp Files

For a complete list of data collectors, [click here](#).

# UNDERSTAND YOUR INFRASTRUCTURE WITH DYNAMIC VISUALIZATIONS

Understand everything that's happening across your infrastructure through dynamic, real-time visualizations.

Use these visualizations to get a powerful view of the **topology, availability, and utilization** of your infrastructure to enable informed decisions about resource allocation, scaling, and cost efficiency.

With Data Infrastructure Insights, teams can quickly identify **underutilized storage, misallocated resources, and optimization opportunities**, driving significant time and cost savings. And by merging historical change tracking with predictive analytics, Data Infrastructure Insights removes inefficiencies from infrastructure management workflows, ensuring businesses remain adaptive while minimizing the risk of outages from human errors.

There's no need for a long or complex onboarding process. Get up and running right out of the box with:

## Quick set up and configuration

Data Infrastructure Insights offers a streamlined setup and configuration process. Guided wizards and step-by-step instructions help users connect their data sources, configure data collection, and enable monitoring and alerting.

## Preconfigured dashboards and visualizations

Preconfigured dashboards and visualizations provide immediate insights into the health and performance of your infrastructure. Access key metrics and performance indicators without the need for extensive customization.

## Guided workflows

Whether it's setting up data sources, configuring alerts, or performing troubleshooting, guided workflows simplify complex tasks and reduce the learning curve for Data Infrastructure Insights.

## Out of the box reporting

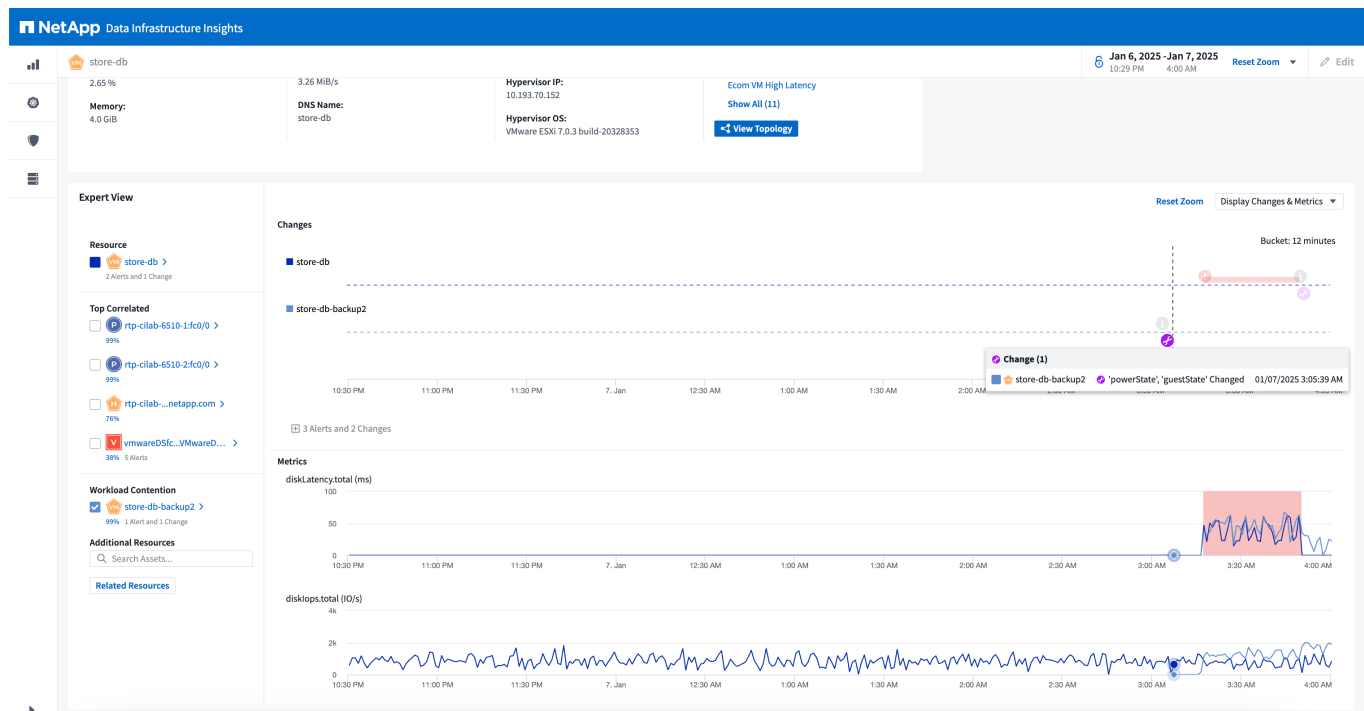
Address common reporting requirements straight away with predefined reports to easily provide critical insights to the stakeholders who need to make informed decisions about storage infrastructure.

## Always up to date

Being a SaaS offering, you'll always get the latest versions and updates, ensuring that you never miss out on any of the newest innovations from NetApp.

# CORRELATION ANALYSIS

With Data Infrastructure Insights, it's easy to identify and analyze relationships between different metrics and events in your IT infrastructure. You can quickly understand how changes in one component or metric can impact others, enabling you to troubleshoot issues, identify root causes, and optimize your infrastructure's performance.



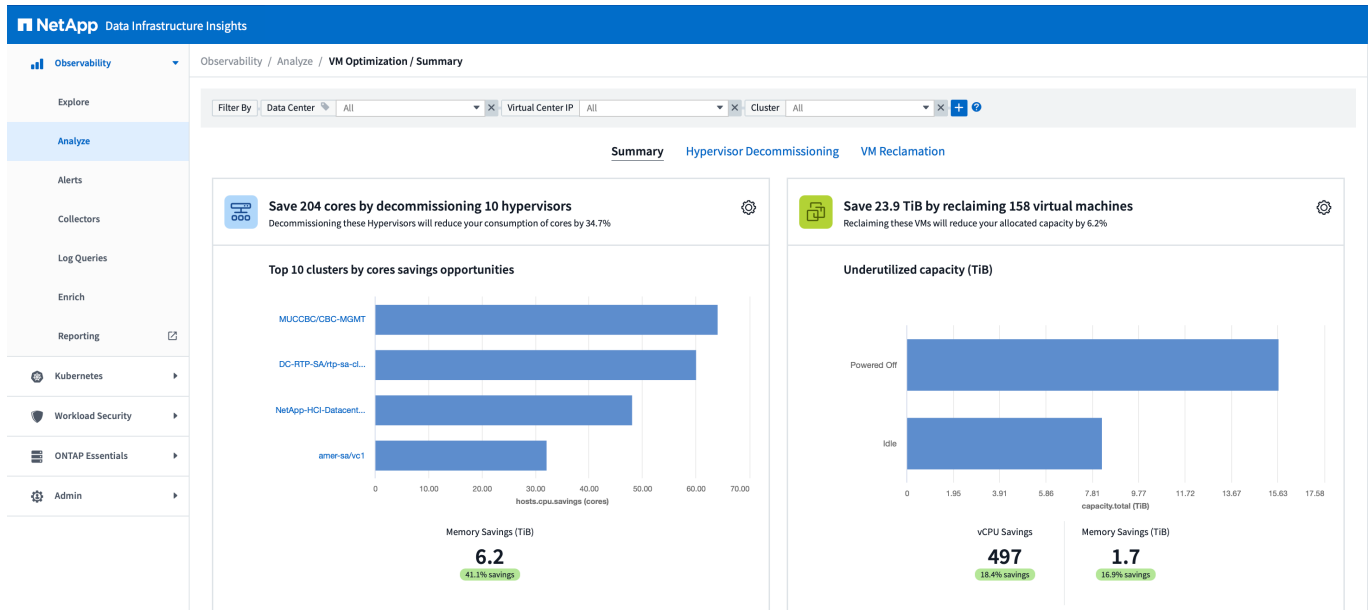
*This Change Analysis graphic shows the cause and effect of a specific change that was made on a resource. With Change Analysis, you can see the time the change occurred, and the corresponding alert that triggered showing Abnormal Latency because of the change.*

By leveraging the correlations identified by Data Infrastructure Insights, you can troubleshoot issues and perform root cause analysis more effectively. For example, if you notice a spike in disk I/O latency and a corresponding increase in database response time, Data Infrastructure Insights correlates these metrics and makes it easy to investigate whether the storage system is causing the performance degradation.

Correlation analysis can also help you optimize your infrastructure and plan for future needs by understanding the relationships between different components, you can make informed decisions about resource allocation, capacity planning, and infrastructure optimization.



To simplify this understanding, Data Infrastructure Insights provides visualizations and dashboards that help you explore and understand your analysis:



*Data Infrastructure Insights VMware optimization summary dashboard.*

These visualizations include charts, graphs, topology mapping, and other representations that highlight the relationships between metrics and events. You can navigate through the visualizations to drill down into specific components or time periods to gain deeper insights.

Data Infrastructure Insights continues to collect data and learn from your infrastructure as it evolves to refine its correlation analysis algorithms. You can leverage this continuous learning to achieve greater understanding and make more informed decisions.

# ALERTS AND ANOMALY DETECTION

Anomaly detection is a feature that helps identify abnormal behaviors or patterns in your IT infrastructure and applications.

This is how anomaly detection works in five easy steps:

## 1 Data collection

Data Infrastructure Insights collects various metrics and performance data from your infrastructure, including CPU usage, memory utilization, network traffic, storage performance, and application-specific metrics.

## 2 Baseline creation

After collecting those metrics, Data Infrastructure Insights establishes a baseline for each metric by analyzing historical data. The baseline represents the expected behavior of the metric under normal circumstances and considers factors like time of day, day of the week, and seasonal variations.

## 3 Anomaly detection

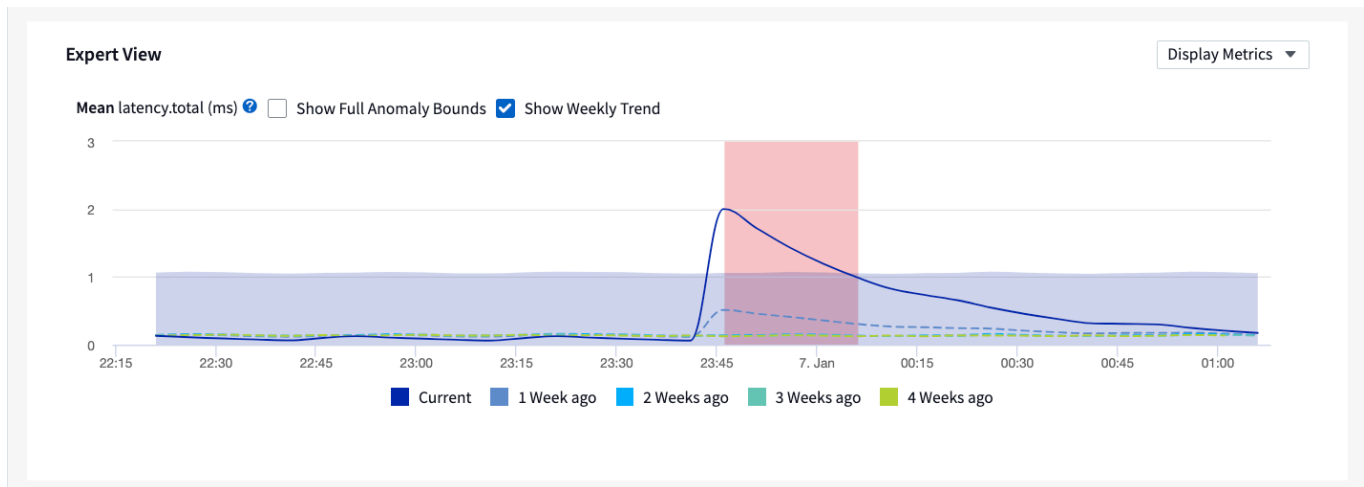
Once the baseline is established, Data Infrastructure Insights continuously compares the real-time metric values with the baseline. If the current value deviates significantly from the expected behavior, it is flagged as an anomaly.

## 4 Alerting and visualization

When an anomaly is detected, Data Infrastructure Insights generates alerts to notify you of this abnormal behavior. Visualizations and dashboards highlight the anomalies, making it easier for you to identify and investigate the underlying causes.

## 5 Machine learning adaption

Over time, Data Infrastructure Insights learns from your infrastructure's behavior and adapts its anomaly detection algorithms. Baselines are redefined and the sensitivity of anomaly detection is automatically adjusted to reduce false positives and improve accuracy.



*With anomaly detection views, you can see changes in the patterns of data within your environment. This view shows a weekly trends comparison of current data where the behavior has changed over the course of four weeks with the anomaly highlighted.*

Data Infrastructure Insights Storage Workload Security uses advanced machine learning algorithms to uncover unusual data access patterns and user activity such as file tampering or mass file deletion to detect potential issues. This approach provides dynamic and accurate detection and reduces false positive noise. When Data Infrastructure Insights Storage Workload Security detects unusual behavior, it alerts you and follows automated policy actions so that you can quickly restrict data access to prevent further compromise.

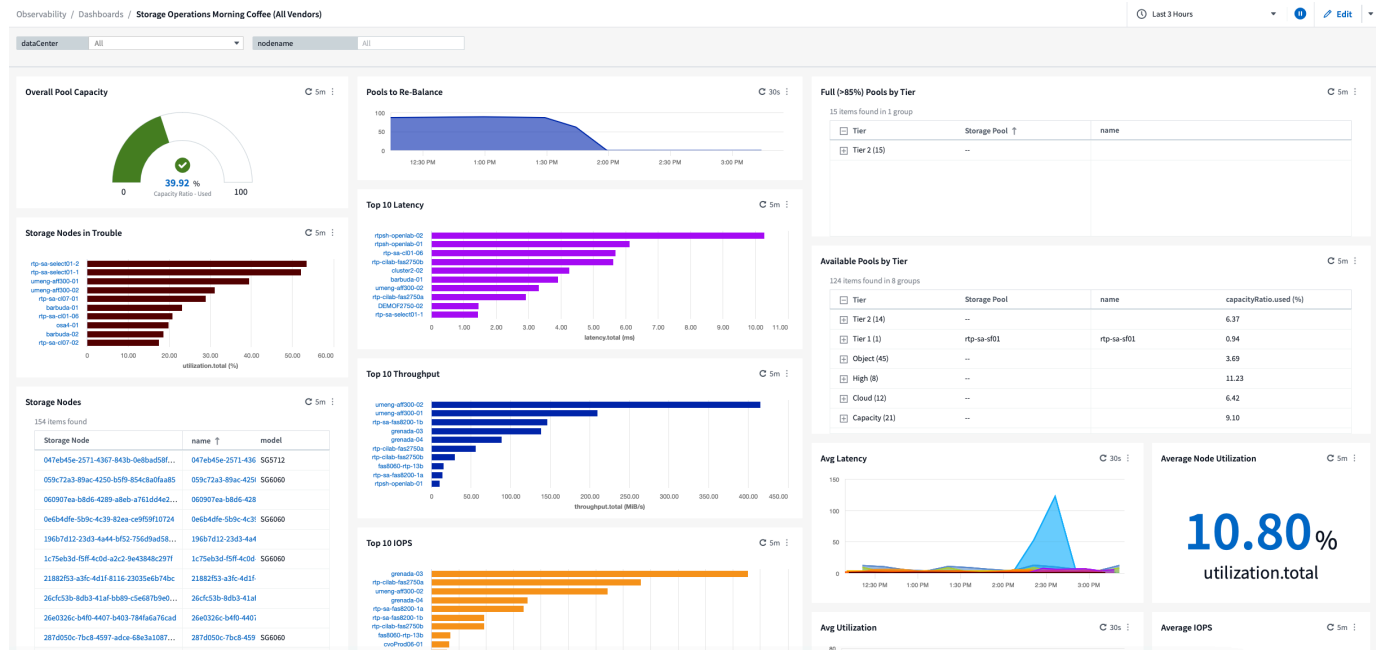
With Data Infrastructure Insights, you can proactively identify performance issues like:

- Capacity constraints
- Security threats
- Other anomalies within your IT infrastructure

# USER-FRIENDLY INTERFACE

Easy to navigate and even easier to understand, Data Infrastructure Insights is designed with a clean layout, logical organization of information, and intuitive controls. Finding desired features, configuring settings, and accessing the information you need is simple.

Conduct key activities like resource planning, cost optimization, and troubleshooting root causes to ensure top-notch security and compliance—all with a user-friendly interface.



*Data Infrastructure Insights allows users to customize dashboards that provide a high-level overview of critical infrastructure metrics. This allows for rapid identification of potential issues or areas needing immediate attention.*

# ACHIEVING UNIFIED END-TO-END OBSERVABILITY

With NetApp Data Infrastructure Insights, you get unparalleled, unified observability into your entire data infrastructure wherever it's located—in hybrid, on-prem, or multi-cloud environments. Easily monitor and troubleshoot your infrastructure through powerful analytics capabilities, giving you the ability to identify bottlenecks, detect security threats, and optimize your resource infrastructure.

Achieving unified observability across your complex and dynamic IT environments has never been easier with the power of Data Infrastructure Insights.

## Ready to discover how for yourself?

Visit the **AWS Marketplace** to learn more about Data Infrastructure Insights



Contact Us

### About NetApp

NetApp is the intelligent data infrastructure company, combining unified data storage, integrated data services, and CloudOps solutions to turn a world of disruption into opportunity for every customer. NetApp creates silo-free infrastructure, harnessing observability and AI to enable the industry's best data management. As the only enterprise-grade storage service natively embedded in the world's biggest clouds, our data storage delivers seamless flexibility. In addition, our data services create a data advantage through superior cyber resilience, governance, and application agility. Our CloudOps solutions provide continuous optimization of performance and efficiency through observability and AI. No matter the data type, workload, or environment, with NetApp you can transform your data infrastructure to realize your business possibilities. [www.netapp.com](http://www.netapp.com)



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