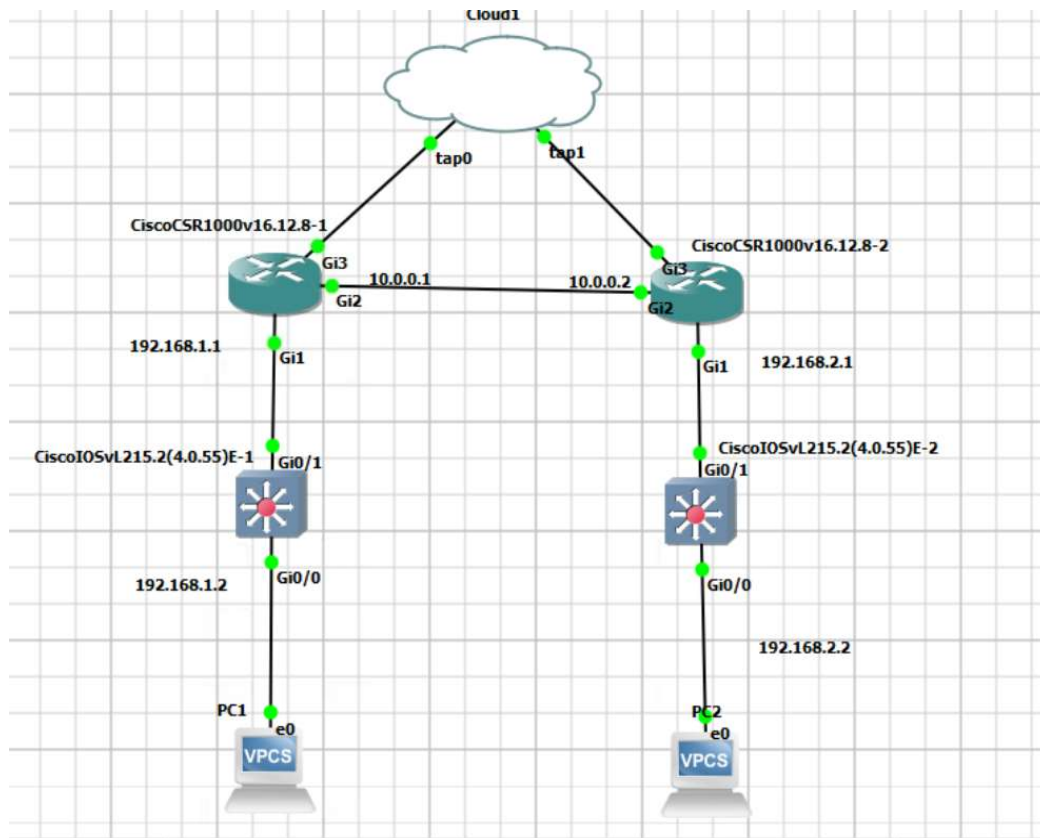


OPEN NMS LAB (11-07)

Network topology:



Step 2 -

- Assign IP address to PC1 (192.168.1.2) and PC2 (192.168.2.2)

PC1:

IP 192.168.1.2/24 192.168.1.1

Show IP

PC2:

IP 192.168.2.2/24 192.168.2.1

Show IP

Step 3-

- Assign the IP address to R1 Gi1 (192.168.1.1) , Gi2 (10.0.0.1) and R2 Gi1 (192.168.2.1), Gi2 (10.0.0.2)

Router 1:

Int gi1 Int gi 1

Ip address 192.168.1.1 255.255.255.0 ip address 192.168.2.1 255.255.255.0

No shut no shut

Router 2:

Int gi2 int gi 2

Ip address 10.0.0.1 255.0.0.0 ip address 10.0.0.2 255.0.0.0

No shut no shut

Step 4:

- **Run the OSPF protocol and advertise the routes**

Router 1

Router ospf 10

Network 192.168.1.0 0.0.0.255 area 1

Network 10.0.0.0 0.0.0.255 area 1

Router 2

Router ospf 10

Network 192.168.2.0 0.0.0.255 area 1

Network 10.0.0.0 0.0.0.255 area 1

Step 5:

- **Configure the SNMP in both the router R1 and R2**

snmp-server community public ro

snmp-server community private rw

snmp-server enable traps

snmp-server host 172.20.0.11 traps version 2c public udp-port 1162

snmp-server manager

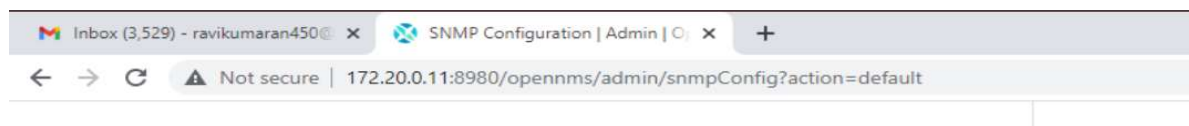
Show snmp host

Save the configuration

Wr

Node Discovery on Open NMS

The screenshot displays the OpenNMS Horizon web interface. The top navigation bar includes the OpenNMS logo, a date/time stamp (2024-07-11T11:25:55+05:30), a search bar, and a menu with options like Search, Info, Status, Reports, Dashboards, Maps, Help, and user settings. The main content area is divided into two columns. The left column contains a sidebar with sections: OpenNMS System (System Configuration, Configure Users, Groups and On-Call Roles), Provisioning (Manage Provisioning Requisitions, Import and Export Asset Information, Manage Surveillance Categories, Configure Discovery, Run Single Discovery Scan, Configure SNMP Community Names by IP Address, Manually Add an Interface, Delete Nodes, Configure External Requisitions, Configure Geocoder Service, Secure Credentials Vault), and Event Management (Manually Send an Event, Configure Notifications, Customize Event Configurations). The right column shows a 'Descriptions' section with detailed information about various features: Configure Users, Groups and On-Call Roles; Manage Provisioning Requisitions; Import and Export Asset Information; Manage Surveillance Categories; Configure Discovery; Manually Add an Interface; Delete Nodes; Secure Credentials Vault; Manually Send an Event; and Configure Notifications. At the bottom of the sidebar, there is a 'Notification Status' section with a toggle switch set to 'On' and an 'Update' button. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 11:26 on 11-07-2024.



Updating SNMP Configuration

General Parameters

Version	<input type="text" value="v2c"/> <small>Default: v2c</small>
First IP Address	<input type="text" value="172.20.0.109"/>
Last IP Address	<input type="text" value="172.20.0.112"/>
Location	<input type="text" value="Default"/>

Updating SNMP Configuration

Read Community String: Default: public

Write Community String: Default: private

Save Options

Send Event: ☒ Default: enabled

Send Locally: ☐ Default: disabled

- Home/admin/provisioning requisition
- Add requisition

Please enter the name for the new requisition

Edit the Core network requisition and delete the source definition which are not needed like DNS, FTP, IMAP, ICMP, LDAP, NRPE, POP3,SMTP,WS-MAN

Inbox (3,529) - ravikumaran450@x

Provisioning Requisitions | Admin | x

← → ↺ ⚠ Not secure | 172.20.0.11:8980/opennms/admin/ng-requisitions/index.jsp#/requisitions

OpenNMS Horizon

2024-07-11T11:43:09+05:30

🔍 Search...

Search Info Status Reports Dashboards Maps Help admin 0 0 ⚙

Home / Admin / Provisioning Requisitions

Requisitions (2)

🔍 Search/Filter Requisitions

🔄 Refresh

👤 Quick Add Node

✎ Edit Default FS

🔄 Reset Default

➕ Add Requisition

Requisition Name	Last Update	Last Import	Nodes Defined	Nodes in Database	Actions
selfmonitor	2023-12-11T03:19:10+05:30	Never	1	1	<div>✎ ⚙ ⋮</div>
Core Network	2024-07-11T11:51:51+05:30	Never	0	0	<div>✎ ⚙ ⋮</div>

Page size

⌵

Inbox (3,529) - ravikumaran450@x

Provisioning Requisitions | Admin | x

← → ↺ ⚠ Not secure | 172.20.0.11:8980/opennms/admin/ng-requisitions/index.jsp#/requisitions/Core%20Network/foreignSource

OpenNMS Horizon

2024-07-11T12:06:09+05:30

🔍 Search...

Search Info Status Reports Dashboards Maps Help admin 0 0 ⚙

Home / Admin / Provisioning Requisitions

Foreign Source Definition for Requisition Core Network

🔄 Reset to Default

🏠 Return

FS Definition

Last Modified 2024-07-11T12:06:09+05:30

Scan Interval

1d

Detectors

Policies

🔍 Search/Filter Detectors

➕ Add Detector

Name	Class	Parameters	Actions
HTTP	org.opennms.netmgt.provision.detector.simple.HttpDetector	[No parameters]	<div>✎ + 🗑</div>
HTTPS	org.opennms.netmgt.provision.detector.simple.HttpsDetector	[No parameters]	<div>✎ + 🗑</div>
SNMP	org.opennms.netmgt.provision.detector.snmp.SnmpDetector	[No parameters]	<div>✎ + 🗑</div>
SSH	org.opennms.netmgt.provision.detector.ssh.SshDetector	[No parameters]	<div>✎ + 🗑</div>
OpenNMS-JVM	org.opennms.netmgt.provision.detector.jmx.Jsr160Detector	port : 18980	<div>✎ + 🗑</div>

Discovery configuration to discover the Router 1 & Router 2

Inbox (3,529) - ravikumaran450@x

Discovery | Admin | OpenNMS W | x

← → ↺ ⚠ Not secure | 172.20.0.11:8980/opennms/admin/discovery/edit-config.jsp

OpenNMS Horizon

2024-07-11T12:12:14+05:30

🔍 Search...

Search Info Status Reports Dashboards Maps Help admin 0 0 ⚙

Home / Admin / Discovery / Modify Configuration

Save and Restart Discovery

General Settings

Initial sleep time (seconds)

30

⌵

Restart sleep time (hours)

24

⌵

Timeout (milliseconds)

2000

⌵

Retries

1

⌵

Requisition

Core Network

⌵

Location

Default

⌵

Advanced configuration

Task chunk size

100

⌵

Sync the discovered nodes:

OpenNMS Horizon 2024-07-11T12:28:39+05:30







Search... Search Info Status Reports Dashboards Maps Help admin 2 0 +

Home / Admin / Provisioning Requisitions

Requisitions (2)

Search/Filter Requisitions

Refresh Quick Add Node Edit Default FS Reset Default Add Requisition

Requisition Name	Last Update	Last Import	Nodes Defined	Nodes in Database	Actions
Core Network	2024-07-11T12:26:34+05:30	2024-07-11T12:24:38+05:30	2	2	  
selfmonitor	2023-12-11T03:19:10+05:30	Never	1	1	  

Page size 10

Node Management on Open NMS

Go to info --> nodes --> select node

Node Interfaces

IP Interfaces

SNMP Interfaces

Search/Filter IP Interfaces

IP Address	IP Host Name	SNMP ifIndex	Managed
10.0.0.2	10.0.0.2	2	M
172.20.0.110	172.20.0.110	3	M
192.168.2.1	192.168.2.1	1	M

Inbox (3,529) - ravikumaran450@ x 172.20.0.110 | ID 8 | Node | OpenNMS x +

Not secure | 172.20.0.11:8980/opennms/element/node.jsp?node=8

Your acknowledged notifications for this node

Recent Events

507	2024-07-11T12:27:06+05:30	Normal	The hardware discovery (SnmpMetadataProvisioningAdapter) on node 172.20.0.110 (IP address 172.20.0.110) has been completed successfully.
506	2024-07-11T12:27:05+05:30	Normal	The Node with Id: 8; ForeignSource: Core Network; ForeignId:8 has completed.
505	2024-07-11T12:27:05+05:30	Warning	SNMP information on 172.20.0.110 is being refreshed for data collection purposes.
499	2024-07-11T12:27:05+05:30	Normal	The hardware discovery (SnmpMetadataProvisioningAdapter) on node 172.20.0.110 (IP address 172.20.0.110) has been completed successfully.
494	2024-07-11T12:26:34+05:30	Normal	The Node with Id: 8; ForeignSource: Core Network; ForeignId:8 has completed.

More...

Recent Outages

There have been no outages on this node in the last 24 hours.

Availability

Availability (last 24 hours) 100.000%

10.0.0.2	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	00:00	02:00	04:00	06:00	08:00	10:00	12:00	Not Monitored	
172.20.0.110	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
HTTP																		100.000%
HTTPS																		100.000%
SNMP																		100.000%
SSH																		100.000%
192.168.2.1																		Not Monitored

Node Interfaces

IP Interfaces

SNMP Interfaces

Search/Filter IP Interfaces

IP Address	IP Host Name	SNMP ifindex	Managed
10.0.0.2	10.0.0.2	2	M
172.20.0.110	172.20.0.110	3	M
192.168.2.1	192.168.2.1	1	M

CDP Information

global device id	R2.localdomain
global run	false

Activate Windows
Go to Settings to activate Windows.

12:49
11-07-2024

Go to Status → Events → All Events]

The screenshot displays the OpenNMS Web UI interface. At the top, there's a navigation bar with tabs for "Inbox (3,529)", "List | Events | System Info | Config | Reports". The main header shows "Not secure | 172.20.0.11:8980/opennms/event/list". Below the header are navigation buttons: "First", "Previous", "Next".

ID	Severity	Time	Source Location	System-ID	Node	Node Location	Interface	Service	Alarm ID
510	Normal	2024-07-11T12:28:44+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	R1.localdomain	Default	172.20.0.111		
uei.opennms.org/internal/discovery/hardwareInventorySuccessful Edit notifications for event The hardware discovery (SnmpMetadataProvisioningAdapter) on node R1.localdomain (IP address 172.20.0.111) has been completed successfully.									
509	Normal	2024-07-11T12:28:43+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	R1.localdomain	Default			
uei.opennms.org/internal/provisiond/nodeScanCompleted Edit notifications for event The Node with Id: 9; ForeignSource: Core Network; ForeignId:9 has completed.									
508	Warning	2024-07-11T12:28:43+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	R1.localdomain	Default	172.20.0.111		
uei.opennms.org/nodes/reinitializePrimarySnmpInterface Edit notifications for event SNMP information on 172.20.0.111 is being refreshed for data collection purposes.									
507	Normal	2024-07-11T12:27:06+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	172.20.0.110	Default	172.20.0.110		
uei.opennms.org/internal/discovery/hardwareInventorySuccessful Edit notifications for event The hardware discovery (SnmpMetadataProvisioningAdapter) on node 172.20.0.110 (IP address 172.20.0.110) has been completed successfully.									
506	Normal	2024-07-11T12:27:05+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	172.20.0.110	Default			
uei.opennms.org/internal/provisiond/nodeScanCompleted Edit notifications for event The Node with Id: 8; ForeignSource: Core Network; ForeignId:8 has completed.									

An "Activate Windows" watermark is visible in the bottom right corner of the application area.

Go to Status → Notifications → All outstanding notices and acknowledges notices

The screenshot shows the OpenNMS Horizon web interface. The top navigation bar includes the OpenNMS logo, a search bar, and various menu items like Search, Info, Status, Reports, Dashboards, Maps, Help, and admin. The main content area is titled 'Home / Notifications / Notice List'. Below this, it states 'Currently showing only **outstanding** notices. [Show acknowledged]'. A dropdown menu shows 'Results 1-2 of 2, Show: 20 Items'. The table below lists two notifications, both with a severity of 'Warning'. The first notification (ID 15) is about a new node named 172.20.0.111. The second notification (ID 14) is about a new node named 172.20.0.110. At the bottom, there are buttons for 'Reset', 'Select All', and 'Acknowledge Notices'. The footer contains copyright information for OpenNMS Group, Inc. from 2002-2023.

ID	Event ID	Severity	Sent Time	Source Loc.	Responder	Respond Time	Node	Node Loc.	Interface	Service
15	495	Warning	2024-07-11T12:26:34+05:30	Default			R1.localdomain	Default		
OpenNMS has discovered a new node named 172.20.0.111. Please be advised.										
14	477	Warning	2024-07-11T12:24:24+05:30	Default			172.20.0.110	Default		
OpenNMS has discovered a new node named 172.20.0.110. Please be advised.										

2 notices Reset Select All Acknowledge Notices

Results 1-2 of 2, Show: 20 Items

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Go to Status → Notifications → all acknowledged notices

The screenshot shows the OpenNMS Horizon web application. The browser's address bar displays the URL: `172.20.0.11:8980/opennms/notification/browse?sortby=id&acktype=unack&limit=20`. The page header includes the OpenNMS logo, the time `2024-07-11T12:56:00+05:30`, a search bar, and navigation links such as Search, Info, Status, Reports, Dashboards, Maps, Help, admin, and user profile icons.

The main section is titled "Home / Notifications / Notice List". Below this, it states: "Currently showing only **outstanding** notices. [Show acknowledged]".

A filter summary indicates "Results 1-2 of 2, Show: 20 Items".

ID	Event ID	Severity	Sent Time	Source Loc.	Responder	Respond Time	Node	Node Loc.	Interface	Service
<input type="checkbox"/> 15	495	Warning	2024-07-11T12:26:34+05:30	Default			R1.localdomain	Default		
OpenNMS has discovered a new node named 172.20.0.111. Please be advised.										
<input type="checkbox"/> 14	477	Warning	2024-07-11T12:24:24+05:30	Default			172.20.0.110	Default		
OpenNMS has discovered a new node named 172.20.0.110. Please be advised.										

At the bottom, it says "2 notices" followed by buttons for "Reset", "Select All", and "Acknowledge Notices". A footer note reads: "OpenNMS Copyright © 2002-2023 The OpenNMS Group, Inc. OpenNMS® is a registered trademark of The OpenNMS Group, Inc. - Version: 32.0.5".

Go to Reports --> Resource Graphs --> select Node and select all

OpenNMS Horizon 2024-07-11T12:58:37+05:30

Home / Reports / Resource Graphs / Choose

Node: 172.20.0.110

Resources

Search/Filter Resources

Select All Clear All Graph Selection Graph All

SNMP Node Data

☒ Node-level Performance Data

SNMP Interface Data

☒ Gi1 (192.168.2.1, 1 Gbps)
☒ Gi2 (10.0.0.2, 1 Gbps)
☒ Gi3 (172.20.0.110, 1 Gbps)

Response Time

☒ Response Time for 172.20.0.110

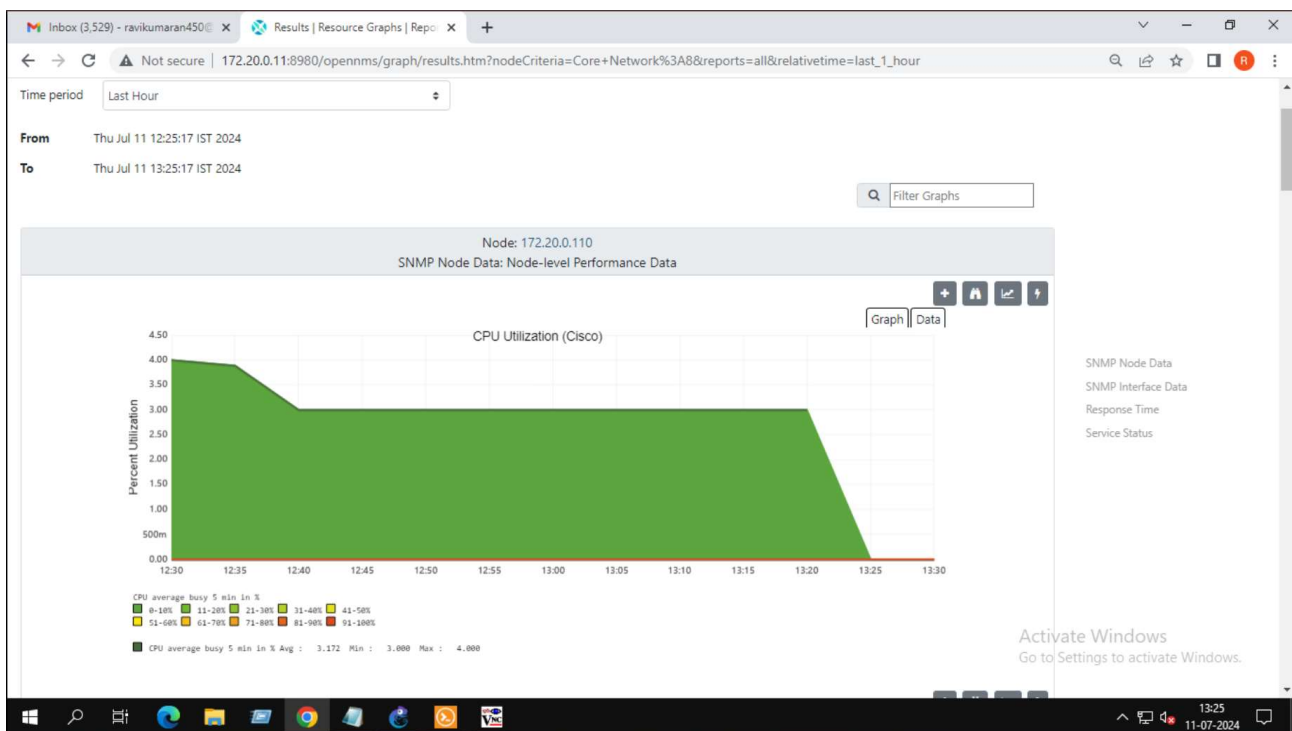
Service Status

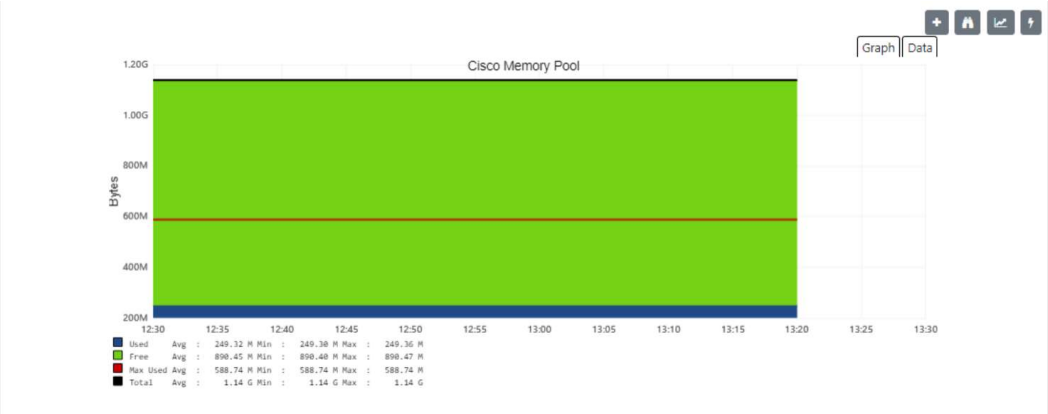
☒ Service Status for 172.20.0.110

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Activate Windows
Go to Settings to activate Windows.

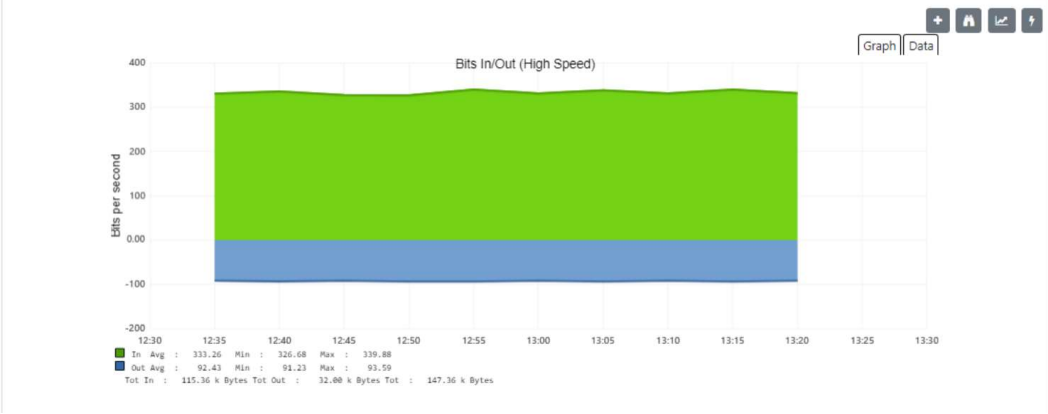
Click on Graph Selection and select time period last hour





SNMP Node Data

- Node-level Performance Data
- SNMP Interface Data
- Response Time
- Service Status

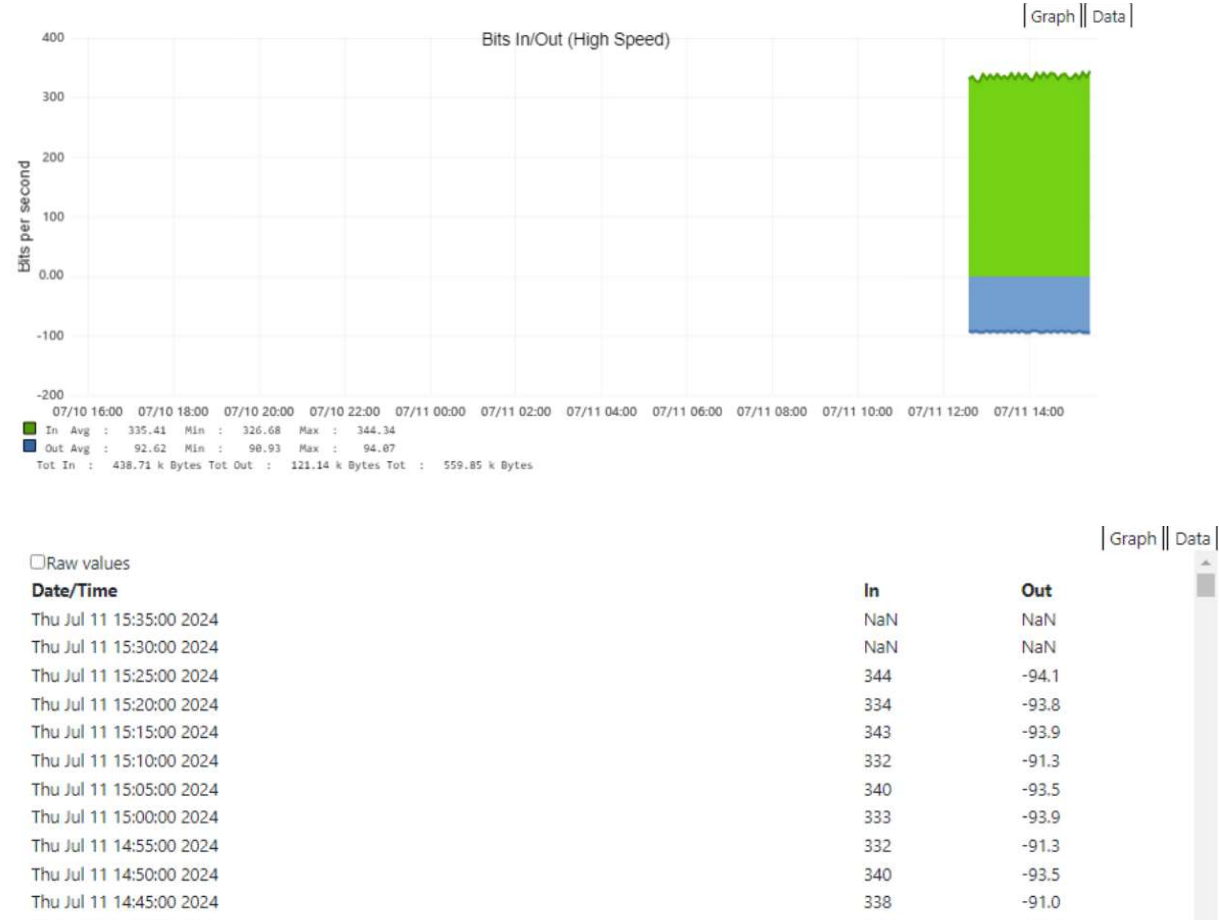


SNMP Node Data

SNMP Interface Data

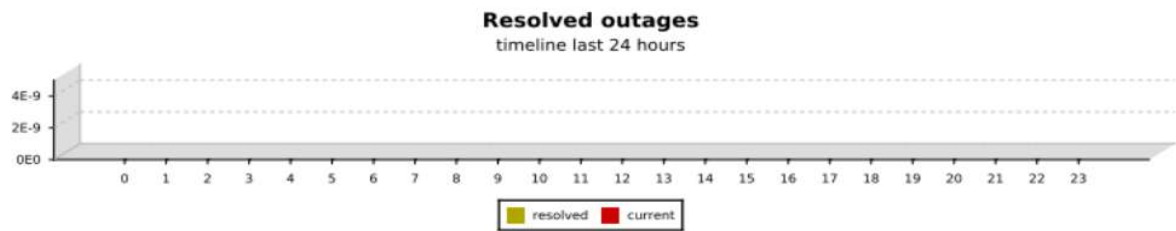
- Gi1 (192.168.2.1, 1 Gbps)
- Gi3 (172.20.0.110, 1 Gbps)
- Gi2 (10.0.0.2, 1 Gbps)
- Response Time
- Service Status

Ping PC1 to PC2 and observe more packets bits in Out

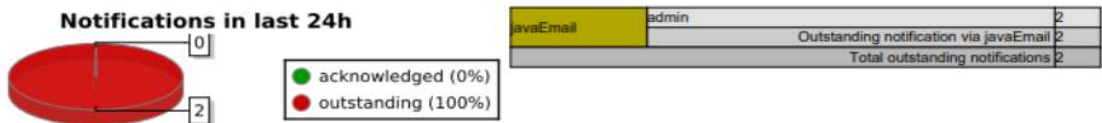


Go to Reports → Dashboard Reports → Early Morning report
Check Outages, Alarm, Notifications and events summary reports..

Outage timeline



Notification overview

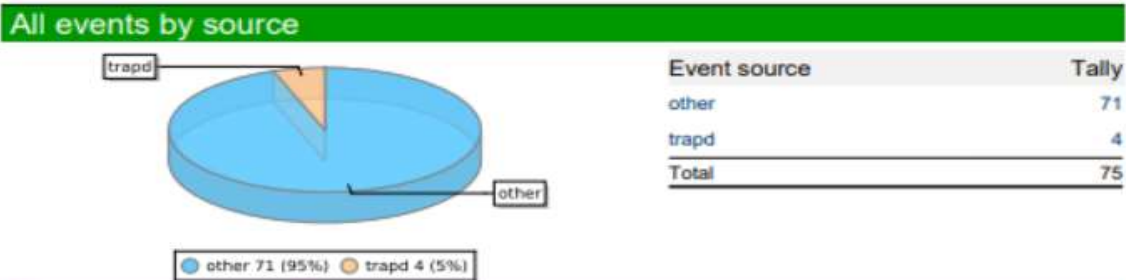


Go to Reports → Dashboard Reports → Event analysis report
Validate the event based on source and hour

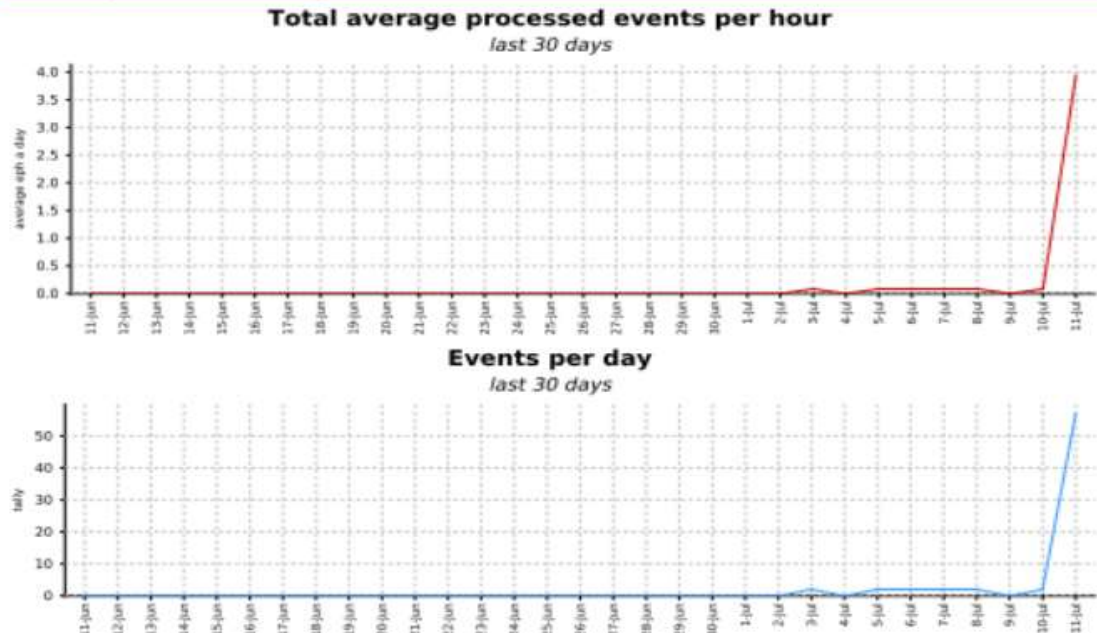
Event Analysis



2024/07/11 15:44:31

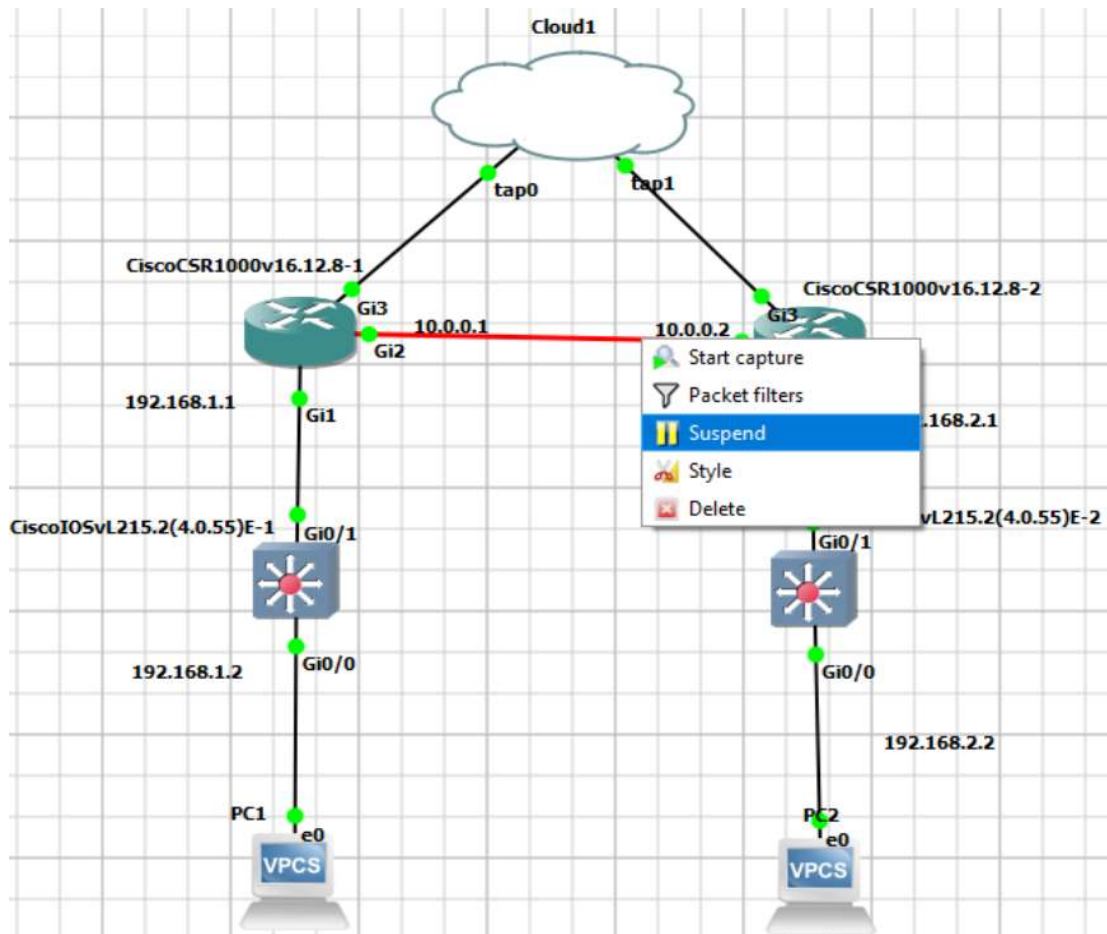


Events per hour and by source

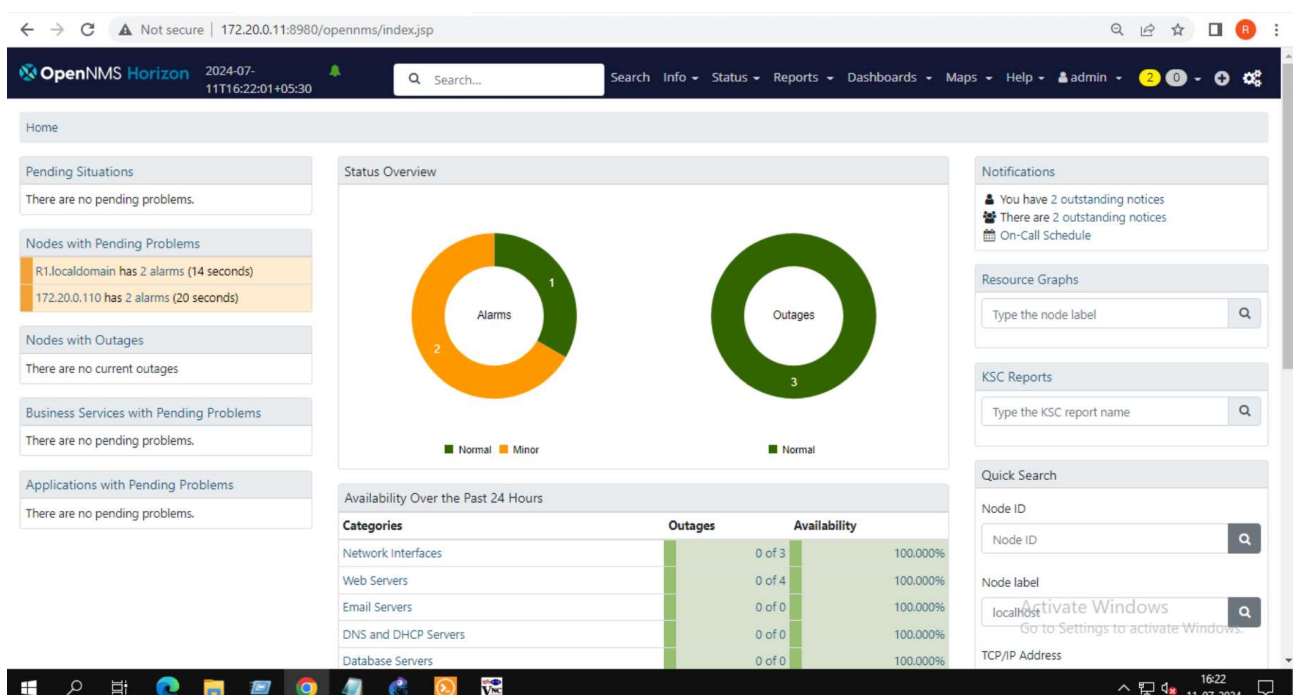


Generate the SNMP Traps

Generate the SNMP traps via suspend the link between Router 1 and Router 2, it will generate the SNMP alarms for link down and OSPF state change traps



Dashboard View:



Check the alarms in NMS , Interface down and OSPF state change alarms would be appeared on NMS.

Ack	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Minor	R1.localdomain	1	2024-07-11T16:21:48+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	81	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:48+05:30	ospfOriginateLsa trap received ospfRouterid=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsid=192.168.1.1 ospfLsdbRouterid=192.168.1.1
<input type="checkbox"/>	80	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:48+05:30	ospfMaxAgeLsa trap received ospfRouterid=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=2 ospfLsdbLsid=10.0.0.1 ospfLsdbRouterid=192.168.1.1
<input type="checkbox"/>	79	<input type="checkbox"/>	Warning	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterid=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	78	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterid=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=7
<input type="checkbox"/>	77	<input type="checkbox"/>	Minor	172.20.0.110	1	2024-07-11T16:21:42+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	76	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:42+05:30	ospfOriginateLsa trap received ospfRouterid=192.168.2.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsid=192.168.2.1 ospfLsdbRouterid=192.168.2.1
<input type="checkbox"/>	75	<input type="checkbox"/>	Warning	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	74	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=7
<input type="checkbox"/>	73	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=5
<input type="checkbox"/>	67	<input type="checkbox"/>	Warning		1	2024-07-11T09:56:22+05:30	"Unknown" changed entity Unknown_172.20.0.111 from source: 1
<input type="checkbox"/>	66	<input type="checkbox"/>	Warning		1	2024-07-11T09:56:21+05:30	"Unknown" changed entity Unknown_172.20.0.110 from source: 1

Click on Advance alarm search and select Minor and Warning alarm

Ack	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Minor	R1.localdomain	1	2024-07-11T16:21:48+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	79	<input type="checkbox"/>	Warning	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterid=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	77	<input type="checkbox"/>	Minor	172.20.0.110	1	2024-07-11T16:21:42+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	75	<input type="checkbox"/>	Warning	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	67	<input type="checkbox"/>	Warning		1	2024-07-11T09:56:22+05:30	"Unknown" changed entity Unknown_172.20.0.111 from source: 1
<input type="checkbox"/>	66	<input type="checkbox"/>	Warning		1	2024-07-11T09:56:21+05:30	"Unknown" changed entity Unknown_172.20.0.110 from source: 1

Acknowledge all the alarms

☆

Unsaved filter

▼

Alarm(s) acknowledged ✕

Results 1-10 of 12, Show: 10 Items

First

Previous

1

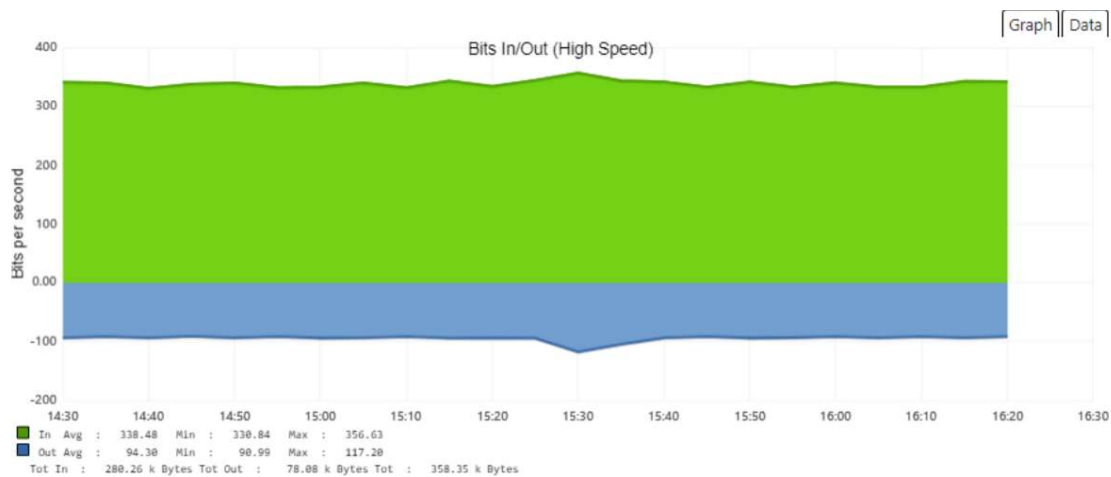
2

Next

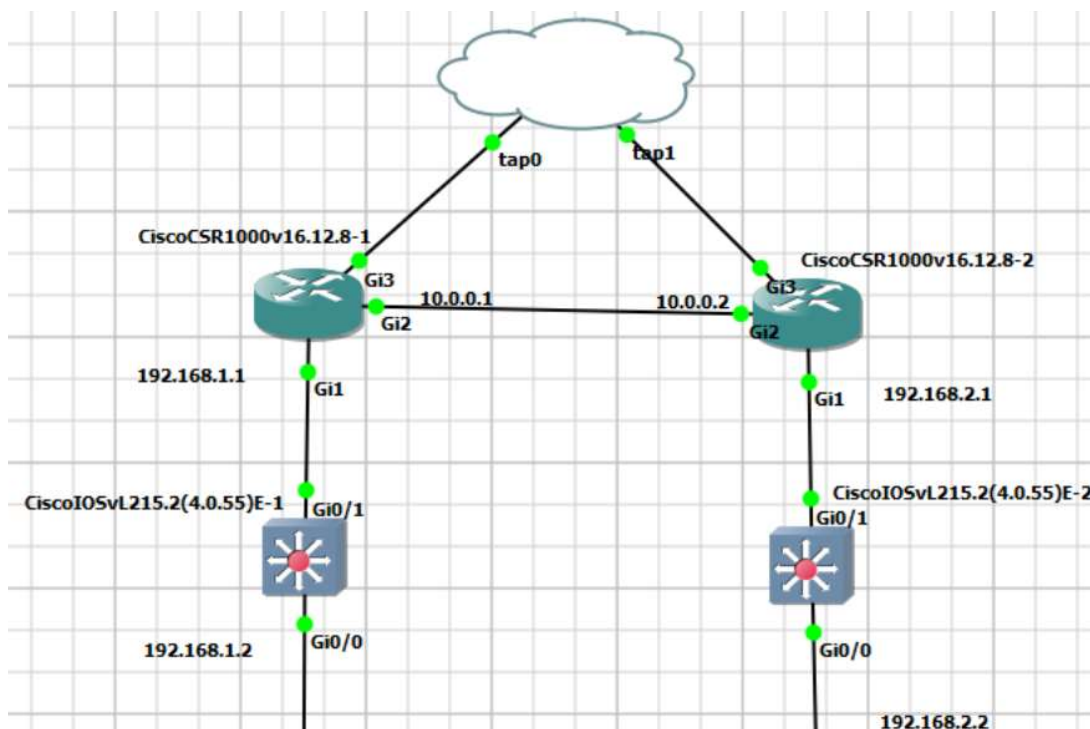
Last

UnAck	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Minor	R1.localdomain	1	2024-07-11T16:21:48+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	81	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:48+05:30	ospfOriginatLsa trap received ospfRouterId=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsid=192.168.1.1 ospfLsdbRouterId=192.168.1.1
<input type="checkbox"/>	80	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:48+05:30	ospfMaxAgeLsa trap received ospfRouterId=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=2 ospfLsdbLsid=10.0.0.1 ospfLsdbRouterId=192.168.1.1
<input type="checkbox"/>	79	<input type="checkbox"/>	Warning	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterId=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	78	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterId=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=7
<input type="checkbox"/>	77	<input type="checkbox"/>	Minor	172.20.0.110	1	2024-07-11T16:21:42+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	76	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:42+05:30	ospfOriginatLsa trap received ospfRouterId=192.168.2.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsid=192.168.2.1 ospfLsdbRouterId=192.168.2.1
<input type="checkbox"/>	75	<input type="checkbox"/>	Warning	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterId=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=1
<input type="checkbox"/>	74	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterId=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=7

Ping PC1 and PC2 and observe the Bits In/Out reports



Recover the link status



Check the alarms in NMS, all the alarms will be cleared

View all alarms

Advanced Search

Long Listing

Severity Legend

Unacknowledge entire search

20

Alarm Text

Any Time

Q

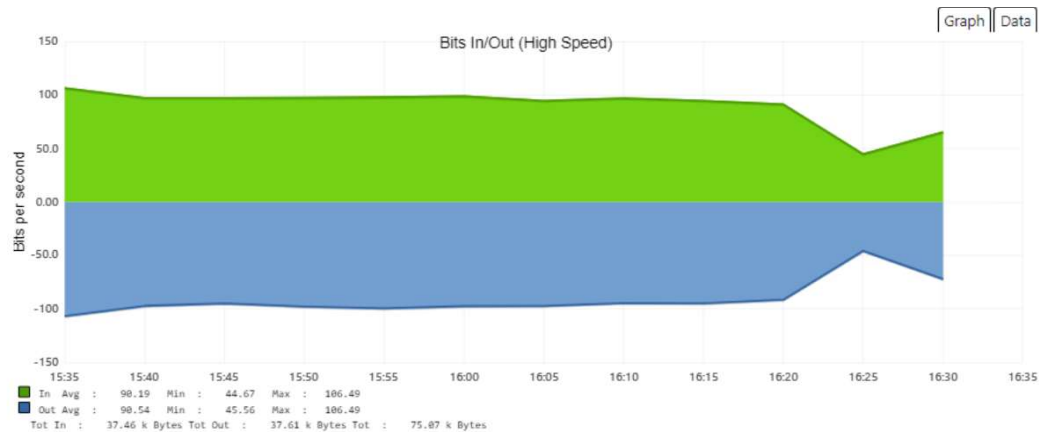
☆ Unsaved filter

Alarm(s) acknowledged

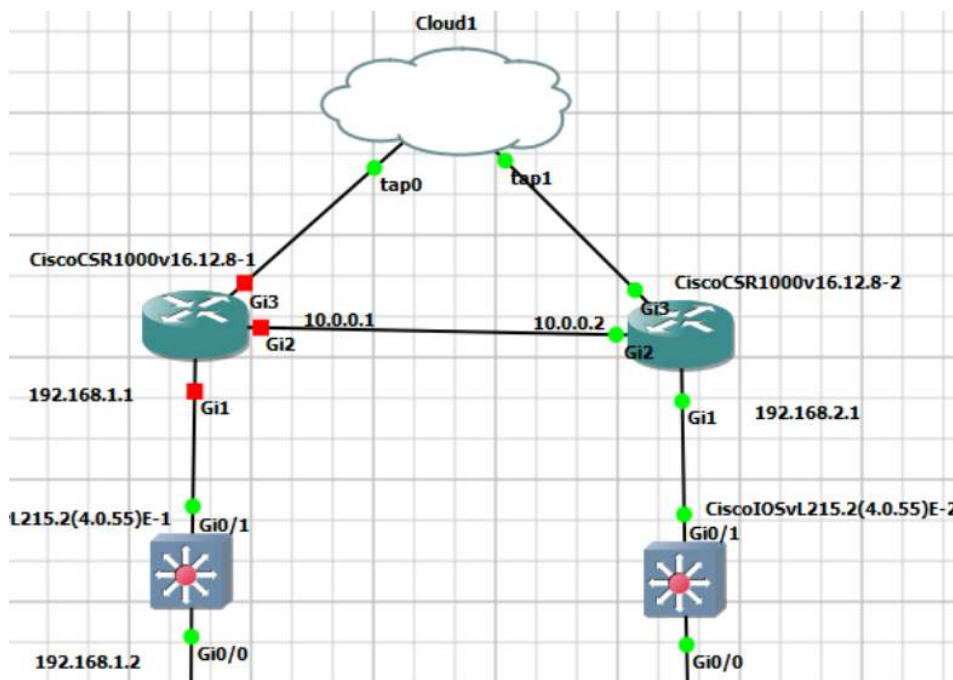
Results 1-12 of 12, Show: 20 Items

UnAck	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Cleared	R1.localdomain	1	2024-07-11T16:28:24+05:30	Agent Interface Up (linkUp Trap)
<input type="checkbox"/>	81	<input type="checkbox"/>	Normal	R1.localdomain	5	2024-07-11T16:29:19+05:30	ospfOriginateLsa trap received ospfRouterid=192.168.1.1 ospflsdbAreaId=0.0.0.1 ospflsdbType=1 ospflsdbLsid=192.168.1.1 ospflsdbRouterid=192.168.1.1
<input type="checkbox"/>	80	<input type="checkbox"/>	Normal	R1.localdomain	2	2024-07-11T16:29:11+05:30	ospfMaxAgeLsa trap received ospfRouterid=192.168.1.1 ospflsdbAreaId=0.0.0.1 ospflsdbType=2 ospflsdbLsid=10.0.0.1 ospflsdbRouterid=192.168.1.1
<input type="checkbox"/>	79	<input type="checkbox"/>	Cleared	R1.localdomain	2	2024-07-11T16:29:19+05:30	ospfIfStateChange trap received ospfRouterid=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=6
<input type="checkbox"/>	78	<input type="checkbox"/>	Normal	R1.localdomain	1	2024-07-11T16:21:47+05:30	ospfIfStateChange trap received ospfRouterid=192.168.1.1 ospfIfIpAddress=10.0.0.1 ospfAddressLessIf=0 ospfIfState=7
<input type="checkbox"/>	77	<input type="checkbox"/>	Cleared	172.20.0.110	1	2024-07-11T16:28:28+05:30	Agent Interface Up (linkUp Trap)
<input type="checkbox"/>	76	<input type="checkbox"/>	Normal	172.20.0.110	6	2024-07-11T16:29:25+05:30	ospfOriginateLsa trap received ospfRouterid=192.168.2.1 ospflsdbAreaId=0.0.0.1 ospflsdbType=1 ospflsdbLsid=192.168.2.1 ospflsdbRouterid=192.168.2.1
<input type="checkbox"/>	75	<input type="checkbox"/>	Cleared	172.20.0.110	1	2024-07-11T16:29:11+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=5
<input type="checkbox"/>	74	<input type="checkbox"/>	Normal	172.20.0.110	1	2024-07-11T16:21:41+05:30	ospfIfStateChange trap received ospfRouterid=192.168.2.1 ospfIfIpAddress=10.0.0.2 ospfAddressLessIf=0 ospfIfState=7

Ping PC1 and PC2 and observe the Bits In/Out reports



Generate the Outage-
Stop the Router 1, communication between Node and NMS server get stopped



Alarms will be generated at NMS server

OpenNMS Horizon

2024-07-11T16:42:38+05:30

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admin

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Home / Alarms / List

View all alarms

Advanced Search

Long Listing

Severity Legend

Acknowledge entire search

20

Alarm Text

Any Time

Q

☆ Unsaved filter

Alarm(s) outstanding

Results 1-2 of 2, Show: 20 Items

Ack	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	85	<input type="checkbox"/>	Minor	R1.localdomain	1	2024-07-11T16:41:39+05:30	SNMP data collection on interface 172.20.0.111 failed.
<input type="checkbox"/>	84	<input type="checkbox"/>	Major	R1.localdomain	1	2024-07-11T16:37:55+05:30	Node R1.localdomain is down.

2 alarms

Reset

Select All

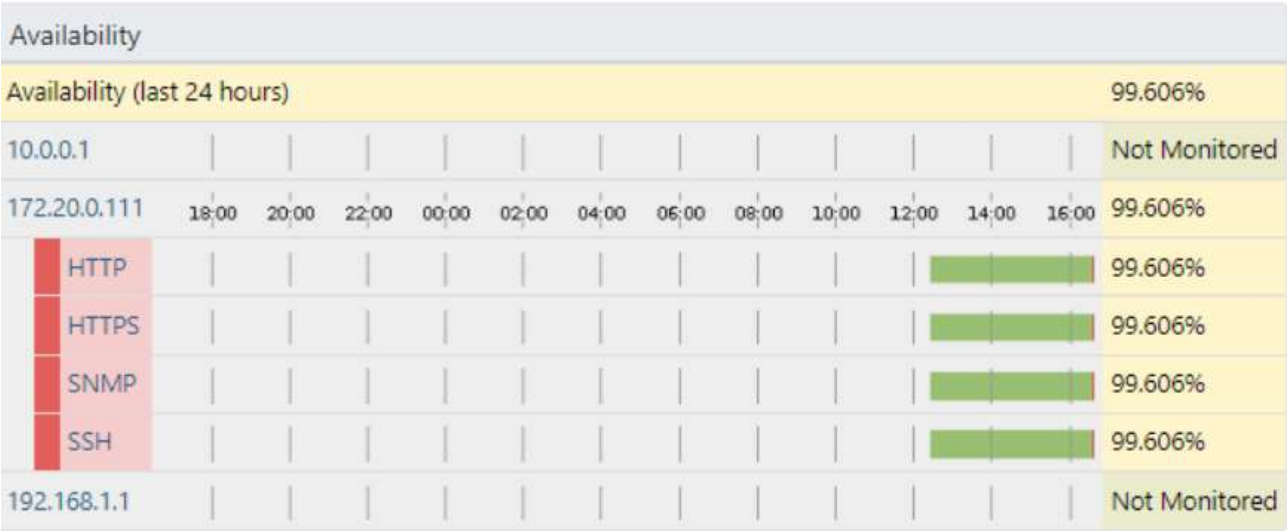
Acknowledge Alarms

Go

Results 1-2 of 2, Show: 20 Items

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Check the SNMP availability for the node, it get reduced from 100% and keep decreasing...



Recent Outages				
Interface	Service	Lost	Regained	Outage ID
172.20.0.111	HTTP	2024-07-11T16:37:55+05:30	DOWN	28
172.20.0.111	SSH	2024-07-11T16:37:55+05:30	DOWN	27
172.20.0.111	SNMP	2024-07-11T16:37:55+05:30	DOWN	26
172.20.0.111	HTTPS	2024-07-11T16:37:55+05:30	DOWN	25

Click on Status → Outages → all outages

Home / Outages / List

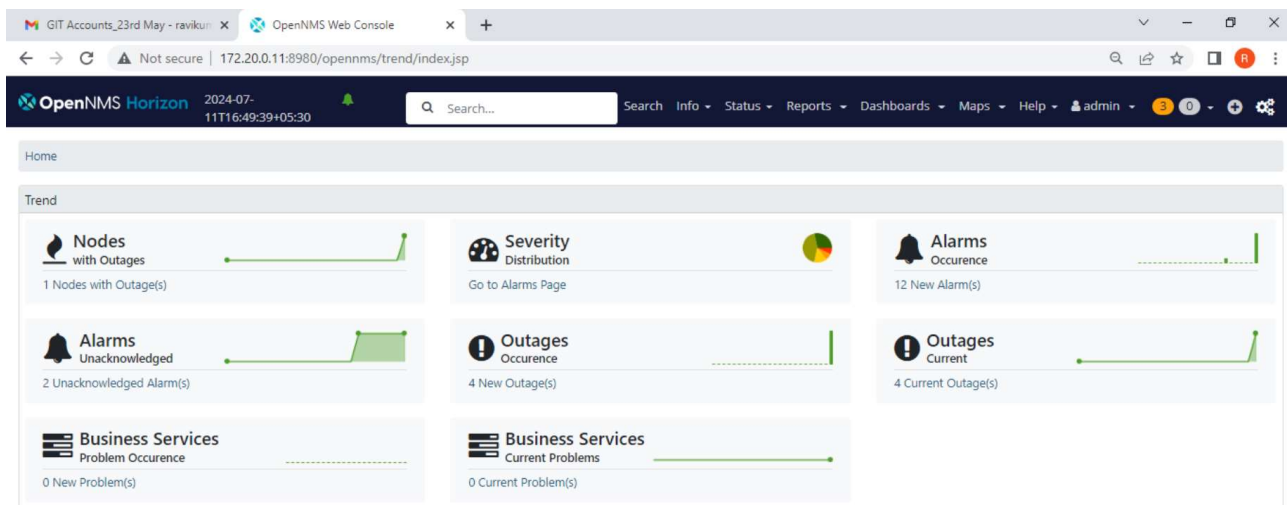
Current Resolved Both Current & Resolved

Results 1-4 of 4, Show: 20 Items

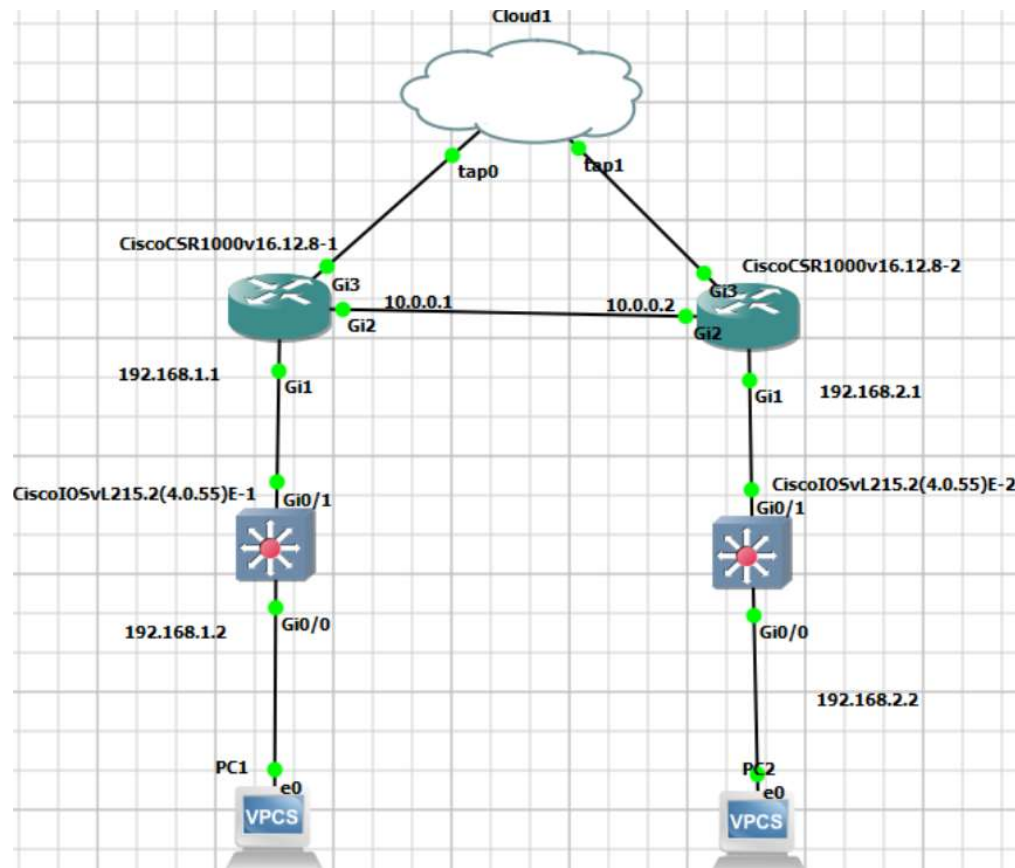
ID	Foreign Source	Node	Node Location	Interface	Service	Down	Up	Perspective
28	Core Network	R1.localdomain	Default	172.20.0.111	HTTP	2024-07-11T16:37:55+05:30	DOWN	none
27	Core Network	R1.localdomain	Default	172.20.0.111	SSH	2024-07-11T16:37:55+05:30	DOWN	none
26	Core Network	R1.localdomain	Default	172.20.0.111	SNMP	2024-07-11T16:37:55+05:30	DOWN	none
25	Core Network	R1.localdomain	Default	172.20.0.111	HTTPS	2024-07-11T16:37:55+05:30	DOWN	none

Results 1-4 of 4, Show: 20 Items

Click on Status → Trend



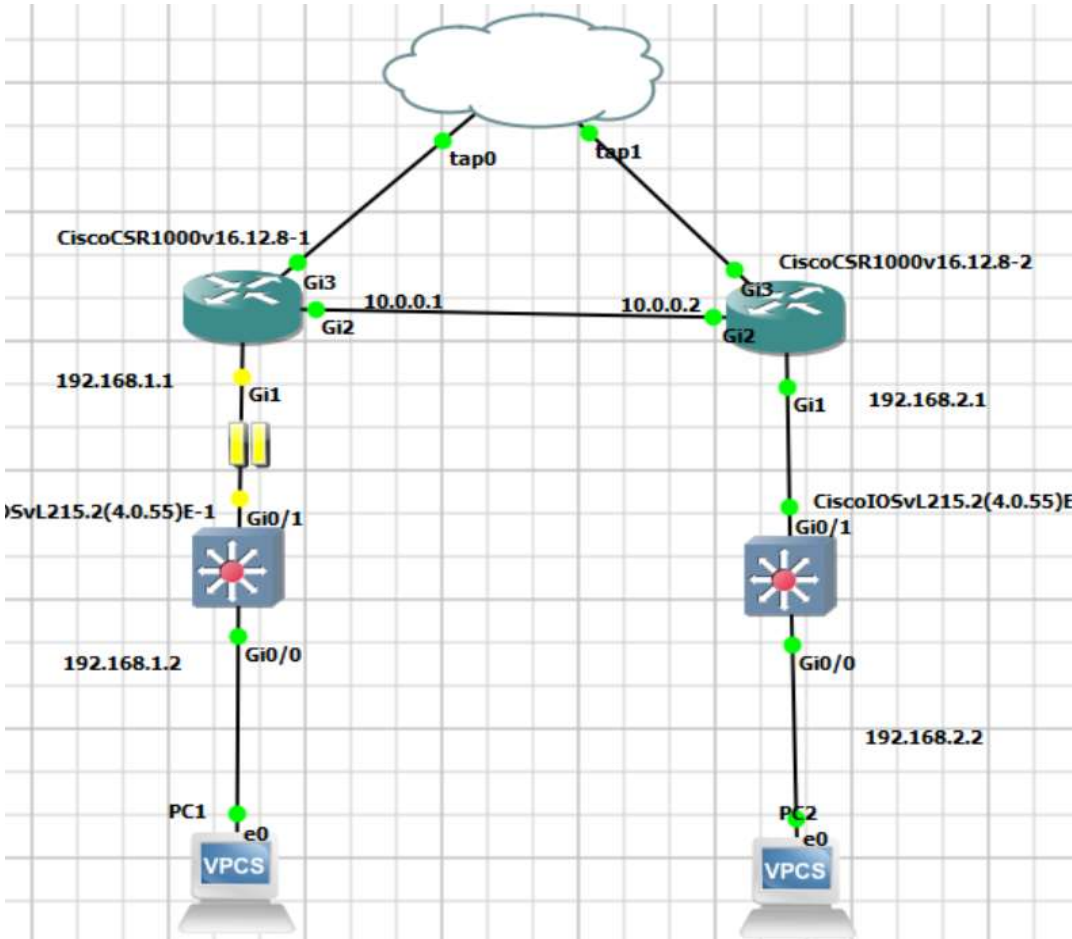
Recover the Faults



Check the alarms in NMS, all the alarms will be cleared

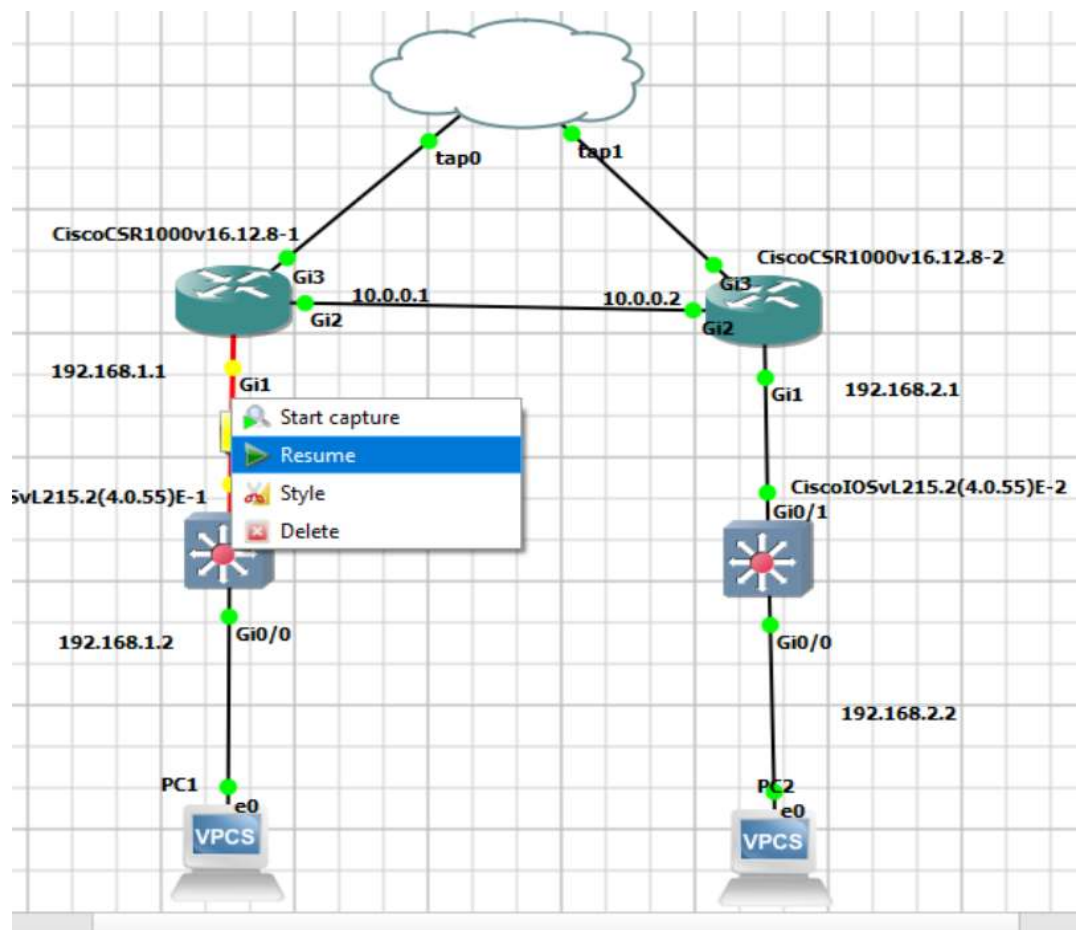
UnAck	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Cleared	R1.localdomain	1	2024-07-11T16:28:24+05:30	Agent Interface Up (linkUp Trap)
<input type="checkbox"/>	81	<input type="checkbox"/>	Normal	R1.localdomain	5	2024-07-11T16:29:19+05:30	ospfOriginatedlsa trap received ospfRouterId=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsid=192.168.1.1 ospfLsdbRouterId=192.168.1.1

Generate Trap by suspending link between router and SW



Ack	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	89	<input type="checkbox"/>	Minor	R1.localdomain	1	2024-07-11T17:21:30+05:30	Agent Interface Down (linkDown Trap)
<input type="checkbox"/>	88	<input type="checkbox"/>	Warning	R1.localdomain	1	2024-07-11T17:21:29+05:30	ospfStateChanged trap received ospfRouterId=192.168.1.1 ospfIpAddress=192.168.1.1 ospfAddressLessIf=0 ospfIfState=1

Recover the fault



Check the alarms in NMS, all the alarms will be cleared

UnAck	ID	Situation	Severity	Node	Count	Last	Log Msg
<input type="checkbox"/>	82	<input type="checkbox"/>	Cleared	R1.localdomain	1	2024-07-11T16:28:24+05:30	Agent Interface Up (linkUp Trap)
<input type="checkbox"/>	81	<input type="checkbox"/>	Cleared	R1.localdomain	8	2024-07-11T17:30:30+05:30	ospfOriginateLsa trap received ospfRouterId=192.168.1.1 ospfLsdbAreaId=0.0.0.1 ospfLsdbType=1 ospfLsdbLsId=192.168.1.1 ospfLsdbRouterId=192.168.1.1

Configure Notification - Event notification to be generated when some one try accessing OpenNMS with incorrect credentials on WebUI

Home / Admin / Configure Notifications

Configure Notifications

[Configure Event Notifications](#)

Configure Destination Paths

Configure Path Outages

Event Notifications

Each event can be configured to send a notification whenever that event is triggered. This wizard will walk you through the steps needed for configuring an event to send a notification.

Destination Paths

A destination path describes what users or groups will receive notifications, how the notifications will be sent, and who to notify if escalation is needed. This wizard will walk you through setting up a reusable list of who to contact and how to contact them, which are used in the event configuration.

Path Outages

Configuring a path outage consists of selecting an IP address/service pair which defines the critical path to a group of nodes. When a node down condition occurs for a node in the group, the critical path will be tested. If it fails to respond, the node down notifications will be suppressed. The critical path service is typically ICMP, and at this time ICMP is the only critical path service supported.

2024-07-11T17:38:49+05:30

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Home / Admin / Configure Notifications / Event Notifications / Choose Event

Choose the event UEI that will trigger this notification.

Events

authentication

ACS-TRAP-MIB defined trap event: avctAcsAuthenticationFailureTrap

ACS-TRAP-MIB defined trap event: avctAcsPortAuthenticationFailureTrap

AIRSPACE-WIRELESS-MIB defined trap event: bsnAuthenticationFailure

ALCATEL-IND1-SESSION-MGR-MIB defined trap event: sessionAuthenticationTrap

AVCT-CCM-TRAP-MIB defined trap event: avctCcmUserAuthenticationFailureTrap

CISCO-CIDS-MIB defined trap event: ciscoCidsError: Authentication Token Expired

CONTIVITY-TRAPS-V1-MIB defined trap event: authenticationFailure

CYCLADES-ACSS000-TRAP-MIB defined trap event: cyAcsAuthenticationFailureTrap

CYCLADES-ACSS000-TRAP-MIB defined trap event: cyAcsPortAuthenticationFailureTrap

DSR1021-TRAP-MIB defined trap event: bvUserAuthenticationFailureTrap

IPVREMS-MIB defined trap event: ipvREmsTrapInformationalSNMPAuthenticationFailure

OpenNMS-defined internal event: an authentication failure has occurred in WebUI

OpenSSH-defined event: authentication refused

PM-TRAP-MIB defined trap event: avctPmAuthenticationFailureTrap

POSIX-defined event: su authentication failure

PowerNet-MIB defined trap event: codeAuthenticationDone

SNI-SERVER-CONTROL-MIB defined trap event: sieScUserAuthenticationFailure

SNMPv2-MIB defined trap event: authenticationFailure

SONICWALL-FIREWALL-TRAP-MIB defined trap event: authenticationFailure

SYMBOL-DSSS-ENTERPRISE-PRIVATE-MIB defined trap event: authenticationFailure

Click Next → Skip Result Validation

2024-07-11T17:40:53+05:30

Search...

Search

Info

Status

Home / Admin / Configure Notifications / Choose Path

Choose the destination path and enter the information to send via the notification

Name:

Authentication Fail

Description:

Authentication Fail over WebUI

Var-Bind:

Name:

Auth

Value:

Failed

Parameter:

Add Parameter

Choose A Path:

Browser

Text Message:

Wrong Username and Password

Short Message:

111-%noticeid%

Email Subject:

Notice #%noticeid%

Special Values:

Can be used in both the text message and email subject:

%noticeid% = Notification ID number

%time% = Time sent

%severity% = Event severity

Event Notifications

[+ Add New Event Notification](#)

Actions		Notification	Event	UEI
Edit	Delete	<input type="radio"/> Off <input checked="" type="radio"/> On Authentication Fail	OpenNMS-defined internal event: an authentication failure has occurred in WebUI	uei.opennms.org/internal/authentication/failure
Edit	Delete	<input type="radio"/> Off <input checked="" type="radio"/> On High Threshold	OpenNMS-defined threshold event: highThresholdExceeded	uei.opennms.org/threshold/highThresholdExceeded
Edit	Delete	<input type="radio"/> Off <input checked="" type="radio"/> On High Threshold Rearmed	OpenNMS-defined threshold event: highThresholdRearmed	uei.opennms.org/threshold/highThresholdRearmed

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OpenNMS System

System Configuration

Configure Users, Groups and On-Call Roles

Provisioning

Manage Provisioning Requisitions

Import and Export Asset Information

Manage Surveillance Categories

Configure Discovery

Run Single Discovery Scan

Configure SNMP Community Names by IP Address

Manually Add an Interface

Delete Nodes

Configure External Requisitions

Configure Geocoder Service

Secure Credentials Vault

Event Management

Manually Send an Event

Configure Notifications

Customize Event Configurations

Notification Status: ☒ On ☐ Off [Update](#)

Update

Go to Status → Events → all events

ID	Severity	Time	Source Location	System-ID	Node	Node Location	Interface	Service	Alarm ID
573	Minor	2024-07-11T17:21:30+05:30	Default	201b71ed-8a7c-4f6c-a5e3-d00f51cd56a2	R1.localdomain	Default	172.20.0.111		89
uei.opennms.org/translator/traps/SNMP_Link_Down Edit notifications for event									
Agent Interface Down (linkDown Trap)									