

Dynamic Network Manager User Guide - Private IP

Version 7.2
Last Updated: March 17, 2022

Table of Contents

Private IP Dynamic Network Manager Overview 4

Features & benefits 4

Components 4

Business rules for Private IP Virtual Private Networks (VPNs)..... 4

For your information:..... 5

Accessing Dynamic Network Manager 6

Alternative Verizon Enterprise Center menu access to DNM7

Dashboard 10

Alternative circuit list views 12

Search, notification alert, documentation & help, interactive tour 12

Documentation & help, interactive tour14

Search..... 15

Search filter options.....16

Export 16

View circuit details.....17

Network Settings..... 18

STD QoS DPORT, and ETM to STD*20

ETM QoS DPORT, DCAR, Custom Egress, STD to ETM*20

Order history 21

DNM order summary21

Diagnostics (Router Commands).....23

Ethernet Access pre activation test (US only)..... 23

Ethernet test tab..... 24

Bandwidth utilization.....27

View pending tickets, orders and associated Virtual Route Forwarding (VRF)	27
Configure eBGP routing parameters	27
Configure Static Routes.....	28
Port speed changes	30
Class of Service: Committed Access Rate speeds and Egress Policies	30
How to modify port bandwidth and EF CAR	32
Change order acceptance (full text):.....	35
Network to Network Interface (NNI) Toggling for DPORT Change	36
Bulk operations	39
Circuit Description	40
DNM speed change template	49
Bulk subscriptions	51
Modify Shaping adjustment	53
Modify Admin Status	54
Network Transit Delay	56
Quality of Service (QoS) egress traffic profiles	58
PIP ETM general configuration, PIP STD, PIP data centric and PIP data/voice combined	58
PIP ETM voice centric configuration	60
Customer Edge (CE) configuration settings	61
STD QoS DPORT, and ETM to STD (customer managed)	61
ETM QoS DPORT, DCAR, custom Egress, and STD to ETM	63
Glossary	66
Customer support & training	69
Customer support	69
Training	69

Private IP Dynamic Network Manager Overview

Private IP Dynamic Network Manager (DNM) enables you to make changes to your Private IP Ports, Committed Access Rates (CARs), and customer egress profiles.

Features & benefits

Following are the features and benefits of Private IP Dynamic Network Manager:

- Schedule a Port or CAR change order up to one year in advance
- Make bandwidth changes in minutes through Verizon Enterprise Center
- Subscribe to electronically delivered activity reports
- Download a site detail report in Microsoft® Excel®
- Access a Customer Edge (CE) sample configuration
- Issue a specific set of Ping and Show commands on the Provider Edge (PE) Router
- Make real-time application aware network adjustments

Components

Private IP Dynamic Network Manager consists of three components:

- **Looking Glass:** Allows Users to view the configuration information of their Multiprotocol Label Switching (MPLS) networks. It is a mainly a "view only" interface, but there are Looking Glass orders that allow Users to make certain non-billable Layer 3 configuration changes to their Private IP sites. Looking Glass sample configurations can be downloaded for your CE router. Looking Glass also allows specific PING and Show commands to be issued. Private IP customers can use Looking Glass to see and make settings changes to network service attributes. They can also determine how their sites are configured at the Provider Edge (PE) devices on the network.
- **Dynamic Port (DPORT):** Allows Users to make PIP transport circuit up/down speed changes.
- **Dynamic CAR (DCAR):** Allows Users to make up/down speed changes to their Expedited Forwarding Committed Access Rate (EF-CAR) speeds including Quality of Service (QOS) egress profiles.

Note: Since DPORT and DCAR enable price impacting changes, they both require specialized Verizon Enterprise Center (VERIZON ENTERPRISE CENTER) entitlements or permissions. Contact your Account Team for assistance with setting up these permissions.

Business rules for Private IP Virtual Private Networks (VPNs)

The following business rules apply with Private IP (PIP) Dynamic Network Manager:

- Available to existing and new customers, both customer-managed and those using Verizon Managed Services.
- Available for sites located globally. Note: There are countries where Dynamic Port cannot be supported due to contractual obligations with our partners. Your account team can provide details on availability.
- Available on direct connections:

- For Private IP ports with a W prefix: Dynamic Port is available on direct connections using Time Divisional Multiplexing (TDM) in all regions. Direct Ethernet Access is supported in select countries in Europe.
- For Private IP ports with a B prefix: Dynamic Port is available on both direct connections using TDM access or Ethernet Access in the United States.
- For Private IP ports with a C prefix: Dynamic Port is available on both direct connections using TDM access or Ethernet Access in all regions.
- For Private IP ports with a W prefix: Dynamic Port requires an initial full port speed of T1, E1, E3, DS3, OC3, STM1, OC12, STM4, and 1 Gigabyte Ethernet (Europe Only).
- For Private IP ports with a B prefix: You can order a lower initial Private IP TDM and Ethernet Port speed and then use Dynamic Port to raise or lower the speed to the level you want in the United States.
- For Private IP ports with a C prefix: You can order a lower initial Private IP TDM and Ethernet Port speed and use Dynamic Port to raise or lower the speed to the level you want in all regions.
- Some restrictions apply:
 - Dynamic Bandwidth (DCAR and DPORT) is not supported on customer sites using the MPLS VPN Inter-provider Connection (MVIC).
 - DPORT is not available with direct connections using NxT1/NxE1 with MLPPP or MLFR.
 - "DCAR only" (i.e., when not sold with DPORT) is available on the following access types: NxT1 with MLPPP, and MLFR for U.S. sold sites only.
 - Because of contractual agreements, there are countries where Dynamic Port cannot be supported. Contact your Verizon Account Team for more details.
- **Below are detailed rules for DPORT changes per day on Private IP ports with a “C” prefix.**
 - Unlimited Speed Change Requests: you can make more than one speed change request during a 24-hour period. Greenwich Mean Time (GMT) is used as the start/stop reference for a DNM 24 hour time period. DPORT/DCAR speed changes can be made up until (but not after) 11:00 p.m. GMT.
 - Ability to Reverse Speed Change Requests: Within 60 minutes of making a speed upgrade (or downgrade) request, you can “correct” the request (as needed) by reversing the speed change request back to the original speed. After 60 minutes the speed change will be completed from a billing perspective. One speed correction is allowed during a 24-hour period.
 - Billing: Verizon will continue to bill in 24 hour minimum daily increments. The highest speed change request made during a 24 hour period will be the speed that is passed to billing for that day.
 - Carry Over Speed: The last speed entered for the day will be the one that gets carried over to the next day and be in effect.

For your information:

The Dynamic Network Manager feature does not support Open Shortest Path First (OSPF) or IP Multicasting access at this time. It is important to modify your router configuration for Dynamic CAR and Dynamic PORT in order to keep your router in sync.

If you select Gold CAR (Expedite Forwarding) for Voice over IP calls, a reduction of the CAR value (e.g., 40.456 reduce to 8K) can directly affect the quality of all Voice over IP calls on this link.

1. Go to <http://sso.verizonenterprise.com>. The sign in page appears.

2. Enter your user name and password and Click Sign In.
3. Verizon Enterprise Center home page appears.

Accessing Dynamic Network Manager

Click Dynamic Network Manager on Verizon Enterprise Center home page to go to DNM Dashboard page under Product Tools.

My workspace

Orders

Order reservation
View order status
Disconnect service
Submit/move/add/change
Renew product setting
Create service/change request
Manage Requests

Go to orders >

Product tools

Dynamic network manager

View all >

User admin

Manage users
Create users
Manage structures & groups
Manage access requests

Orders by type

23 Total

2 Install 1 Change 20 Disconnect

Dynamic network manager

1 Slice with utilization between 70%-80%

Upgrade bandwidth

Total users

6 Total

Structures & Groups

Total structures: 0

0 Reporting structures

Alternative Verizon Enterprise Center menu access to DNM

Attention: Dynamic Network Manager Users View Details 1/3 →

Portal Updates Mobile App Notifications

verizon Manage Account Support Search

Internet & Wired Communications

My Workspace

Billing

View Invoices
View Inquiry
Reports
Make a Payment
Manage Payment Methods
Create Inquiry
Change Billing Address
Update Paperless Billing

Service

View Inventory
Manage Requests
View Alarms
My Contract Summary
Create Service/Change Request
My Price Book
Service Management Reporting
Submit Move/Add/Change Order
Disconnect Services

Orders

Create Order
View Order Status

Repairs & Troubleshooting

Create Repair Ticket
View Repair Ticket
Original Repairs & Troubleshooting

Product Tools

Inbound Network Manager
Dynamic Network Manager
IP Performance Reporting
View All

Due date: Dec 8, 2019

U0197895
USD 52.00
Due date: Dec 8, 2019

Pay now

Consolidated Bill Summary
Requested date: Oct 15, 2019

Due date: Dec 5, 2019

IN00240446
INR 145769.00
Due date: Dec 5, 2019

Pay now

Go to billing >

View all >

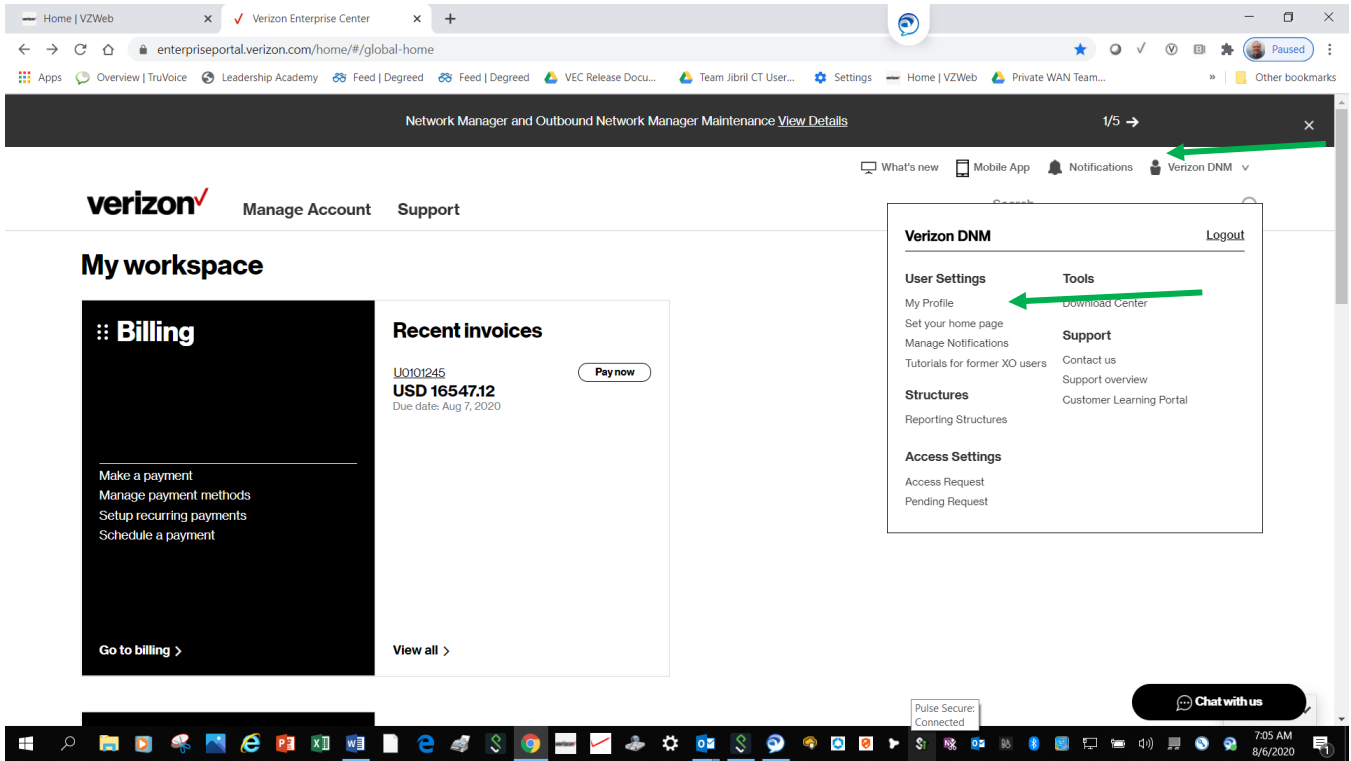
View all >

Orders

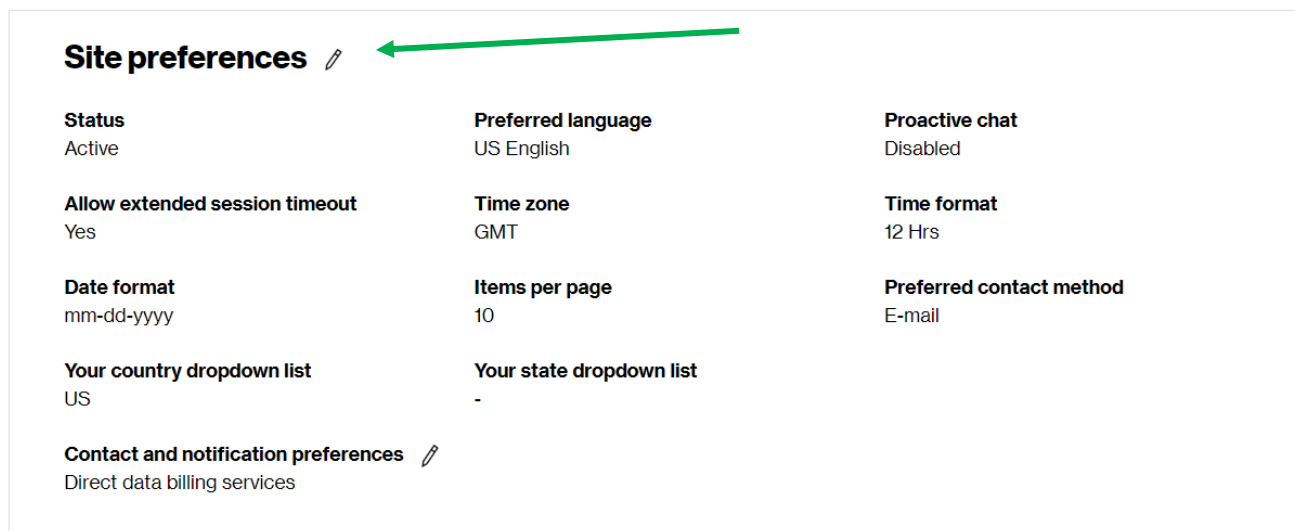
Orders by type

Action required
Total actions: 4

Tip: To avoid having Verizon Enterprise Center/DNM sessions “time out”, you can edit your Verizon Enterprise Center user profile to alter the amount of time before sessions will end. See instructions below for making session duration changes.



Click User Name and then My Profile



When you click **the pencil icon** on the Site Preferences screen you can edit the preferences.

The screenshot shows the 'Site Preferences' dialog box. The 'Extended Hours' dropdown is open, displaying a list of numbers from 1 to 10. The number '5' is highlighted in blue, indicating it is the selected option. Other settings in the dialog include: Status (Active), Preferred language (US English), Proactive chat (Disabled), Allow extended session timeout (Yes), Time zone, Date format (mm-dd-yyyy), Items per page (10), Preferred contact method (Email), and State (All). At the bottom of the dialog, there are 'Update' and 'Close' buttons. The background shows a blurred view of the main application interface.

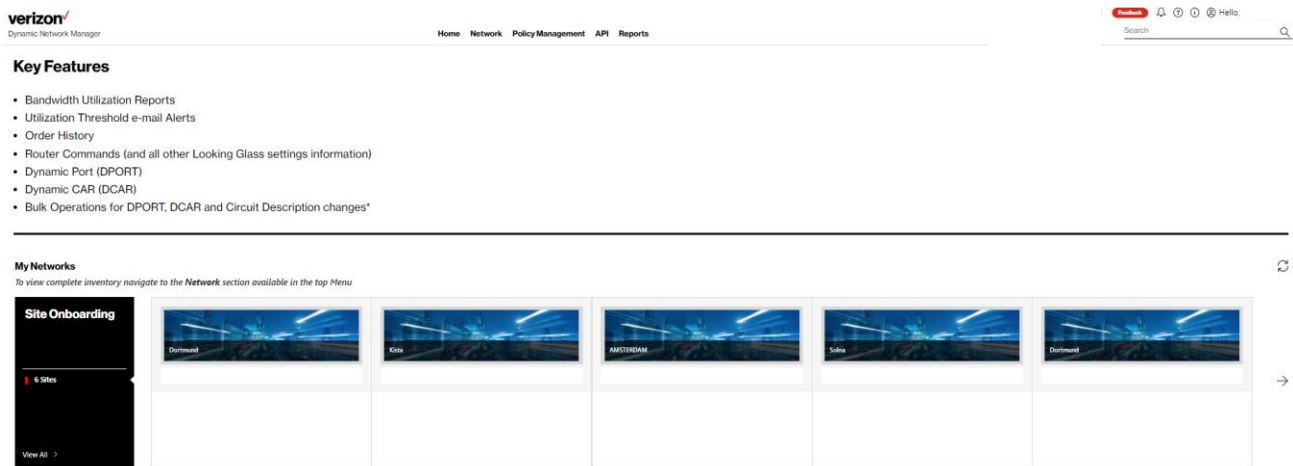
Click **Extended Hours** to edit/increase Verizon Enterprise Center session timeout duration.

This screenshot shows the 'Site Preferences' dialog box overlaid on the Verizon Enterprise Center interface. The 'Extended Hours' dropdown menu is open, showing a list of numbers from 1 to 10. The number '5' is highlighted in blue, indicating it is the selected option. The background shows the main application interface with a navigation bar and a sidebar. The 'Site Preferences' dialog box contains the same settings as the previous screenshot: Status (Active), Preferred language (US English), Proactive chat (Disabled), Allow extended session timeout (Yes), Time zone, Date format (mm-dd-yyyy), Items per page (10), Preferred contact method (Email), and State (All). At the bottom of the dialog, there are 'Update' and 'Close' buttons. The system tray at the bottom of the screen shows the date and time as 7:14 AM on 8/6/2020.

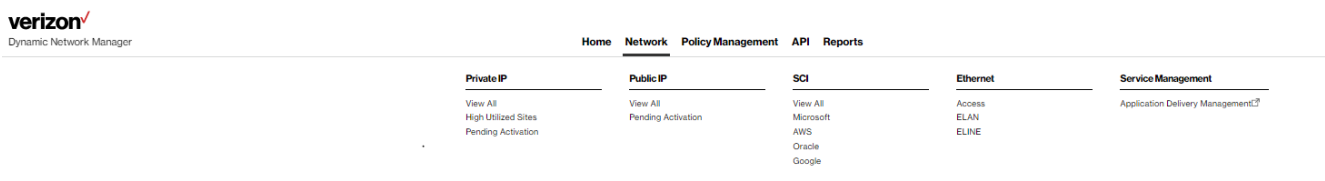
Choose extended session hour's duration and click **Update**.

Dashboard

The DNM Dashboard presents Users with circuits that might require immediate attention. The circuits are arranged by category in horizontal rows. These categories include circuits exhibiting high utilization (thus at risk for packet loss), New Activations, and so on. DNM includes artificial intelligence capability to allow it to learn over time which issues/circuits are of most interest to a User and adjust screen presentation around those preferences.



Select **Network** to see your Verizon Private IP, Internet Dedicated, Ethernet Switched E-Line or Secure Cloud Interconnect (SCI) Services.



- Router Commands (and all other Looking Glass settings information)
- Dynamic Port (DPORT)
- Dynamic CAR (DCAR)
- Bulk Operations for DPORT, DCAR and Circuit Description changes*

The Dashboard displays a menu of your Verizon Enterprise Center entitled IP services choices. Choose Network to list the circuits in inventory that you have permission to review.

Private IP circuit List after selection under Network Menu

The screenshot displays the Verizon Dynamic Network Manager interface. The top navigation bar includes 'Home', 'Network', 'API', and 'Reports'. A green arrow points to the 'Network' menu item. Below the navigation bar, the page title is 'Private IP'. The main content area shows a list of three circuit entries. Each entry includes details such as Circuit ID, Service ID, PVC, VPN, Encapsulation, Port Speed, Realtime CAR, Traffic Rule, Equipment IP, Service Type, Description, Entitlements, and Activation Status. The first two entries have 'Not Available' activation status, while the third entry has 'Available' activation status. The interface also features 'Bulk Operations', 'Export', and 'Actions' buttons for each circuit entry.

Circuit ID	Service ID	PVC	VPN	Encapsulation	Port Speed	Realtime CAR	Traffic Rule	Equipment IP	Service Type	Description	Entitlements	Activation Status
XXXXXXXXXX		5347682	CNE-PF	FR	184 Kbps	52 Kbps	GI	68.138.222.57	Not Managed		Not Available	Not Available
XXXXXXXXXX		5347720	CNE-PF	FR	128 Kbps	0 Kbps	GI	68.137.93.5	Not Managed		Not Available	Not Available
WDA-XXXXXXXXX		1827940	CNE-PF	ETHERNET	15 Mbps				Not Managed		Available	Available

Alternative circuit list views

Dynamic Network Manager

Home Network VNS Operations API Reports Administration

Private IP

Search, Notifications, Help, Profile (Hello, v)

Bulk Operations Export Filter Refresh

Circuit ID XXXXXXXX Service ID XXXXXXXX PVC XXXXXXXX VPN XXXXXXXX XXXX XXXXXXXX XXXXXX RD CA 91350 USA	Port Speed 1536 Kbps Realtime CAR 0 Kbps	Encapsulation FR Traffic Rule G1 Equipment IP XXXXXXXXXX	Service Type Not Managed Description <i>/</i> backupCASA Entitlements [Icons]	Actions <i>v</i> [Icons] Preferences <i>/</i> <input type="checkbox"/> Utilization Notifications <input type="checkbox"/> Change Notifications Activation Status ● Pending Start Schedule
Circuit ID XXXXXXXX Service ID XXXXXXXX PVC XXXXXXXX VPN XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX	Port Speed 8 Mbps Realtime CAR 5000 Kbps	Encapsulation ETHERNET Traffic Rule R2 Equipment IP 68.139.174.85	Service Type Not Managed Description <i>/</i> Entitlements [Icons]	Actions <i>v</i> [Icons] Preferences <i>/</i> <input type="checkbox"/> Utilization Notifications <input type="checkbox"/> Change Notifications Activation Status ● Pending Start Schedule

Feedback

Select circuit list views with different levels of detail

Search, notification alert, documentation & help, interactive tour

The Dashboard offers Search commands, notification alerts as well as documentation and help options. See the Icon list for each below.

Dynamic Network Manager

Home Network Policy Management API Reports

Private IP Public IP SCI Ethernet

View All High Utilized Sites Pending Activation

View All Microsoft AWS Oracle Google

Access ELAN ELNE

Global Search Notification Alert Documentation & Help

Take the interactive tour Show me

Search, Notifications, Help, Profile (Hello, v)

Documentation & help, interactive tour

The documentation help screen provides link to user guides, help desk for each product.

The screenshot shows a window titled "Documentation & Help" with a close button (X) in the top right corner. The content is organized into several sections, each with a title and a list of links:

- Policy Management**
 - Help Desk (with headset icon)
 - User Guide (with document icon)
- Private IP**
 - Help Desk (with headset icon)
 - User Guide (with document icon)
- Public IP**
 - Welcome Kit (with document icon)
 - User Guide (with document icon)
- Secure Cloud Interconnect**
 - Help Desk (with headset icon)
 - Welcome Kit (with document icon)
- VEC Support**
 - 800-569-8799 (with phone icon)
 - Welcome Kit (with document icon)
- DNM Activation**
 - User Guide (with document icon)
- E Line**
 - Help Desk (with headset icon)
 - User Guide (with document icon)

Search

Search allows Users to look up circuits by circuit ID, service ID, VPN, or location. You can also display search results by Location for multiple service types i.e. Private IP, Public IP, Secure Cloud Interconnect (SCI) and SDWAN Co Management (Versa). You can refine your search further by accessing the “Filter” menu.

Search

Search results for Richardson 2 record(s) found

PIP 1 record(s) found show more

PVC ID XXXXXXXX Site ID XXXXXXXX VPN ID XXXXXXXX	Circuit ID XXXXXXXX Description Data Update May 3rd second time	VPN Name XXXXX XXXXXXXX - XXXXXXX	Address 400 INTERNATIONAL PKWY RICHARDSON TX USA 75081-6606		View
---	--	--	--	--	-------------------

IDA 1 record(s) found show more

PVC ID XXXXXXXX Site ID XXXXXXXX VPN ID XXXXXXXX	Circuit ID XXXXXXXX Description	VPN Name Internet	Address 400 INTERNATIONAL PKWY RICHARDSON TX USA 75081-6606		View
---	--	-----------------------------	--	--	-------------------

Search filter options

Refine Search

Filter

VPN: Country:

Description:

State: City:

Street Address: Zip Code:

Encapsulation:

Sort

First:

Second:

Circuit ID	Port Speed	Encapsulation
W0V30609	1084 Kbps	FR
W0V30618	128 Kbps	FR
W0V93727	15 Kbps	ETHERNET

Export

Export allows a User to export the current screen data to a CSV file.

Private IP

Inventory


Circuit ID	Port Speed	Encapsulation	Service Type	Activation Status
C0108468	9 Mbps	ETHERNET	Not Managed	Active
C0131900	10 Mbps	ETHERNET	Not Managed	PENDING

View circuit details

You can view the details of the circuit by clicking on the + or open the drop down box and click on **View details**.

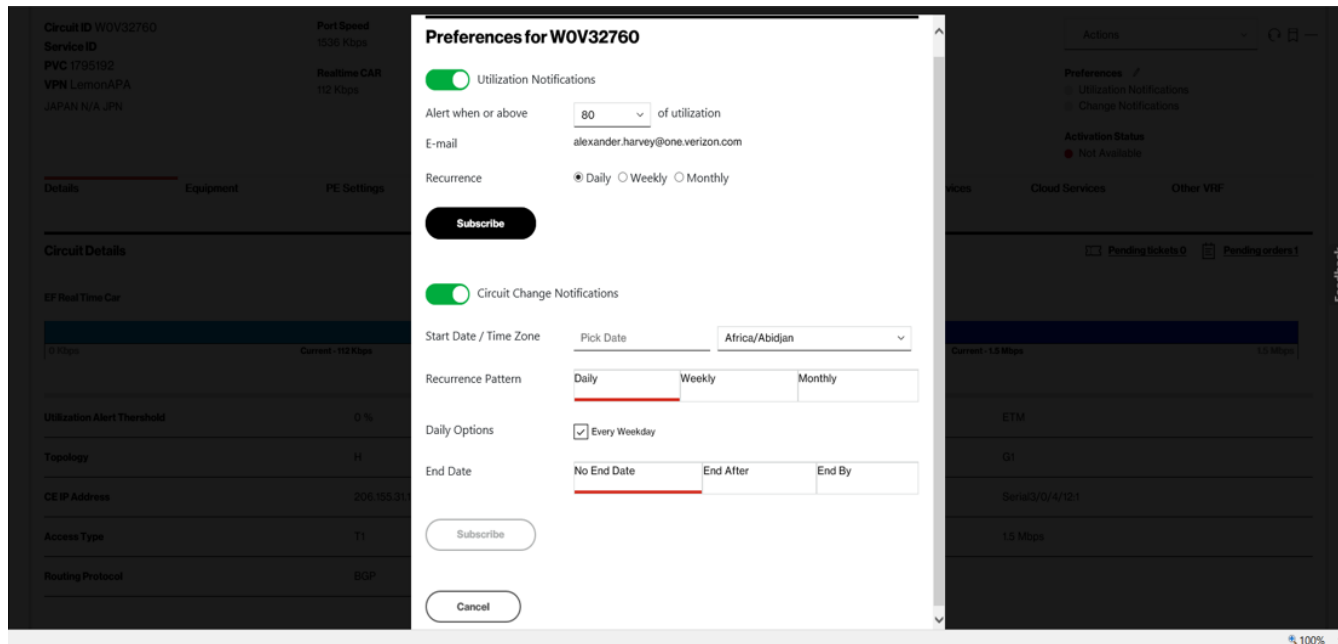
The screenshot displays a table of circuits under the 'Private IP' section. The first circuit is selected, and its details are shown in a pop-up window. The details include:

- Circuit ID:** C0108468
- Service ID:** 146124672
- PVC:** 5820282
- VPN:** ACME-Fabrication
- VRF Name:** V795957:ACMEFabrication
- VPN Address:** 180 ALLEN RD ATLANTA, GA 30328-4862 USA
- Port Speed:** 9 Mbps
- Realtime CAR:** 512 Kbps
- Encapsulation:** ETHERNET
- Traffic Rule:** G4
- Equipment IP:** 68.139.174.86
- Service Type:** Not Managed
- Description:** Main Office
- Entitlements:** CO-OP-10
- View Details:** (Dropdown menu)
- Preferences:** Utilization Notifications (checked), Change Notifications (unchecked)
- Activation Status:** Active (1)

Note: You can change the description for each circuit. Click on the “pencil” symbol  near the description. View the pop up. Enter the description that needs to be changed. Click on “**save**” changes.

Utilization Notifications allows Users to select when (and how often) DNM proactively alerts them about circuits reaching bandwidth utilization thresholds. This helps Users avoid packet loss if/when a circuit “runs too hot”.

Circuit Change Notifications is another subscription option available to all users who are entitled to see/edit particular circuits; all Users who subscribe to this option are notified of changes made by any of the other Users.



Network Settings

This section contains both Customer Edge (CE) settings and Provider Edge (PE) settings information. You can view the General Interface Configuration, Virtual Route (VRF) Information, Quality of Service Information, and IPv4 eBGP Routing Information. You can also produce an example CE design for your router (for a Customer Managed circuit) from the PIP Looking Glass Site Detail screen.

1. Click on the add symbol “+” to view the details of the circuit ID
2. Click on equipment tab to view the customer edge settings details

Virtual Routing and Forwarding (VRF) allows multiple instances of a routing table to exist within the same router at the same time. Because the routing instances are independent, the same or overlapping IP addresses can be used without conflicting with each other. A VRF may be implemented in a network device by having distinct routing tables, also known as forwarding information bases (FIBs), one per VRF.

Circuit ID C0108468 Service ID 146124672 PVC 5820282 VPN ACME-Fabrication VRF Name V795957:ACMEFabrication VPN Address 180 ALLEN RD ATLANTA, GA 30328-4862 USA	Port Speed 8 Mbps Realtime CAR 256 Kbps	Encapsulation ETHERNET Traffic Rule R2 Equipment IP 68.139.174.86	Service Type Not Managed Description Description for C0108468 Entitlements DG EP LG	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">View Details Open</div> Preferences <input type="checkbox"/> Utilization Notifications <input type="checkbox"/> Change Notifications Activation Status ● Active
---	--	---	--	--

Details **Network Settings** Orders Diagnostics Utilization Virtual Services Cloud Services Other VRF

General Interface Configuration

Router Name	ATL29E01	Encapsulation	ETHERNETVLAN : 495 VLAN : 495
Router Type	ASR9K	IPv4 Address / Prefix	68.139.174.85 / 30
Access Type	ETH10Gig	IPv4 MTU	
Interface Name	TenGigE0/7/0/3.427	Shape Adjustment for Ethernet	85% <div style="width: 85%; height: 10px; background-color: #28a745; margin-top: 2px;"></div>
Routing Protocol	BGP		

Virtual Route Forwarding (VRF)

VRF Name	V795957:ACMEFabrication	WAN Analysis Reporting	No
Topology	HUB	MAX Paths	0
Max Routes	1250	Max Paths Routes Load Sharing	No

Quality of Services

PIP Class of Service	Enhanced Traffic Management	EF Real Time (Gold) CAR	256 Kbps
Port Speed	8 Mbps	Egress Profile	R2-Voice/video centric #1
Policed on Router	YES	MVRF Multicasting Enabled	No
Peak Speed	0 Kbps	Multicasting RP Address	
Queuing Level	Default	Multicasting MDT Address	
FRF 12 Fragmentation	Disabled		

IPv4 eBGP Routing Information

Multihop IP		Hops Away	
Redistribute Static	Yes	Redistribute Connected	Yes
AS Override	No	Send Community	Yes
		Remote AS	1

IPv6 eBGP Routing Information

Redistribute Static	Yes	Hops Away	0
AS Override	Yes	Redistribute Connected	No
		Remote AS	0

Customer Edge Settings			
IPv4 Address / Prefix	68.139.174.86 / 30	Layer 2 Encapsulation	ETHERNET VLAN : 3
Server Level	Not Managed		
Layer 1/2 Information			
CONNECTOR TYPE	RJ45	CE WAN Interface / Handoff Type	100BASE-TX INTERFACE 100M
VLAN set to	3		
Services(s) Ordered			
Service Order	193608690.0	Work Order	23455498.0
Managed Service	Not Managed		

Demarcation Information					
	Site Type	Address	LD1: APT	LD2: BSMT	LD3: BAY
1249583C	CUST	180 ALLEN RD ATLANTA GA 30328-4862 USA	LV1: 1	LV2: 2	LV3: 3
Sample Router Configuration					
<p>Notice: The router configuration shown below is intended as an example only. You will likely need to add,remove or change certain elements of this configuration to meet you specific requirements. Use at your own risk!If you are not sure about the proper use of a command please seek appropriate advice.</p> <pre> !-----Sample interface configuration WITHOUT VLAN tagging enabled----- interface FastEthernet0/0 for GigabitEthernet0/0 description Verizon MPLS VPN: ACME-Fabrication; Site-Circuit: atlanta-ga_c0108468-146124672-5820282 ip address 68.139.174.86 255.255.255.252 no shutdown speed 100 for speed 1000 for GigE full-duplex ! !-----Sample interface configuration WITH VLAN tagging enabled----- </pre>					

STD QoS DPORT, and ETM to STD*

The Customer Edge (CE) configuration steps are explicit to Cisco switch stages (for customer managed circuits). For other vendor CE, consult the client manual with respect to changing the interface bandwidth speed. We recommend setting up an egress traffic forming rate on your CE router's WAN interface as per your changes in QOS settings. Follow these guidelines to set up your router for Dynamic Port changes.

ETM QoS DPORT, DCAR, Custom Egress, STD to ETM*

The configuration steps are also explicit to Cisco switch stages (for customer managed circuits). For other merchant CPE, consult the client manual with respect to changing the lining parameters. CBWFQ is typical for Silver CAR and LLQ/Priority Queuing is typical for Gold CAR. We prescribe setting up a settled QOS arrangement on your CE switch's WAN interface as per your changed QOS settings. The external (or parent) strategy should shape all traffic as per your selected DPORT speed. The internal (or kid) strategy ought to contain

data transfer capacity assignments as indicated by your selected DCAR speed and Custom Egress profile. Adhere to these directions to set up your switch for Dynamic CAR changes.

* For more technical details, refer to Customer Edge Configuration Settings section in Appendix

Order history

DNM coordinates all order updates going to downstream IT systems. Every hour it picks up new orders that have been provisioned and processes them. It then picks up any rejected orders waiting for a retry and computes a time when the next retry should occur: once every 24 hours through the sixth retry, then once every 72 hours. After a certain number of retries, DNM stops retrying and sends an email informing a User the update could not be completed. Each order is processed in its own transaction to avoid time-outs when there are a lot of orders in the back log. Retries are processed via the regular work flow. The outcome is reflected in the order history so the original error message, as well as the latest error message can be viewed.

The screenshot shows a web interface for circuit management. At the top, there are tabs for Details, Equipment, PE Settings, Orders (selected), Diagnostics, Utilization, Hosted Services, Cloud Services, and Other VRF. Below the tabs is a table of orders. The table has the following columns: Order Number, CircuitId, Status, Requested Date, Expected Date, BillingId, Order Type, Port Speed, User Id, Status Date, and Change Type. There are five rows of data, all with a status of 'COMPLETED'.

Order Number	CircuitId	Status	Requested Date	Expected Date	BillingId	Order Type	Port Speed	User Id	Status Date	Change Type
2944149	WOV32760	COMPLETED	2019/09/23 04:30:05 GMT	2019/09/23 04:30:05 GMT	00209854	DBW	1536 Kbps	manikanta.segu@one.verizon.com	2019/09/23 04:30:05 GMT	+
2937065	WOV32760	COMPLETED	2019/09/09 04:30:05 GMT	2019/09/09 04:30:05 GMT	00209854	DBW	1024 Kbps	anil.kumar.pabbisetty@one.verizon.com	2019/09/09 04:30:05 GMT	+
2924719	WOV32760	COMPLETED	2019/08/11 03:30:07 GMT	2019/08/11 03:30:07 GMT	00209854	DBW	1536 Kbps	anil.kumar.pabbisetty@one.verizon.com	2019/08/11 03:30:07 GMT	+
2917444	WOV32760	COMPLETED	2019/07/29 06:30:05 GMT	2019/07/29 06:30:05 GMT	00209854	DBW	1024 Kbps	anil.kumar.pabbisetty@one.verizon.com	2019/07/29 06:30:05 GMT	+
2907036	WOV32760	COMPLETED	2019/07/20 17:30:03 GMT	2019/07/20 17:30:03 GMT	00209854	DBW	1536 Kbps	anil.kumar.pabbisetty@one.verizon.com	2019/07/20 17:30:03 GMT	+

DNM order summary

This report allows Users to see multiple circuit change activity versus single circuit events (shown in Order History). You can tailor the report to show a defined range of time and frequency of change orders. Results can be exported to PDF and Excel.

Private IP

DNM Order Summary
Network Transit Delay

Public IP

View All

SCI

SCI Consumption

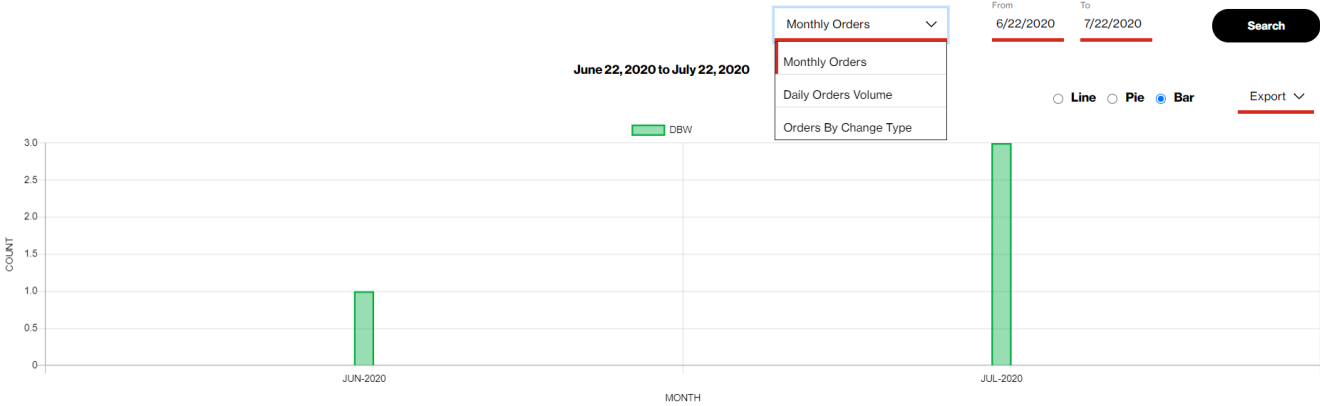
Ethernet

View All

Miscellaneous

Port Availability
Auto Activation Report

DNM Order Summary



Show Less

Show Order Pending Order Failed Order Completed

Enter Search Criteria

Order ID	3074967	Status	COMPLETED	Port Speed	512 Kbps	Billing ID	00209854	Billing Status	
Circuit ID	WOV32760	Order Type	DBW	Change Type		Scheduled Date [GMT]	2020/07/18 18:30:06 GMT	Status Date [GMT]	2020/07/18 18:30:06 GMT
User ID	verizonnm@gmail.com								
Order ID	3073934	Status	COMPLETED	Port Speed	768 Kbps	Billing ID	00209854	Billing Status	
Circuit ID	WOV32760	Order Type	DBW	Change Type		Scheduled Date [GMT]	2020/07/10 22:30:05 GMT	Status Date [GMT]	2020/07/10 22:30:05 GMT
User ID	verizonnm@gmail.com								
Order ID	3073549	Status	COMPLETED	Port Speed	8 Mbps	Billing ID		Billing Status	BILLING NOTIFIED
Circuit ID	C0108468	Order Type	DBW	Change Type		Scheduled Date [GMT]	2020/07/08 21:30:15 GMT	Status Date [GMT]	2020/07/08 21:30:15 GMT
User ID	verizonnm@gmail.com								

Order ID	3071966	Status	COMPLETED	Port Speed	512 Kbps	Billing ID	00209854	Billing Status	
Circuit ID	WOV32760	Order Type	DBW	Change Type		Scheduled Date [GMT]	2020/06/29 18:30:09 GMT	Status Date [GMT]	2020/06/29 18:30:09 GMT
User ID	verizonnm@gmail.com								

Live Chat

Diagnostics (Router Commands)

Users can issue router commands to verify specifics in their network.

1. Click **Router Commands** under *Site Details*. The *Router Commands* section appears above “Site Details.”
2. Select a command from the *Select Router Command* drop-down list.
3. Click **Submit**. The system displays the response from the router.

The screenshot shows the NMS interface with the following details:

- Circuit ID:** W0V32760
- Service ID:** 1536 Kbps
- Port Speed:** FR
- Service Type:** Not Managed
- PVC:** 1795192
- Realtime CAR:** 112 Kbps
- Traffic Rule:** G1
- Description:** [Editable]
- Entitlements:** [Icons]
- Equipment IP:** 206.155.31.17
- Preferences:** Utilization Notifications, Change Notifications
- Activation Status:** Not Available

The **Router Commands** section is active, showing a list of commands in a dropdown menu:

- Select
- show ip route vrf [V80575:LemonAPA]
- show ip route vrf [V80575:LemonAPA] [ip-prefix]
- ping vrf [V80575:LemonAPA] ip [target_ip_address] repeat 5
- show interface [Serial3/0/4/12:1.675]
- show ip vrf interfaces [V80575:LemonAPA]
- show ip bgp vpv4 vrf [V80575:LemonAPA] summary
- show ip bgp vpv4 vrf [V80575:LemonAPA] neighbors [206.155.31.18] advertised-routes
- show ip bgp vpv4 vrf [V80575:LemonAPA] neighbors [206.155.31.18] routes

Ethernet Access pre activation test (US only)

Users can issue an Ethernet Access test prior to activating the circuit.

If all the below conditions are satisfied DNM allows the Ethernet Access Test and will display the Ethernet Access Test Results tab.

Conditions:

- Encapsulation must be Ethernet
- Region must be US domestic Circuit
- Port Speed must be less than or equal to 1GB
- Circuit Activation Status cannot be active

Submission of the Test Steps:

1. Click **Router Commands** under Site Details. The Router Commands section appears above Site Details.
2. Select the **Ethernet Test** from the Router Command drop-down list.

3. Initiate the Test.

Ethernet test tab

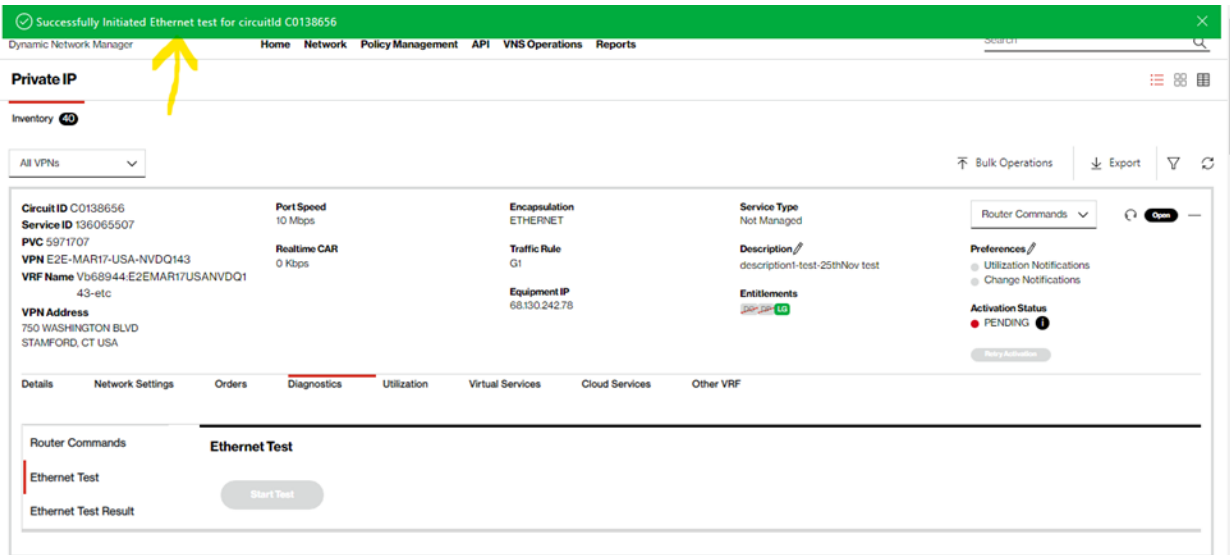
The screenshot shows a web interface for a service configuration. At the top, there are several key-value pairs: Circuit ID C0138656, Service ID 136065507, PVC 5971707, VPN E2E-MAR17-USA-NVDQ143, VRF Name Vb68944:E2EMAR17USANVDQ1 43-etc, VPN Address 750 WASHINGTON BLVD STAMFORD, CT USA, Port Speed 10 Mbps, Realtime CAR 0 Kbps, Encapsulation ETHERNET, Traffic Rule G1, Equipment IP 68.130.242.78, Service Type Not Managed, Description description1-test-25thNov test, and Entitlements. Below this is a navigation bar with tabs: Details, Network Settings, Orders, Diagnostics (selected), Utilization, Virtual Services, Cloud Services, and Other VRF. The main content area is titled 'Ethernet Test' and contains a 'Start Test' button. A green arrow points to this button. Other elements include 'Router Commands', 'Ethernet Test Result', 'Router Commands' dropdown, 'Continue' button, 'Preferences' (Utilization Notifications, Change Notifications), and 'Activation Status' (PENDING).

Click **Start Test**.

This screenshot is identical to the one above, showing the 'Ethernet Test' interface. The 'Start Test' button is visible in the main content area. The rest of the interface, including the header information, navigation tabs, and side panels, remains the same.

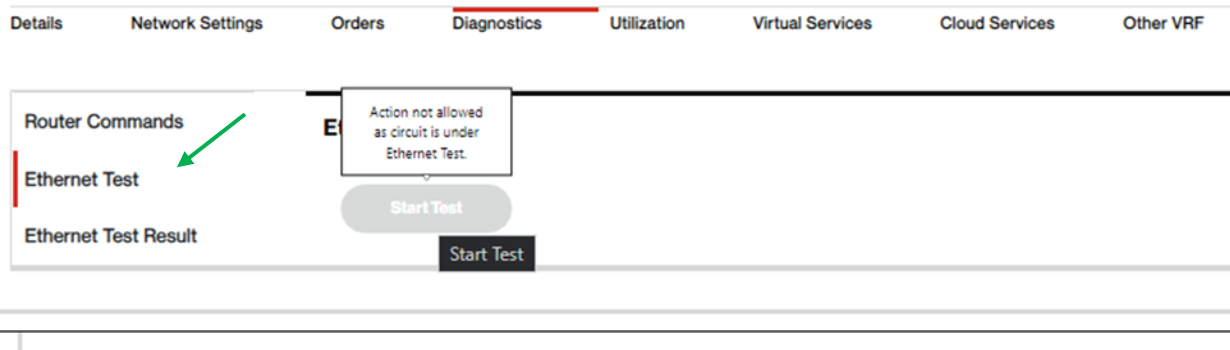
Click **Continue**, After Confirmation.

Green Bar will appear which states the Ethernet Access Test was successfully submitted.



After Ethernet test is completed

1. Ethernet test results option will appear.
2. Click **Ethernet Test Result**.



Response from Test

Ethernet Access Test Results

Details Network Settings Orders **Diagnostics** Utilization Virtual Services Cloud Services Other VRF

Router Commands

- Ethernet Test
- Ethernet Test Result**

Ethernet Test Result

Event	Sum Cd	History Key	Date	
Activation	TOK	053551764	21-JUN-21 07:22:05.681000	—

```
-----
Y1564 Service Configuration Results : OK
-----
FAIL/PASS                pass    pass    pass    pass
-----
Duration (secs)          62      62      62      62
Frame Size                128     512     1518    8192
Test Phase                cir     cir     cir     cir
```

[Download PDF](#)

Event	Sum Cd	History Key	Date	
Maintenance	TOK	053551898	21-JUL-21 07:22:05.681000	+

Bandwidth utilization

Users can view a chart displaying circuit utilization over a time period of 1 day through 30 days. The example below shows received and transmitted results for the Verizon Provider Edge (PE) port. Ingress/Received is what Verizon receives from a customer, and Egress/Transmitted is what Verizon sends to a customer. If you were to view the Customer Equipment (CE) port then you would see the opposite measurements. Verizon PE port measurements and CE port Measurements should closely match.



1. Click on the **Utilization** tab to view the utilization details.
2. By default the daily summary utilization details will be shown.
3. To view 15 min interval usage, select and drag to specific duration so that 15 mins interval usage duration can be viewed.
4. Use the toggle buttons next to Egress and Ingress speed to view specific usage details (i.e. Only Egress or Ingress traffic).


View pending tickets, orders and associated Virtual Route Forwarding (VRF)

Click on the “+” **add symbol** to view the details of the circuit ID. You can view the pending tickets and orders in the right end corner of the details tab.

1. Click on **pending tickets** to see the status of the ticket on the separate page.
2. Click on **pending orders** to see the status of the ticket on the separate page.

Configure eBGP routing parameters

Click on the “+” **add symbol** to view the details of the circuit ID.

1. Click on  near the routing protocol in details tab. The Configure eBGP Routing Parameters section appears below the Circuit ID details.
2. Enter the incentive for each eBGP Routing variable. If you are utilizing eBGP or changing to eBGP, you can change the accompanying parameters:
 - a. AS Number - BGP autonomous system number for the current network.
 - b. AS Override - Replaces your AS Number with our AS number if the source and destination AS numbers are the same.
 - c. Send Community - Allows you to send standard communities to us that we will send across the Cloud.
 - d. Advertisement Interval - Changes default BGP advertisement timers from 30 seconds to 0 seconds.
 - e. Distribute List - Site will see a default route only.
 - f. Remove Private AS.

Note: AS override, send community, Advertisement Interval, Distribute List, Remove Private AS are toggles.

3. Click on schedule toggle to select date and time zone.
4. Select the values from the drop down menus for date time zone.
5. Click on Submit so that the changes will be effected -or- Click on Cancel so that the changes will not take effect.

Configure Static Routes

Static routing is a form of routing that occurs when a router uses a manually-configured routing entry, rather than information from a dynamic routing protocol to forward traffic.

1. Click on the Static tab under circuit ID. The Configure Static Routes section appears above Site Details.
2. Select CE IP Address for the following bounce. The IP address is populated in the Next Hop field.

OR-

Select Sub Interface for the next hop. The sub-interface is populated in the Next Hop field.

3. Select CE IP Address for the Sending IP. The IP address is populated in the Forwarding IP field.

OR-

Select Destination IP Address and enter the IP address in the Forwarding IP field.

4. Click Add. Include or expel what should be in the switch or should be expelled from the switch.
5. If relevant, enter a Process Date/Time to plan this activity.
6. Select a period zone starting from the drop list.
7. Click Schedule Order if you are planning for a future date.
8. Snap Process Order to present your request. The Process Order Confirmation spring up shows your request number.
9. Click Submit.

OR-

Click Cancel.

Port speed changes

Dynamic Port (DPORT) is a feature of DNM. It allows Users to submit a change order online to raise/lower Private IP transport speeds. After a Private IP port is ordered and provisioned, you can use Dynamic Port to adjust the port to a desired speed size. After VERIZON ENTERPRISE CENTER entitlements for Dynamic Port (and Dynamic CAR) are confirmed, you must initially wait 24 hours before the first change order can be issued. This is due to the IT processing time for the submitted entitlements/permissions.

Note: 1 Private IP Port (or EF CAR) change is permitted per day for circuits with prefixes "W" and "B". For circuits with a "C" prefix, the following multi-change-per-day rules apply:

- Unlimited Port Speed Change and Dynamic CAR Requests: Users may make more than one port speed change and/or EF CAR change request during a 24 hour period. Greenwich Mean Time (GMT) is used as the start/stop reference for a DNM 24 hour time period. These speed changes can be made prior to 11:00 PM GMT.
- Ability to Reverse Speed Change Requests: Within 60 minutes of making a speed upgrade (or downgrade) request, a User can "correct" the request (as needed) by reversing the speed change request back to the original speed. After 60 minutes the speed change will be established as the new highest speed for the day. That speed is what will be sent to Billing for that day. One speed correction is allowed during a 24 hour period. Alternatively a User can submit a new change order (within 60 minutes) to reverse the mistake.
- Billing: Verizon will continue to bill in 24 hour minimum daily increments. The highest speed change request made during a 24 hour period will be the speed sent to Billing for that day.
- Carry-Over Speed: The last speed change request entered for the day is the one that is carried over to the next day. This speed will be billed daily going forward unless another speed change is requested.

If you are using Enhanced Traffic Management (ETM) Class of Service and a circuit's EF CAR value is set to 90% of your current port speed, then a Dynamic CAR change order should be issued first to lower the EF CAR value before attempting to lower the circuit port speed via Dynamic PORT.

Class of Service: Committed Access Rate speeds and Egress Policies

Dynamic CAR (DCAR) allows Users to submit a change order online to raise/lower Private IP port speeds. However, Users have two options for defining how to set up CAR speeds for use with Private IP circuits:

- Standard (STD) – Standard option supports Best Effort (BE) CAR speeds only. It does not support Expedited Forwarding (EF Real-Time aka Gold) CAR speeds. Moving from ETM to Standard may influence the voice traffic present on this connection. Dynamic CAR is not applicable to standard CAR speeds.
- Enhanced Traffic Management (ETM) - You can expand port speed EF Real-Time (Gold) CAR up to 90% of the port speed. Moving from Standard to ETM enables you to use DCAR online to change the Gold CAR rate. You can upgrade or downgrade the Gold CAR (EF Real Time) value within the limitation of Gold CAR. Minimum Gold CAR

value is OK, and the maximum Gold CAR value can be set up to 90% of the port speed. Increasing Gold CAR has a CPE performance impact. If you have questions, contact your account team before submitting this change. The Gold CAR is policed on Ingress into the Private IP network. Any traffic marked with EF Real Time that exceeds the subscribed Gold CAR value is discarded. If you select Gold CAR (Expedited Forwarding) and are using this for Voice over IP calls, a reduction of the CAR value (e.g. 40.456 reduce to 8K) can directly affect the quality of Voice over IP calls on this link. Ensure that you make a corresponding reduction on the device that determines the call admission control policy for this link as well as making a reduction on the CE router's QoS queuing policies.

- The maximum configurable CAR value is governed by the port speed as well as the Egress profile of the Private IP port in service.
- Users may change their "G" or "R" Egress profiles via DCAR. When the Gold CAR value is equal to or greater than 50% of the port speed DCAR will only display "R" level policies.
- Ingress refers to traffic which enters the Private IP Provider Edge (PE) device from the User's CE router.
 - Private IP Standard: All traffic coming into the PE device on ingress is marked AF3 (DSCP=24).
 - Private IP Enhanced Traffic Management (ETM): Customers subscribe to the EF Class of Service and can use 100% of the port for the five additional data classes: AF4, AF3, AF2, AF1, and BE. The EF Class of Service can range from OK up to 90% of the port.
- Egress refers to the traffic which is exiting on the Private IP PE device and being delivered to the User's CE router with a percentage of bandwidth dedicated to each class of service. Egress policies are based on Low Latency Queuing (LLQ) and Class-Based Weighted Fair Queuing (CBWFQ). LLQ is used exclusively for the EF Class of Service and uses strict priority queuing to allow delay-sensitive data (such as Voice over IP) to be sent first, giving delay-sensitive data preferential treatment over other traffic.
- Class-Based Weighted Fair Queueing (CBWFQ) is used for the five data classes of service: AF4, AF3, AF2, AF1, and BE. It allows Verizon to specify a percentage allocation of bandwidth to be allocated for each class of traffic.
- The default egress policy for all Private IP customers is: EF: 50%, AF4: 40%, AF3: 39%, AF2: 16%, AF1: 1%, BE: 4%. This means on egress, up to 50% of the port will be dedicated to the EF class of service. Anything which exceeds 50% on egress is discarded. While a User can still use the port for other traffic classes on egress, the EF traffic is given the highest priority. If you are receiving nothing but AF3 traffic on egress, 100% of the port is used for AF3. If you are receiving both EF and AF3, up to 50% of the port bandwidth is dedicated to the EF traffic.

- Customers with IP Telephony (also referred to as Voice over IP, or VoIP) requirements also have the option to set the EF Class of service up to 90% of the port speed. EF: 90%, AF4: 40%, AF3: 39%, AF2: 16%, AF1: 1%, BE: 4%.

Note: More information about EF CAR & Egress settings is available in Appendix section.

How to modify port bandwidth and EF CAR

Click **Modify Bandwidth** in the Actions Menu (or in the Expanded Details view, bottom left of screen).

Private IP ☰ ☰ ☰

Inventory 📄

All VPNs ▼ 🔍 Bulk Operations | 📄 Export | 📄 | 🔄

Circuit ID C0108468 Service ID 146124672 PVC 5820282 VPN ACME-Fabrication VRF Name V795957/ACMEFabrication VPN Address 190 ALLEN RD ATLANTA, GA 30328-4862 USA	Port Speed 9 Mbps Realtime CAR 512 Kbps	Encapsulation ETHERNET Traffic Rule G4 Equipment IP 68.139.174.86	Service Type Not Managed Description 🔍 Main Office Entitlements 🟢 🟢	<div style="border: 1px solid #ccc; padding: 5px; width: 150px;"> Actions ▼ View Details Modify Bandwidth Network Settings View Orders Router Commands View Utilization VRF Details </div> <div style="margin-top: 10px;"> Preferences 🔍 <input type="checkbox"/> Utilization Notifications <input type="checkbox"/> Change Notifications Activation Status ● PENDING 🔍 🔴 </div>
Circuit ID C0131900 Service ID 196707131 PVC 5928656 VPN ACME-Fabrication VRF Name Vb10857/ACMEFabrication VPN Address	Port Speed 10 Mbps Realtime CAR 0 Kbps	Encapsulation ETHERNET Traffic Rule G1 Equipment IP 102.99.179.42	Service Type Not Managed Description 🔍 Rubi's Home Office Entitlements 🟢 🟢	<div style="border: 1px solid #ccc; padding: 5px; width: 150px;"> Actions ▼ View Details Modify Bandwidth Network Settings View Orders Router Commands View Utilization VRF Details </div> <div style="margin-top: 10px;"> Preferences 🔍 <input type="checkbox"/> Utilization Notifications <input type="checkbox"/> Change Notifications Activation Status ● PENDING 🔍 🔴 </div>

Dynamic Port Speed Menu example:

Modify Bandwidth *Required Fields

Port Speed

The port Speed on the Speed Gauge is not the exact port speed of the user. Please check the dropdown to see the available port speeds.

Port Speed*

- 1 Mbps
- 64 Kbps
- 128 Kbps
- 256 Kbps
- 384 Kbps
- 512 Kbps
- 768 Kbps
- 1 Mbps
- 1.5 Mbps

EF Realtime CAR

Scheduling

Schedule change to happen later

Scheduler: User may optionally schedule Port/CAR changes out to a year in advance.

Port Speed

ETM

EF Realtime CAR

Egress Profile*

G1

Scheduling

Schedule change to happen later

Nov 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

Circuit ID WOV32760

Service ID

PVC 1795192

VPN LemonAPA

JAPAN TOKYO, N/A JPN

Encapsulation

FR

Traffic Rule

G1

Equipment IP

206.155.31.17

Service Type

Not Managed

Description

Testing the bulk update test process

Entitlements

DC DP

Actions

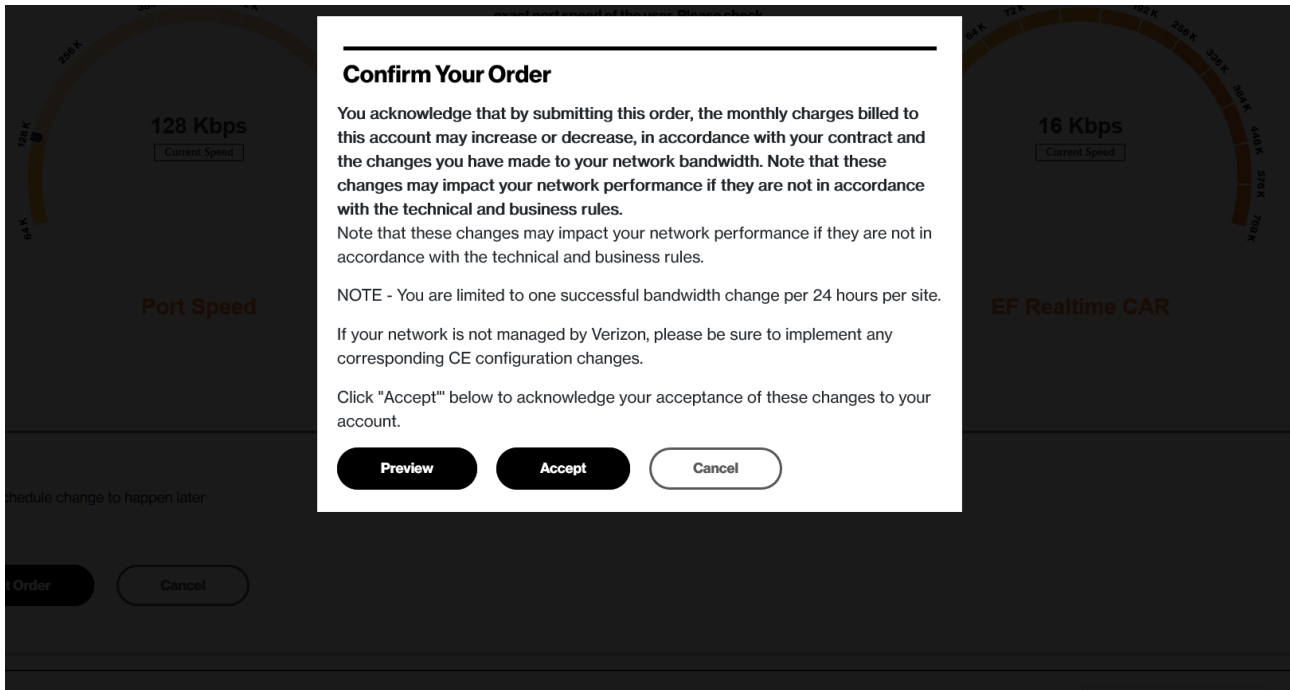
Preferences

- Utilization Notifications
- Change Notifications

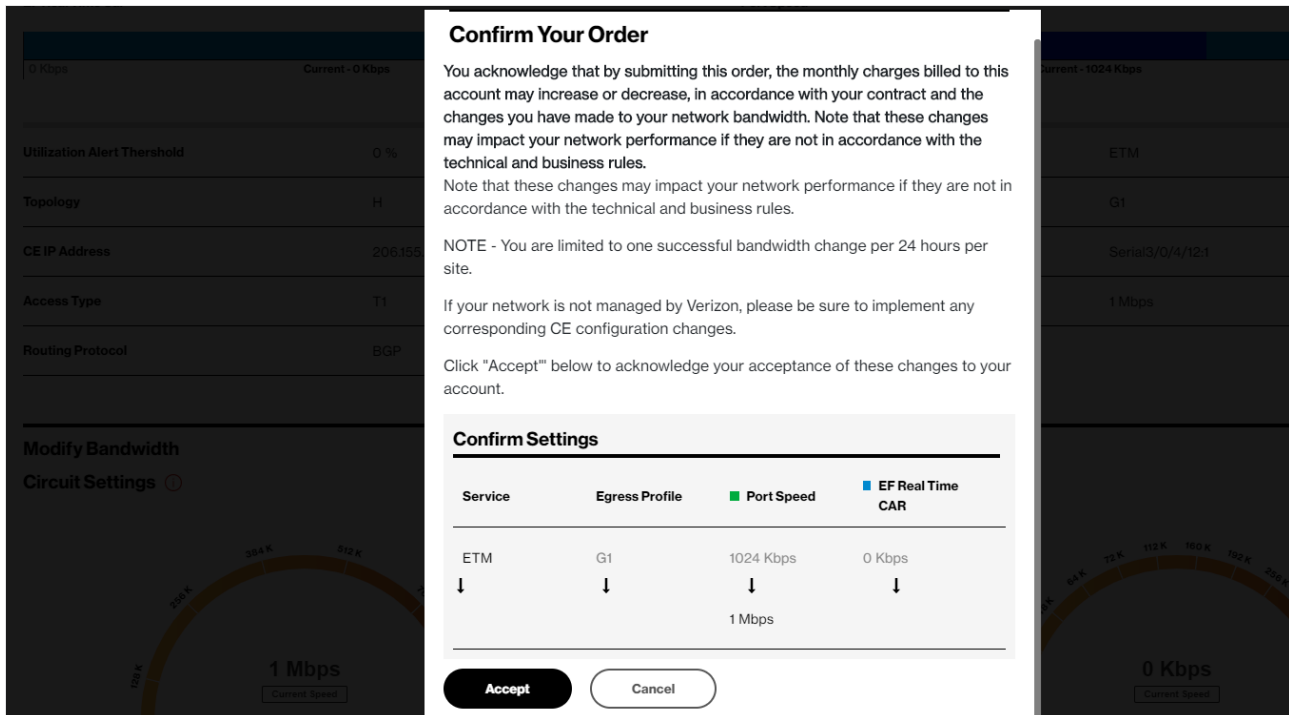
Activation Status

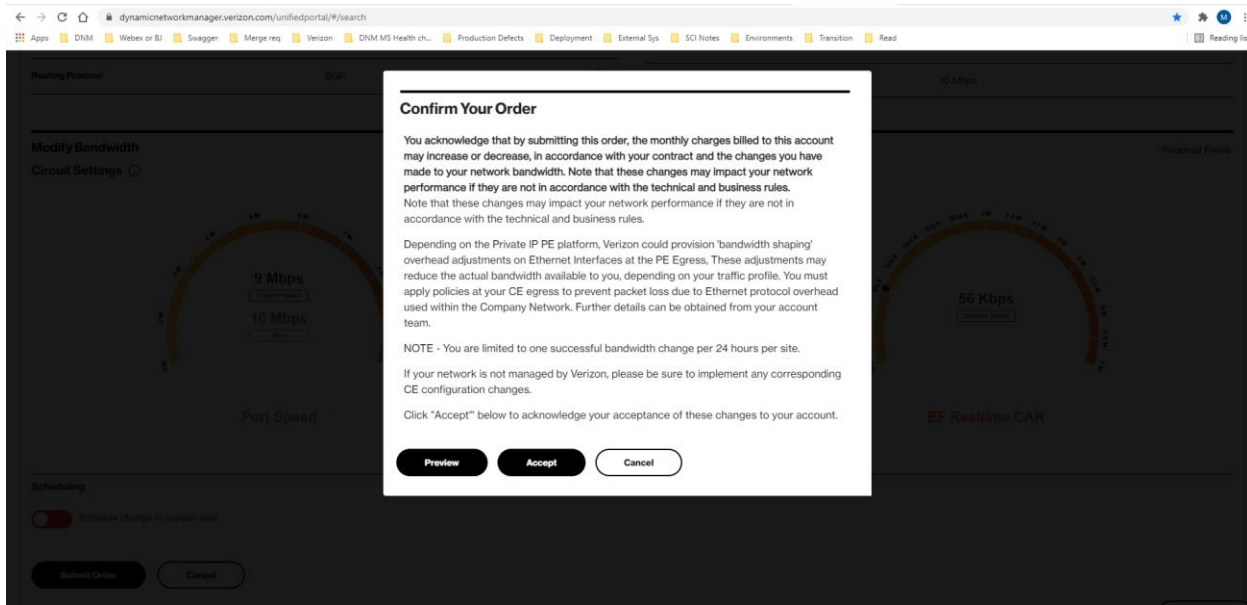
Active

Order Confirmation Pop-Up



Select **Preview** button to see Before/After Speed Changes before Accepting.





Change order acceptance (full text):

Please ensure that the Port speeds you request are set above the existing CAR for each site. If not, your orders will not be processed.

If your network is not managed by Verizon, please be sure to implement any corresponding CE configuration changes.

Depending on the Private IP PE platform, Verizon could provision 'bandwidth shaping' overhead adjustments on Ethernet Interfaces at the PE Egress. These adjustments may reduce the actual bandwidth available to you, depending on your traffic profile. You must apply policies at your CE egress to prevent packet loss due to Ethernet protocol overhead used within the Company Network. Further details can be obtained from your account team.

You acknowledge that by submitting this order, the monthly charges billed to this account may increase or decrease, in accordance with your contract and the changes you have made to your network bandwidth. Note that these changes may impact your network performance if they are not in accordance with the technical and business rules.

The changes to your network will normally be completed within approximately 15 minutes for customer-managed and DNM Full Automation Managed circuits. If you request simultaneous multiple changes, the changes may take longer. For requests submitted on circuits terminating on Verizon Managed Services Customer Edge (CE) routers without support for Dynamic Network Manager (DNM) Full Automation, your requested changes may take up to 72 hours before the CE routers are manually updated by Verizon. Contact your account team for information about how to upgrade your CE device configuration to allow Full Automation. If your site is not managed by Verizon Business, please be sure to implement any corresponding CE configuration changes.

Depending on the Private IP PE platform, Verizon could provision 'bandwidth shaping' overhead adjustments on Ethernet Interfaces at the PE Egress, These adjustments may reduce the actual bandwidth available to you, depending on your traffic profile. You must apply policies at your CE egress to prevent packet loss due to Ethernet protocol overhead used within the Company Network. Further details can be obtained from your account team.

NOTE - You are limited to one successful bandwidth change per 24 hours per site (except for "C" prefixed circuits).

Please print a copy of this request for your records.

Click "Accept" below to acknowledge your acceptance of these changes to your account.

Note for Private IP Ethernet Ports with a prefix of B or C.

Ethernet Access goes from the customer premise to the nearest Layer 2 device. A Network to Network Interface (NNI) connects the Layer 2 device to the nearest Private IP Provider Edge over a shared interface. The bandwidth on the NNI is not reserved. In the event the NNI or Provider Edge device has reached capacity it will not be possible to increase your Ethernet Port speed. You will however be able to lower the speed. The dropdown menu on Dynamic Port will reflect the port speeds available based on the amount of bandwidth on the NNI. If the NNI or Provider Edge has been capped you will need to engage your Verizon account team (or the Verizon Enterprise Help Desk) to enable submission of an order to increase bandwidth. As part of the ordering process your Ethernet Port will be migrated to an NNI with sufficient bandwidth to support the higher port speed. There will be no change in the Circuit ID; it will remain the same.

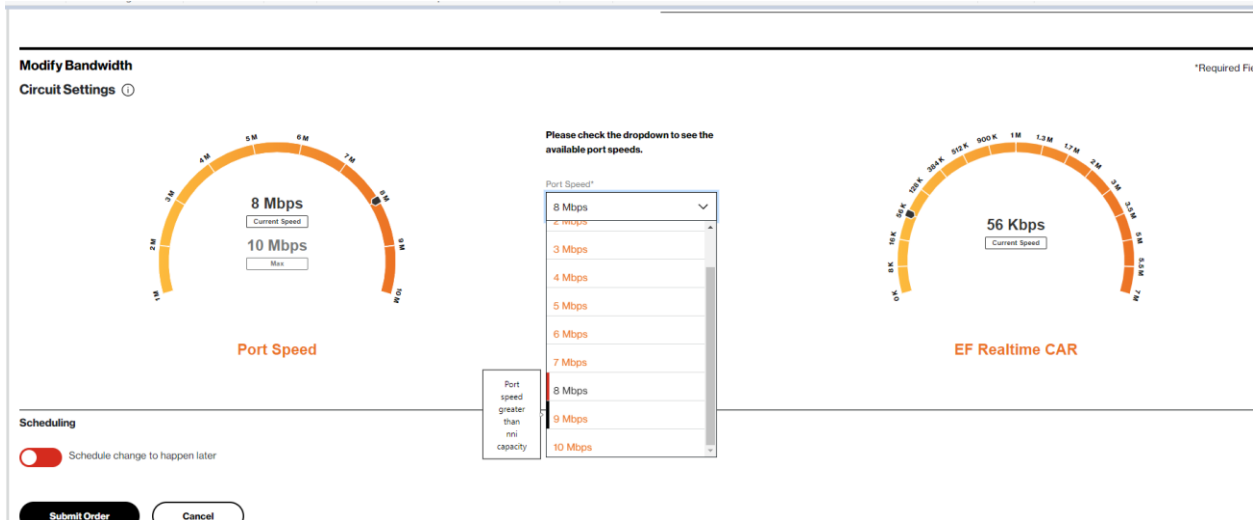
Network to Network Interface (NNI) Toggling for DPORT Change

NNI Toggling allows customers the ability to change the bandwidth on a circuit and if the NNI does not contain enough bandwidth for the change, it will automatically move to an alternate NNI, if one is available. This allows the customer to submit the Dynamic Port (DPort) transaction instead of requiring a standard order via Account Team. If there is no alternate NNI, then the change will have to be made with a standard change order via your account / support team.

NOTE: This is only available to US Domestic Commercial customers at this time.

When NNI Toggling is enabled (see the screenshot below), the new message will display next to bandwidths and will highlight the specific bandwidths that exceed the current NNI bandwidth. The "red" bar (next to the speed) represents the current NNI speed, while the "black" bar represents the speeds that exceed the NNI bandwidth.

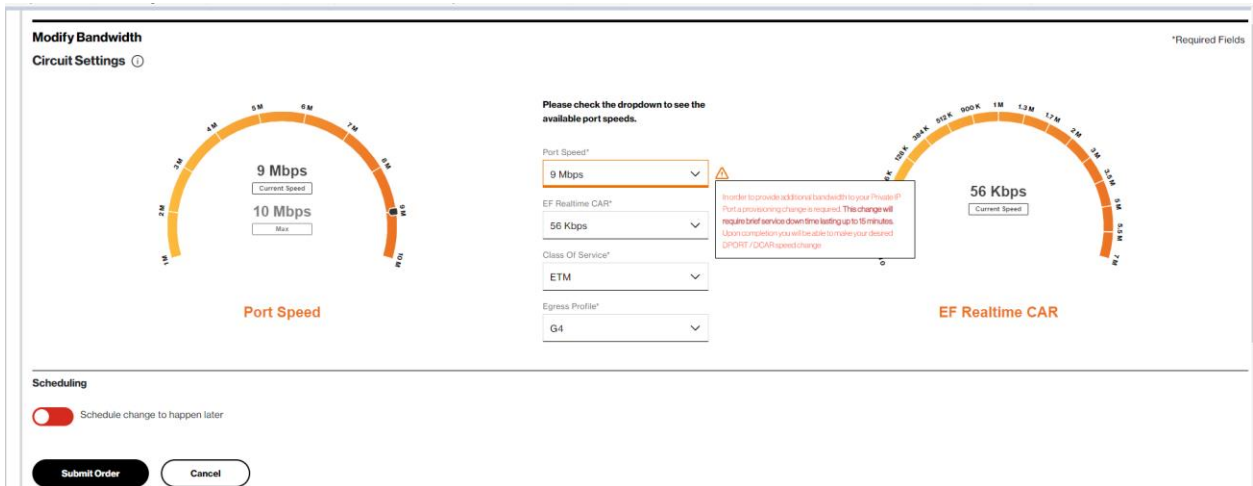
In the screenshot below, you can see that the Current Bandwidth is at 8Mbps. If a Port change was made to 9Mbps, it would trigger the NNI move, if there is an alternative available with 9Mbps of capacity.



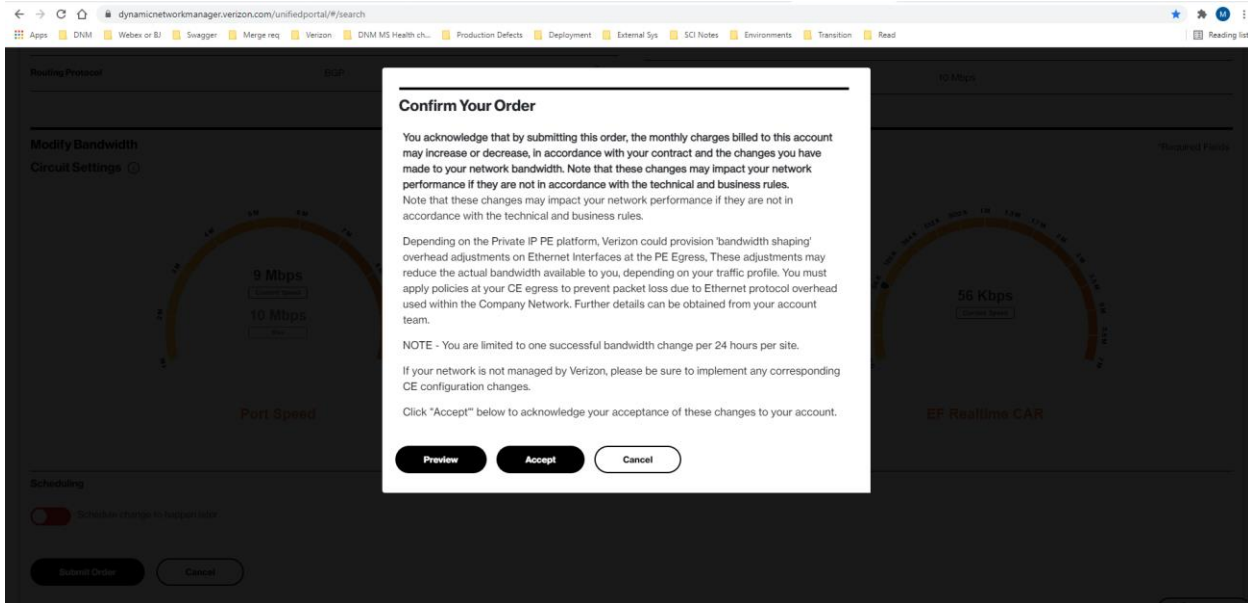
When a User selects a speed that is greater than NNI Capacity + Current Port Speed then a (see screenshot below) message will appear next to the bandwidth selected. This notifies the user that the selected bandwidth change will place a “hot cut” order which will bring down the network for an approximate 15 minutes. During this down time, the system is automatically moving the circuit from one NNI to another NNI that has enough bandwidth for the DPort change.

If there is no alternative NNI with enough bandwidth then the transaction will fail, (back out the bandwidth change) and the user will need to contact their Account Team / Support Team to submit a standard order.

In the example below, the user selected a bandwidth of 9 Mbps, which exceeds the NNI capacity. You can see the message that is displayed to notify the user of NNI toggle change, if they continue to submit the order, the NNI change will trigger a move from one NNI to another that has enough bandwidth. At this point they can continue with the change or change the port speed to a lower value.



Confirmation window of the transaction will be provided. You will need to accept the terms to submit the order. Ensure you come back and verify that the order successfully completed.

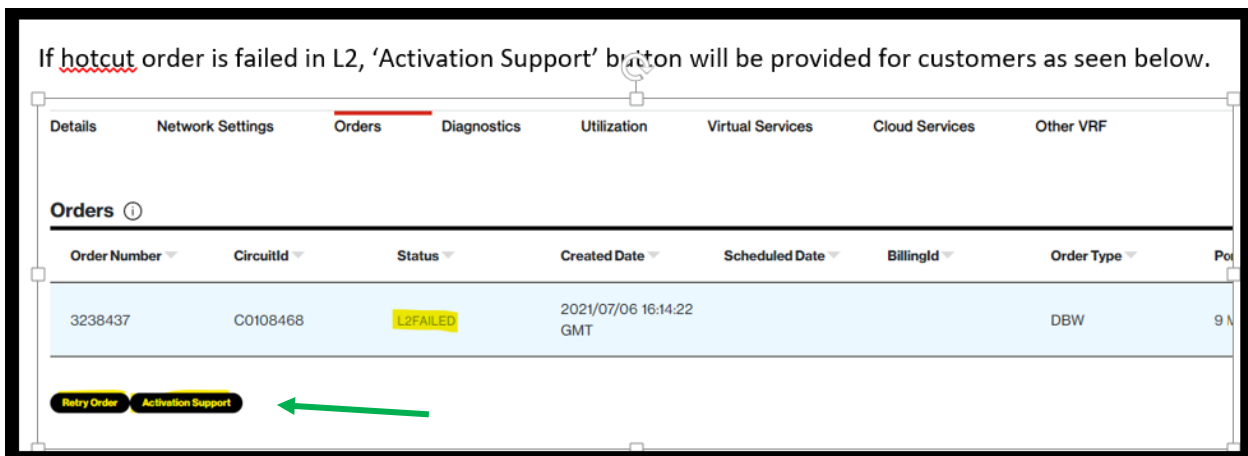


If the Bandwidth order fails

User will need to go in and review the order status for the specific change. That change order will display on the order status field:

“Layer 2 provisioning failed.”

Click on that “**Activation Support**” button. This will trigger the Support team to begin work to resolve the issue as quickly as possible. They will at a minimum roll the bandwidth change back to bring the network back up.



Complete the Contact Information and “**Submit**” the request.

The Support Team for US Commercial customers, are available 7 days a week 24 hours a day to support the requests.

Activation Support [Close]

Tip Time slot is available within 30 minutes. Please submit the below details. A
Out Verizon Technician will reach out to you within 30 minutes from 22:30 CST.

Contact Information

Contact Name* Contact Number*

Email Address*

Audio Conference Information

Bridge

Verizons Bridge Use My Audio Bridge

Bulk operations

This Dynamic Network Manager (DNM) feature allows Users to submit multiple circuit changes at one time. There are three categories of DNM bulk changes: 1) Circuit descriptions, 2) Bandwidth (Dynamic PORT), CAR (Dynamic CAR), Profile (Egress) and 3) Bulk subscription (Utilization threshold alerts and circuit change activity). Bulk change requests can be manually entered directly into the tool or via a DNM spreadsheet template (where applicable).

Please note that only Private IP single VRF (virtual route forwarding) and PORT Multi-VRF circuits are supported for Bulk speed changes currently. PVC Multi-VRF circuit support is targeted for 4Q20.

Tip: If you elect to use the DNM spreadsheet template to enter your circuits, you can first use DNM's Export function to download the VPN/circuit list you wish to modify and then copy/paste the appropriate values into the Bulk spreadsheet template fields.

← Bulk Operations

Create New Job

Jobs in Progress

Completed Jobs

Settings

Select an Operation*

Select	▼
Circuit Description	
Bandwidth, CAR, Profile - Change with pre-set speeds	
Bandwidth, CAR, Profile - Upload excel with custom speeds	
Bulk Subscription	

Circuit Description

This option allows changes to Circuit Descriptions (only). You can manually enter circuit information or enter it into a DNM spreadsheet template.

Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings

*Required Field

Select an Operation*

Circuit Description

Circuits

Download Template

Upload a list of Circuit IDs

Drop file here, or click to select from your computer.

- OR -

Enter a list of Circuit IDs and description per line. Eg C12345,P12345,description

0/500

Upload

Feedback

100%

CircuitDescriptionTemplate 1595246260341 - Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	circuitId	pvId	description										
2		1	1 description1										
3		2	2 description2										
4		3	3 description3										
5		4	4 description4										
6		5	5 description5										
7		6	6 description6										
8		7	7 description7										
9		8	8 description8										
10		9	9 description9										
11		10	10 description10										
12		11	11 description11										
13		12	12 description12										
14		13	13 description13										
15		14	14 description14										
16		15	15 description15										
17		16	16 description16										
18													
19													

Note: Circuit information submitted via spreadsheet for any DNM bulk change request must be entered in a DNM spreadsheet template format. If data does not match the Template format provided, the sheet will not be uploaded.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings

Select an Operation*
Circuit Description

Circuits

Download Template

Upload a list of Circuit IDs
Drop file here, or click to select from your computer.

OR

Enter a list of Circuit IDs,pvcID,description per line. Eg:C12345,P12345,description
0/500

Upload

Live Chat

After the Excel file (or your manually entered list) has been entered, Click **Upload**.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings

Select an Operation*
Circuit Description

Circuits

Selected circuits are listed below. You may modify your circuit list before validating. Note that duplicate circuit IDs have been removed.

Search

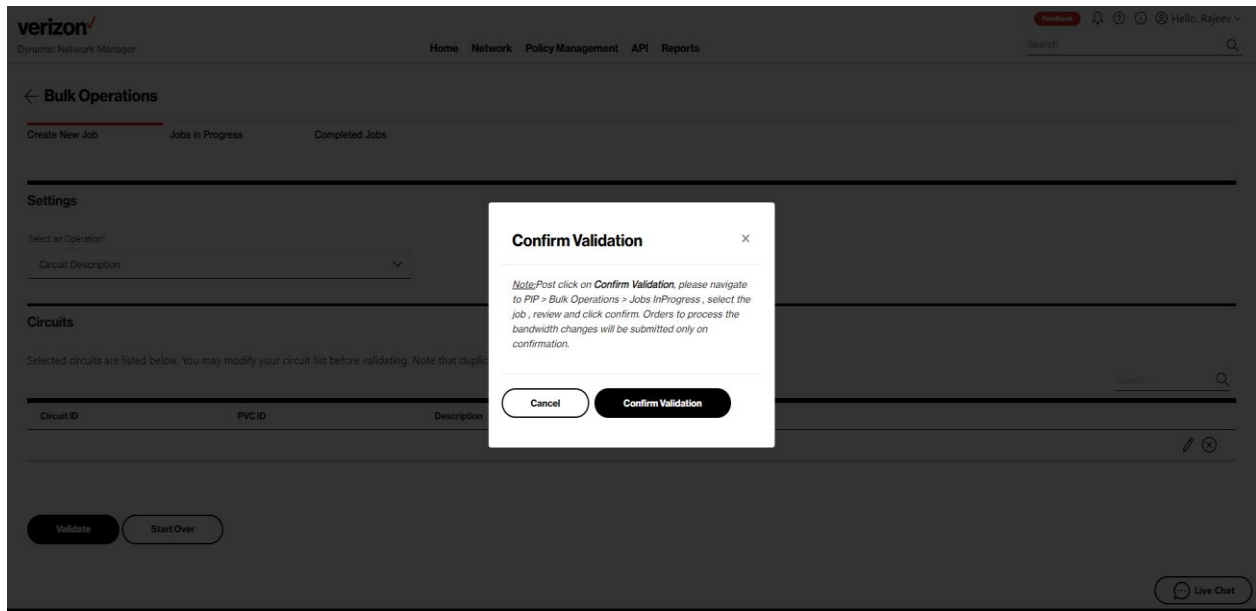
Circuit ID	PVC ID	Description
------------	--------	-------------

Validate

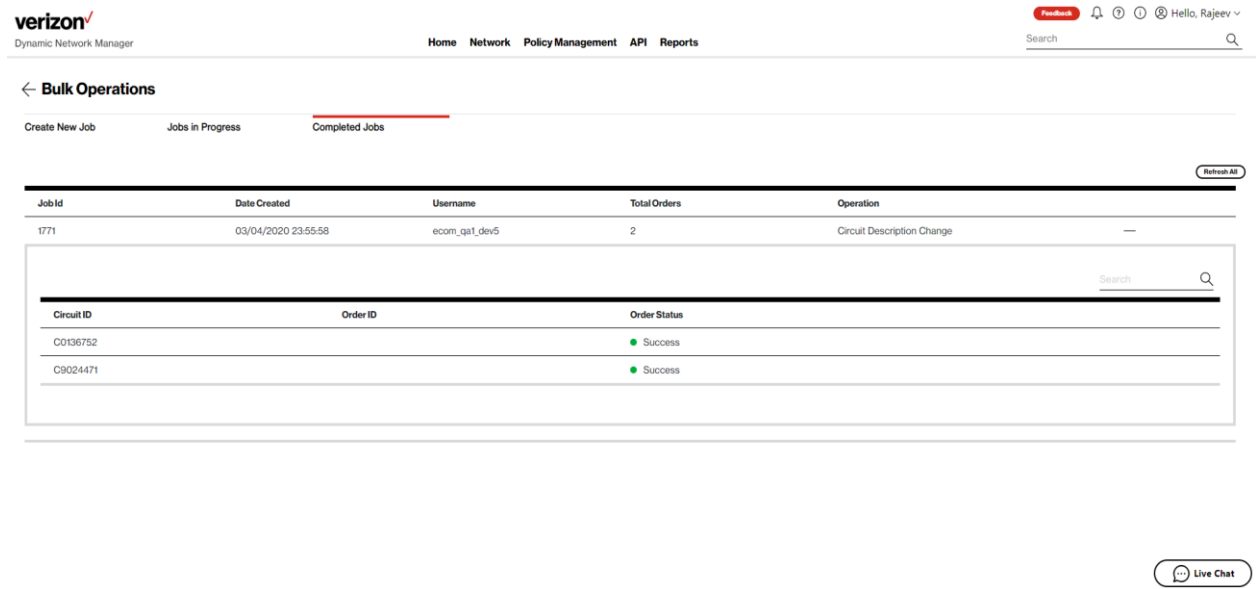
Start Over

Live Chat Click

Validate



Click Confirm **Validation**.



Completed Tab displays the jobs that have been processed.

Bandwidth, CAR, profile – change with preset speeds

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings

Bulk functionality supports single VRF change only

Select an Operation*	Bandwidth	EF Realtime CAR	Egress Profile
Bandwidth, CAR, Profile - Change with pre-set speeds	Select	Select	Select

Please Select Either Bandwidth or EF Realtime Car and Egress Profile

Enter Bandwidth, CAR and Profile selections in drop down menus.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings

Bulk functionality supports single VRF change only

Select an Operation*	Bandwidth	EF Realtime CAR	Egress Profile
Bandwidth, CAR, Profile - Change with pre-set speeds	2000 Kbps	32 Kbps	G1

Please Select Either Bandwidth or EF Realtime Car and Egress Profile

Circuits

Select the Circuit IDs and PVC IDs

Search by Circuit ID/PVC ID/VPN Name/Bandwidth/EF Realtime CAR/Egress profile/Location

Upload

Click Circuits bar to search & select circuits for Bulk changes.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

UnSelect All

Q Search

<input checked="" type="checkbox"/> Circuit ID C0136752 Location TX,USA	PVC ID 5957706	VPN Name EZE-MARIT-USA-NVDQ143	Bandwidth	EF RealTime CAR	Egress Profile
<input checked="" type="checkbox"/> Circuit ID C0136385 Location TX,USA	PVC ID 5955170	VPN Name EZE-MARIT-USA-NVDQ143	Bandwidth	EF RealTime CAR	Egress Profile
<input checked="" type="checkbox"/> Circuit ID ENRALDAL0001 Location UV,USA	PVC ID VCP_121951049_2	VPN Name EZE-MARIT-USA-NVDQ143	Bandwidth	EF RealTime CAR	Egress Profile
<input checked="" type="checkbox"/> Circuit ID 9228504 Location DO,USA	PVC ID 9228504	VPN Name RadLabQ2Orch	Bandwidth	EF RealTime CAR	Egress Profile

Live Chat

Click **Upload** to submit circuits for Bulk Changes.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

Settings *Bulk functionality supports single VRF change only*

Select an Operation* Bandwidth EF Realtime CAR Egress Profile

Bandwidth, CAR, Profile - Change with pre-set speeds 2000 Kbps 16 Kbps G1

Please Select Either Bandwidth or EF Realtime Car and Egress Profile

Circuits

Selected circuits are listed below. You may modify your circuit list before validating. Note that duplicate circuit IDs have been removed.

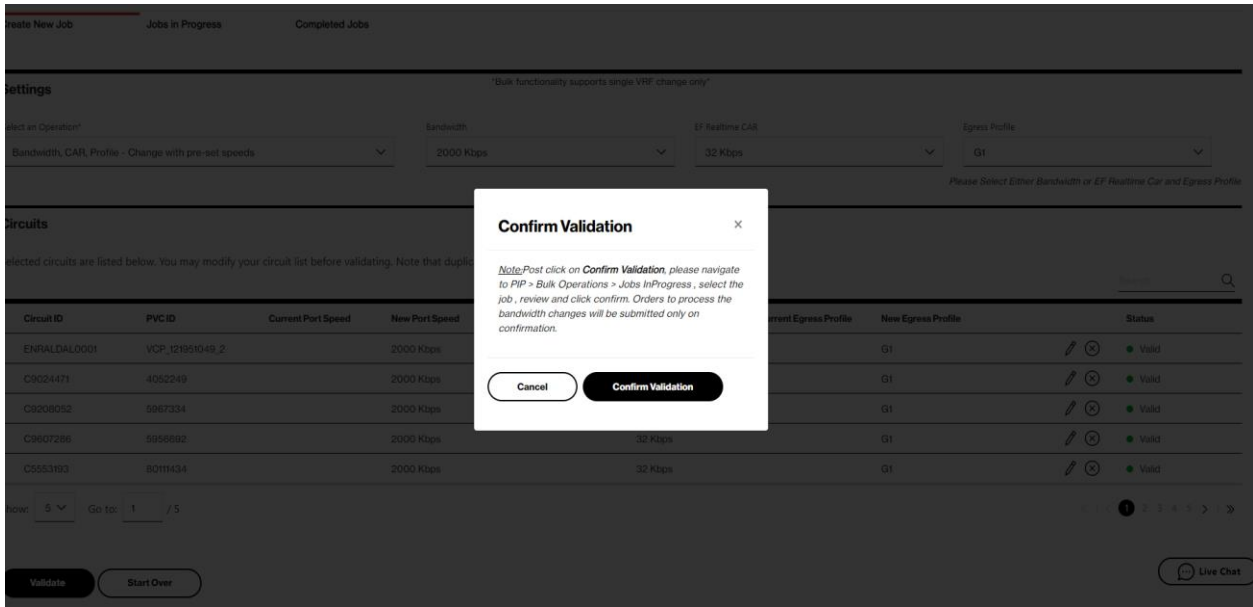
Search

Circuit ID	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile	Status
C0136385	5955170		2000 Kbps		16 Kbps		G1	Valid
ENRALDAL0001	VCP_121951049_2		2000 Kbps		16 Kbps		G1	Valid
C3017152	5974019		2000 Kbps		16 Kbps		G1	Valid
C9607286	5956692		2000 Kbps		16 Kbps		G1	Valid
C9208052	5967334		2000 Kbps		16 Kbps		G1	Valid

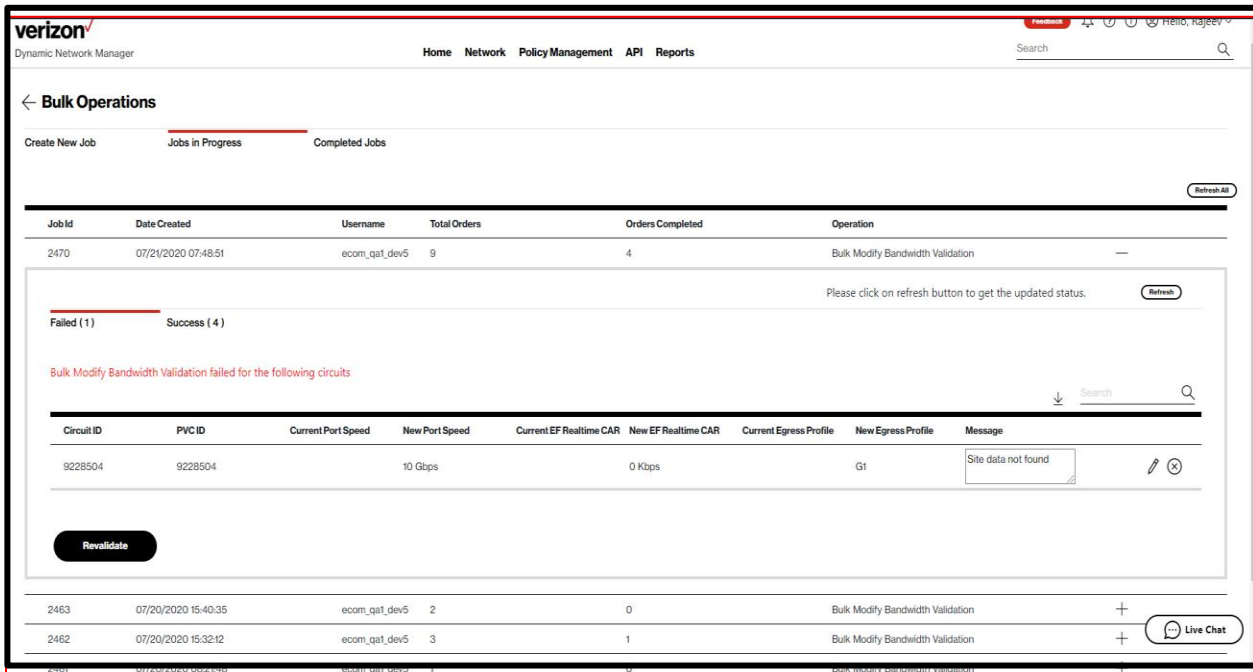
Show: 5 Go to: 1 / 5 « | < 1 2 3 4 5 > | »

Live Chat

Click **Validate**.



Click **Confirm Validation**.



Important Note: DNM will send you an email confirmation when all submitted circuits are processed after the Confirm Validation step. If however, you go to the Jobs in Progress tab to review status before receiving the DNM email, then hit Refresh to see the most current list of validated circuits (or hit Refresh All for in-progress status of all active requests). DNM processes circuit validations in batches so you may need to hit Refresh/Refresh All several times. Click Revalidate after making corrections (or deletions).

← Bulk Operations

Create New Job **Jobs in Progress** Completed Jobs

Refresh All

Job Id	Date Created	Username	Total Orders	Orders Completed	Operation
2470	07/21/2020 07:48:51	ecom_qat_dev5	9	4	Bulk Modify Bandwidth Validation

Please click on refresh button to get the updated status.

Refresh

Failed (1) **Success (4)**

Bulk Modify Bandwidth Validation succeeded for the following circuits

Circuit Id	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile
C5952791	5954290		6 Mbps		8 Kbps		G1
C1068540	5980967		10 Mbps		16 Kbps		R1
C0136752	5957706		200 Mbps		1300 Kbps		G1
C9024471	4052249		1536 Kbps		384 Kbps		G1

Place Order



Live Chat

Click **Place Order** once Revalidation is complete.

This is the final step to entering the bulk change request.

← Bulk Operations

Create New Job **Jobs in Progress** Completed Jobs

Refresh All

Job Id	Date Created	Username	Total Orders	Orders Completed	Operation
2470	07/21/2020 07:48:51	ecom_qat_dev5	9	4	Bulk Modify Bandwidth Validation

Please click on refresh button to get the updated status.

Refresh

Failed (0) **Success (4)**

Bulk Modify Bandwidth Validation succeeded for the following circuits

Circuit Id	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile
C5952791	5954290		6 Mbps		8 Kbps		G1
C1068540	5980967		10 Mbps		16 Kbps		R1
C0136752	5957706		200 Mbps		1300 Kbps		G1
C9024471	4052249		1536 Kbps		384 Kbps		G1

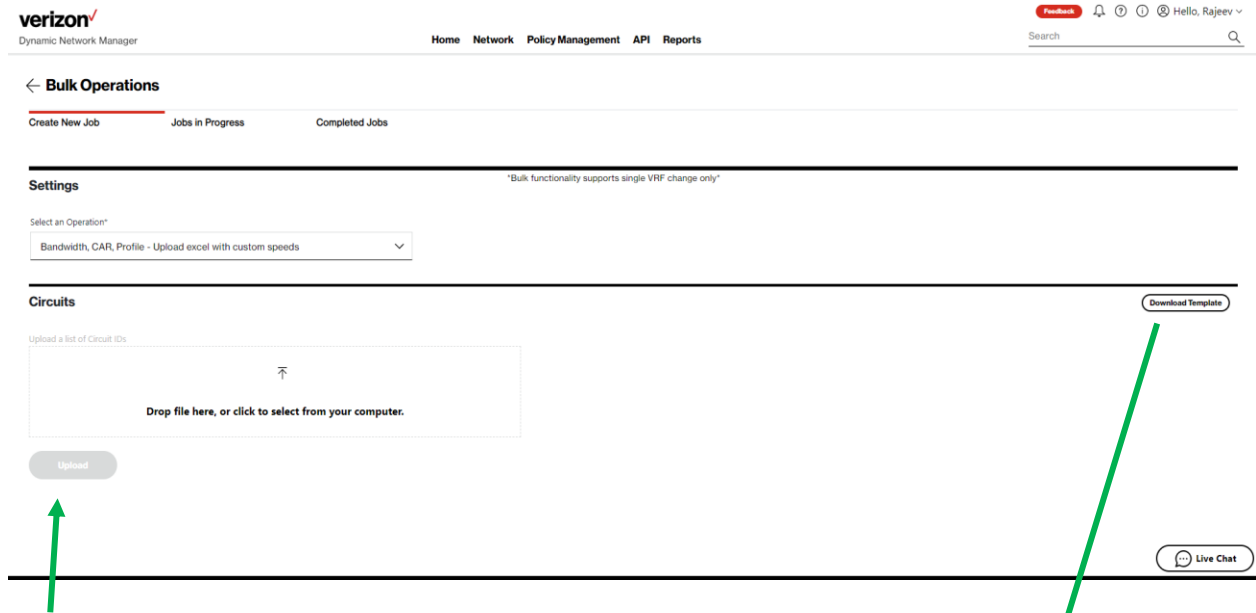
Place Order

Live Chat

Success tab show circuits that have been successfully submitted.

Bandwidth, CAR, profile – upload excel with custom speeds

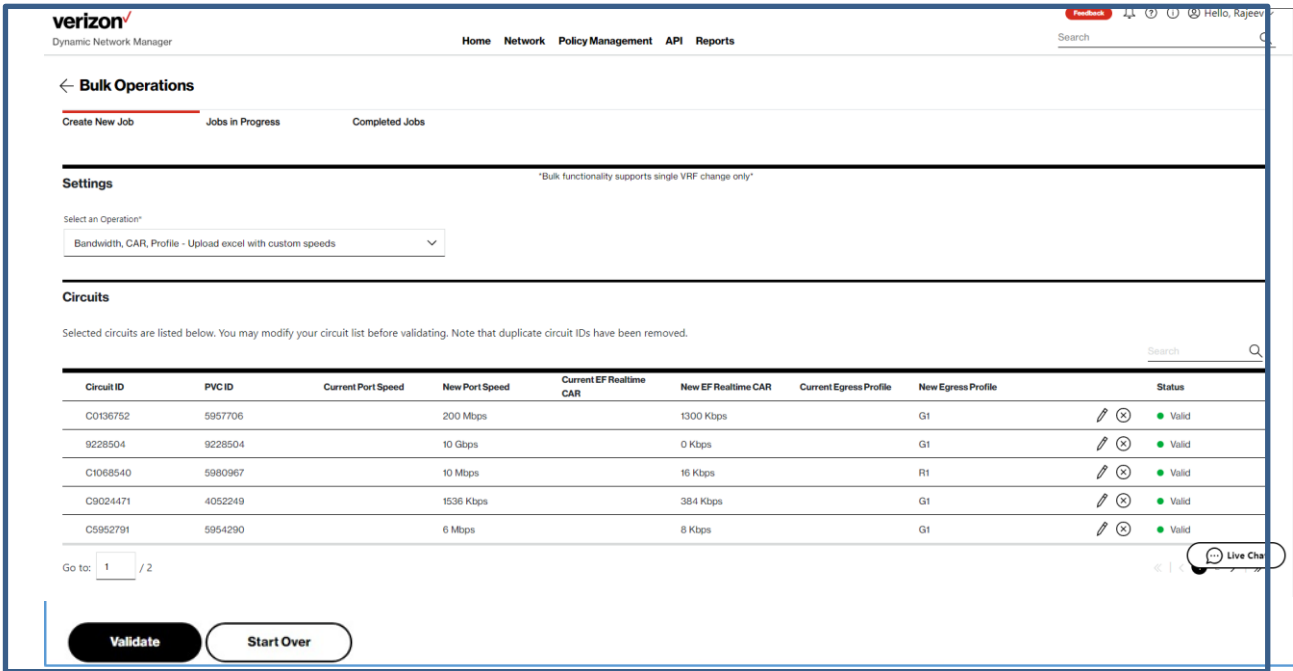
DNM allows you to drag & drop an Excel spreadsheet into DNM with your defined circuit changes. This spreadsheet must be in the same format as the accessible DNM Excel template.



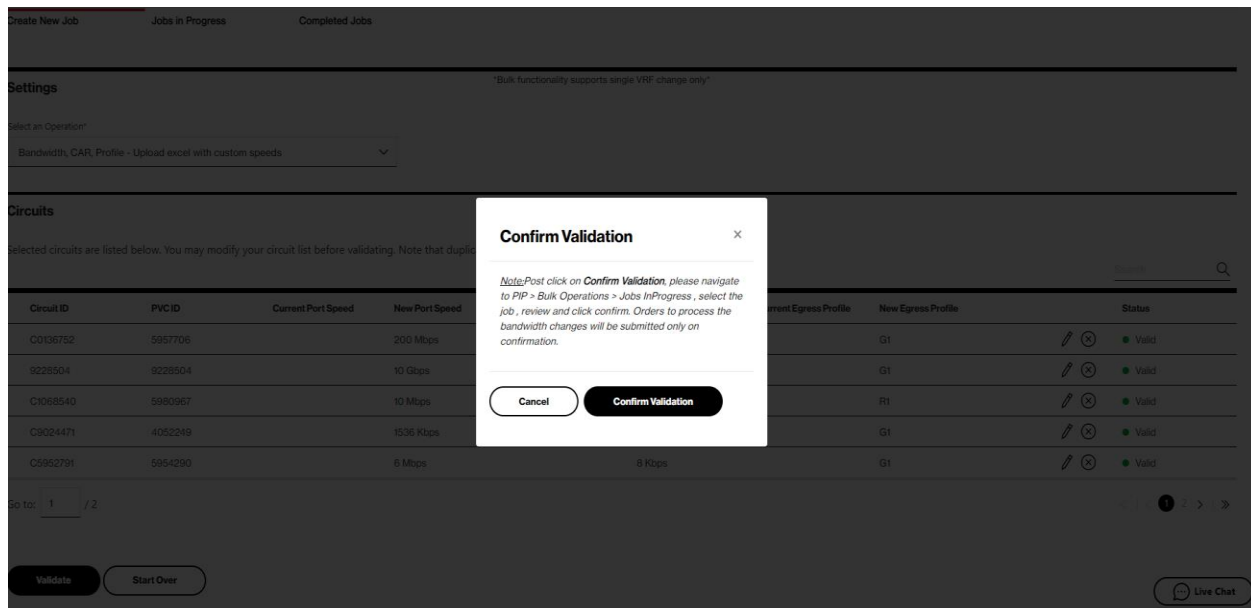
Click **Upload** after dropping Excel file into DNM.

DO NOT CHANGE THE HEADER INFORMATION - SPECIFY ONLY INVENTORY						
Circuit ID	PVC ID	Bandwidth	Bandwidth Unit	EF Realtime CAR	EF Realtime CAR Unit	Egress Profile
<<Enter Circuit ID>>	<<Enter PVC ID>>	10	Select	10	Select	Select

DNM speed change template



When finished editing, click **Validate**.



Click **Confirm Validate**.

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

[Refresh All](#)

Job Id	Date Created	Username	Total Orders	Orders Completed	Operation																			
2470	07/21/2020 07:48:51	ecom_qat_dev5	9	1	Bulk Modify Bandwidth Validation	-																		
<div style="display: flex; justify-content: space-between; align-items: center;"> Please click on refresh button to get the updated status. Refresh </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 5px;"> Failed (1) Success (1) </div> <p style="color: red; font-size: small;">Bulk Modify Bandwidth Validation failed for the following circuits</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Circuit ID</th> <th>PVC ID</th> <th>Current Port Speed</th> <th>New Port Speed</th> <th>Current EF Realtime CAR</th> <th>New EF Realtime CAR</th> <th>Current Egress Profile</th> <th>New Egress Profile</th> <th>Message</th> </tr> </thead> <tbody> <tr> <td>9228504</td> <td>9228504</td> <td>10 Gbps</td> <td></td> <td></td> <td>0 Kbps</td> <td>G1</td> <td></td> <td>Site data not found</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> Revalidate ← </div>							Circuit ID	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile	Message	9228504	9228504	10 Gbps			0 Kbps	G1		Site data not found
Circuit ID	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile	Message																
9228504	9228504	10 Gbps			0 Kbps	G1		Site data not found																
2463	07/20/2020 15:40:35	ecom_qat_dev5	2	0	Bulk Modify Bandwidth Validation	+																		
2462	07/20/2020 15:32:12	ecom_qat_dev5	3	1	Bulk Modify Bandwidth Validation	+																		
2461	07/20/2020 08:21:48	ecom_qat_dev5	1	0	Bulk Modify Bandwidth Validation	+																		
2460	07/20/2020 08:02:21	ecom_qat_dev5	3	2	Bulk Modify Bandwidth Validation	+																		

[Live Chat](#)

Important Note: DNM will send you an email confirmation when all submitted circuits are processed after the Confirm Validation step. If however, you go to the Jobs in Progress tab to review status before receiving the DNM email, then hit Refresh to see the most current list of validated circuits (or hit Refresh All for in-progress status of all active requests). DNM processes circuit validations in batches so you may need to hit Refresh/Refresh All several times. Click Revalidate after making corrections (or deletions).

← Bulk Operations

Create New Job Jobs in Progress Completed Jobs

[Refresh All](#)

Job Id	Date Created	Username	Total Orders	Orders Completed	Operation																																					
2470	07/21/2020 07:48:51	ecom_qat_dev5	9	3	Bulk Modify Bandwidth Validation	-																																				
<div style="display: flex; justify-content: space-between; align-items: center;"> Please click on refresh button to get the updated status. Refresh </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 5px;"> Failed (1) Success (3) </div> <p style="color: green; font-size: small;">Bulk Modify Bandwidth Validation succeeded for the following circuits</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Circuit Id</th> <th>PVC ID</th> <th>Current Port Speed</th> <th>New Port Speed</th> <th>Current EF Realtime CAR</th> <th>New EF Realtime CAR</th> <th>Current Egress Profile</th> <th>New Egress Profile</th> <th></th> </tr> </thead> <tbody> <tr> <td>C0136752</td> <td>5957706</td> <td></td> <td>200 Mbps</td> <td></td> <td>1300 Kbps</td> <td>G1</td> <td></td> <td style="text-align: right;">🗑️</td> </tr> <tr> <td>C1068540</td> <td>5980967</td> <td></td> <td>10 Mbps</td> <td></td> <td>16 Kbps</td> <td>R1</td> <td></td> <td style="text-align: right;">🗑️</td> </tr> <tr> <td>C9024471</td> <td>4052249</td> <td></td> <td>1536 Kbps</td> <td></td> <td>384 Kbps</td> <td>G1</td> <td></td> <td style="text-align: right;">🗑️</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> Place Order ← </div>							Circuit Id	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile		C0136752	5957706		200 Mbps		1300 Kbps	G1		🗑️	C1068540	5980967		10 Mbps		16 Kbps	R1		🗑️	C9024471	4052249		1536 Kbps		384 Kbps	G1		🗑️
Circuit Id	PVC ID	Current Port Speed	New Port Speed	Current EF Realtime CAR	New EF Realtime CAR	Current Egress Profile	New Egress Profile																																			
C0136752	5957706		200 Mbps		1300 Kbps	G1		🗑️																																		
C1068540	5980967		10 Mbps		16 Kbps	R1		🗑️																																		
C9024471	4052249		1536 Kbps		384 Kbps	G1		🗑️																																		

[Live Chat](#)

Click **Place Order** once Revalidation is complete. This is the final step to entering the Bulk change request.

Bulk subscriptions

Bulk subscription changes work very similarly to single changes that are made in the “Preferences” section displayed for individual circuits. Alternatively here you can apply changes to multiple circuits/VPNs.

verizon
Dynamic Network Manager

Home Network Policy Management API Reports

Feedback

Hello, Rajeev

Search

← Bulk Subscription

Utilization Notifications Circuit Change Notifications

Select VPN to Subscribe

Select

Current Subscriptions

<input type="checkbox"/>	Circuit ID	VPN	Service ID	Recurrence	High Alert	Status
<input type="checkbox"/>	C0136752	ves-vns-orch-infra	123555363	DAILY	30%	●
<input type="checkbox"/>	C0136752	E2E-MAR17-USA-NVDQ143	123555363	DAILY	30%	●

Unsubscribe

● Subscribed ● Not Subscribed

Live Chat

verizon
Dynamic Network Manager

Home

← Bulk Subscription

Utilization Notifications Circuit Change Notifications

Select VPN to Subscribe

Select

E2E-MAR17-USA-NVDQ143

EohsfMNC

RadLabG2Orch

TwsdhnK

VPN-JUL16-SIT-01

VPN-Jun16M-163

← Bulk Subscription

Utilization Notifications Circuit Change Notifications

Select VPN to Subscribe

TwsdhK

Circuit List

Search

<input type="checkbox"/>	Circuit ID	PVC	Service ID	Port Speed	High Alert	Street Address	City, State	Country	Status
<input type="checkbox"/>	C5008383	16341251	82423582	1536 Kbps		8239 WQQAWHM VLFJY SP	VSTAKXRHIYL, WV	USA	●
<input type="checkbox"/>	C5553193	80111434	85206452	1536 Kbps		1848 VQUDJYTC DF FA	FSPZLUR, OZ	USA	●
<input type="checkbox"/>	C0136385	5955170	117718343	1000 Kbps		400 INTERNATIONAL PKWY?	RICHARDSON, TX	USA	●
<input type="checkbox"/>	C0136517	5955965	117015098	10 Kbps		1600 W 7TH ST	FORT WORTH, TX	USA	●
<input type="checkbox"/>	C0136752	5957706	123555363	200 Mbps	30%	1600 W 7TH ST	FORT WORTH, TX	USA	●
<input type="checkbox"/>	C1067115	5967622	133448095	4 Mbps		400 INTERNATIONAL PKWY	RICHARDSON, TX	USA	●
<input type="checkbox"/>	ENRALDAL0001	VCP_121951049_2	121951049	1 Gbps		5959 N BTDXD CVY	TFGTIY-VMHBH, UV	USA	●
<input type="checkbox"/>	W4N58795	5960011	991336827	34.386 Mbps		123 MISSION ST	SAN FRANCISCO, CA	USA	●

Live Chat

● Subscribed ● Not Subscribed

Alert when or above: of utilization

Select one or all listed circuits to submit for Alerts/Notifications subscription.

Dynamic Network Manager

Home Network Policy Management API Reports

Search

← Bulk Subscription

Utilization Notifications Circuit Change Notifications

Select VPN to Subscribe

TwsdhK

Circuit List

Search

<input checked="" type="checkbox"/>	Circuit ID	PVC	Service ID	Port Speed	High Alert	Street Address	City, State	Country	Status
<input checked="" type="checkbox"/>	C5008383	16341251	82423582	1536 Kbps		8239 WQQAWHM VLFJY SP	VSTAKXRHIYL, WV	USA	●
<input checked="" type="checkbox"/>	C5553193	80111434	85206452	1536 Kbps		1848 VQUDJYTC DF FA	FSPZLUR, OZ	USA	●

● Subscribed ● Not Subscribed

Start Date / Time Zone

Pick Date select timezone

Recurrence Pattern

Daily Weekly Monthly

Weekly Options

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

End Date

No End Date End After End By

Subscribe

Live Chat

Schedule the desired frequency of Emailed Alerts.

Modify Shaping adjustment


The Ethernet cards handle shaping and policing based on L2 overhead. In the case of Ethernet encapsulation when shaping, the router does not include Inter-Frame Gap (IFG), Preamble, and Start Frame Delimiter (SFD). When dealing with small frames, this overhead could be considerable. The marketed Ethernet speeds and the transmission equipment assumes L1 payload. To adjust for this discrepancy, the shaping rate on the PEs can be adjusted to compensate for the Ethernet overhead depending on the type of service that the customer is buying (voice, voice/data combined, and data).

The screenshot displays the 'Circuit Details' page. At the top right, there are indicators for 'Pending tickets 0' and 'Pending orders 0'. Below this, there are two progress bars: 'EF Real Time Car' showing a current speed of 512 Kbps and a max speed of 12.3 Mbps; and 'Port Speed' showing a current speed of 10 Mbps and a max speed of 35 Mbps. A table below these bars lists various circuit parameters:

Utilization Alert Threshold	0 %	Class of Service	ETM
Topology	H	Egress Profile	G1
CE IP Address	152.177.14.66	Shaping Profile	93%
Access Type	ETH10Gig	Interface Name	TenGigE0/1/0/3
Routing Protocol	BGP	Access Speed	20 Mbps

Below the table, there is a 'Modify Bandwidth' button. A green arrow points from the 'Shaping Profile' field in the table to this button. Another green arrow points from the 'Shaping Profile' field to the 'Edit Shaping Profile' section below.

The 'Edit Shaping Profile' section includes a dropdown menu for 'Shaping Profile*' with '93' selected, a 'Scheduling' section with a toggle for 'Schedule change to happen later' (which is turned off), and 'Submit' and 'Cancel' buttons.

Click on  shaping profile in the details tab. The Modify Shaping Adjustment for Ethernet Overhead section appears above the Site Details.

Select 76, 85, or 94 from the Shape PE departure data transmission to drop-down rundown.

Enter a Process Date/Time to plan this activity, if relevant.

Select a period zone starting from the drop list.

Click Schedule Order on the off chance that you are booking this for a future date.


Click Process Order to present your request. The Process Order Confirmation spring up shows up.

Click Accept to recognize that the solicitation may affect your system and that you oversee rolling out any related improvements required on your client edge (CE) switch. You will get an email when the solicitation is finished. There is no restriction to the quantity of non-billable design changes that can be mentioned, yet

please permit 24 hours for changes submitted Monday through Friday to be finished. On the off chance that a solicitation is made on an end of the week or US occasion, it will be handled on the following industry day.

Click Print to print a duplicate of your solicitation.

Modify Admin Status

Click  next to Interface Name in the *Site Details*. The *Modify Admin Status* section appears above the *Site Details*.

Enter a *Process Date/Time* to schedule this job, if applicable.



Select a time zone from the drop-down list.

Click **Schedule Order** if you are scheduling this for a future date.

Select no-shutdown or shutdown from the *New Admin Status* drop-down list.


Click **Process Order** to submit your order. The *Process Order Confirmation* pop-up appears.

Click **Accept**.

Utilization Alert Threshold	0 %	Class of Service	ETM
Topology	H	Egress Profile	G1
CE IP Address	68.138.222.58	Interface Name	Serial0/9/2/0/1/1/1/2:1 
Access Type	E1	Access Speed	0 Kbps
Routing Protocol	BGP 		

[Modify Bandwidth](#)

Edit Admin Status

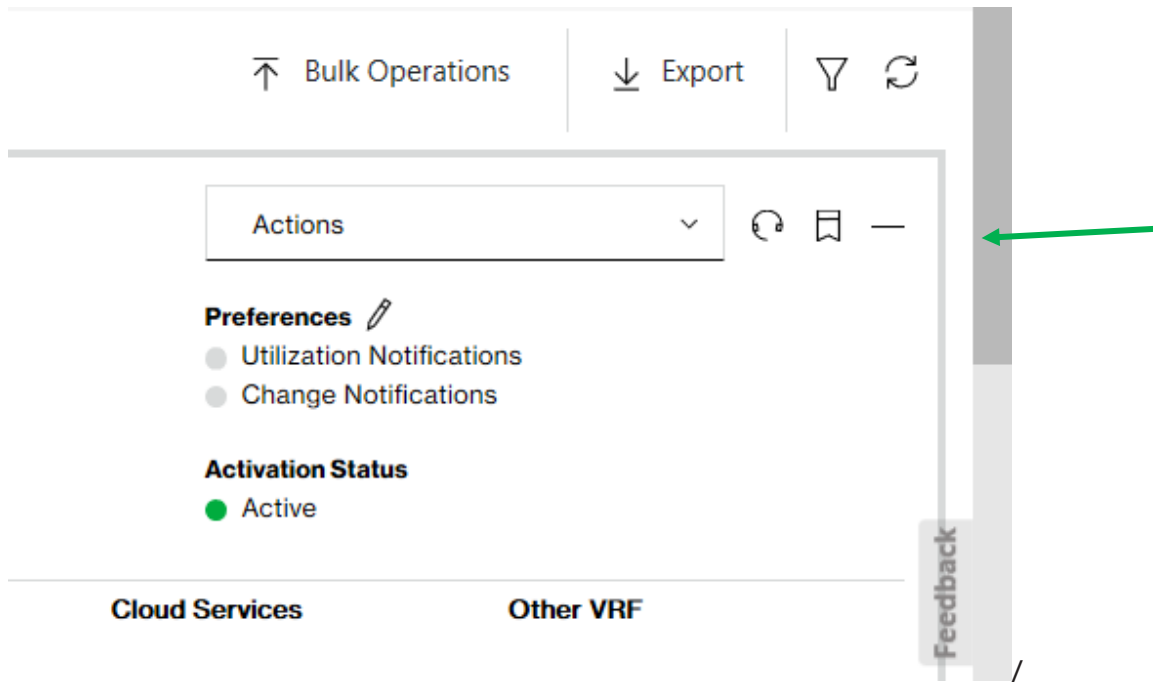
Admin Status* 

Scheduling
 Schedule change to happen later

[Submit](#) [Cancel](#)

Open Quick (Trouble) Ticket

Click the Headphone icon under *Site Details*. The *Create Quick Ticket* pop-up appears.

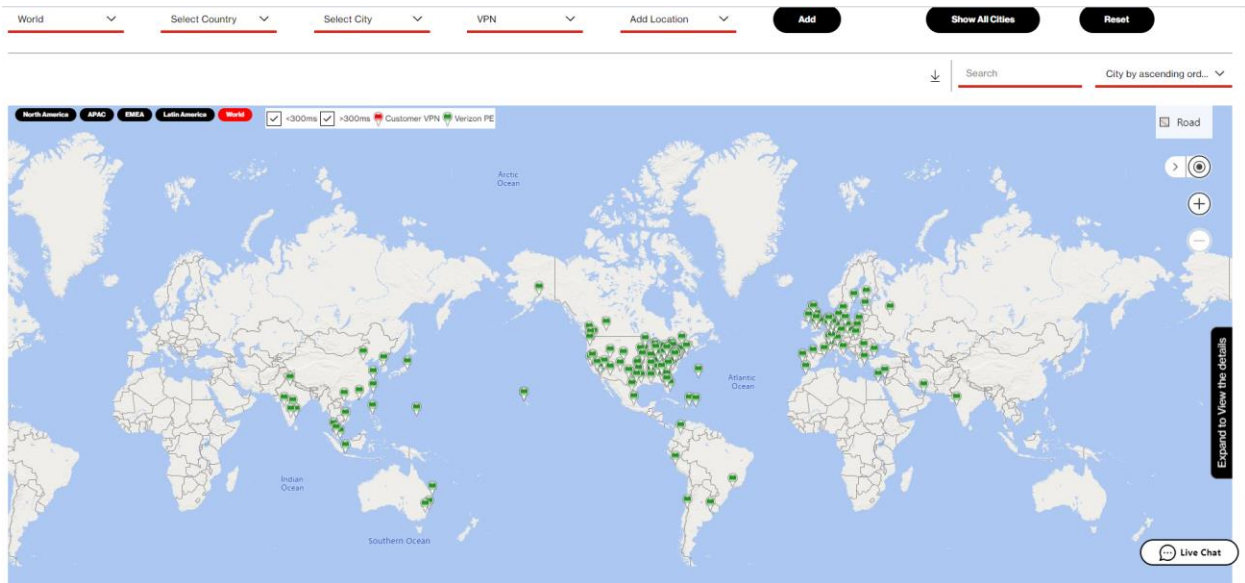


When you open a ticket, the circuit ID for which you are viewing in the *Site Details* automatically populates. Enter a different circuit ID, if applicable.

Click **Next** to verify service and enter the ticket information.

Network Transit Delay

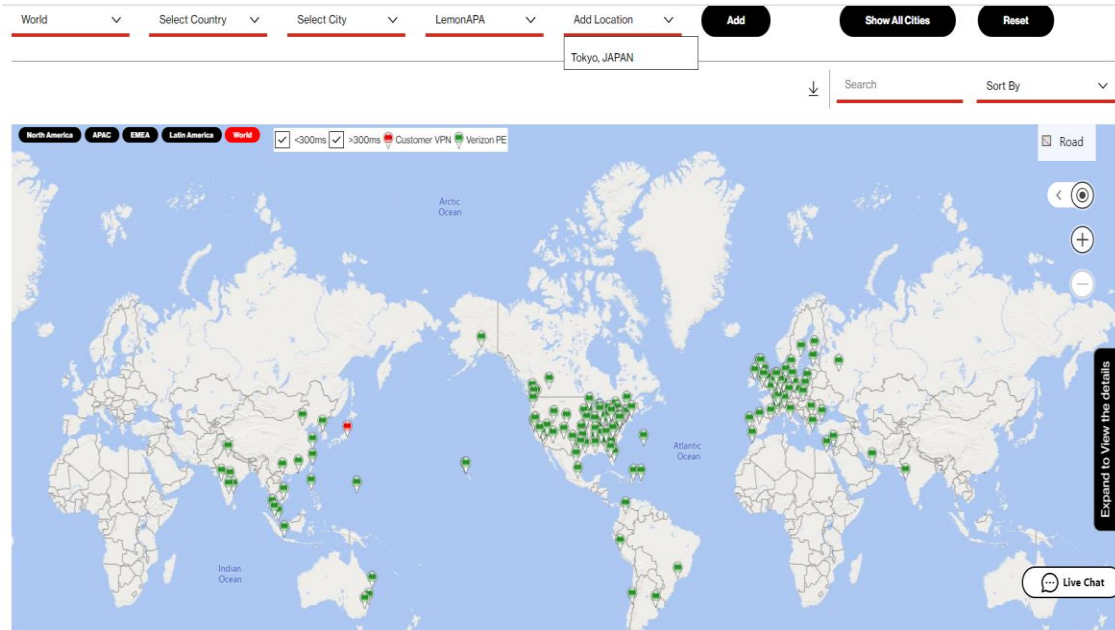
This section displays Verizon metrics for Network Transit Delay (Latency) between Private IP PE (provider edge) devices. This is not a report but rather a listing of those metrics. You can see what Verizon's Service Level Agreements (SLA) Latency metrics are between the selected sites.



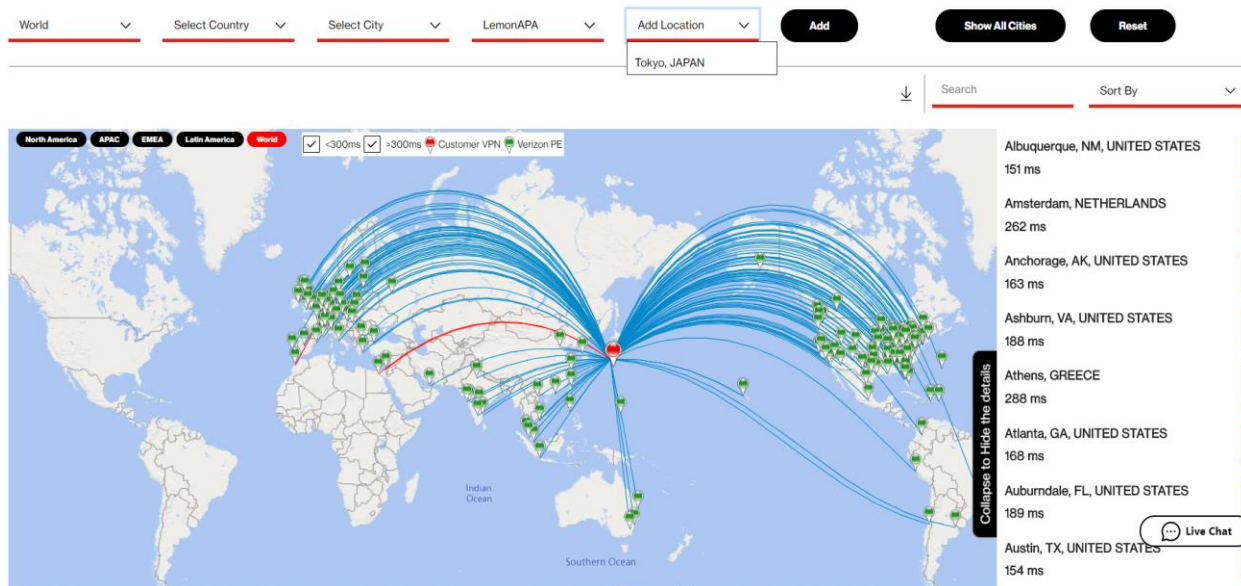
Select the region you want, if applicable. Then use the filters to view the region, country, or city that you want to view on the map. By clicking on any Verizon PE location/city we can display the latency measurements between that location and all other Verizon PE locations.



You can also view Network Transit Delay for User VPN sites by adding a VPN site(s) and clicking to see the relative transit delay metrics. In the below graph we added a user VPN site (Tokyo, Japan). By clicking now on Tokyo we can show its relative Network Transit Delay measurements between that location and all other Provider Edge router locations.



Network Transit Delay



APPENDIX

Quality of Service (QoS) egress traffic profiles

PIP ETM general configuration, PIP STD, PIP data centric and PIP data/voice combined

The egress QoS policies referenced in the table below are for customers using 50% or less of the EF/Voice over IP CoS and are allocating more bandwidth for other applications, such as data and video.

Profile #	Profile Identifier	EF Egress	AF4	AF3	AF2	AF1	BE	Comments
1	_G1	50%	40%	39%	16%	1%	4%	Default profile – balanced allocation
2	_G2	50%	48%	20%	16%	12%	4%	Video-centric #1
3	_G3	50%	68%	12%	10%	8%	2%	Video-centric #2
4	_G4	50%	15%	20%	20%	1%	4%	Data-centric with emphasis on bulk-transfer applications
5	_G5	50%	15%	60%	60%	1%	4%	Data-centric with emphasis on transactional applications
6	_G6	50%	15%	40%	40%	1%	4%	Data-centric with balanced bulk-transfer and transactional applications
7	_G7	50%	15%	10%	10%	5%	30%	Data-centric with large percentage of unmarked (BE-marked) applications and bulk-transfer applications

Profile #	Profile Identifier	Egress	AF4	AF3	AF2	AF1	BE	Comments
8	_G8	50%	30%	10%	10%	5%	25%	Balanced QoS w/ ample video for a 384K video on a T1
9	_G9	50%	20%	30%	30%	10%	5%	Data-centric w/ balanced applications (matches HSBC policy)
10	_G10	50%	15%	20%	20%	5%	40%	Data-centric with large percentage of unmarked (BE-marked) applications and transactional applications
11	_G11	50%	30%	20%	20%	10%	20%	Data centric with balanced allocation
12	_G12	50%	60%	5%	10%	5%	20%	Video centric/minimum control traffic
13	_G13	50%	10%	40%	30%	5%	15%	Data balanced apps #2
14	_G14	50%	20%	25%	25%	10%	20%	Data balanced AF3/AF2 centric
15	_G15	50%	20%	10%	20%	40%	10%	Data centric with emphasis on Scavenger/Standard data apps

PIP ETM voice centric configuration

The egress QoS policies referenced in the table below are for customers using 90% of the EF/Voice over IP (VoIP) CoS for VoIP and are allocating more bandwidth for other applications, such as data and video.

Profile #	Profile Identifier	EF Egress	AF4	AF3	AF2	AF1	BE	Comments
1	_RT	90%	40%	39%	16%	1%	4%	Voice default-centric
2	_R2	90%	48%	20%	16%	12%	4%	Voice-centric and video-centric #1
3	_R3	90%	68%	12%	10%	8%	2%	Voice-centric and video-centric #2
4	_R4	90%	15%	60%	20%	1%	4%	Voice-centric and data-centric with emphasis on bulk-transfer applications
5	_R5	90%	15%	20%	60%	1%	4%	Voice-centric and data-centric with emphasis on transactional applications
6	_R6	90%	15%	40%	40%	1%	4%	Voice-centric and data-centric with balanced bulk-transfer and transactional applications
7	_R7	90%	15%	30%	10%	5%	30%	Voice-centric and data-centric with large percentage of unmarked (BE- marked) applications and bulk-transfer applications
8	_R8	90%	30%	20%	10%	5%	25%	Balanced QoS w/ ample video for a 384K video on a T1
Profile #	Profile	EF	AF4	AF3	AF2	AF1	BE	Comments

	Identifier	Egress						
9	_R9	90%	20%	35%	30%	10%	5%	Voice-centric w/ balanced applications (matches HSBC policy)
10	_R10	90%	15%	10%	20%	5%	40%	Voice-centric w/ large percentage of unmarked (BE-marked) applications and transactional applications
11	_R11	90%	30%	20%	20%	10%	20%	Voice centric with balanced allocation
12	_R12	90%	60%	5%	10%	5%	20%	Video centric/minimum control traffic
13	_R13	90%	10%	40%	30%	5%	15%	Voice/Data Balanced apps #2
14	_R14	90%	20%	25%	25%	10%	20%	Data Balanced AF3/AF2 Centric
15	_R15	90%	20%	10%	20%	40%	10%	Data-centric with emphasis on Scavenger/Standard Data Apps

Customer Edge (CE) configuration settings

STD QoS DPORT, and ETM to STD (customer managed)

The following configuration steps are specific to Cisco router platforms. For other vendor CPE, consult the user manual with regards to changing the interface bandwidth speed.

We recommend setting up an egress traffic shaping rate on your CE router's WAN interface according to your changed QOS settings. Follow these instructions to prepare your router for Dynamic Port changes.

!

```
policy-map parent
  class class-default
    shape average <DPORT-in-bps>
```

!

The policy map needs to be applied to the WAN interface in the outgoing direction.

!

```
interface <WAN Interface>
  service-policy output parent
```

!

For smaller and mid-size Cisco routers, the shape command uses a Tc default value of 25 milliseconds if no Bc, and Be values are specified with the shape command. For Ethernet WAN circuits, we recommend lowering the shape Tc value to 4 milliseconds and setting the Be to 0 to avoid buffering issues in the transmission path.

If your router does not shape to layer 1 speeds (most Cisco routers will not), be aware that the layer 2 encapsulation overhead is added AFTER the router shaped the traffic to the configured rate.

We recommend lowering the shape rates accordingly, especially for Ethernet WAN circuits. For Ethernet WAN circuits, our generic recommendation is to adjust the shaping speed to:

76% of your DPORT speed in case of pure VoIP traffic (avg. packet size of 78 bytes)

85% of your DPORT speed in case of mixed data and VoIP traffic (avg. packet size of 140 bytes)

94% of your DPORT speed in case of pure data traffic (avg. packet size of 404 bytes)

The recommended configuration is:

!

```
policy-map parent
  class class-default
    shape average <adjusted DPORT-in-bps> <adjusted DPORT-in-bps x 0.004> 0
```

!

Example:

For a Fast Ethernet WAN circuit with a selected DPORT speed of 60 Mbit/s on a Cisco 7200, and a mixed VoIP and data traffic pattern, the recommended values and configuration are:

<adjusted DPORT-in-bps> : $60,000,000 \times 85\% = 51,000,000$

<adjusted DPORT-in-bps x 0.004> : $51,000,000 \times 0.004 = 204,000$

!

```
policy-map parent
```

```

class class-default
    shape average 51000000 204000 0
!
interface FastEthernet0/0
    service-policy output parent
!

```

ETM QoS DPORT, DCAR, custom Egress, and STD to ETM

The following configuration steps are specific to Cisco router platforms. For other vendor CPE, consult the user manual with regards to changing the queuing parameters. CBWFQ is typical for Silver CAR and LLQ/Priority Queuing is typical for Gold CAR.

We recommend setting up a nested QOS policy on your CE router's WAN interface according to your changed QOS settings. The outer (or parent) policy should shape all traffic according to your selected DPORT speed. The inner (or child) policy should contain bandwidth allocations according to your selected DCAR speed and Custom Egress profile. Follow these instructions to prepare your router for Dynamic CAR changes.

```

!
policy-map child
    class realtime
        priority <DCAR-in-kbps>
        police <DCAR-in-bps> conform-action transmit exceed-action drop
!
class priority
    bandwidth remaining percent <% for AF4 according to selected custom Egress profile #>
    random-detect dscp-based
class missioncritical
    bandwidth remaining percent <% for AF3 according to selected custom Egress profile #>
    random-detect dscp-based
class transactional
    bandwidth remaining percent <% for AF2 according to selected custom Egress profile #>
    random-detect dscp-based
class general
    bandwidth remaining percent <% for AF1 according to selected custom Egress profile #>

```

```

    random-detect dscp-based
class class-default
    bandwidth remaining percent <% for BE according to selected custom Egress profile #>
    random-detect dscp-based
!
!
policy-map parent
    class class-default
        shape average <DPORT-in-bps>
            service-policy child
!

```

The parent policy map needs to be applied to the WAN interface in the outgoing direction.

```

!
interface <WAN Interface>
    service-policy output parent
!

```

For smaller and mid-size Cisco routers, the shape command uses a Tc default value of 25 milliseconds if no Bc, and Be values are specified with the shape command. For Ethernet WAN circuits, we recommend lowering the shape Tc value to 4 milliseconds and setting the Be to 0 to avoid buffering issues in the transmission path.

If your router does not shape to layer 1 speeds (most Cisco routers will not), be aware that the layer 2 encapsulation overhead is added AFTER the router shaped the traffic to the configured rate.

We recommend lowering the shape rates accordingly, especially for Ethernet WAN circuits. For Ethernet WAN circuits, our generic recommendation is to adjust the shaping speed to:

76% of your DPORT speed in case of pure VoIP traffic (avg. packet size of 78 bytes)

85% of your DPORT speed in case of mixed data and VoIP traffic (avg. packet size of 140 bytes)

94% of your DPORT speed in case of pure data traffic (avg. packet size of 404 bytes)

The recommended configuration for the parent policy is:

```

!
policy-map parent
    class class-default
        shape average <adjusted DPORT-in-bps> <adjusted DPORT-in-bps x 0.004> 0
            service-policy child
!

```


!

EXAMPLE:

For a Fast Ethernet WAN circuit with a selected DPORT speed of 60 Mbit/s, DCAR speed of 10 Mbit/s, a G1 Custom Egress profile on a Cisco 7200, and a mixed VoIP and data traffic pattern, the recommended configuration is:

<DCAR-in-kbps> : 10,000

<DCAR-in-bps> : 10,000,000

<% for AF4 > : 40

<% for AF3 > : 39

<% for AF2 > : 16

<% for AF1 > : 1

<% for BE > : 4

<adjusted DPORT-in-bps> : $60,000,000 \times 85\% = 51,000,000$

<adjusted DPORT-in-bps x 0.004> : $51,000,000 \times 0.004 = 204,000$

!

policy-map child

 class realtime

 priority 10000

 police 10000000 conform-action transmit exceed-action drop

!

class priority

 bandwidth remaining percent 40

 random-detect dscp-based

class missioncritical

 bandwidth remaining percent 39

 random-detect dscp-based

class transactional

 bandwidth remaining percent 16

 random-detect dscp-based

class general

 bandwidth remaining percent 1

 random-detect dscp-based

```
class class-default
    bandwidth remaining percent 4
    random-detect dscp-based
!
policy-map parent
    class class-default
        shape average 51000000 204000 0
            service-policy child
!
interface FastEthernet0/0
    service-policy output parent
!
```

Glossary

Looking Glass is a no cost network statistics reporting functionality that is available to all Private IP customers globally. It provides the ability for view only 'Looking Glass' into your Private IP Network parameter settings. The following Network Attributes are available for viewing:

- VPN Level Information
- VPN Defaults
- Site Information
- PE Interface Info
- CE Interface info
- Class of Service Info
- VRF Parameters
- BGP Routing Info
- RIP Routing Info
- PIP Static Routes
- Site of Origin information

Configuration Parameter	Description
Multicasting RP Address	Multicasting Rendezvous Point Address
Multicasting MDT	Multicast distribution tree IP address
Apply Static RP ACL	Removes access list 20, only used by ICB for multiple static rendezvous points
Multicasting VPN	Turn up new sites with multicasting
Multicasting Number of Routes	Multicasting number of routes
Multicasting Routes Threshold	Multicasting routes threshold at which to generate warning message
Change Admin Status	Do a shutdown or no shutdown to set the admin status on the interface
MTU	Mean transmission unit
IP Verify Unicast	An anti-spoofing command, also needed on host sites with hub and spoke topologies
VPN Topology	Type of VPN topology
Redistribute	Redistribute routes learned from
Maximum Routes	Maximum routes for the VFR
Concord Enabled	Concord reporting enabled
Maximum Paths	Number of expected sites that will be sending out the same routes to load share amongst
EIBGP Load Sharing	Allows for external and internal BGP load sharing

BGP Import Optimization	Make the PE import the paths learned via all the route reflectors
Default Info Originate	A method of sending out a default route across our network
OSPF Default Info Originate	Redistributes the default route from BGP to OSPF
Routing Protocol	Routing protocol between the CE and PE
BGP Remote AS	BGP autonomous system number for the customer network
OSPF Cost	OSPF costing for the interface
Timers Keepalive	Changes the default BGP keepalive from 60 seconds
Timers Hold time	Changes the default BGP hold time from 180 seconds
BGP Send Community	Allows customers to send standard communities to us and we will send across the cloud
Allow AS In	Allows our own AS number to be seen by our PE routers x number of times
Default AS Override	Replaces the customer's AS number with our AS number if source and destination AS numbers are the same
Replace AS	Replace our private AS number 65000 with our registered AS number 1684 or a private one in range 64512-65535

Customer support & training

Customer support

Contact customer support for product and general platform questions or errors.

Contact your account team with any account specific questions on equipment or service, pricing information, or adding additional users to Verizon Enterprise Center.

Click on your name in the top right corner of the screen. Click Contact Us & Send Feedback.

- U.S. Call 1.800.569- 8799 (M-F 9 AM – 6 PM ET).
- Live Chat: Icon located in VERIZON ENTERPRISE CENTER, Networx and Calnet Portals.
- EMEA Customers: 00 800 4321 5432.
- APAC Customers: apac.Verizon Enterprise Center.support@intl.verizon.com.

Training

Go to <https://customertraining.verizon.com> to enroll in training or to download user and other reference guides. Log in with an existing login or create a new one.