

# Dell EMC PowerFlex Workload Optimization with Virtana Infrastructure Performance Management (IPM)

## Essentials

### Optimize PowerFlex Environments with Virtana IPM

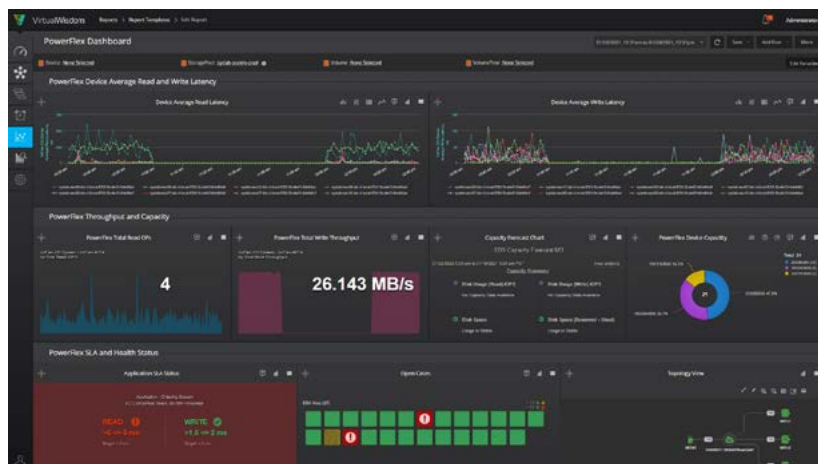
- Understand how application workloads stress storage pool resources
- Gain real-time and historical performance visibility from client (SDC) to storage (SDS)
- Forecast and manage capacity utilization across pools

### Assure the Performance of Mission-critical Application Workloads

- Utilize a single pane of glass across shared infrastructure
- Auto-discover and map application usage to PowerFlex storage pools
- Manage access to resources based on application business value and service levels
- Leverage out-of-box best practices dashboards, reports, and alarms
- Predictive capacity management for PowerFlex storage pools prevents needless application downtime
- Automate root-cause analysis and problem resolution to dramatically reduce mean time to resolution of tough performance issues

## PowerFlex Management Challenges

Integrated PowerFlex hyperconverged systems spanning Dell EMC PowerEdge servers create powerful SAN environments that deliver flexible, scalable, performance and capacity on-demand needed for digital transformation and innovation. But this powerful solution can't maintain application and storage availability, capacity, and performance on its own. Awareness of the mission-critical applications and infrastructure that rely on PowerFlex resources is also required.



Virtana IPM meets this need with the leading infrastructure monitoring and analytics platform for mission-critical application deployments.

A single platform that unifies, streamlines, and automates IT operations with a unique, application-centric approach to infrastructure management that assures deep insights into application performance, consumption, and service levels. Virtana IPM maps, monitors and manages PowerFlex service delivery for the critical applications that deliver digital transformation, and does it at virtually unlimited scale.

## Single-pane-of-glass for Your Hybrid Infrastructure

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

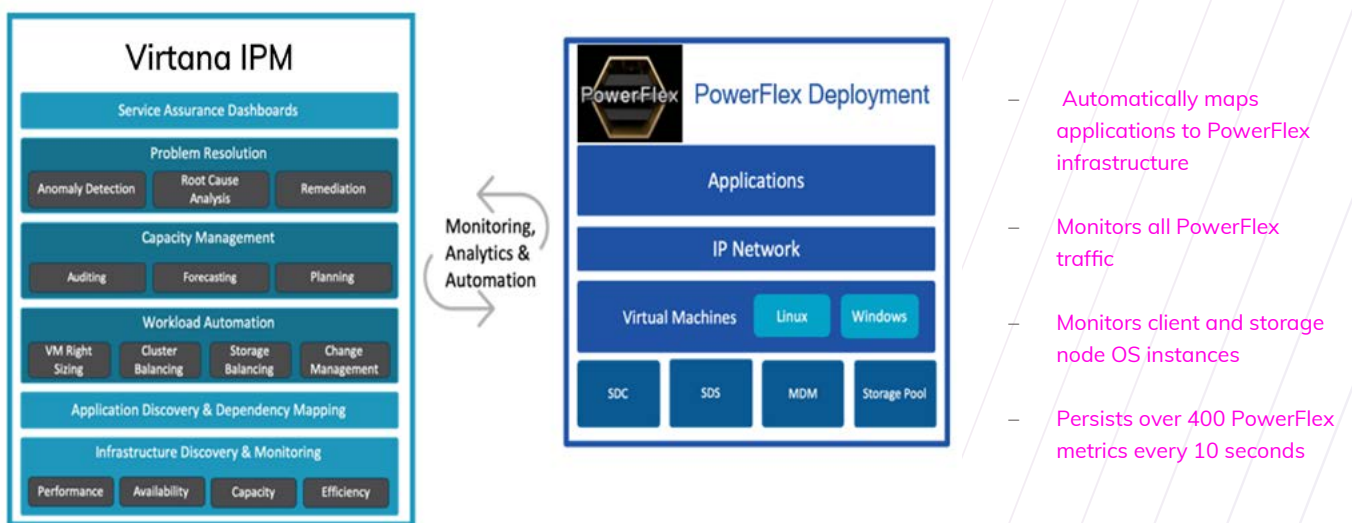
**Assure performance:** By monitoring over 1500+ metrics, along with network and operating system data for Linux and Windows in real-time at virtually unlimited scale across any number of PowerFlex storage pools, Virtana IPM combines dynamic, best practice and custom alarms to assure performance and availability.

**Forecast and proactively manage capacity:** Correlate short and long-term consumption trends and be warned proactively of potential capacity issues whether at the client, network, or cluster and nodes.

**Solve problems faster:** Automatically triage, diagnose, and provide actionable issue resolution recommendations before your operations teams are even aware of potential impact with analytics-driven runbooks that:

- Auto-detect excessive evictions
- Know when a rebuilding/rebalancing process impacts performance
- Identify resource hogs and noisy neighbor problems
- Pinpoint large file and storage pool filling issues

## Logical Architecture to Support PowerFlex Dependent Applications and Services



Deliver visibility, scale, and analytics to assure performance, availability, and capacity of PowerFlex clusters

Virtana IPM provides full-stack end-to-end visibility into PowerFlex performance and operation. This visibility extends across the applications and servers consuming and mounting PowerFlex resources, clusters, and storage pools, and the network flows between clients and resources. These comprehensive views into the relationships and capabilities of both PowerFlex resources, as well as the applications and infrastructure elements that depend upon them, enable advanced correlation that makes identification and root cause analysis easy, including for even challenging issues such as cache evictions. Virtana IPM helps assure the performance, availability, capacity, and efficiency of PowerFlex clusters.

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 PowerFlex infrastructure. Virtana IPM's WisdomPack for Software-Defined Storage provides license flexibility, out of the box best practices, and ease of deployment that delivers visibility and control in minutes, not days, across PowerFlex and VMware® vSAN.