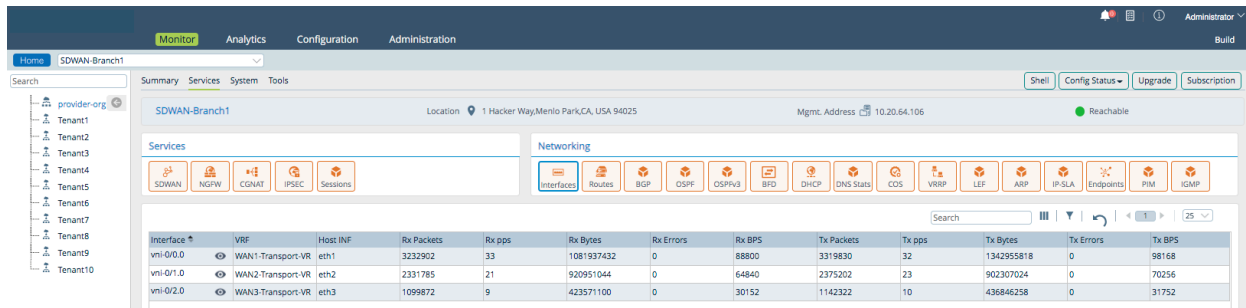


Monitor Device Networking Services

 For supported software information, click [here](#).

To monitor networking services that are running on a Versa Operating System™ (VOS™) device:

1. In Director view:
 - a. Select the Configuration tab in the top menu bar.
 - b. Select Devices > Devices in the horizontal menu bar.
 - c. Select a device in the main pane. The view changes to Appliance view.
2. Select the Monitor tab in the top menu bar.
3. Select the provider organization in the left menu bar.
4. Select the Services tab in the horizontal menu bar.



Interface	VRF	Host INF	Rx Packets	Rx pps	Rx Bytes	Rx Errors	Rx BPS	Tx Packets	Tx pps	Tx Bytes	Tx Errors	Tx BPS
vni-Q1/0.0	WAN1-Transport-VR	eth1	3232902	33	1081937432	0	88800	3319830	32	1342955818	0	98168
vni-Q1/1.0	WAN2-Transport-VR	eth2	2331785	21	920951044	0	64840	2375202	23	902307024	0	70256
vni-Q1/2.0	WAN3-Transport-VR	eth3	1099872	9	423571100	0	30152	1142322	10	436846258	0	31752

The Services tab has the following sections:

- Networking
- Services

This article describes the Networking section on the Services tab.

Networking > Interfaces

Click Interfaces. The screen displays the WAN and LAN interface statistics about the organization associated with the device. The table displays the latest cumulative values at the time of polling after the interface is activated, unless a clear operation is performed. The PPS (packets per second) and BPS (bits per second) counters average out over a maximum of 30 seconds. The PPS and BPS numbers represent the observable rate of a stable flow. For example, if the

traffic drops to zero at the 20th second, the value of these averages will drop to zero as well, and will not use the values of the first 20 seconds to calculate the rate.

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Interface	VRF	Host INF	Rx Packets	Rx pps	Rx Bytes	Rx Errors	Rx BPS	Tx Packets	Tx pps	Tx Bytes	Tx Errors	Tx BPS
vni-0/0.0	WAN1-Transport-VR	eth1	3232902	33	1081937432	0	88800	3319830	32	1342955818	0	98168
vni-0/1.0	WAN2-Transport-VR	eth2	2331785	21	920951044	0	64840	2375202	23	902307034	0	70256
vni-0/2.0	WAN3-Transport-VR	eth3	1099872	9	423571100	0	30152	1142322	10	436846258	0	31752

Click  Eye icon to view interface details.

Power over Ethernet

To monitor Power over Ethernet (PoE) statistics from the Interfaces table:

1. In Appliance view, go to Monitor > Provider Organization > Services.
2. In the Networking tab, click the Interfaces icon to view the details of the interfaces.
3. In the navigation bar, click the  Power over Ethernet icon. The Power over Ethernet interface statistics popup window displays.

Search

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Interface	VRF	Host INF	Rx Packets	Rx pps	Rx Bytes	Rx Errors	Rx BPS	Tx Packets	Tx pps	Tx Bytes	Tx Errors	Tx BPS
vni-0/0.1	WAN1-Transpor...	eth1	0	0	0	0	0	1	0	78	0	0
vni-0/0.0	Provider-Contro...	eth1	0	0	0	0	0	1	0	78	0	0

Power over Ethernet

Interface Name	Status	Port Voltage	Calculated Current	Power
vni-0/6	Off	23600 mV	1000 mA	0.44 W
vni-0/7	Off	23600 mV	1000 mA	0.44 W
vni-0/8	Off	23600 mV	1000 mA	0.44 W
vni-0/9	Off	23600 mV	1000 mA	0.44 W

To monitor the PoE statistics for an interface, check the following fields:

Field	Description
Interface Name	Name of the interface.
Status	Status of PoE on the interface: <ul style="list-style-type: none">• Off—PoE is not enabled on the interface.• On—PoE is enabled on the interface.

Field	Description
Port Voltage	Voltage on the interface, in millivolts.
Calculated Current	Current on the interface, in milliamperes.
Power	Amount of power that the interface is supplying to a connected device, in watts. The power is calculated as the port voltage and the current (power = port voltage x current).

Networking > Routes

Click Routes. Select the routing instance, for example, Customer1-Control-VR, from the list and select the version of IP address from the list to view the route details:

- IPv4
- IPv6

The screen displays the route properties. The data includes the destination prefix, interface name, protocol, age, and next hop.

Services

Networking

SD-WANNGFWCGNATIPSECSessions

InterfacesRoutesBGPOSPFOSPFv3BFDDHCPDNS StatsCDSDNS VRRPLEFARPIP-SLAEndpointsPIMIGMP

provider-org-Control-VRIPv4

Search

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Dest Prefix	Interface Name	Protocol	Age	Next Hop
+0.0.0.0/0	ptv40	BGP	1d00h10m	10.20.64.1
+0.0.0.0/0	ptv41	BGP	1d00h10m	10.20.64.2
+10.0.2.0/24	ptv40	BGP	1d00h10m	10.20.64.1
+10.0.34.0/24	ptv40	BGP	1d00h10m	10.20.64.1
+10.0.66.0/24	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.1/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.1/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.0.2/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.2/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.0.101/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.101/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.0.104/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.104/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.0.106/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.106/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.0.108/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.0.108/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.64.1/32	ptv40	BGP	1d00h10m	10.20.64.1
+10.1.64.1/32	ptv41	BGP	1d00h10m	10.20.64.2
+10.1.64.2/32	ptv40	BGP	1d00h10m	10.20.64.1

Networking > BGP

BGP is a standard exterior gateway protocol (EGP) for routing traffic between devices in different autonomous systems (ASs). BGP defines network reachability based on IP prefixes that are part of an AS. In the routing process, connections are established between BGP routers or peers. A policy permitted route is stored in the route information base (RIB).

Click BGP. Select the routing instance, for example, provider-org-Control-VR, to view the BGP details.

Services					Networking											
SDWAN	NGFW	CGNAT	IPSEC	Sessions	Interfaces	Routes	BGP	OSPF	OSPFv3	BFD	DHCP	DNS Stats	COS	VRRP	LEF	ARP
provider-org-Control-VR					Search											
Neighbor IP	Sel Local Addr	Sel Local Addr	Sel Local Port	Remote Addr Ty	Sel Remote Port	Local Address T	Local Addr	State	Total Sent Pref	Total Received	Established Time	Local Port	Remote Port	Total Received	Total Tran	
10.20.64.1	ipv4	10.20.64.106	0	ipv4	0	ipv4	10.20.64.106	Established	5	195	1d00h13m	42019	179	3517	3379	
10.20.64.2	ipv4	10.20.64.106	0	ipv4	0	ipv4	10.20.64.106	Established	5	192	1d00h13m	42023	179	3518	3376	

Networking > OSPF

OSPF is a dynamic routing protocol that determines routes by obtaining information from routers. It then broadcasts routes to other routers using link-state advertisements (LSAs). The router maintains information about the links that connects them with the destinations and can make very efficient routing decisions. The protocol assigns a cost to every router interface.

Click OSPF. Select the routing instance, for example, Customer2-LAN1-VR, to view the OSPF details for the routing instance.

Services					Networking											
SDWAN	CGNAT	IPSEC	Sessions		Interfaces	Routes	BGP	OSPF	OSPFv3	BFD	DHCP	DNS Stats	COS	VRRP	LEF	
Tenant1-LAN-VR					Search											
Neighbor Address	OSPF Instance	IF Name	Router ID	Operational Status	Priority	State										
11.1.1.2	3015	vni-0/1.1	11.0.0.1	Up	1	FULL										

Networking > OSPFv3

Click OSPFv3. The screen displays OSPFv3 neighbor adjacencies from a specific routing instance.

- Interface view

Services					Networking											
SDWAN	CGNAT	IPSEC	Sessions		Interfaces	Routes	BGP	OSPF	OSPFv3	BFD	DHCP	DNS Stats	COS	VRRP	LEF	
Tenant1-LAN-VR					Search											
IF Name	Ospf3 Process	Ospf3 Instance ID	State	Area	Designated Router	Backup Designated Router										
vni-0/1.1	3015	1	BDR	0.0.0.0	11.0.0.1	1.1.1.1										

- Neighbor view

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Tenant1-LAN-VR

Neighbor

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Neighbor ID	Process ID	IF Name	Nbr Inst ID	Priority	State	Dead	Area
11.0.0.1	3015	vni-0/1.1	1	1	FULL	33	0.0.0.0

Networking > BFD

Bidirectional Forwarding Detection (BFD) detects liveness for BGP peers, OSPF neighbors, and static route next hops. Click BFD. Select the routing instance, for example, Customer1-LAN1-VR, to view the BFD details.

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Session Index	Interface Index	Peer IP	State	In Pkts	Out Pkts
1	10	11.1.1.2	up	460	459

Networking > DHCP Active Leases

DHCP allows network administrators to centrally manage a pool of IP addresses among hosts and automate the assignment of IP addresses in a network. An IP address can be leased to a host for a limited period, allowing the DHCP server to share a limited number of IP addresses among a group of hosts that do not need permanent IP addresses. DHCP provides two primary functions:

- Allocate temporary or permanent IP addresses to clients.
- Store, manage, and provide client configuration parameters.

Click DHCP > Active Leases to display information about active leases.

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Serial Number	IP Address	HW Address	Client ID	Valid Lifetime	Expires	Interface	Hostname	From Pool	Trans ID
33	11.214.1.28	00:0b:ab:f7:35:d6		86400	2019/11/20 18:43:21	vni-0/2.0		0	2410033920
31	11.214.1.4	00:0c:29:f7:77:39		86400	2019/11/20 17:02:36	vni-0/2.0	Director-Primary.ATM.local.	0	207110481
35	11.214.1.29	54:bf:64:2d:6c:85	01:54:bf:64:2d:6c:85	86400	2019/11/21 02:37:32	vni-0/2.0	DESKTOP-MUTLRLA-ATM.io...	0	3156077062

Networking > DHCP Lease History

Click DHCP > Lease History to displays the lease history.

The screenshot shows the 'Services' and 'Networking' tabs. Under 'Networking', the 'DHCP' icon is selected. Below the tabs, there are sub-tabs: 'Active Leases', 'Lease History', and 'Statistics'. The 'Lease History' sub-tab is active. A search bar is present. Below the search bar is a table with the following data:

Serial Number	IP Address	HW Address	Client ID	Valid Lifetime	Expires	Interface	Hostname	From Pool	Trans ID
1	11.214.1.2	00:0c:29:ee:2c:d8		86400	2019/10/23 08:13:37	vni-0/2.0	versa-flexvmf.ATM.local.	0	3262539635
2	11.214.1.2	00:0c:29:ee:2c:d8		86400	2019/10/23 08:13:37	vni-0/2.0	versa-flexvmf.ATM.local.	0	3589918477
3	11.214.1.2	00:0c:29:ee:2c:d8		86400	2019/10/23 08:13:37	vni-0/2.0	versa-flexvmf.ATM.local.	0	669015341
4	11.214.1.6	00:0c:29:ee:2c:d8		86400	2019/10/24 08:16:23	vni-0/2.0	versa-flexvmf.ATM.local.	0	4274958113
5	11.214.1.8	00:0c:29:c0:f0:12		86400	2019/10/23 09:07:45	vni-0/2.0	versa-flexvmf.ATM.local.	0	465315597

Networking > DHCP Statistics

Click DHCP > Statistics and then select the DHCP component (Interface, Relay Profile, Service Profile) and DHCP protocol version (DHCP, DHCPv6) to view its DHCP statistics.

The screenshot shows the 'Services' and 'Networking' tabs. Under 'Networking', the 'DHCP' icon is selected. Below the tabs, there are sub-tabs: 'Active Leases', 'Lease History', and 'Statistics'. The 'Statistics' sub-tab is active. A dropdown menu shows 'Interface' and 'DHCP'. A search bar is present. Below the search bar is a table with the following data:

Name	ACK Msg Cnt	Bulk Lease Que...	Decline Msg Cnt	Discover Msg Cnt	Inform Msg Cnt	Lease Active Ms...	Lease Query Ms...	Lease Query Do...	Lease Unassign...	Lease Unknown...	NAK Msg Cnt	Offer Msg Cnt	Release Msg Cnt	Request Msg Cnt	Relay Resp Ign...
vni-0/2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
vni-0/3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
vni-0/0.0	0	0	0	54	0	0	0	0	0	0	0	0	0	454	0
vni-0/1.0	0	0	0	54	0	0	0	0	0	0	0	0	0	454	0
vni-0/2.0	476	0	0	54	0	0	0	0	0	33	49	0	1781	0	0

Networking > App QoS Policies

App Quality of Service (QoS) is a network feature that allows you to prioritize certain types of Internet traffic which can help to control the bandwidth and service levels of traffic to applications.

Click CoS > App QoS Policies, and then select the policy name, for example, Branch Marking Policy, to view App QoS policy details.

The screenshot shows the 'Services' and 'Networking' tabs. Under 'Networking', the 'COS' icon is selected. Below the tabs, there are sub-tabs: 'App QoS Policies', 'Interfaces', and 'QoS Policies'. The 'App QoS Policies' sub-tab is active. A dropdown menu shows 'Default-Policy'. Below the dropdown is a table with the following data:

Policy Name	Policy Type	Policy Status	Policy Description
Default-Policy	Default	Active	Default App QoS Policy

Click a rule name to view its configuration.

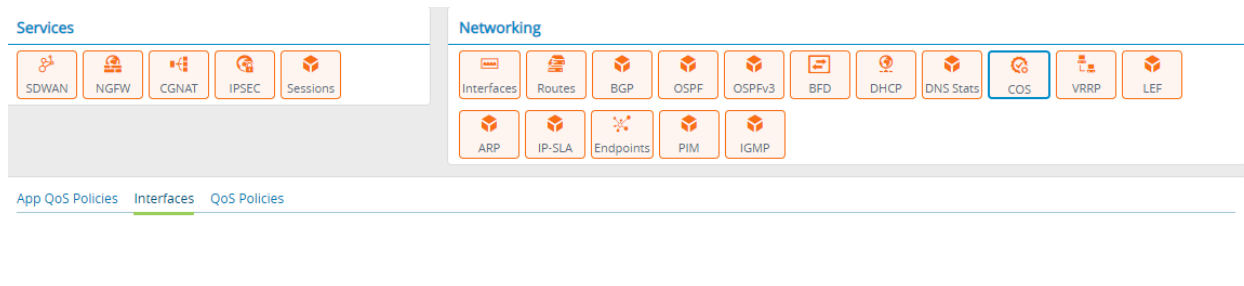
https://docs.versa-networks.com/Management_and_Orchestration/Versa_Director/Monitoring_with_Versa_Director/Monitor_D...


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Networking > CoS Interfaces

Click CoS > Interfaces to display CoS interface details. The details include the transmitted and received packets, number of transmitted packets per second, number of transmitted packets dropped, number of received packets per second, number of received packets dropped, number of transmitted bytes per second, and the number of bytes dropped in transmission.

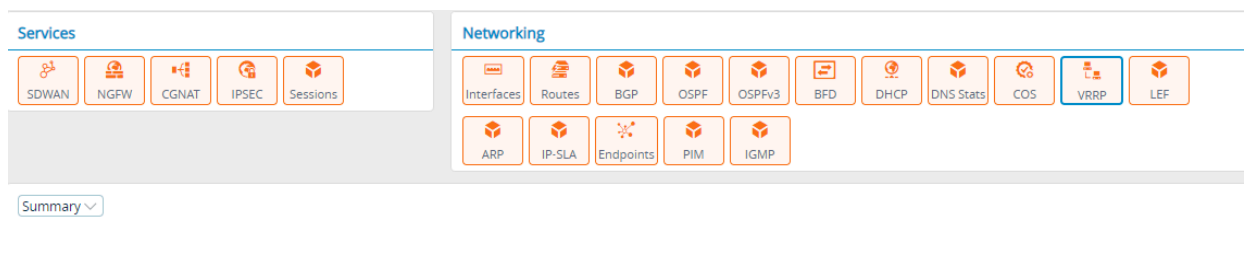


Click the  Eye icon to view details.

Networking > VRRP

The Virtual Router Redundancy Protocol (VRRP) is designed to eliminate the single point of failure inherent in the static default routed environment. VRRP uses an election protocol that dynamically assigns responsibility for a virtual router to one of the VRRP routers on a LAN. The VRRP router controlling the IP addresses associated with a virtual router is called the active VRRP router and forwards packets sent to these IP addresses. The election process provides dynamic failover in the forwarding responsibility if the active VRRP router becomes unavailable. Any of the virtual router's IP addresses on a LAN can then be used as the default first-hop router by hosts. The advantage gained from using VRRP is a higher availability default path without requiring configuration of dynamic routing or router discovery protocols on every host.

Click VRRP to display VRRP details.



Networking > LEF

To view log export functionality (LEF) profiles, click LEF. Select the LEF profile, for example, LEF-Collector-

https://docs.versa-networks.com/Management_and_Orchestration/Versa_Director/Monitoring_with_Versa_Director/Monitor_D...

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log_collector1, and the type of information (Status or Statistics). The screen displays the LEF profile status details. The data includes the source IP, source port, destination IP, destination port, and routing instance.

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LEF-Collector-log_collector1

Status

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VSN ID	Source IP	Source Port	Destination IP	Destination Port	Routing Instance	Status	Pending Msgs
2	10.20.64.106	1121	10.20.64.1	1234	provider-org-Control-VR	Established	0

Networking > ARP

The Address Resolution Protocol (ARP) maps an IP address to a hardware's MAC address. The ARP tab displays associated information of the IP addresses in the organization's networks, such as, interface name, hardware MAC address, hardware type, etc.

Click ARP and then select a network name to view the ARP data.

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IP	Interface	Hwaddr	Type	Age
14.1.1.1	vni-0/4.1	52:54:00:57:b4:72	local	permanent
13.1.1.1	vni-0/3.1	52:54:00:27:fd:46	local	permanent
12.1.1.1	vni-0/2.1	52:54:00:e8:e9:8e	local	permanent
11.1.1.1	vni-0/1.1	52:54:00:55:b1:f0	local	permanent
11.1.1.2	vni-0/1.1	52:54:00:df:a7:f9	remote	00:59:55

Networking > IP SLA

Click IP SLA to display the state, address, routing instance, interval and threshold for configured IP SLA monitors.

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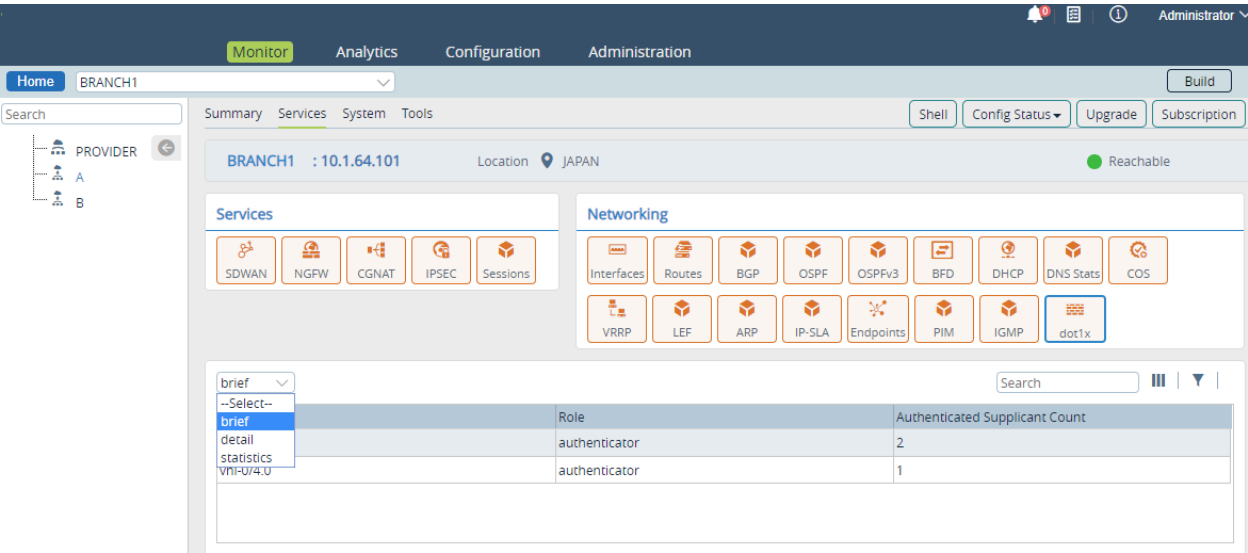
Name	Address	Vrf	Tenant	State	Type	Interval	Threshold	Last Flapped	Source Interface	Sub Type
Monitor-168-19...	192.168.11.1	WAN1-Transpor...	provider-org	Inactive	icmp	3	5	13:11:50	vni-0/0.0	layer2-loopb...

Networking > dot1x

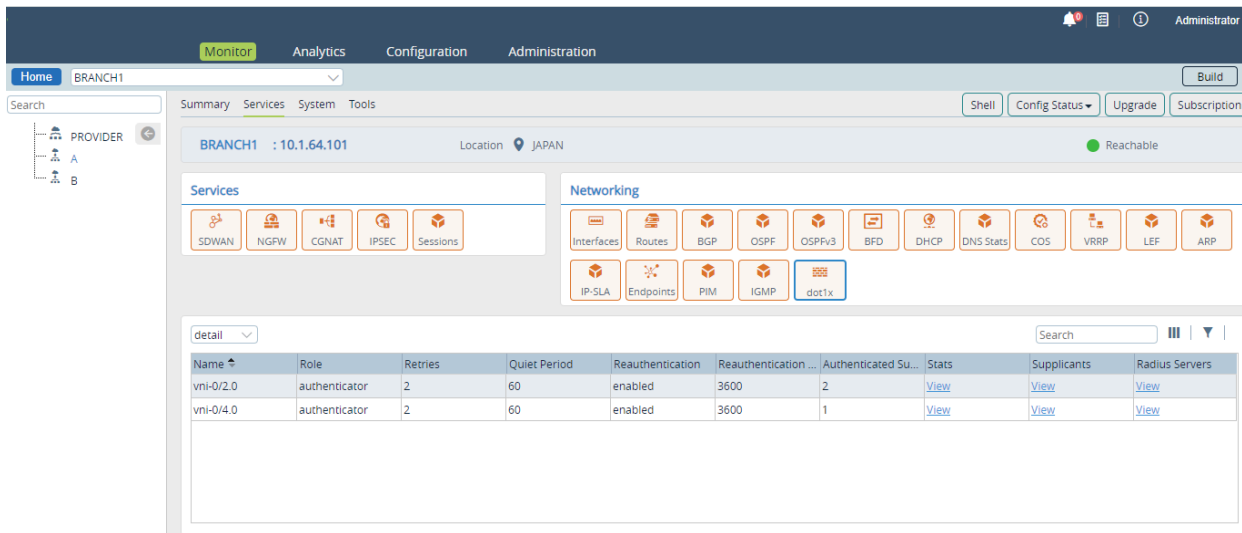
IEEE 802.1X is a port-based network access control (PNAC) protocol that provides authentication for devices that want to connect to the network, thus preventing unauthorized network devices from accessing the network. A RADIUS authentication server authenticates each user or device connected to a port before that user or device can access any network services.

Click dot1x and then select the detail level to view the interface information and other statistics.

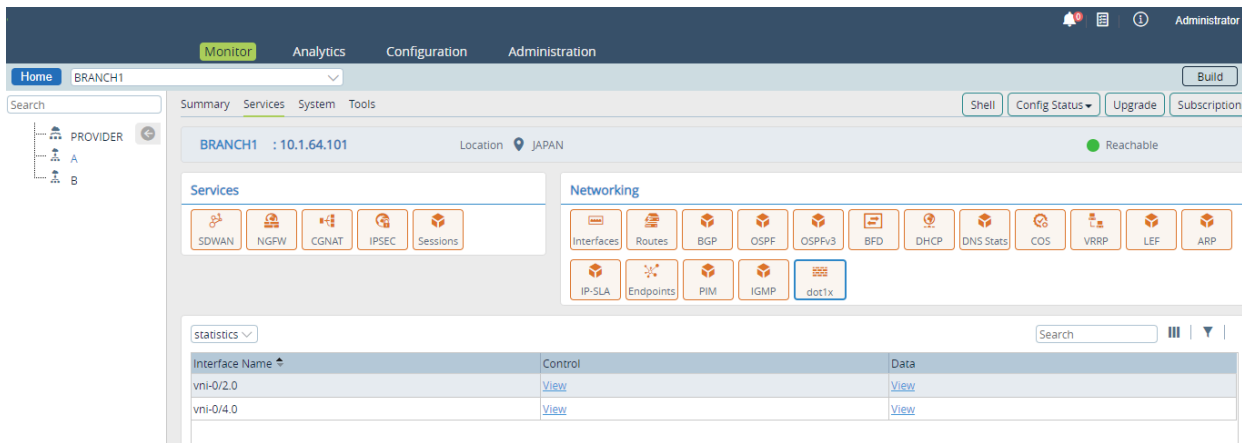
If you select Brief, the following screen displays, which shows the interface roles as authenticator or supplicant. It provides authenticated supplicant count if the interface role is authenticator and shows the authentication state of the interface that is configured as a supplicant.



If you select Detail, the following screen displays, which shows details about the authenticator and supplicant for each interface. These details include configuration parameters, and authentication and EAP packet statistics. The Detail screen also displays information about the connected supplicant state for the interface that is configured as the authenticator.



If you select Statistics, the following screen displays, which shows per-interface packet statistics.



Supported Software Information

Releases 20.2 and later support all content described in this article, except:

- Releases 21.2.1 and later deprecated the Main Voltage parameter from the PoE statistics window.

Additional Information

[Monitor Device Services](#)