CloudIQ is the AIOps application that proactively monitors and provides recommendations and predictive analytics for your Dell server, storage, data protection, network, CI, HCI and APEX multicloud products in a common user interface.

CloudIQ is a cloud-based service that comes with Dell ProSupport, is hosted in Dell's secure data center and is integrated with Dell products' element managers (e.g., Unisphere, OpenManage Enterprise, APEX Navigator, PowerStore Manager, VxRail Manager, etc.) and VMware vCenter.

After you have initialized your Dell systems to securely transmit telemetry data to CloudIQ and have registered CloudIQ using your ProSupport credentials, simply log into CloudIQ with your browser to use it, including a constant stream of new features.

Click on the topics below for descriptions of new CloudIQ features released May 4, 2023 – December 31, 2023.

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Also, click here for a comprehensive list of features released January 1, 2022 - May 3, 2023.

See demo videos and more on www.dell.com/cloudig.

## **Core CloudIQ Enhancements**

# Beta Version of Recommended Knowledge Base Articles Wednesday, November 1, 2023

As part of a beta program, we've added a page under the Optimize menu to display recommended Knowledge Base Articles. Articles that are matched on your systems' versions, models, and configurations are displayed in the Knowledge Base Articles page. The underlying capabilities do not apply yet to all Dell Infrastructure products. Since this feature is part of a beta program, please use the Feedback form to ask questions and provide comments rather than contacting Support.

# Added Support to CloudIQ Mobile App for Inventory, Filter, Sort, Search and VxRail and Connectrix Systems. (Android-only)

Thursday, October 12, 2023

There are multiple updates to the CloudIQ mobile app. Inventory data is now available in the Systems view. The Systems view has also been enhanced with system filtering, sorting, and an advanced system search. When searching, tapping an item from the possible matches list takes you to the system details page. We have also added support for VxRail for all categories, and Connectrix for Health and Inventory categories. (All new mobile app features are for Android-only at the time of this release.)

# New Wizard Enhances Creating and Editing Custom Reports Wednesday, August 30, 2023

The new wizard helps when you are creating and editing Custom Reports. For tables, you will see a preview table that can be filtered and sorted. For line and anomaly charts, first you will see a table with all the available objects, according to the Product and Category selected. After the objects are selected, then you will see another table with the available metrics. Because one chart for each system and each metric is created, an information panel was added to show the number of contents that will be created based on what is selected.

### **CloudIQ Displays List of Company Administrators**

Wednesday, July 19, 2023

See a list of Company Administrators in CloudIQ, allowing you to contact administrators when necessary, - for example, to ask for an additional CloudIQ role. You can view the list of administrators in the User Community section of the Settings page.

### **CloudIQ Displays Open Service Requests**

Thursday, June 15, 2023

You can view open service requests (SR) for all systems displayed in CloudIQ. In the Service Requests tile on the Home page, you can now see the number of SRs that are Escalated, Awaiting Action, and Active. All SRs are visible on the Service Requests page.

# Improved Help for Unknown Firmware Compliance Status

Friday, May 26, 2023

You can now view more information on unknown or not available firmware compliance status in the firmware compliance report. Easily link to online help for additional detail when hovering over unknown compliance statuses.

# Sites and Systems Page Updates

Wednesday, May 17, 2023

The Sites and Systems page now allows you to disable or enable systems, sites or products more easily. New filtering and sorting features let you easily identify systems, sites, or products to disable or enable. Additionally, you can export the table of systems, sites, or products.

### **APEX CloudIQ Enhancements**

#### **CloudIQ Supports APEX Block Storage for AWS**

Thursday, November 30, 2023

Support for APEX Block Storage for AWS is available through APEX Navigator for Multicloud Storage. For this public cloud offer, you can view detailed information in CloudIQ, use the health score to alert you to risks in your environment, or troubleshoot using our built-in analytics. Functionality includes system metrics for inventory, capacity, health, and performance. Additionally, Cloud Provider, Cloud Region, and AWS Cloud Infrastructure details are available in the APEX Block Storage for AWS system details page.

# CloudIQ Supports Global Search, and Health Email Notifications Feature for APEX Private Cloud Services and APEX Hybrid Cloud Services

Tuesday, August 22, 2023

You can search for APEX Private Cloud Services and APEX Hybrid Cloud Services in the Search box using the cluster name, cluster UUId etc. We've also added Health Notification email support for APEX Private Cloud Services and APEX Hybrid Cloud Services. You will automatically start receiving health email notifications for all your existing APEX Private Cloud Services and APEX Hybrid Cloud Services. If you do not want to receive APEX Private Cloud Services and APEX Hybrid Cloud Services notifications, go to Your Account -> Notifications to edit your subscription preferences.

# CloudlQ Supports APEX Private Cloud Services and APEX Hybrid Cloud Services Tuesday, May 2, 2023

There's support for APEX Private Cloud Services and APEX Hybrid Cloud Services including single and multisystem metrics for inventory, configuration, capacity, health, and performance. You can view detailed APEX information in CloudIQ and be alerted of risks in your environment using the health score or troubleshoot using our built-in analytics.

You can view, manage and navigate APEX Private Cloud Services and APEX Hybrid Cloud Services clusters using the tree view and the table view. On the Inventory > Virtualization page, you can now view more information about summary, alerts, and VMs available in APEX Private Cloud Services and APEX Hybrid Cloud Services clusters.

### **Connectrix CloudIQ Enhancements**

#### **CloudIQ Mobile App for Connectrix**

Thursday, October 12, 2023

You can now conveniently use the CloudIQ mobile app to monitor Connectrix Health and Inventory information. (Available for Android at the time of this release.)

#### **Sustainability: Energy and Carbon Footprint Analytics**

Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for Connectrix switches. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

#### **Support for More Connectrix Switch Firmware Versions**

Tuesday, July 25, 2023

To align with the latest Connectrix B-Series switch firmware upgrades, CloudIQ now supports Connectrix B-Series switches that are running FOS v9.1.1c and v9.2.0a.

#### **Connectrix MDS-Series Hardware Support**

Tuesday, May 30, 2023

Support for the latest Connectrix MDS-Series model MDS-9124V has arrived. Connectrix model MDS-9124V requires that FabricOS version NX-OS 9.3(1) or higher is installed and Secure Remote Services configured for collecting and sending data.

#### **CloudIQ for More Connectrix Switch Firmware Versions**

Friday, May 26, 2023

To align with the latest Connectrix B-Series switch firmware upgrades, CloudIQ now supports Connectrix B-Series switches that are running FOS v8.2.3d

### **Cybersecurity CloudIQ Enhancements**

## Security Advisories for PowerEdge Systems

Saturday, August 5, 2023

CloudIQ provides Cybersecurity Security Advisories for PowerEdge systems to help you efficiently remediate newly discovered common vulnerabilities and exposures. CloudIQ simplifies cybersecurity by consolidating Dell Security advisories and presenting only those advisories that apply to your specific PowerEdge system models and release version for accurate, continuous and automatic detection of missing security patches.

PowerEdge system security advisories will be displayed in the CloudIQ user interface and will enable administrators to easily access the patches and new releases to fix the security issues themselves. Using the matching mechanism, Cybersecurity tab provides you with the ability to immediately recognize PowerEdge systems or components impacted by a newly advertised vulnerability and receive full information about remediation steps.

CloudIQ also consolidates Dell Security Advisories for PowerStore and PowerMax storage systems.

# More Cybersecurity Evaluation Tests for PowerStore Systems Tuesday, May 16, 2023

Three new evaluation tests were added to PowerStore product line plans and policies. The updated tests verify that FTP insecure protocol is not configured, SNMPv3 is used, and Common Antivirus Agent is implemented. Evaluation tests are automatically added to the plan and enabled. Users with the "CloudIQ Cybersecurity Admin" role can modify policy templates and system evaluation test plans if the updated policy/plan does not align with organization policy.

## **PowerEdge CloudIQ Enhancements**

### **OpenManage Enterprise Version 4.0 Support**

Monday, December 4, 2023

CloudIQ supports the latest version of OpenManage Enterprise to enable management of the latest Dell PowerEdge Servers that use OME CloudIQ plugin version 2.0.

# **Grouping of PowerEdge Systems and Components Needing Updates** Monday, November 27, 2023

There is an enhanced way to organize your PowerEdge systems and components that need updates. On the Server tab of the System Updates page, you can now use two different views to display available updates grouped by system, or all individual components that have an available update.

When selecting the 'Group by System' view, you'll see your server's updatable components grouped by the system they belong to, allowing you to filter by system-specific attributes. When selecting the 'Group by None' view, all your components display without any grouping, allowing you to filter by component-specific attributes.

# Sustainability: PowerEdge Energy and Carbon Footprint Analytics Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for PowerEdge servers. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

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PowerEdge system security advisories will be displayed in the CloudIQ user interface and will enable administrators to easily access the patches and new releases to fix the security issues themselves. Using the matching mechanism, Cybersecurity tab provides you with the ability to immediately recognize PowerEdge systems or components impacted by a newly advertised vulnerability and receive full information about remediation steps.

CloudIQ also consolidates Dell Security Advisories for PowerStore and PowerMax storage systems.

#### **Customizable PowerEdge Lists and Cards**

Wednesday, May 31, 2023

You can now customize your server lists or cards to see the information you want. Tailor your view on the Inventory, Performance and Health screens by selecting the settings wheel and setting the details you want visible. Choose to see information such as server health score, site location, IP address, contract expiration and more. User customizations are saved and persist each time you visit those pages.

### PowerEdge Virtualization View

Tuesday, May 16, 2023

Single Host server now shows in the Virtualization view. A Single Host can be either a VMware Single Host or a PowerEdge server. Single Hosts can now be viewed from the Virtualization page under Monitor.

# PowerEdge Disk Life Remaining Added to Inventory Pages

Friday, May 12, 2023

We added disk life remaining to server inventory pages. This was a metric already collected by CloudIQ and could be added to custom reports. This value now is listed on the physical disk inventory page for servers as well.

#### **PowerFlex CloudIQ Enhancements**

#### **Hosts Protocol Column for PowerFlex Volumes**

Tuesday, November 21, 2023

This feature enhances PowerFlex volume visibility in CloudIQ by introducing the 'Hosts Protocol' column. This additional column provides users with essential information about the host protocol (SDC or NVMe) associated with each volume. This new feature is located in Systems Details > Inventory > Block > Volume.

#### **Enhanced Capacity Metrics for PowerFlex Systems**

Sunday, November 12, 2023

Enhanced CloudIQ support for PowerFlex capacity metrics across various categories includes System, Protection Domain, Fault Set, SDS, Storage Pool, and Device. These enhancements allow you to seamlessly view and analyze capacity metrics for your PowerFlex systems within Custom Reports.

#### **Table, Anomaly and Line Chart Reports for PowerFlex Systems**

Thursday, November 2, 2023

The table, anomaly and line chart Custom Report features provide a deeper level of insight into performance metrics for your PowerFlex systems. This feature is available for SDS, devices, protection domains, hosts, and storage pools.

### **Support Added for PowerFlex Block Components**

Tuesday, August 22, 2023

The new Block tab for PowerFlex systems provides detailed configuration information for each of the following PowerFlex components: Hosts, Protection Domains, Fault Sets, SDS, Storage Pools, Devices, and Volumes. You can access the Block tab on the PowerFlex System Details Inventory page.

## **Entitlements and System Licenses for PowerFlex Systems**

Friday, August 18, 2023

CloudIQ displays entitlement and system license information for PowerFlex systems in CloudIQ in one centralized location. Under Admin > Licenses, the Entitlements and System Licenses Management page provides Administrators a place to monitor entitlements and system licenses, including where the licenses are applied and when they expire. The new Entitlement Expiration widget on the Home page lets you view the number of PowerFlex systems with entitlements and system licenses that are expired, will expire within 30 days, and will expire within 90 days. The Systems Inventory and PowerFlex System Details views were updated to add entitlement expiration and contract expiration information. Also, Daily and Weekly Digest emails will provide notifications for licenses that are approaching expiration or have expired.

# Secure Connect Gateway Details for PowerFlex Systems

Thursday, August 3, 2023

The new PowerFlex Secure Connect Gateway Details page provides information on its properties and list of PowerFlex systems configured to it. A Gateways subtab was also added on the PowerFlex System Inventory

Page to display more information on the gateways connected to that system. Clicking the Serial Number link on the Gateways subtab navigates to the Secure Connect Gateway Details page.

Also, a Secure Connect Gateway column was added to the Connectivity Page to display the most recently active gateway, which contains a link to that gateway's details page.

#### **PowerFlex MDM Support**

Monday, July 3, 2023

A new feature in CloudIQ lets you view detailed information about Metadata Manager (MDM) objects used by PowerFlex systems. You can access the MDM details on the Resources tab of the System Properties Inventory page. The MDM Details page displays properties for easy monitoring and management, such as Role, ID, and Management IP.

### **PowerMax CloudIQ Enhancements**

#### **PowerMax Host Details Support**

Friday, October 27, 2023

PowerMax Hosts and Host Groups are now available on the Host Details Inventory tab that is accessible from System Details Hosts Tab.

# ProSupport Assessment Report for PowerMax and VMAX Enterprise Systems Monday. October 23, 2023

See the new ProSupport System Assessment report for PowerMax and VMAX Enterprise systems. This consolidated report contains a snapshot of the current system status and configuration, as well as potential issues and needed software update

### **PowerProtect DD and VE CloudIQ Enhancements**

See Core Enhancements

# PowerScale CloudIQ Enhancements

#### **Expirations on PowerScale Systems**

Monday, December 11, 2023

We've added support to display Entitlement and Contract expirations for PowerScale systems in CloudIQ. The PowerScale multisystem card view now includes expiration information for contracts and entitlements. An icon indicates whether the contract or entitlement has expired or is nearing expiration. Hover over an icon to view more information. Also, the top panel of the PowerScale system details Inventory tab now displays entitlement properties.

# Entitlements and System Licenses for PowerScale Virtual Edition Systems Thursday, November 9, 2023

CloudIQ displays entitlement and system license information for PowerScale Virtual Edition systems in CloudIQ. The Entitlements and System Licenses page now includes information on PowerScale Virtual Edition entitlements and system licenses, including where the licenses are applied and when they expire.

The entitlements page now also includes the ability to filter by product. The Entitlement Expiration widget on the Home page and the Daily and Weekly Digest email notifications have also been updated to include PowerScale Virtual Edition licenses that have expired or are approaching expiration.

# Sustainability: PowerScale Energy and Carbon Footprint Analytics Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for PowerScale systems. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

### PowerStore CloudIQ Enhancements

#### Additional Metrics for PowerStore Systems in Custom Reports Monday, October 16, 2023

The are more metrics to line chart and table reports for PowerStore systems. This gives you the ability to create more consistent reports; mix systems and components; mix tables and line charts; and mix capacity and performance metrics. We've added IO Size and Queue depth for Appliances, all performance metrics for Nodes, and all front-end port metrics for the Fibre Channel and iSCSI protocols.

# More Cybersecurity Evaluation Tests for PowerStore Systems Tuesday, May 16, 2023

Three new evaluation tests were added to PowerStore product line plans and policies. The updated tests verify that FTP insecure protocol is not configured, SNMPv3 is used, and Common Antivirus Agent is implemented. Evaluation tests are automatically added to the plan and enabled. Users with the "CloudIQ Cybersecurity Admin" role can modify policy templates and system evaluation test plans if the updated policy/plan does not align with organization policy.

# PowerSwitch CloudIQ Enhancements

#### **PowerSwitch Systems for Enterprise SONIC**

Friday, December 22, 2023

We have added support for the collection of Heath, Configuration, Capacity, and Performance data from PowerSwitch systems running Enterprise SONiC version 4.1.0

## **PowerVault Enhancements**

See Core Enhancements

### **Sustainability Enhancements**

#### **Carbon Footprint Insights for PowerScale Systems**

Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for PowerScale systems. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

# Carbon Footprint Insights for PowerEdge, VxRail, Unity, and Connectrix Systems Tuesday, June 27, 2023

CloudIQ insights for power, energy consumption, and carbon footprint tracking and forecasting help you make better sustainability decisions. You can now track the following KPIs: total carbon emissions for this year (YTD), energy consumption trends (monthly and YTD), 24-hour power consumption, 24-hour load on average, and historical and forecast data for energy, and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

## **Unity CloudIQ Enhancements**

### **Sustainability: Unity Energy and Carbon Footprint Analytics**

Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for Unity systems. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

# ProSupport Assessment Report for Unity Systems

Tuesday, June 27, 2023

Unity systems now have a ProSupport System Assessment report in CloudIQ. This consolidated report contains a snapshot of the current system status and configuration, as well as potential issues and needed software updates.

## **VxBlock CloudIQ Enhancements**

# Software and Firmware Comparison on VxBlock System for Planning Upgrades or Downgrades Tuesday, December 12, 2023

Code Compare allows you to compare the current software or firmware version of a component with the target version based on the Converged Code Matrix. Code Compare gives you information on the versions, security issues, and components to help you upgrade or downgrade the software on your system.

## Monitor the Health of Storage in VxBlock Systems

Friday, June 30, 2023

The Health monitoring feature for VxBlock systems is enriched with storage components. You can now sort by Converged System on the Systems page when monitoring the health of the storage components in your VxBlock. Monitor the overall health score of your VxBlock System, along with the specific issues categorized by component, capacity, configuration, and performance.

## **VxRail CloudIQ Enhancements**

#### Capacity Disk Type for VxRail

Friday, December 15, 2023

Support for disk type for your VxRail hosts and clusters in CloudIQ makes it easier for you to select the right type of storage when purchasing additional storage. Capacity disk type information can be accessed through the Hosts view of the Hardware tab on the VxRail System Inventory page. This information can also be exported in CSV.

### Dynamic Node Clusters and Enhanced the Inventory View for VxRail

Thursday, December 14, 2023

We've added support for dynamic node clusters attached to external storage. We've also enhanced the Inventory view on the System details page by adding External Storage view only for dynamic node clusters. The External Storage view displays storage details about the external storage attached to the dynamic node cluster. It also provides a storage system name link to open the CloudIQ Storage Inventory page

#### **Customizable VxRail Cluster Cards**

Friday, November 3, 2023

You can now customize your VxRail cluster inventory cards to see the information you want. Tailor your view on the Inventory tab by clicking the settings wheel and selecting the details you want to be visible. The customizations are saved and available each time you visit those pages.

# VxRail Version 7.0.420 Support and Enhanced Inventory View for VxRail Systems Wednesday, October 25, 2023

CloudIQ now supports VxRail version 7.0.420 We've enhanced the Inventory view on the System details page by organizing the previously listed information into Identification, Location, Management, Version Information, and Status. We've also added Witness Node view in the Hardware sub-tab.

#### **Mobile App for VxRail**

Thursday, October 12, 2023

You can conveniently use the CloudIQ to monitor your VxRail systems' Health, Capacity and Performance as well as Inventory information. (Available for Android only at the time of this release).

## Sustainability: VxRail Energy and Carbon Footprint Analytics

Wednesday, September 27, 2023

CloudIQ provides insights for power, energy consumption, and carbon footprint forecasting for VxRail systems. You can now track the following KPIs: total carbon emissions for this year (YTD); energy consumption trends (monthly and YTD); 24-hour power consumption; 24-hour load on average; and historical and forecast data for energy consumption and carbon footprint. Carbon footprint (CO2eq) is computed leveraging IEA (International Energy Agency) emission factors by default. You can override CloudIQ's default IEA emission factor and default PUE (Power Usage Effectiveness) ratio with your customized data.

#### **16G VxRail platforms**

Tuesday, August 1, 2023

Support for 16G VxRail platforms is here. This includes monitoring 16G VxRail platform health, performance, and capacity.

#### Multi-Site View for VxRail Stretched Clusters

Sunday, July 23, 2023

Multi-site inventory views for VxRail stretched clusters are now available. You can view VxRail stretched clusters that are deployed at multiple locations. You can also view the site name(s) and site ID(s) of VxRail stretched clusters located at different locations.

Intelligent Multi-System Pre-check, Software Download and Cluster Update Operations for Two-node VxRail ROBO Clusters and Stretched Clusters plus New Hardware sub-tab for VxRail Systems Friday, June 23, 2023

By using CloudIQ, you can now easily manage two-node ROBO and Stretched VxRail clusters by performing pre-checks, software downloads, and updates from HCI tab under System Updates. Accompanying the intelligent multi-system lifecycle management (LCM) features, are VMware-centric role-based access control and cluster credentials management for simple and secure access of pre-checks, software downloads, and updates features for two-node ROBO and Stretched VxRail clusters as well. CloudIQ now reports Data Processing Unit (DPU) information about VxRail clusters in the Hardware tab under Inventory. The new DPU view displays the DPU details of each host in a cluster.

See demo videos, product briefs, infographics and more on <a href="www.dell.com/cloudig.">www.dell.com/cloudig.</a>

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