Smart Software Streamlines Unstructured Data Storage Administration

CloudIQ AIOps aaS gives Dell PowerScale users new insight to speed operations.

By Carl Ye, PowerScale Product Manager

In today's world -- where unstructured data continues to grow exponentially year over year – more and more organizations need storage that's easily scaled-out to petabytes in core, edge and cloud, that's always protected, secure and compliant and that's simple to manage at any scale.

Dell's PowerScale, the leader in Gartner's unstructured data storage platform magic quadrant for 7 straight years[1], is designed for this new world. The OneFS smart operating system streamlines administration by non-disruptively scaling PowerScale clusters to hundreds of nodes for wide range of data types and by automating storage availability, redundancy, cyber-resiliency, data protection and efficiency tasks.

Now there's another layer of smart software for PowerScale administration: CloudIQ AIOps SaaS, which comes with PowerScale's standard support contract at no additional cost.

What is CloudIQ AIOps for Unstructured Data Storage?

Think of CloudIQ AIOps as monitoring on steroids. Surpassing traditional key performance indicator (KPI) tracking, it applies artificial intelligence/machine learning (AI/ML) to telemetry to provide whole system health scores, recommendations to address health issues and more insightful analytics, including forecasts. This lets storage admins be proactive to avoid common issues and speed time to their resolution from 2X to 10X faster according to CloudIQ user surveys.[2]

Here are some prime examples.

System Health: At a glance, you can see the health score of your PowerScale system – even for multiple PowerScale systems across locations. Proactive health scores are based on the status of components, configuration, capacity, performance and data protection, and each issue has a weighted impact value. This is proactive because CloudIQ intelligence does the triage for you.

With a click, CloudIQ explains all health issues and gives you detailed recommendations for resolving them quickly, so you can minimize actual or potential impact on your business. You can also opt-in to get health notification emails or a daily digest: a single email that rolls up all health issues.

System Capacity: Machine learning for capacity planning is another AIOps advantage over traditional monitoring. It tracks used and free capacity to establish seasonality (normal consumption) and uses that for long-term forecasts of when capacity will be full. That enables you to proactively expand system capacity or move data to another system whenever its necessary. It also warns you about capacity anomalies: unusual spikes in consumption projected to reach full capacity within 24 hours.

CloudIQ also evaluates storage efficiency. Data reduction, duplication and compression are tracked, so you can make intelligent decisions about optimizing and rebalancing storage.

System Performance: Machine learning also establishes performance seasonality and to identify performance anomalies (i.e., when the value of a performance metric falls outside of the expected range). Performance impact, for example, a rise in latency caused by competing workloads accompanied by a drop in IOPs or bandwidth, is also identified.

With a click, you can switch from an overall view of PowerScale system performance to PowerScale node performance, further helping you understand the source of any anomalies.

Configuration changes are a common cause of performance anomalies, and you can see when configuration changes correlate with performance anomalies and latency impact. This intelligent visualization helps you resolve the issues quickly.

One of PowerScale's advantages is rich multi-protocol support, so you can host a wide variety of unstructured data on the same storage system. CloudIQ displays latency according to protocol, so you can see which workloads need corrective action.

Application Integration: Another AIOps advantage is its openness through built-in application programming interfaces (APIs). CloudIQ has two: Webhook and REST API. PowerScale health issue notifications are pre-integrated with Webhook, enabling you to push them to tools like SLACK, Teams, PagerDuty, etc. to automate escalation. Pushing health notifications to IT service management tools like ServiceNow will automate service ticketing. The CloudIQ REST API can be used to pull PowerScale information from CloudIQ into any third-party tools to further streamline administration processes.

I'll return with additional blogs this year to announce more AIOps capabilities for PowerScale.

See for Yourself

See the CloudIQ for PowerScale Demo (as well as white papers and other demos) on www.dell.com/cloudiq.

Get Started

If you're already a Dell PowerScale (or Dell Isilon) user, see KB# 000157794 Knowledge Base article on our support website for CloudIQ registration instructions.

About the Author: Carl Ye

Carl Ye is the product manager for PowerScale and believes that AIOps can reshape storage management. Carl has been in the IT/data management industry for 16 years, including 8 years at Dell where is focused on the modern, secure, intelligent and enterprise-class monitoring solutions. Prior to Dell, Carl was at SAP for big data analytics and Autodesk for streaming data processing.

[1]Gartner, "Magic Quadrant for Distributed File Systems and Object Storage," ID G00760026, October 19, 2022
[2]Dell Technologies survey of CloudIQ users conducted May through June 2021. Actual results may vary.

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