

Optimizing NetApp Environments with Virtana Infrastructure Performance Management

Essentials

Optimize NetApp Environments with Virtana IPM:

- Understand how your application workloads stress your storage resources
- Achieve real-time and historical performance visibility from application to database
- Forecast and manage capacity and utilization across ports, controllers, and nodes

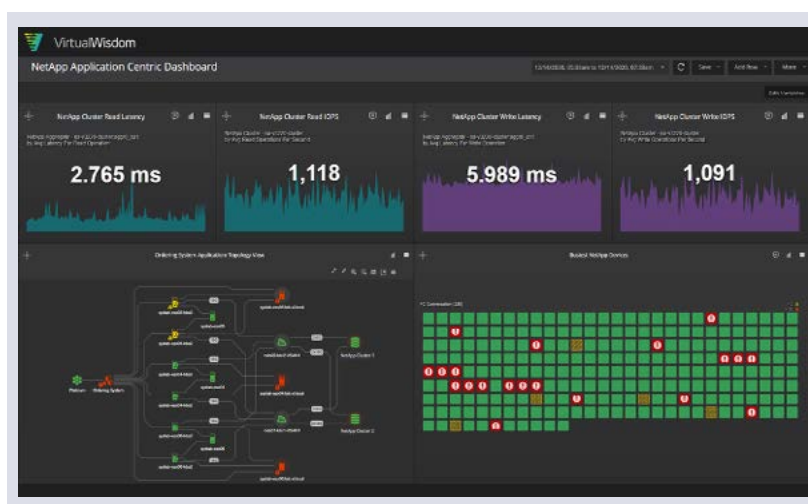
Assure your Mission Critical Environments through:

- Single-pane-of-glass across shared infrastructure
- Discover and map application usage of NetApp systems
- Data driven insights based on application business value and service levels
- Out-of-the-box best practices dashboards, reports, and alarms
- Time-series database stores performance and capacity data for long term trend analysis
- Automated investigations dramatically reduce mean time to resolution for even the most challenging performance issues
- Virtana IPM's Advanced Analytics Suite:
 - Automated metric correlation across all layers of infrastructure
 - Workload balancing for optimizing performance and cost both on-premises and in the cloud
 - Predictive capacity management and forecasting
 - Seasonal trending for baselining and dynamic alert thresholding

Drive NetApp Dependent Application Availability and Performance

Enterprise CXOs are relying on Digital Transformation initiatives to drive competitive advantage, speed application delivery, and reduce costs – whether directly through improved customer experience or through the business insights gained from analytics and machine learning. As a result, assuring the performance of the critical data infrastructure that digital transformation initiatives rely on has never been harder or more important.

A key component of these initiatives is the agility, scalability, and enterprise-grade resilience enabled by NetApp storage systems. Virtana IPM employs a unique application-centric approach that ensures deep insights into performance, consumption, and overall service levels throughout the entire infrastructure stack as well as underlying NetApp arrays.



Virtana IPM is unique in its ability to map, monitor, and analyze how NetApp supports the mission critical workloads that underpin Digital Transformation at virtually unlimited scale.

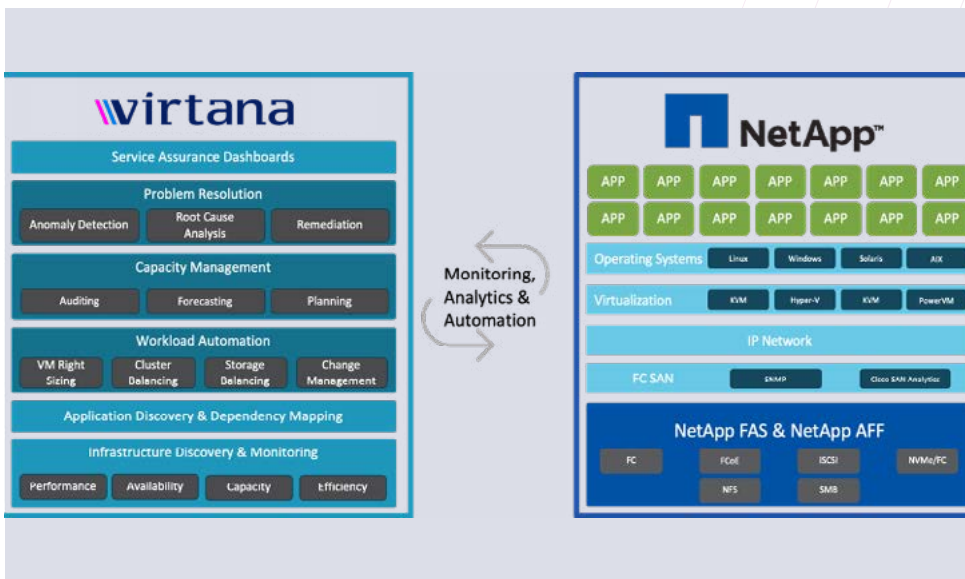
Single-pane-of-glass for Your Hybrid Infrastructure

Virtana IPM starts by mapping NetApp storage volumes and resources to the applications consuming their data storage. This comprehensive understanding of the data supply chain provides the basis for rich dashboards that deliver visibility and control to administrators, architects, and executives.

Ensure Performance: Virtana IPM combines dynamic, automatically applied best practice, and custom monitoring to assure performance and availability – in real-time, at virtually unlimited scale across storage systems, network, and compute infrastructure. Base level monitoring for NetApp systems includes 100+ metrics collected from each array. Cisco SAN Telemetry Streaming analytics provide next level performance visibility into network infrastructure, ports, and metrics. Ensure the highest end-to-end application performance by combining with Virtana IPM's industry exclusive Fibre Channel wire data probes that feature hundreds of additional unique performance metrics.

Forecast and Proactively Manage Capacity: Correlate short and long-term consumption trends and be proactively warned of potential capacity problems and time-to-zero resource issues across storage, network, and compute.

Solve Problems Fast: Automatically triage, diagnose, and provide actionable resolution recommendations before your operations teams are even aware of potential impacts on critical applications.



The Virtana IPM Solution for NetApp Environments

- Automatically maps applications to NetApp systems
- Monitors NetApp internal and external KPIs
- Proactively assure performance, availability, capacity, and efficiency of NetApp deployments.

Virtana IPM provides full-stack end-to-end visibility for NetApp systems and protocol flows as well as the applications and servers consuming those resources. The result is comprehensive visibility and unparalleled correlation that makes identification and root cause analysis easy, even for challenging issues. Virtana IPM assures the performance, availability, capacity, and efficiency of NetApp environments regardless of configuration or protocol.

Virtana IPM was built from the ground up as a machine learning-powered analytics platform that goes well beyond the capabilities of traditional AIOps platforms to assure, manage, and balance workloads across NetApp Storage and associated infrastructure.

Virtana IPM's Wisdom Pack for Enterprise Storage provides flexible licensing, out of the box best practices and ease of deployment, which provides visibility and control in minutes, not days.

NetApp and Virtana IPM

- Understands how and which applications are suffering performance issues from noisy neighbors or resource hogs
- Proactively manages performance sensitive workload and storage capacity at industry-leading scale
- Applies automation to quickly identify, diagnose and solve the toughest performance issues