

Prism introduction

Overview of Prism

Lenovo

Prism architecture

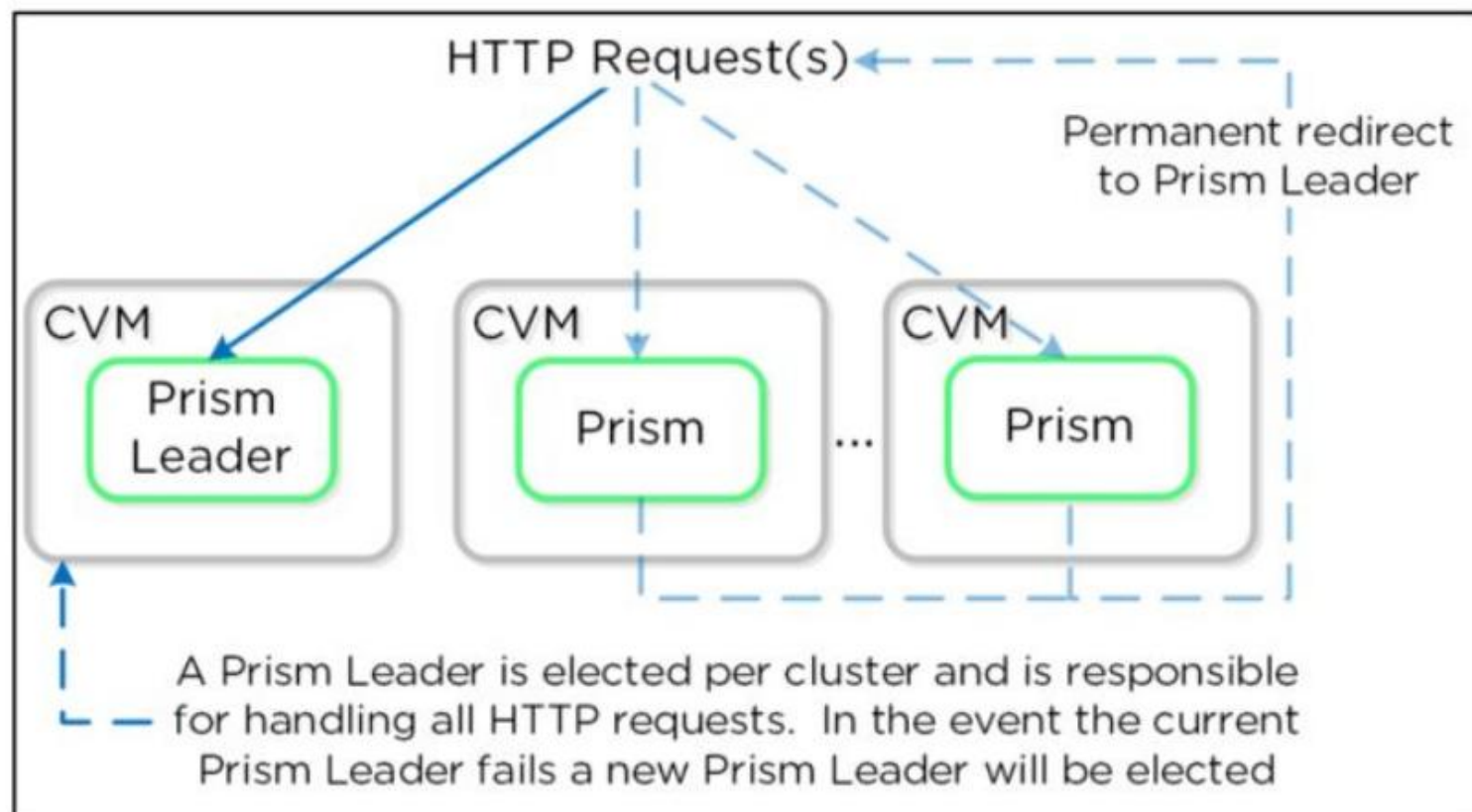
Prism is a distributed resource management platform which allows users to manage and monitor objects and services across their Nutanix environment, whether hosted locally or in the cloud.

These capabilities are broken down into two key categories:

- Interfaces
 - HTML5 UI, REST API, CLI, PowerShell CMDlets, etc.
- Management capabilities
 - Platform management, VM / Container CRUD, policy definition and compliance, service design and status, analytics and monitoring

Prism service

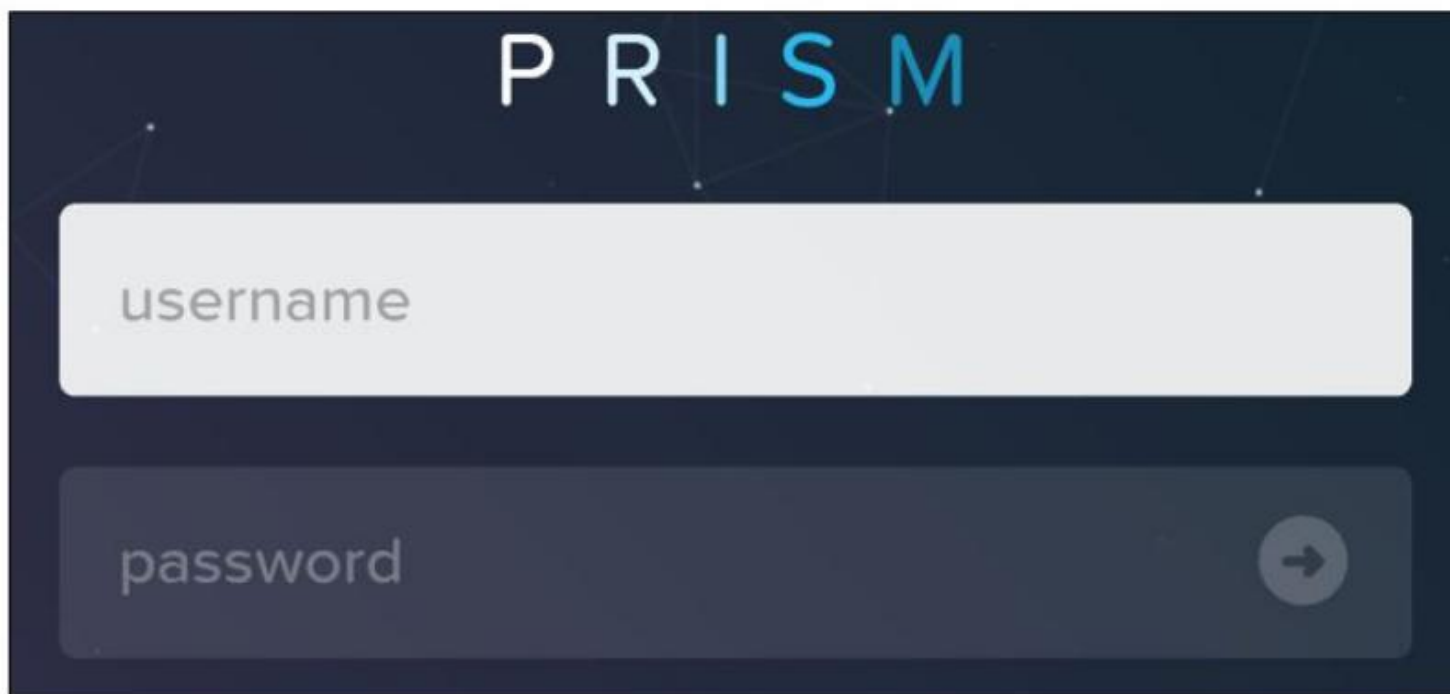
A Prism service runs on every CVM, and an elected Prism Leader is responsible for handling HTTP requests. Similar to other components which have a Master, if the Prism Leader fails, a new one will be elected. When a CVM which is not the Prism Leader gets an HTTP request, it will permanently redirect the request to the current Prism Leader using HTTP response status code 301.



Logging in to Prism

Prism can be accessed using the IP address specified during configuration or corresponding DNS entry. Prism Element can be accessed via Prism (by clicking on a specific cluster) or by navigating to any Nutanix CVM or cluster IP (preferred).

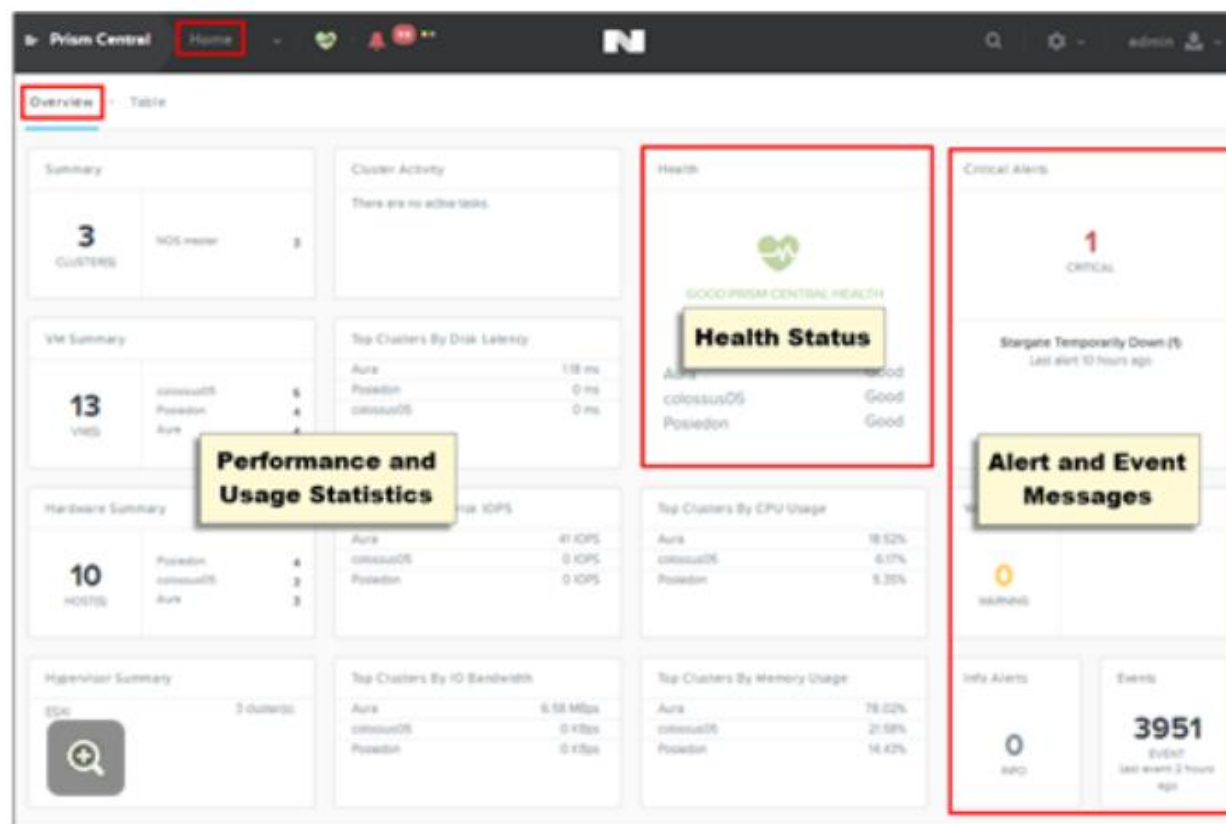
The Login page will be displayed, and you should use your Prism or Active Directory credentials to log in.

The image shows the Prism login interface. At the top, the word "PRISM" is displayed in a stylized font, with the letters "P", "R", "I", and "S" in white and "M" in blue. Below the logo, there are two input fields. The first field is light gray and contains the placeholder text "username". The second field is dark gray and contains the placeholder text "password". To the right of the password field, there is a circular button with a right-pointing arrow. The background of the login area is dark blue with a subtle network diagram pattern.

Prism Central Home dashboards

The Prism Central Home Overview page displays cluster-level performance and usage statistics, health status information, and the most recent alert and event messages. The following figure is a sample view, and the different fields are described in the following slides.

Click to enlarge the image.



Overview • Table

Summary

3
CLUSTER(S)

NOS master

3

Cluster Activity

There are no active tasks.

VM Summary

13
VM(S)

colossus05

5

Posledon

4

Aura

4

Top Clusters By Disk Latency

Aura	1.18 ms
Posledon	0 ms
colossus05	0 ms

Health



GOOD PRISM CENTRAL HEALTH

Health Status

Aura	Good
colossus05	Good
Posledon	Good

Critical Alerts

1

CRITICAL

Stargate Temporarily Down (1)

Last alert 10 hours ago

Performance and
Usage Statistics

Hardware Summary

10
HOST(S)

Posledon

4

colossus05

3

Aura

3

Disk IOPS

Aura	41 IOPS
colossus05	0 IOPS
Posledon	0 IOPS

Top Clusters By CPU Usage

Aura	18.52%
colossus05	6.17%
Posledon	5.35%

Warnings

0

WARNING

Alert and Event
Messages

Hypervisor Summary

ESXi

3 cluster(s)

Top Clusters By IO Bandwidth

Aura	6.58 MBps
colossus05	0 KBps
Posledon	0 KBps

Top Clusters By Memory Usage

Aura	78.02%
colossus05	21.58%
Posledon	14.43%

Info Alerts

0

INFO

Events

3951

EVENT
Last event 2 hours
ago

Prism Central Health dashboard

The Prism Central Health dashboard displays dynamically updated health information about the hosts, disks, and VMs across the registered clusters.

Prism Central

Health

N

admin

Cluster Health

export

pagination

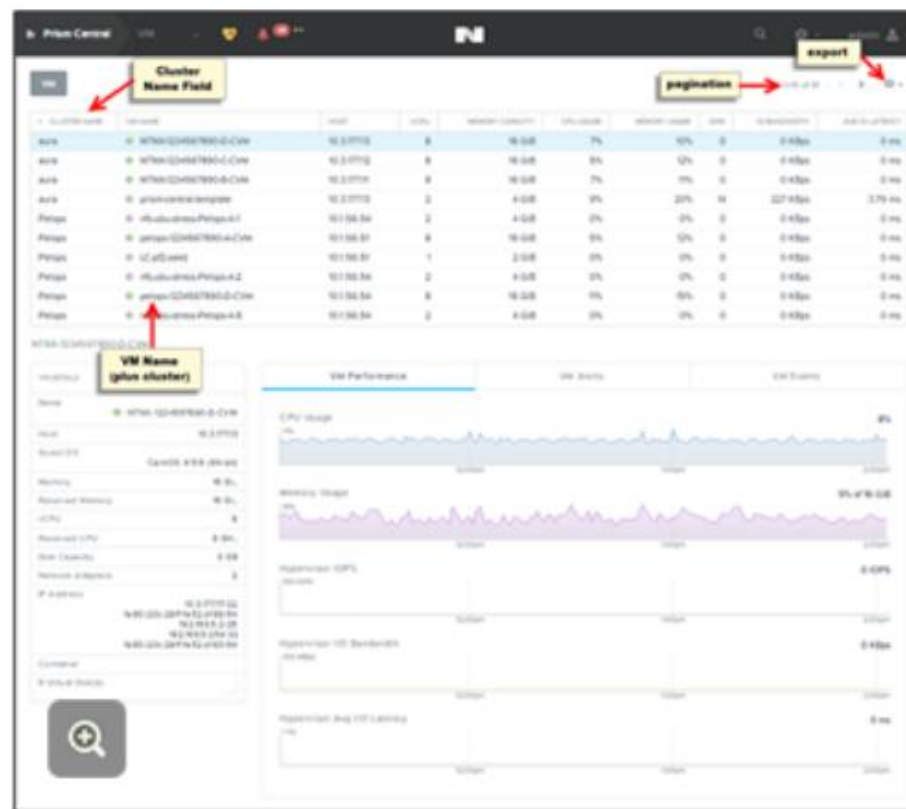
5 Clusters

CLUSTER NAME	CURRENT HEALTH	HOSTS HEALTH STATUS	DISKS HEALTH STATUS	VMs HEALTH STATUS	
Colossus03	Good	3 total hosts 0 0 3	18 total disks 0 0 18	5 total vms 0 0 0	Health Page
Pelops	Unknown	-	-	-	-
Schubert	Critical	4 total hosts 1 0 3	24 total disks 20 0 4	8 total vms 0 0 0	Health Page
Schubert4714	Unknown	-	-	-	-
Unnamed	Unknown	-	-	-	-

Prism Central VM dashboard

The Prism Central VM dashboard displays dynamically updated information about the VMs across the registered clusters.

Click to enlarge the image.



VM

Cluster Name Field

export

pagination

1-10 of 61

CLUSTER NAME	VM NAME	HOST	VCPU	MEMORY CAPACITY	CPU USAGE	MEMORY USAGE	IOPS	IO BANDWIDTH	AVG IO LATENCY
aura	NTNX-1234567890-D-CVM	10.3.177.13	8	16 GiB	7%	10%	0	0 KBps	0 ms
aura	NTNX-1234567890-C-CVM	10.3.177.12	8	16 GiB	5%	12%	0	0 KBps	0 ms
aura	NTNX-1234567890-B-CVM	10.3.177.11	8	16 GiB	7%	11%	0	0 KBps	0 ms
aura	prism-central-template	10.3.177.13	2	4 GiB	9%	20%	14	227 KBps	3.79 ms
Pelops	nfs-ubu-stress-Pelops-4-1	10.1.56.54	2	4 GiB	0%	0%	0	0 KBps	0 ms
Pelops	pelops-1234567890-A-CVM	10.1.56.51	8	16 GiB	5%	12%	0	0 KBps	0 ms
Pelops	LC-qt2-seed	10.1.56.51	1	2 GiB	0%	0%	0	0 KBps	0 ms
Pelops	nfs-ubu-stress-Pelops-4-2	10.1.56.54	2	4 GiB	0%	0%	0	0 KBps	0 ms
Pelops	pelops-1234567890-D-CVM	10.1.56.54	8	16 GiB	11%	15%	0	0 KBps	0 ms
Pelops	nfs-ubu-stress-Pelops-4-5	10.1.56.54	2	4 GiB	0%	0%	0	0 KBps	0 ms

NTNX-1234567890-D-CVM

VM DETAILS

VM Name (plus cluster)

NTNX-1234567890-D-CVM

Name

NTNX-1234567890-D-CVM

Host

10.3.177.13

Guest OS

CentOS 4.5/6 (64-bit)

Memory

16 GiB

Reserved Memory

16 GiB

vCPU

8

Reserved CPU

8 GHz

Disk Capacity

0 GB

Network Adapters

2

IP Address

10.3.177.17/22

fe80::20c:29ff:fe52:d189/64

192.168.5.2/25

192.168.5.254/32

fe80::20c:29ff:fe52:d193/64

Container

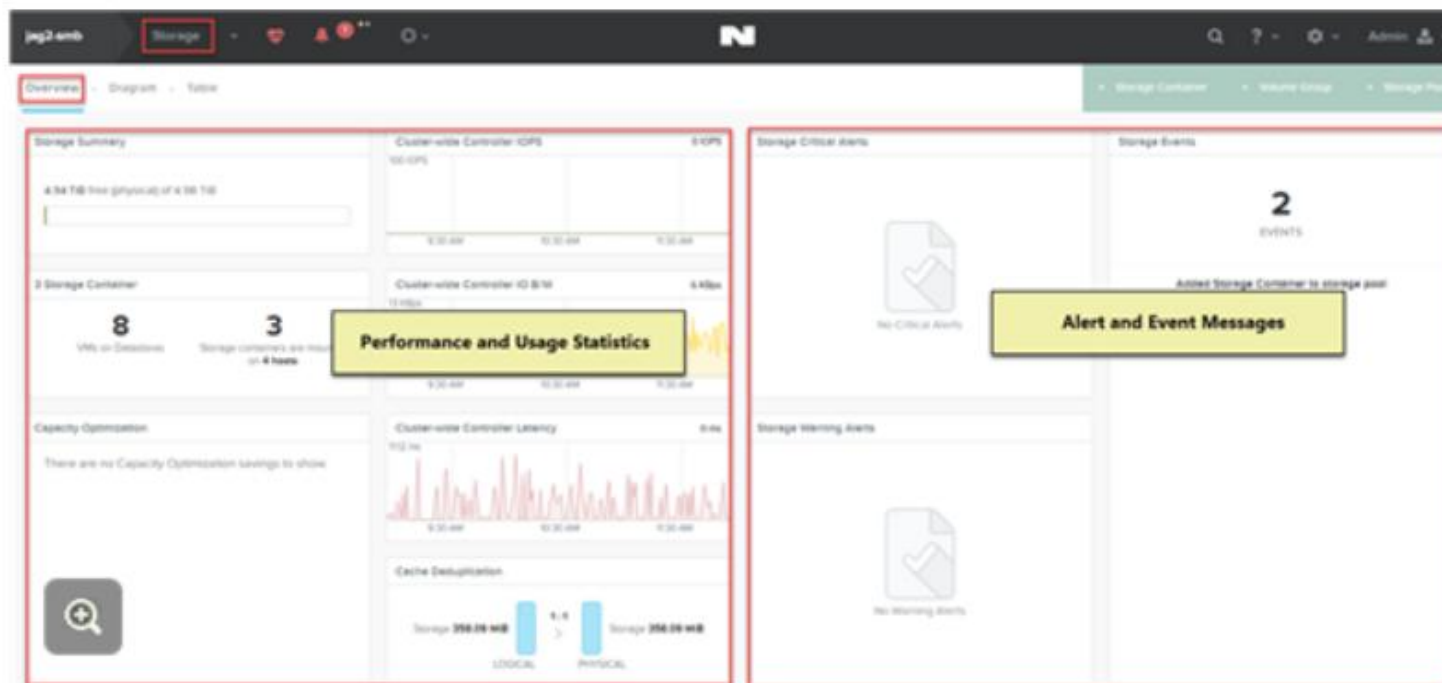
0 Virtual Disk(s)



Prism Central Storage dashboard

The Storage Overview page displays dynamically updated storage-specific performance and usage statistics and also the most recent storage-specific alert and event messages. Several fields include a slide bar, allowing users to see additional information in that field.

Click to enlarge the image.



Storage Summary

4.94 TiB free (physical) of 4.98 TiB

3 Storage Container

8

VMs on Datastores

3

Storage containers are mounted on 4 hosts.

Capacity Optimization

There are no Capacity Optimization savings to show.

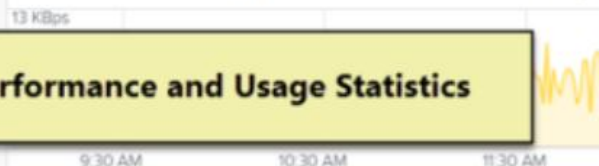
Cluster-wide Controller IOPS

0 IOPS



Cluster-wide Controller IO B/W

6 KBps



Performance and Usage Statistics

Cluster-wide Controller Latency

0 ms



Cache Deduplication



Storage Critical Alerts



No Critical Alerts

Storage Events

2

EVENTS

Added Storage Container to storage pool

Alert and Event Messages

Storage Warning Alerts

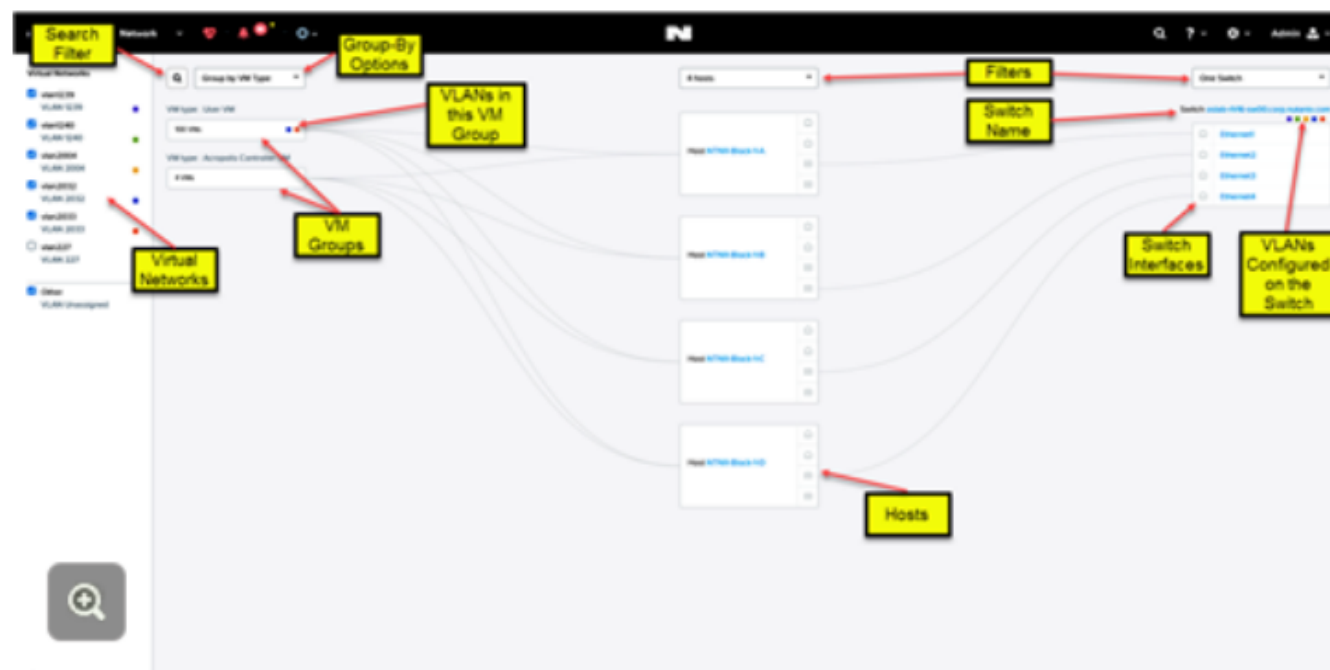


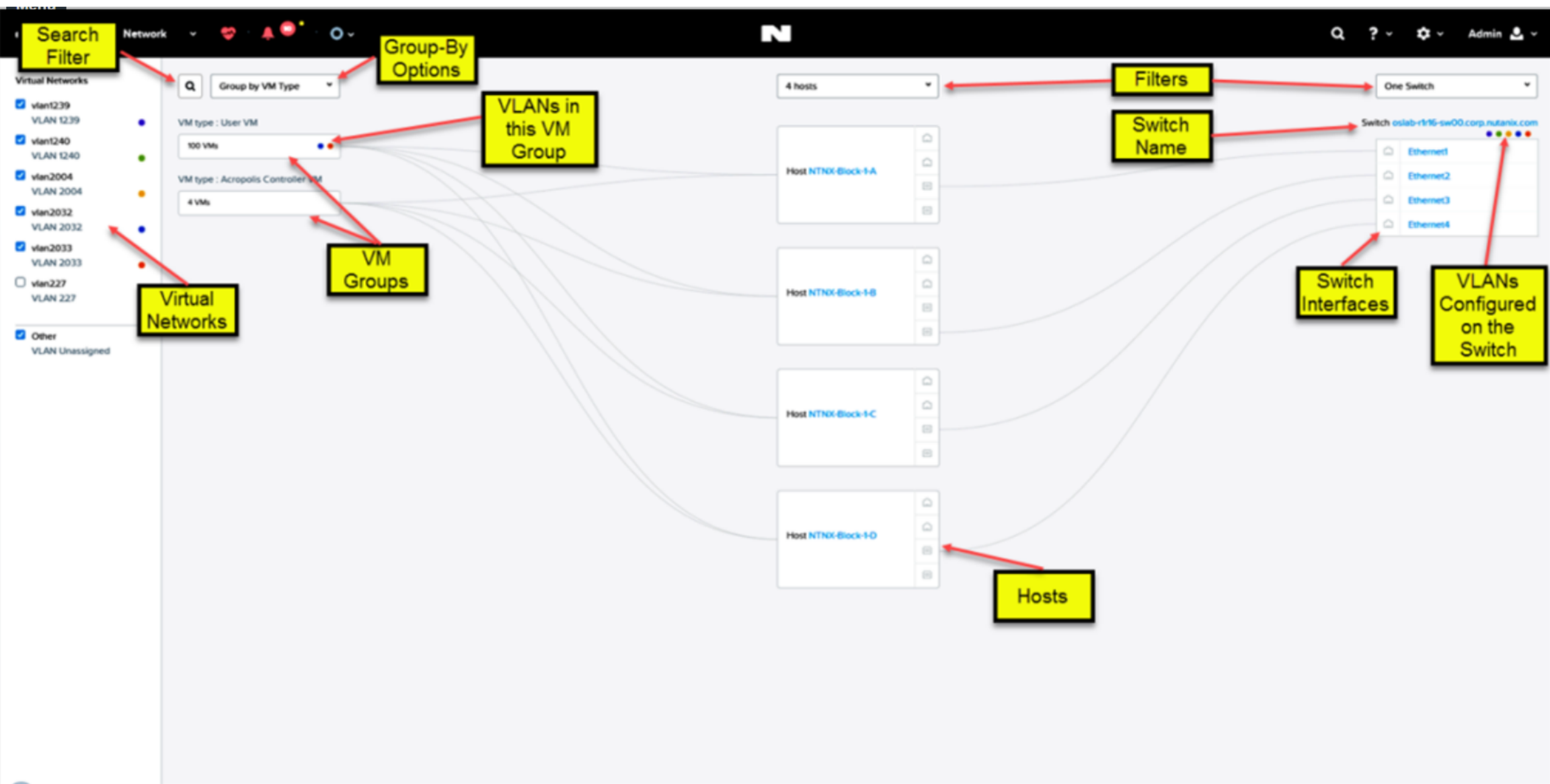
No Warning Alerts

Prism Central Network dashboard

The network visualizer displays interactive visual elements for the networked devices and for network components such as physical and logical interfaces. It also provides filtering and grouping capabilities that can be used to limit the display to a specific set of networked devices and connections. The network visualizer includes the virtual networks pane and the topology view.

Click to enlarge the image.





Prism Central Hardware dashboard

The Prism Central Hardware dashboard displays dynamically updated information about the hosts and disks across the registered clusters.

Click to enlarge the image.

The screenshot displays the Prism Central Hardware dashboard. At the top, the 'Hardware' tab is selected. Below the navigation bar, there are tabs for 'Host' and 'Disk', with 'Disk' currently active. A 'Cluster Name Field' is visible. The main area shows a table of disk information with columns: CLUSTER NAME, DISK ID, SERIAL NUMBER, HYPERVISOR, TIER, MODE, DISK USAGE, DISK IOPS, DISK IO BW, and DISK AVG IO LATENCY. The table lists disks for clusters Colossus03 and Colossus05. A yellow box labeled 'table information (host or disk)' highlights the table. To the right of the table, there is a pagination control showing '1-20 of 102' and an 'export' button. Below the table, a detailed view for disk '9XG3N2K5' is shown. This view includes a 'Disk Details' section with fields like ID, Serial Number, Storage Tier, Used (Physical), Capacity (Physical), and Health. A 'Disk Usage' section shows a bar chart for 'Usage Summary' with a value of 555.75 MB. A yellow box labeled 'detail information (host or disk)' highlights this section.

CLUSTER NAME	DISK ID	SERIAL NUMBER	HYPERVISOR	TIER	MODE	DISK USAGE	DISK IOPS	DISK IO BW	DISK AVG IO LATENCY
Colossus03	0004f525-32af-e409-0000-0000000001de:32	9XG05QV1	10.3.84.23	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:31	9XG06Y0Q	10.3.84.23	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:30	9XG05ZPC	10.3.84.23	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:29	9XG05ZPC	10.3.84.23	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:28	9XG05ZPC	10.3.84.23	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:27	9XG05XN3	10.3.84.22	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:26	9XG06150	10.3.84.22	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus03	0004f525-32af-e409-0000-0000000001de:25	9XG077C8	10.3.84.22	DAS-SATA	Online	0% of 82879 GB	0	0 KBps	0 ms
Colossus05	0004f577-43a0-1adb-0000-00000000013t:31	9XG3N2K5	10.3.176.164	DAS-SATA	Online	0.06% of 82879 GB	0	0 KBps	0 ms
Colossus05	0004f577-43a0-1adb-0000-00000000013t:47	9XG06W69	10.3.176.165	DAS-SATA	Online	0.03% of 82879 GB	0	0 KBps	0 ms

Disk Details

ID: 0004f577-43a0-1adb-0000-00000000013t:31

Serial Number: 9XG3N2K5

Storage Tier: DAS-SATA

Used (Physical): 555.75 MB

Capacity (Physical): 82879 MB

Health: OK

Mode: Online

Disk Usage

Usage Summary: 555.75 MB

Usage bar chart showing 555.75 MB used out of 82879 MB capacity.

Detail information (host or disk)

export

Host

Disk

Cluster
Name Field

pagination

11-20 of 102

<

>

⚙

⌵

* CLUSTER NAME	DISK ID	SERIAL NUMBER	HYPERVISOR IP	TIER	MODE	DISK USAGE	DISK IOPS	DISK IO B/W	DISK AVG IO LATENCY
Colossus03	0004f525-32d1-e409-0000-0000000001da::32	9XG050V1	10.3.84.23	DAS-SATA	Online	0% of 893.57 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::31	9XG06Y0Q	10.3.84.23	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::30	9XG05ZFC	10.3.84.23	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::29	9XG05ZFC	10.3.84.23	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::28	9XG05ZFC	10.3.84.23	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::22	9XG06XN3	10.3.84.22	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::21	9XG0615D	10.3.84.22	DAS-SATA	Online	0% of 925.78 GB	0	0 KBps	0 ms
Colossus03	0004f525-32d1-e409-0000-0000000001da::20	9XG077C8	10.3.84.22	DAS-SATA	Online	0% of 893.57 GB	0	0 KBps	0 ms
Colossus05	0004f677-b3a0-1adb-0000-000000000131::31	9XG3NZKS	10.3.176.164	DAS-SATA	Online	0.06% of 925.78 GB	0	0 KBps	0 ms
Colossus05	0004f677-b3a0-1adb-0000-000000000131::47	9XG06W69	10.3.176.165	DAS-SATA	Online	0.03% of 925.78 GB	0	0 KBps	0 ms

table information (host or disk)

9XG3NZKS

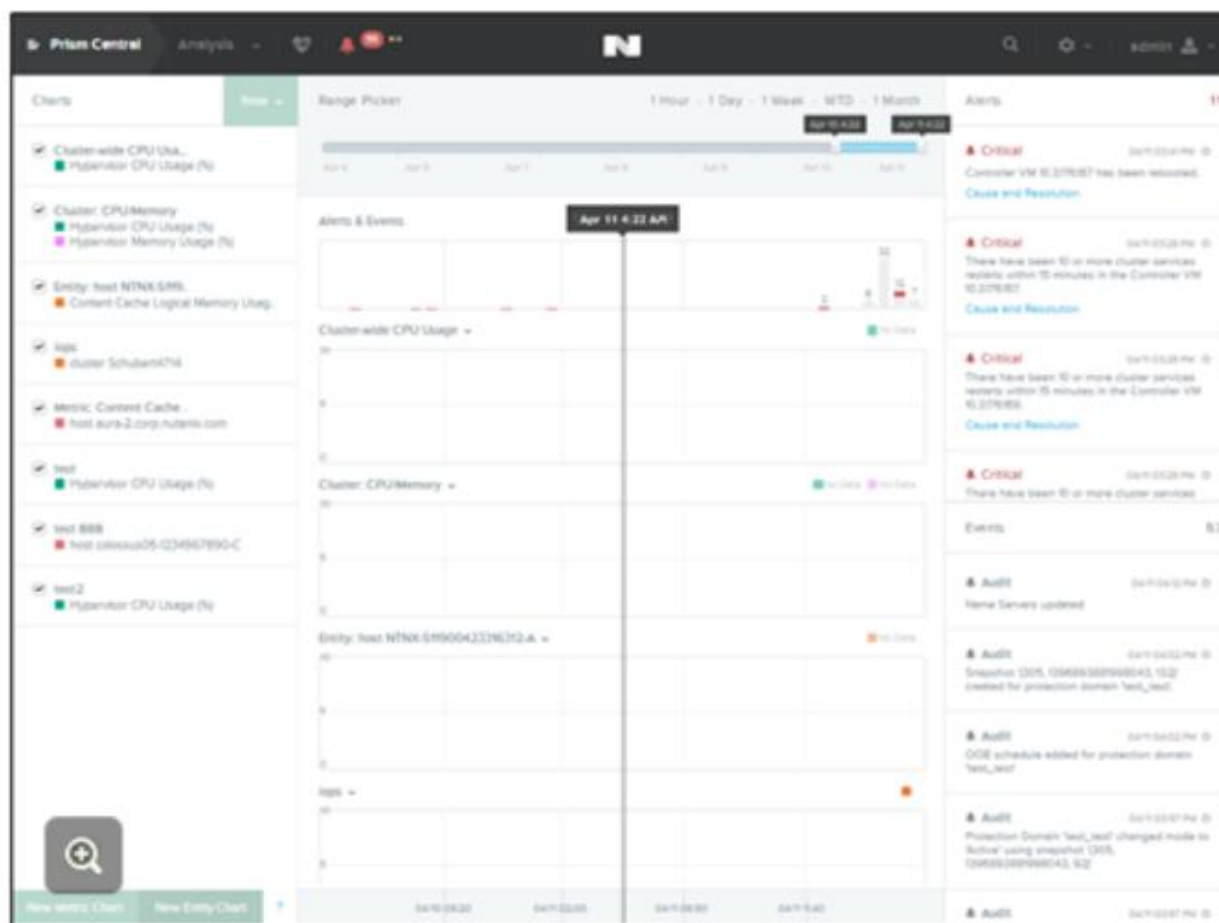
DISK DETAILS	Disk Usage	Disk Performance	Disk Alerts	Disk Events
ID 0004f677-b3a0-1adb-0000-000000000131::31	Usage Summary 555.75 MB			
Serial Number 9XG3NZKS	8:00am 9:00am 10:00am			
Storage Tier DAS-SATA				
Used (Physical) 555.75 MB				
Capacity (Physical) 925.78 GB				
Hypervisor 10.3.176.164				
Storage Pool sp1				
Status Normal				
Mode Online				

detail information (host or disk)

Prism Central Analysis dashboard

The Prism Central Analysis dashboard allows users to create charts that can dynamically monitor a variety of performance measures across the registered clusters.

Click to enlarge the image.



Charts

New

☒ Cluster-wide CPU Usa...
■ Hypervisor CPU Usage (%)

☒ Cluster: CPU/Memory
■ Hypervisor CPU Usage (%)
■ Hypervisor Memory Usage (%)

☒ Entity: host NTNX-S119...
■ Content Cache Logical Memory Usag...

☒ iops
■ cluster Schubert4714

☒ Metric: Content Cache ...
■ host aura-2.corp.nutanix.com

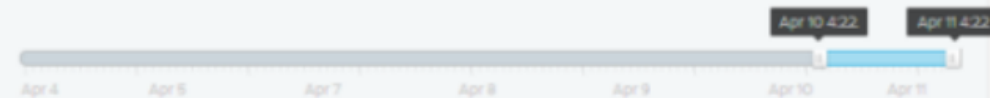
☒ test
■ Hypervisor CPU Usage (%)

☒ test 888
■ host colossus05-1234567890-C

☒ test2
■ Hypervisor CPU Usage (%)

Range Picker

1 Hour - 1 Day - 1 Week - WTD - 1 Month



Alerts & Events

Apr 11 4:22 AM



Cluster-wide CPU Usage

No Data



Cluster: CPU/Memory

No Data No Data



Entity: host NTNX-S11900423316312-A

No Data



iops



Alerts

11

Critical 04/11 03:41 PM ⓘ
Controller VM 10.3176167 has been rebooted.
[Cause and Resolution](#)

Critical 04/11 03:28 PM ⓘ
There have been 10 or more cluster services restarts within 15 minutes in the Controller VM 10.3176167.
[Cause and Resolution](#)

Critical 04/11 03:28 PM ⓘ
There have been 10 or more cluster services restarts within 15 minutes in the Controller VM 10.3176169.
[Cause and Resolution](#)

Critical 04/11 03:28 PM ⓘ
There have been 10 or more cluster services

Events 53

Audit 04/11 04:12 PM ⓘ
Name Servers updated

Audit 04/11 04:02 PM ⓘ
Snapshot '[305, 1396893881998043, 132]' created for protection domain 'test_test'.

Audit 04/11 04:02 PM ⓘ
OOB schedule added for protection domain 'test_test'

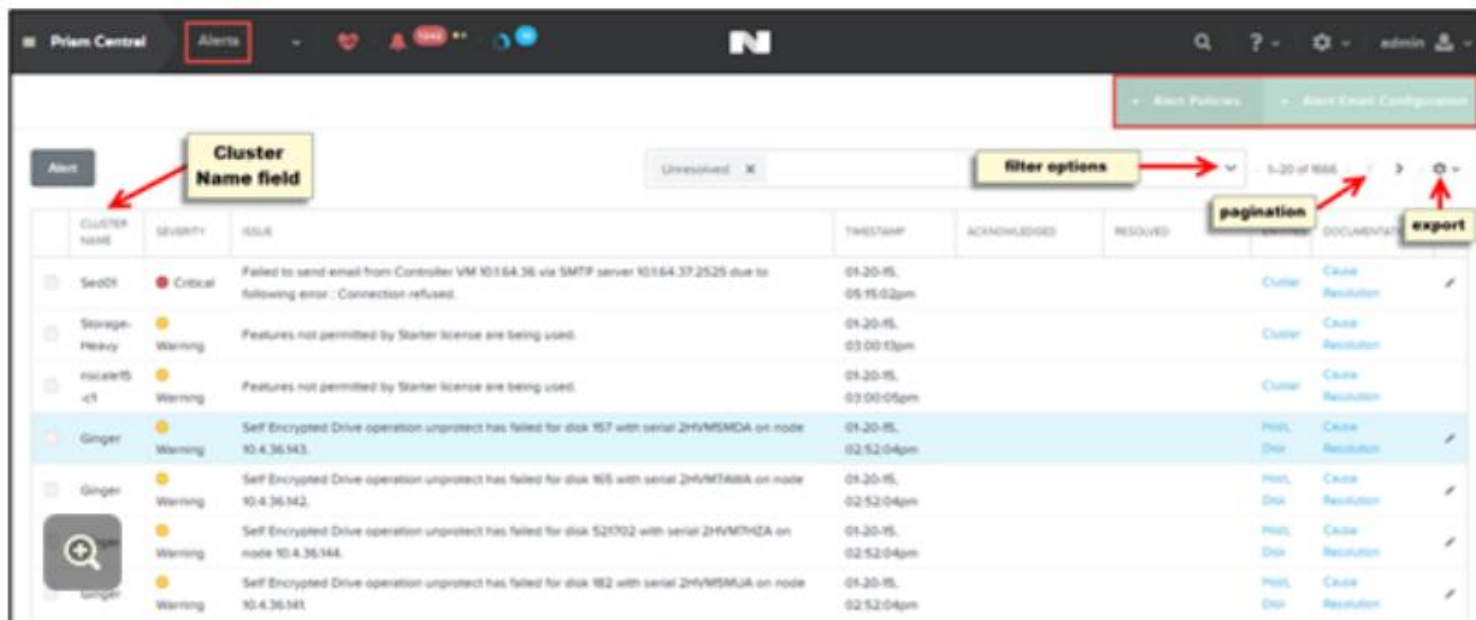
Audit 04/11 03:57 PM ⓘ
Protection Domain 'test_test' changed mode to 'Active' using snapshot '[305, 1396893881998043, 92]'

Audit 04/11 03:57 PM ⓘ

Prism Central Alerts dashboard

The Prism Central Alerts dashboard displays alert and event messages from across the registered clusters. Click specific alerts to check details and resolutions.

Click to enlarge the image.



The screenshot shows the Prism Central Alerts dashboard. At the top, there's a navigation bar with 'Prism Central' and 'Alerts' (highlighted with a red box). Below this, there are tabs for 'Alert Patterns' and 'Alert Email Configuration'. The main area displays a table of alerts. Annotations include: a red arrow pointing to the 'Alert' button; a yellow box labeled 'Cluster Name field' pointing to the 'CLUSTER NAME' column; a yellow box labeled 'filter options' pointing to the 'filter options' dropdown; a yellow box labeled 'pagination' pointing to the '1-20 of 166' text; and a yellow box labeled 'export' pointing to the 'export' button. The table has columns: CLUSTER NAME, SEVERITY, ISSUE, TIMESTAMP, ACKNOWLEDGED, RESOLVED, and DOCUMENTATION. The first row is highlighted in blue.

CLUSTER NAME	SEVERITY	ISSUE	TIMESTAMP	ACKNOWLEDGED	RESOLVED	DOCUMENTATION
Sed01	Critical	Failed to send email from Controller VM 10.164.36 via SMTP server 10.164.37.2525 due to following error - Connection refused.	01-20-15, 05:15:02pm			Cluster Cause Resolution
Storage-Heavy	Warning	Features not permitted by Starter license are being used.	01-20-15, 03:00:13pm			Cluster Cause Resolution
iscsi15-c1	Warning	Features not permitted by Starter license are being used.	01-20-15, 03:00:05pm			Cluster Cause Resolution
Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 167 with serial 2HvMT8MDA on node 10.4.36.143.	01-20-15, 02:52:04pm			Host, Disk Cause Resolution
Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 165 with serial 2HvMT8MDA on node 10.4.36.142.	01-20-15, 02:52:04pm			Host, Disk Cause Resolution
Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 521702 with serial 2HvMT8MDA on node 10.4.36.144.	01-20-15, 02:52:04pm			Host, Disk Cause Resolution
Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 162 with serial 2HvMT8MDA on node 10.4.36.141.	01-20-15, 02:52:04pm			Host, Disk Cause Resolution

Prism Central

Alerts

1242

10

N

admin

+ Alert Policies

+ Alert Email Configuration

Alert

Cluster Name field

Unresolved X

filter options

1-20 of 1666

export

	CLUSTER NAME	SEVERITY	ISSUE	TIMESTAMP	ACKNOWLEDGED	RESOLVED	ENTITIES	DOCUMENTATION	
<input type="checkbox"/>	Sed01	Critical	Failed to send email from Controller VM 10.1.64.36 via SMTP server 10.1.64.37:2525 due to following error : Connection refused.	01-20-15, 05:15:02pm			Cluster	Cause Resolution	
<input type="checkbox"/>	Storage-Heavy	Warning	Features not permitted by Starter license are being used.	01-20-15, 03:00:13pm			Cluster	Cause Resolution	
<input type="checkbox"/>	nscale15-c1	Warning	Features not permitted by Starter license are being used.	01-20-15, 03:00:05pm			Cluster	Cause Resolution	
<input type="checkbox"/>	Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 157 with serial 2HVM5MDA on node 10.4.36.143.	01-20-15, 02:52:04pm			Host, Disk	Cause Resolution	
<input type="checkbox"/>	Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 165 with serial 2HVM7AWA on node 10.4.36.142.	01-20-15, 02:52:04pm			Host, Disk	Cause Resolution	
<input type="checkbox"/>	Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 521702 with serial 2HVM7HZA on node 10.4.36.144.	01-20-15, 02:52:04pm			Host, Disk	Cause Resolution	
<input type="checkbox"/>	Ginger	Warning	Self Encrypted Drive operation unprotect has failed for disk 182 with serial 2HVM5MUA on node 10.4.36.141.	01-20-15, 02:52:04pm			Host, Disk	Cause Resolution	

Required logs for Prism issue resolution

When working with a customer on a Prism issue, the following information should be collected:

- A detailed description
 - Prism version
 - Prism Element/Cluster version
 - NCC version on Prism
 - If it's an upgrade issue, the original and upgraded versions
 - Steps needed to reproduce the issue – add as many command outputs and screenshots as possible. If a video is possible, provide that as well.
 - Any necessary log snippets
 - Any relevant background information about the setup or the issue
- NCC log collector bundle
 - Upload the log bundle to support Nutanix Analysis