CCNP Enterprise Certification

ENSDWI : 300-415

6.0

6.1 Describe monitoring and reporting from vManage

6.2 Configure and verify monitoring and reporting

6.3 Describe REST API monitoring

6.4 Describe software upgrade from vManage

Cisco SDWAN Viptela vAnalytics

Can you help me figure out how to generate and export following reports through vManage.

1. Apps wise utilization report.(Such as SAP, Video streaming, Social Sites, Google Apps and etc)
2. Services based utilization report (Such as PLM, Video Conferencing, IP Telephone, Recfps and etc)
3. IP based and Host Name Based utilization Report.
4. Need to export the report to MS Excel and PDF format.
5. Reports on Percentage format for In and Out traffic.
6. Utilization report in Graph with Minimum, Maximum and Average values
7. Automatic trigger should pop up either SMS or Via mail during link goes outages.
8. Looking for customized and user friendly reports where we gather data without any dependency.

All reports are not possible in vManage . This can be done with the integration of LiveNX .

++ What we can fetch in vManage (help of vAnalytics) .

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vAnalytics Dashboard

Applications
Network Health
Network Availability

Enable vAnalytics Platform

•In vManage NMS, select Administration ► Settings.
•In the vAnalytics bar, click Edit.
•Select Enabled, then enter your SSO username and password provided by Viptela.
•assistance with your username and password, contact Viptela Support at viptela.com/support, or by email at support@viptela.com.
•Click Save.
•Ensure that the vManage server is able to reach a DNS server so that the vManage server can resolve the public domain address for the vAnalytics cluster, which is located in the cloud.

• In vManage NMS, select the Configure ► Templates screen, and in the vManage template for VPN 0, select the DNS tab and configure the address of a primary DNS server and, optionally, a secondary DNS server.
From the CLI, use the **vpn 0 dns** configuration

vAnalytics Dashboard

Use the vAnalytics dashboard screen to monitor the performance of the entire Viptela overlay network over time.

Top Bar

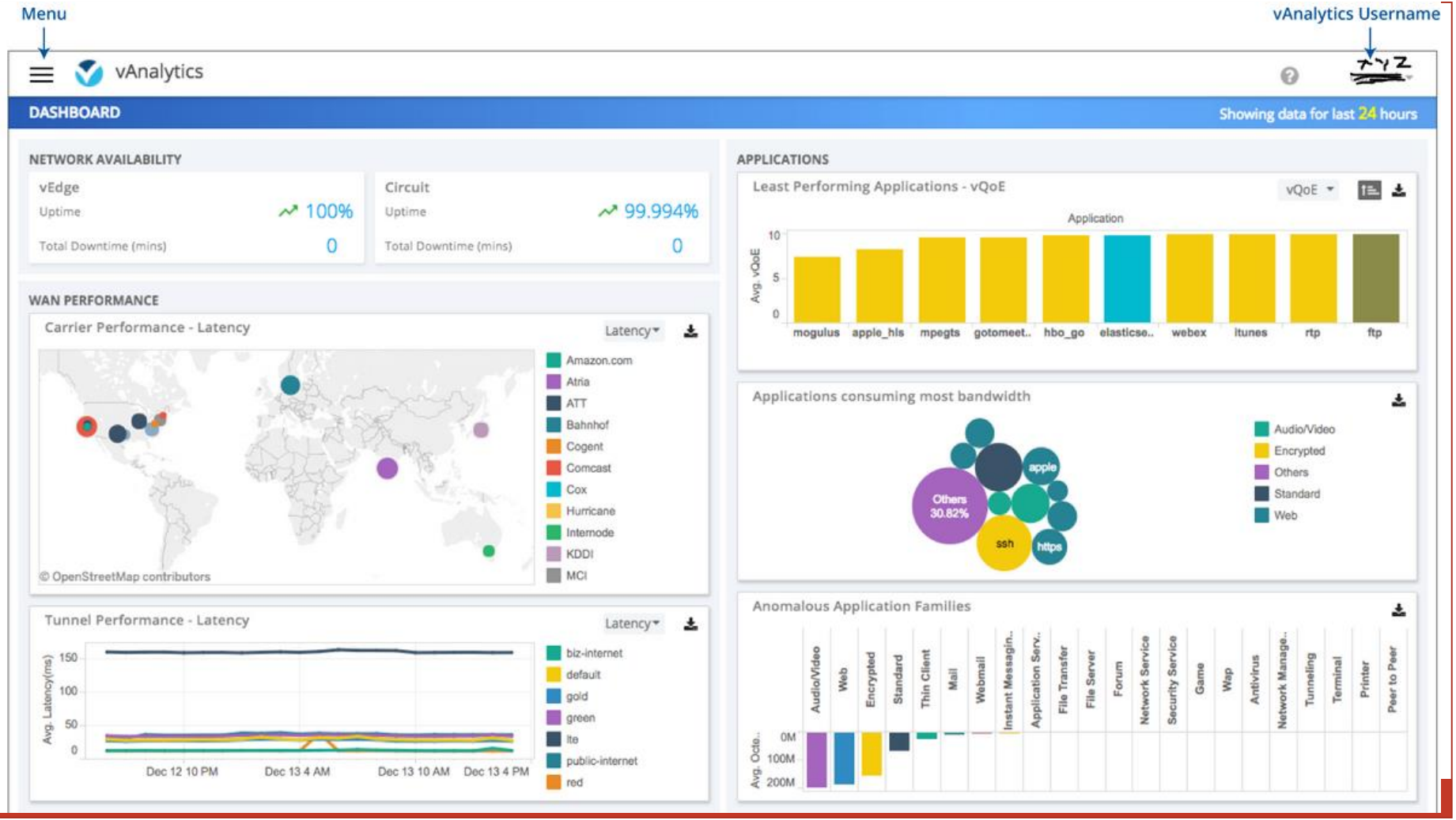
The top bar is located at the top of every vAnalytics screen and includes the following screen elements:

•Menu icon—Click the icon to expand or collapse the vAnalytics menu. The vAnalytics menu is closed by default.

•vAnalytics product name.

•Help—Links to product help and software version information about the vAnalytics platform.

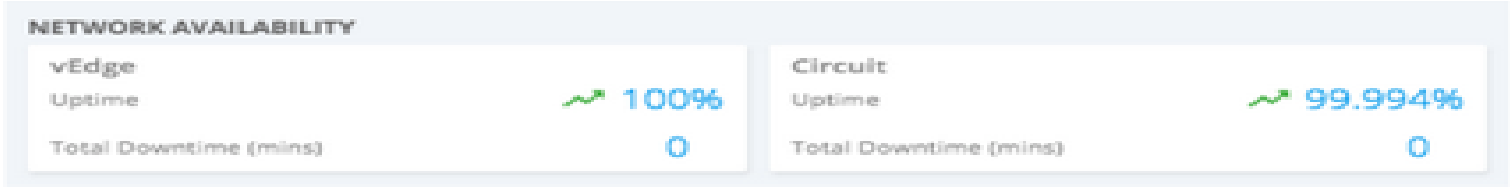
•vAnalytics username—Username for the vAnalytics platform that you are logged into. Includes the sign-out button.


Menu
vAnalytics Username
vAnalytics
DASHBOARD
Showing data for last 24 hours
NETWORK AVAILABILITY
vEdge
Uptime
100%
Total Downtime (mins)
0
Circuit
Uptime
99.994%
Total Downtime (mins)
0
WAN PERFORMANCE
Carrier Performance - Latency
Latency
Amazon.com
Atria
ATT
Bahnhof
Cogent
Comcast
Cox
Hurricane
Internode
KDDI
MCI
© OpenStreetMap contributors
Tunnel Performance - Latency
Latency
Avg. Latency(ms)
150
100
50
0
Dec 12 10 PM
Dec 13 4 AM
Dec 13 10 AM
Dec 13 4 PM
biz-internet
default
gold
green
lte
public-internet
red
APPLICATIONS
Least Performing Applications - vQoE
vQoE
Application
Avg. vQoE
10
5
0
mogulus
apple_hls
mpegts
gotomeet..
hbo_go
elasticse..
webex
itunes
rtp
ftp
Applications consuming most bandwidth
Others
30.82%
apple
ssh
https
Audio/Video
Encrypted
Others
Standard
Web
Anomalous Application Families
Avg. Octe..
0M
100M
200M
Audio/Video
Web
Encrypted
Standard
Thin Client
Mail
Webmail
Instant Messagin..
Application Serv..
File Transfer
File Server
Forum
Network Service
Security Service
Game
Wap
Antivirus
Network Manage..
Tunneling
Terminal
Printer
Peer to Peer

Network Availability Pane

- The Network Availability pane displays network-wide availability for the last 24 hours by device and circuit. Each box displays uptime as a percentage and total downtime in minutes.

- Click in the Device box to display downtime for each vEdge router in the overlay network. Click in the Circuit box to display downtime for each circuit in the overlay network.
- Click the Filter icon to select a specific vEdge router or circuit to view.



- Click the PDF icon to open a PDF version of the chart in a new tab.
- Click any bar to display the time period when that device or circuit was down.

Applications Pane

- The Applications Pane displays application performance for the last 24 hours in **three views**:

- Least Performing Applications
- Applications Consuming Most Bandwidth
- Anomalous Application Families.

Least Performing Applications

- The Least Performing Applications box displays the applications in the network with the lowest performance.
- vAnalytics platform calculates application performance with the Viptela Quality of Experience (vQoE) value. This value ranges from zero to 10, with zero being the worst performance and 10 being the best.
- vQoE combines scores for latency, loss, and jitter, customizing the calculation for the needs of each application.
- Select vQoE, Latency, Loss, or Jitter to change the data displayed.

- Click the Sort icon to toggle between Least Performing Applications and Top Performing Applications.
- Click the PDF icon to open a PDF version of the chart in a new tab.
- Hover over a bar in the graph to open a hover box with details about that application.
- Click a bar in the graph to display that application's performance on each tunnel.
- Click a tunnel to display the application's hourly performance on that tunnel.

Applications Consuming Most Bandwidth

- The Applications Consuming Most Bandwidth box displays applications consuming the most bandwidth in the network.

- Each circle represents an application; the larger the circle, the greater is the bandwidth that it consumes. The legend to the right indicates the color of each application family.
- The graph displays the top ten applications using the most bandwidth, and an additional circle called Others. Click Others for details about any remaining applications.

- Click the PDF icon to open a PDF version of the graph in a new tab.
- Hover over a circle in the graph to open a hover box with details about that application.
- Click a circle in the graph to display that application's bandwidth consumption over time. Click a point on the graph to display sites using that application. Click a site to display flows for that site.

Anomalous Application Families

- The Anomalous Application Families box displays application families using more bandwidth than their baseline.

- Click the PDF icon to open a PDF version of the chart in a new tab.
- Hover over a bar in the graph to display a hover box with details about that application family.
- Click a bar in the graph to display that family's average octets by site.
- Click a bar in the graph to display that site's octets over time for that family.
- Click a bar in the timeline to display octets at that point in time for each application in the family.

WAN Performance Pane

- The WAN Performance pane displays performance of carriers and tunnels for the last 24 hours by latency, loss, or jitter.

Carrier Performance

- The Carrier Performance box displays application performance by carrier on a geographical map of the overlay network.

- Circles on the map represent each carrier. The legend to the right indicates the color of each carrier.

- Select Latency, Loss, or Jitter to change the data displayed.
- Click the PDF icon to open a PDF version of the map in a new tab.
- Hover over a carrier's circle to display a hover box with details for that location.
- Click a circle on the map to display that location's performance for the last 24 hours in graphical format.
- Hover over a point on the graph for details about that point in time.

Tunnel Performance

- The Tunnel Performance box displays the performance of tunnels for the last 24 hours by latency, loss, or jitter.
- The legend to the right indicates the color of each tunnel.
- Select Latency, Loss, or Jitter to change the data displayed.
- Click the PDF icon to open a PDF version of the chart in a new tab.
- Hover over a point on the graph to display a hover box with details about that point in time.

To highlight specific tunnels:

- ❑ Click a tunnel in the legend to select it. To select more than one tunnel, hold down the Shift key.
- ❑ Click the Highlight icon that appears. The selected tunnels are highlighted on the graph.
- ❑ To display all tunnels again, click the Highlight icon.

Network Health

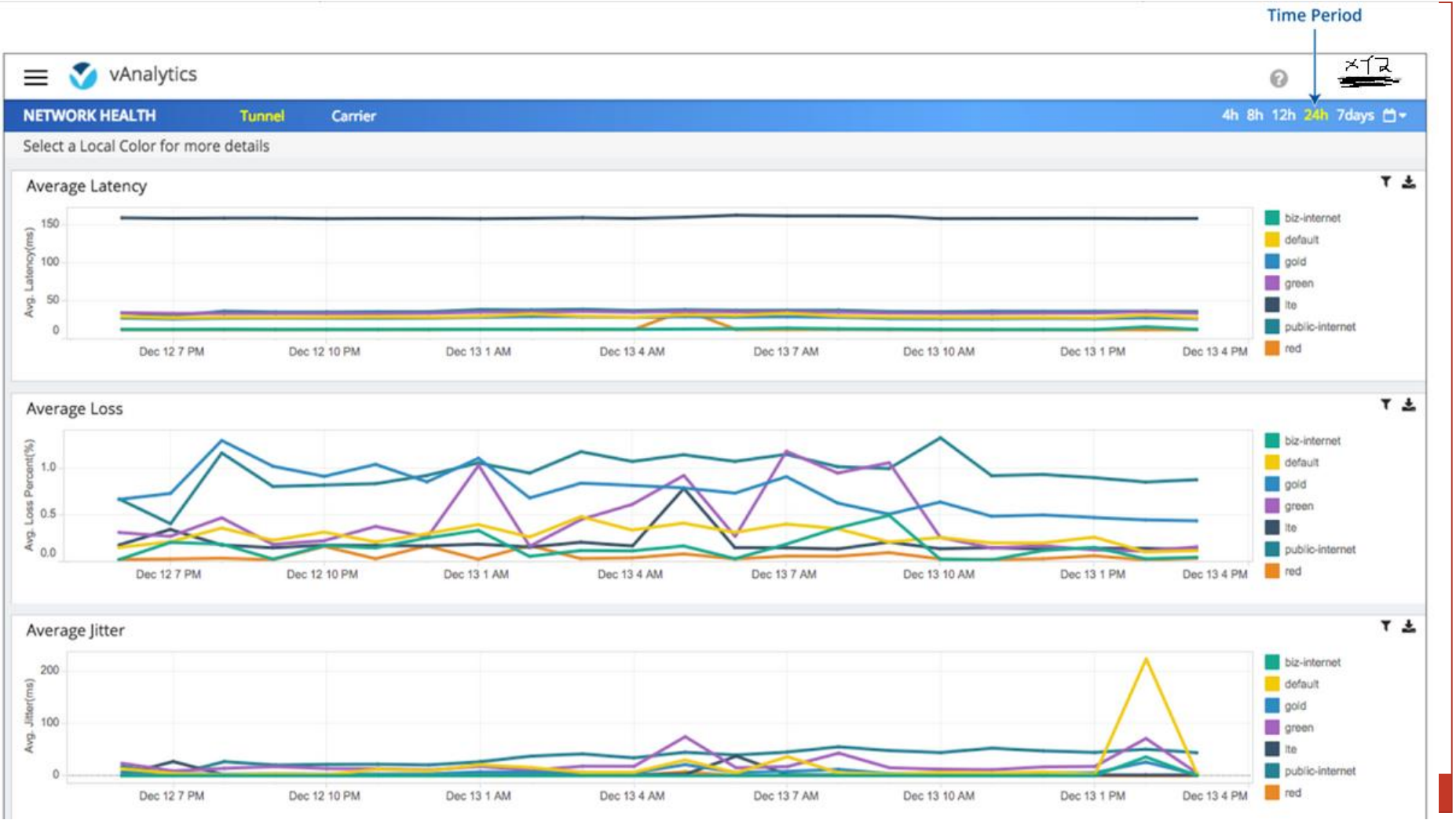
Use the Network Health screen to monitor the performance of circuits, tunnels, and carriers in your overlay network over time.

screen Elements

•Top bar—On the left are the menu icon, for expanding and collapsing the vAnalytics menu, and the vAnalytics product name. On the right are a number of icons and the user profile drop-down.

•Title bar—Includes the title of the screen, Network Health.

- ❑ Tunnel—Displays latency, loss, and jitter by circuit.
- ❑ Carrier—Displays application performance by carrier on a geographical map of your overlay network.
- ❑ Time Period—Click a predefined or custom time period for which to display data.


Time Period
vAnalytics
NETWORK HEALTH
Tunnel
Carrier
4h 8h 12h 24h 7days
Select a Local Color for more details
Average Latency
Avg. Latency(ms)
150
100
50
0
Dec 12 7 PM
Dec 12 10 PM
Dec 13 1 AM
Dec 13 4 AM
Dec 13 7 AM
Dec 13 10 AM
Dec 13 1 PM
Dec 13 4 PM
biz-internet
default
gold
green
lte
public-internet
red
Average Loss
Avg. Loss Percent(%)
1.0
0.5
0.0
Average Jitter
Avg. Jitter(ms)
200
100
0

Display Latency, Loss, and Jitter on Circuits

To display graphs for latency, loss, and jitter on each circuit in your overlay network:

1.Click Tunnel. Each line in the graphs indicates one circuit. The legend to the right indicates the color of each circuit.

2.Click the Filter icon to select specific circuits to view.

3.Click the PDF icon to open a PDF version of the graph in a new tab.

4.Hover over a point on a line to open a hover box with details for that point in time.

5.Click a point on a line to display average latency, loss, or jitter in that circuit at that point in time:

1. Click a site to see latency, loss, or jitter for all tunnels at that site.
2. Click a tunnel to see hourly latency, loss, or jitter for that tunnel.
3. Click Overview to return to Network Health ► Tunnel.

Display Application Performance by Carrier

To display application performance by carrier on a geographical map of the overlay network:

1. Click Carrier. Circles on the map represent each carrier. The legend to the right indicates the color of each carrier.
2. Select Latency, Loss, or Jitter to change the data displayed.
3. Click the Filter icon to select specific carriers to view.
4. Click the PDF icon to open a PDF version of the map in a new tab.
5. Hover over a carrier's circle to display a hover box with details for that location.
6. Click a circle on the map to display that location's performance by loss, latency, or jitter:
    1. Click a point on the graph to see a graph of performance for each carrier at that location.
    2. Click a carrier to see performance for each vEdge router at that site.
    3. Click a vEdge router to see that device's performance over time.
    4. Click Overview to return to Network Health ► Carrier.

Network Availability

Network Availability

Use the Network Availability screen to monitor downtime of nodes and circuits in your overlay network over time.

Screen Elements

•Top bar—On the left are the menu icon, for expanding and collapsing the vAnalytics menu, and the vAnalytics product name. On the right are a number of icons and the user profile drop-down.

•Title bar—Includes the title of the screen, Network Availability.

- Time Period—Click a predefined or custom time period for which to display data.

•Selected View—Displays downtime by sites or by time.

•Summary—Displays node and circuit downtime summaries.


Selected View
Time Period
vAnalytics
XYZ
Network Availability
4h 8h 12h 24h 7days
Aggregated Downtime by Sites
Select a vEdge for more details
vEdge Downtime Summary (mins) 41.86
vEdge
achar-vE1K
venu-Work
site-1732-Gate1
APAC-Lab-1
venu
Cage-3-B
prab-Work
prab
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38
Downtime(min)
Circuit Downtime Summary (mins) 40.90
Circuit
achar-vE1K:default
mustafa:biz-internet
vedge:public-internet
venu-Work:default
site-1732-Gate1:gold
site-1732-Gate2:green
APAC-Lab-1:default
test_cloudex:public-internet
venu:default
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28
Downtime(min)

Display Downtime by Site

To display vEdge router and circuit downtime for each site:

1. Select Aggregated Downtime by Sites.
2. Click the Filter icon to select specific application family to view.
3. Click the PDF icon to open a PDF version of the chart in a new tab.
4. Click a vEdge router or circuit to display details about that downtime event.

Display Downtime by Time

To display vEdge router and circuit downtime for a specified time period:

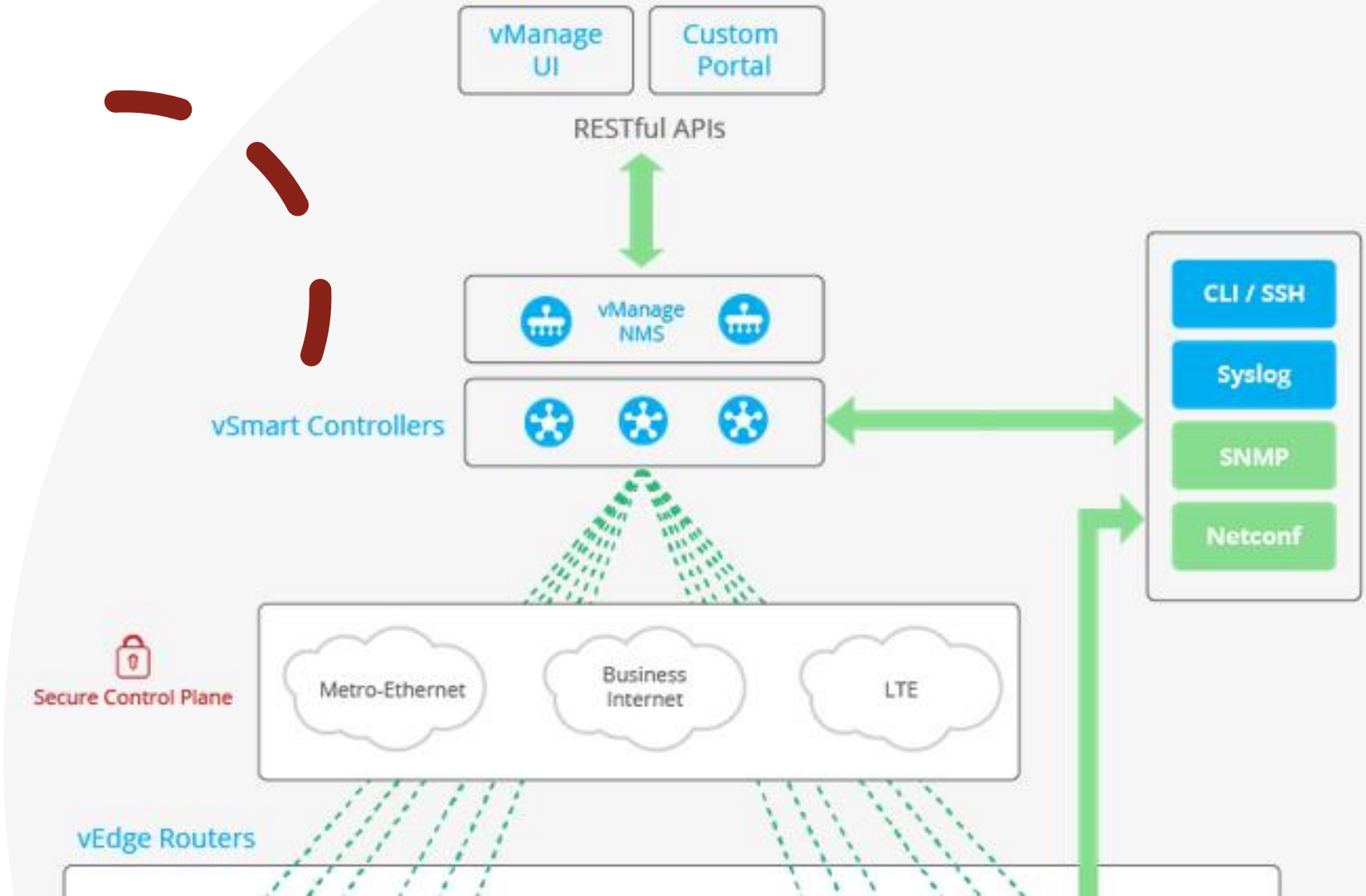
1. Select Aggregated Downtime by Time.
2. Select a length of time: Day, Week, Quarter, or Year.
3. Click the Filter icon to select specific device or circuit to view.
4. Click the PDF icon to open a PDF version of the chart in a new tab.
5. Click a vEdge router or circuit to display details about that downtime event.

SDWAN Viptela API Calls

RESTful API for vManage NMS

- The vManage NMS supports a RESTful (Representational State Transfer) API, which provides calls for retrieving real-time and static information about the Viptela overlay network and the devices in the network and for uploading device configuration templates and other configuration-related information.

- Using the RESTful API, you can design a custom portal for interacting with the vManage NMS.


vManage UI
Custom Portal
RESTful APIs
vManage NMS
vSmart Controllers
CLI / SSH
Syslog
SNMP
Netconf
Secure Control Plane
Metro-Ethernet
Business Internet
LTE
vEdge Routers

API calls are provided for the following categories of operations:

- Certificate Management
- Configuration
- Device and Device Inventory
- Monitoring
- Real-Time Monitoring
- Troubleshooting Tools

Using the vManage REST APIs

The Viptela software provides a REST API, which is a programmatic interface for controlling, configuring, and monitoring the Viptela devices in an overlay network. You access the REST API through the vManage web server.
A REST API is a web service API that adheres to the REST, or Representational State Transfer, architecture. The REST architecture uses a stateless, client–server, cacheable communications protocol. The Viptela vManage NMS web server uses HTTP and its secure counterpart, HTTPS, as the communications protocol. REST applications communicate over HTTP or HTTPS using standard HTTP methods to make calls between network devices. These standard HTTP methods include:

•GET—Retrieve or read information.
•PUT—Update an object.
•POST—Create an object.
•DELETE—Remove an object.

REST is a simpler alternative to mechanisms such as remote procedure calls (RPCs) and web services such as Simple Object Access Protocol (SOAP) and Web Service Definition Language (WSDL). The REST architecture has not been formally defined by any standards bodies.

Available API Calls

The Viptela REST API calls expose the functionality of Viptela software and hardware features and of the normal operations you perform to maintain Viptela devices and the overlay network itself. In REST API terminology, each of these features or operations is called a ***resource***. A resource is an object with a type, associated data, relationships to other resources, and a set of methods that operate on it.
Resources are grouped into ***collections***. Each collection contains a single type of resource, and so is homogeneous. In the Viptela REST API, the collection of resources is present at the top level of the API. The Viptela REST API resources are grouped into the following collections:

Resource Collection	Resources for
Administration	Managing users and user groups, viewing audit logs, and managing the local vManage server.
Certificate Management	Managing certificates and security keys.
Configuration	Creating feature and device configuration templates, retrieving the configurations in existing templates, and creating and configuring vManage clusters.
Device Inventory	Collecting device inventory information, including serial numbers and system status.
Monitoring	Viewing status, statistics, and other information about operational devices in the overlay network. Monitoring information is what Viptela devices collect about themselves every 10 minutes. After collecting these statistics, each Viptela device places them into a zip file. The vManage server retrieves these zip files every 10 minutes or, if the vManage server cannot log in to the device, it retrieves them whenever it is next able to log in.

Resource Collection	Resources for
Real-Time Monitoring	Retrieving, viewing, and managing real-time statistics and traffic information. Real-time monitoring information is gathered in real time, approximately once per second.
Troubleshooting Tools	Troubleshooting devices, for determining the effect of policy, for updating software, and for retrieving software version information.

Resource Data

- The Viptela REST API uses the JavaScript Object Notation (JSON) data model to represent the data associated with a resource. JSON has three types of data:

- Scalar—Data types with a single value. Scalar types include numbers, strings, and Booleans.
- Array—Ordered lists of values of an arbitrary type.
- Object—Unordered set of key: value pairs (also referred to as attributes), where key is a string and the value can have an arbitrary type.

REST Methods

In a REST API, methods are executed on resources and collections.
The Viptela REST API uses the following standard REST methods:

Method	Scope	Shown As	Operation
DELETE	Resource	Red	Delete a resource
GET	Collection, Resource	Blue	Retrieve(or read) all resources in a collection or retrieve a single resource
POST	Collection	Green	Create a new resource in a collection
PUT	Resource	Brown	Update a resource

Viptela API Library & Documentation

A common REST principle is that APIs should be self-descriptive and self-documenting. The resource collections and resources in the Viptela REST API are self-documenting, describing the data you need to make a call and the response from each call. However, the collections and resources do assume that you are familiar with the Viptela overlay network concepts, software and hardware features, and capability.

The vManage REST API library and documentation are bundled with and installed on the vManage web application software. To access the API documentation from a web browser, use this URL:

https://*ip-address*:*port*/apidocs

Requested Information	API Call
List all network devices	dataservice/device
Health status of hardware device components, such as CPU, memory, fan, and power	dataservice/device/hardware/environment?deviceId=*system-ip-address*
Status of a device's transport interfaces	dataservice/device/interface?deviceId=*system-ip-address*&port-type=transport
Interface statistics, errors, and packet drops	dataservice/device/interface?deviceId=*system-ip-address*
DTLS/TLS control connection status	dataservice/device/control/connections?deviceId=*system-ip-address*
OMP peering	dataservice/device/omp/peers?deviceId=*system-ip-address*
BGP peering on the service side	dataservice/device/bgp/neighbors?deviceId=*system-ip-address*

API calls for real-time monitoring of vBond orchestrator information:

- **Connections**
- **Connections History**
- **Local Properties**
- **Summary**
- **Valid vEdge Routers**
- **Valid vSmart Controllers**

Connections

List the Viptela devices that have active DTLS connections to the vBond orchestrator (on vBond orchestrators only).

CLI Equivalent: show orchestrator

connections URL:
https://vmanage-ip-address/dataservice/device/orchestrator/connections?deviceId=deviceId

https://198.18.1.10/dataservice/device/orchestrator/connections?deviceId=11.11.11.11

Connections History

List the history of connections and connection attempts made by the vBond orchestrator (on vBond orchestrators only).

CLI Equivalent: show orchestrator connections-history

URL: https://vmanage-ip-address/dataservice/device/orchestrator/connectionshistory?deviceId=deviceId

Local Properties

Display the basic configuration parameters of a vBond orchestrator (on vBond orchestrators only).

CLI Equivalent: show orchestrator local-properties

URL: https://vmanage-ip-address/dataservice/device/orchestrator/localproperties?deviceId=deviceId

Summary

Display a count of the vEdge routers, vManage Network Management Systems (NMSs), and vSmart controllers in the overlay network (on vBond orchestrators only). For vBond orchestrators running on virtual machines (VMs) that have more than one core, this API call shows the number of devices that each vdaemon process is handling.

CLI Equivalent: show orchestrator summary

URL: https://vmanage-ip-address/dataservice/device/orchestrator/summary?deviceId=deviceId

Valid vEdge Routers List the chassis numbers of the valid vEdge routers in the overlay network (on vBond orchestrators only).

CLI Equivalent: show orchestrator valid-vedges

URL: https://vmanage-ip-address/dataservice/device/orchestrator/validvedges?deviceId=deviceId

Valid vSmart Controllers List the serial numbers of the valid vSmart controllers in the overlay network (on vBond orchestrators only).

CLI Equivalent: show orchestrator valid-vsmarts

URL: https://vmanage-ip-address/dataservice/device/orchestrator/validsmarts?deviceId=deviceId

OSPF API calls for real-time monitoring of OSPF information:

- **Database**
- **Database Summary**
- **External Database**
- **Interface**
- **Neighbor**
- **Process**
- **Routes**

CLI Equivalent: show ospf database
URL: https://vmanage-ip-address/dataservice/device/ospf/database?deviceId=deviceId

CLI Equivalent: show ospf database-summary
URL: https://vmanage-ip-address/dataservice/device/ospf/databasesummary?deviceId=deviceId

CLI Equivalent: show ospf database external

URL: https://vmanage-ip-address/dataservice/device/ospf/databaseexternal?deviceId=deviceId

CLI Equivalent: show ospf interface
URL: https://vmanage-ip-address/dataservice/device/ospf/interface?deviceId=deviceId

CLI Equivalent: show ospf neighbor

URL: https://vmanage-ip-address/dataservice/device/ospf/neighbor?deviceId=deviceId

CLI Equivalent: show ospf process

URL: https://vmanage-ip-address/dataservice/device/ospf/process?deviceId=deviceId

CLI Equivalent: show ospf routes

URL: https://vmanage-ip-address/dataservice/device/ospf/routes?deviceId=deviceId

Alarms

Display information about cleared and currently active alarms.

Alarms Using GET Method

If the query size is less than 2048 characters, use the GET method.

URL:

https://*vmanage-ip-address*/dataservice/alarms?query=*query*

https://198.18.1.10/dataservice/alarms

Upgrading Software on Cisco SD-WAN

Cisco SD-WAN provides a simple process of upgrading the software on ALL components from vManage.
Software version on the vEdges has to be equal or lower than the controllers.
Methodology for upgrading the Cisco SD-WAN

1- Upgrade the vManage

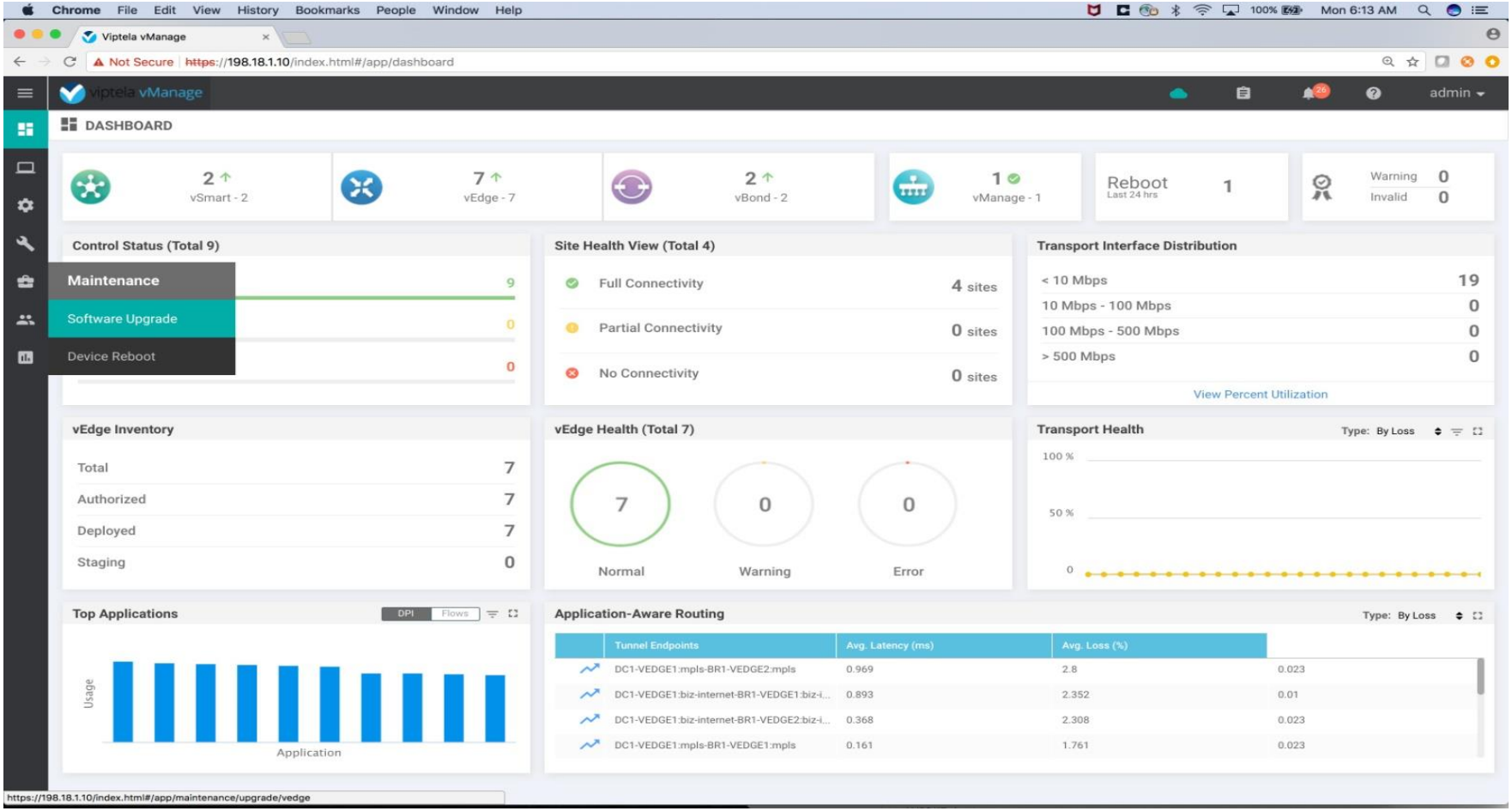
2 Then upgrade the vBonds/vSmarts

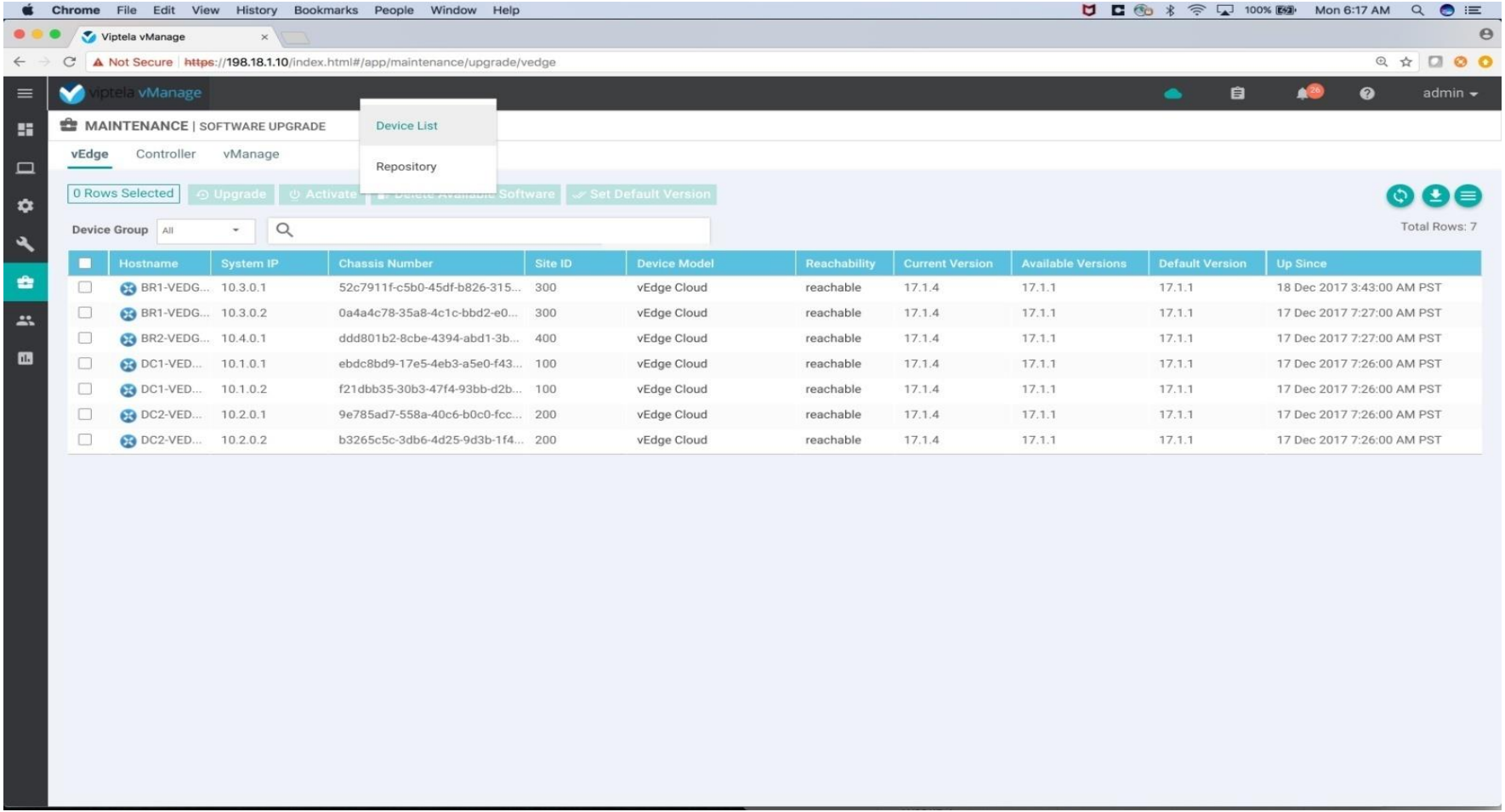
3 Then upgrade the vEdges

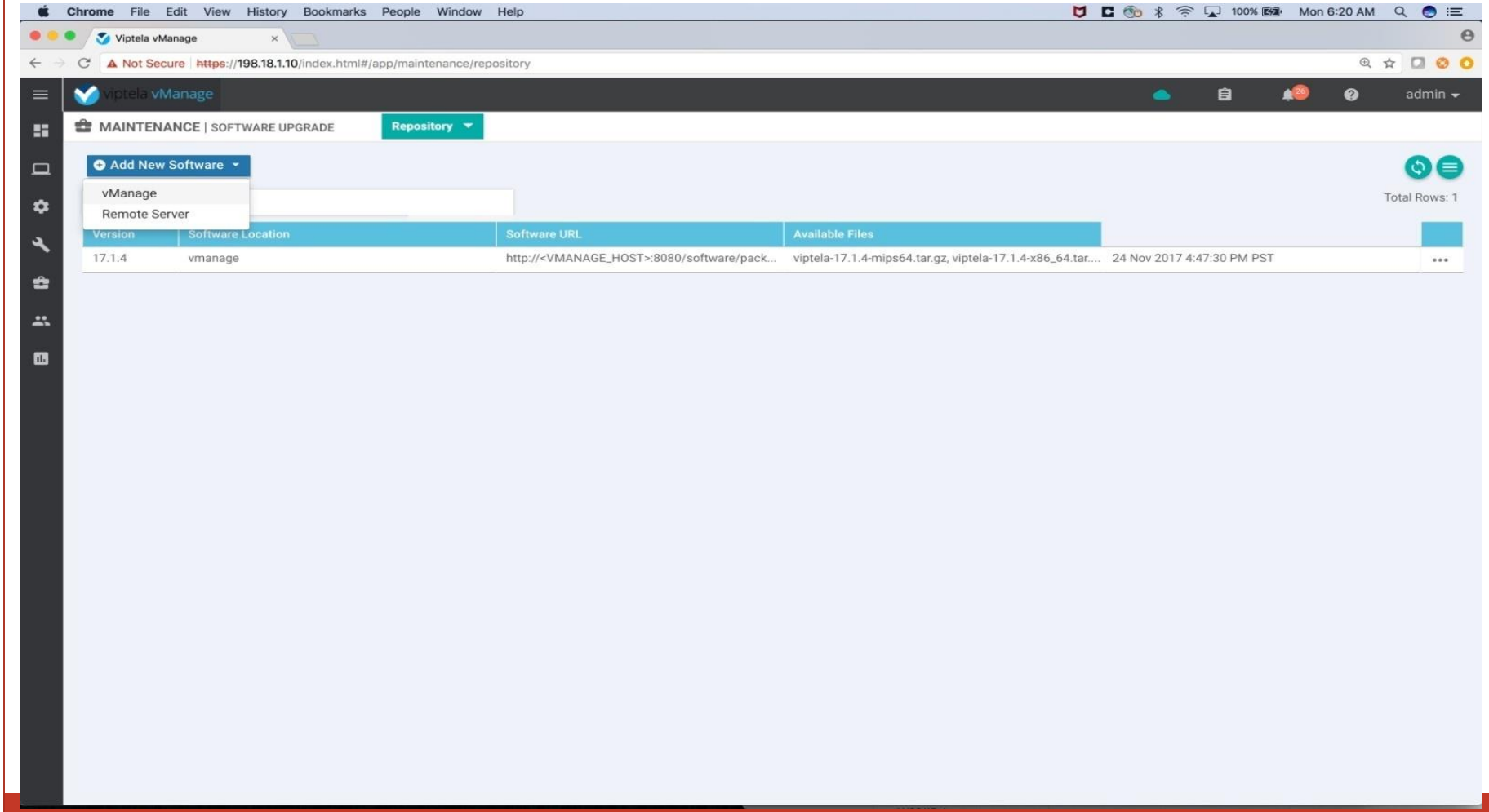
Steps

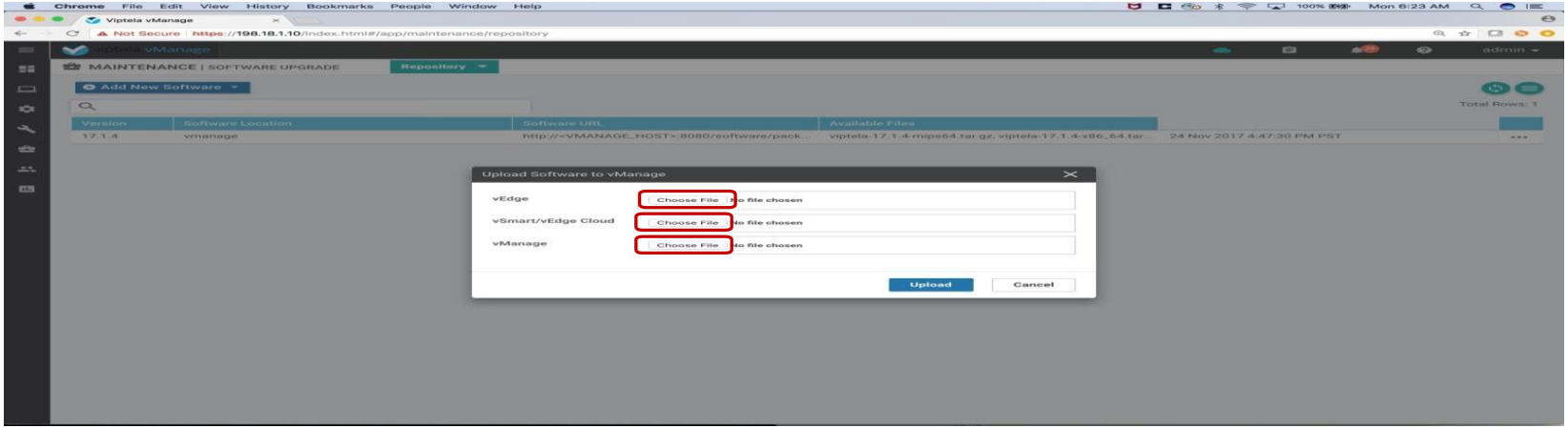
Go to vManage Dashboard.
Click on “Maintenance” icon and select “Software Upgrade” from the pull-down.

Click on “Device List” and then select “Repository”.

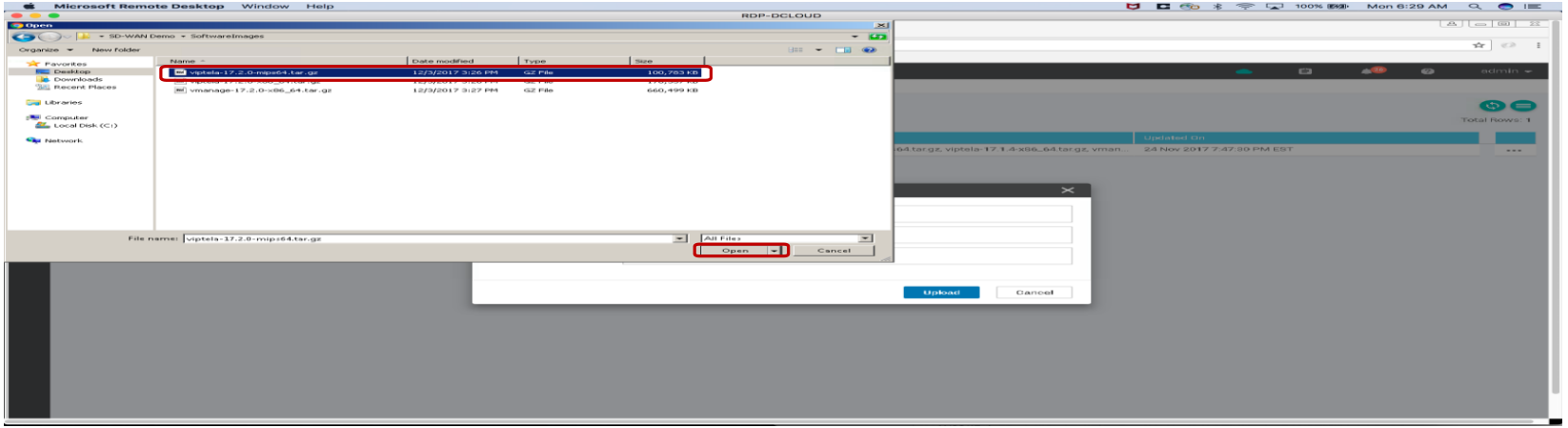

Chrome File Edit View History Bookmarks People Window Help
100% Mon 6:13 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/dashboard
viptela vManage
admin
DASHBOARD
2 vSmart - 2
7 vEdge - 7
2 vBond - 2
1 vManage - 1
Reboot
Last 24 hrs
1
Warning 0
Invalid 0
Control Status (Total 9)
Maintenance
Software Upgrade
Device Reboot
9
0
0
Site Health View (Total 4)
Full Connectivity 4 sites
Partial Connectivity 0 sites
No Connectivity 0 sites
Transport Interface Distribution
< 10 Mbps 19
10 Mbps - 100 Mbps 0
100 Mbps - 500 Mbps 0
> 500 Mbps 0
View Percent Utilization
vEdge Inventory
Total 7
Authorized 7
Deployed 7
Staging 0
vEdge Health (Total 7)
7
0
0
Normal
Warning
Error
Transport Health
Type: By Loss
100 %
50 %
0
Top Applications
DPI
Flows
Usage
Application
Application-Aware Routing
Type: By Loss
Tunnel Endpoints
Avg. Latency (ms)
Avg. Loss (%)
DC1-VEDGE1:mpls-BR1-VEDGE2:mpls 0.969 2.8 0.023
DC1-VEDGE1:biz-internet-BR1-VEDGE1:biz-i... 0.893 2.352 0.01
DC1-VEDGE1:biz-internet-BR1-VEDGE2:biz-i... 0.368 2.308 0.023
DC1-VEDGE1:mpls-BR1-VEDGE1:mpls 0.161 1.761 0.023
https://198.18.1.10/index.html#/app/maintenance/upgrade/vedge


Chrome File Edit View History Bookmarks People Window Help
Mon 6:17 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vedge
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
Repository
vEdge
Controller
vManage
0 Rows Selected
Upgrade
Activate
Set Default Version
Device Group All
Total Rows: 7
Hostname System IP Chassis Number Site ID Device Model Reachability Current Version Available Versions Default Version Up Since
BR1-VEDG... 10.3.0.1 52c7911f-c5b0-45df-b826-315... 300 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 18 Dec 2017 3:43:00 AM PST
BR1-VEDG... 10.3.0.2 0a4a4c78-35a8-4c1c-bbd2-e0... 300 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:27:00 AM PST
BR2-VEDG... 10.4.0.1 ddd801b2-8cbe-4394-abd1-3b... 400 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:27:00 AM PST
DC1-VED... 10.1.0.1 ebdc8bd9-17e5-4eb3-a5e0-f43... 100 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC1-VED... 10.1.0.2 f21dbb35-30b3-47f4-93bb-d2b... 100 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC2-VED... 10.2.0.1 9e785ad7-558a-40c6-b0c0-fcc... 200 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC2-VED... 10.2.0.2 b3265c5c-3db6-4d25-9d3b-1f4... 200 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST

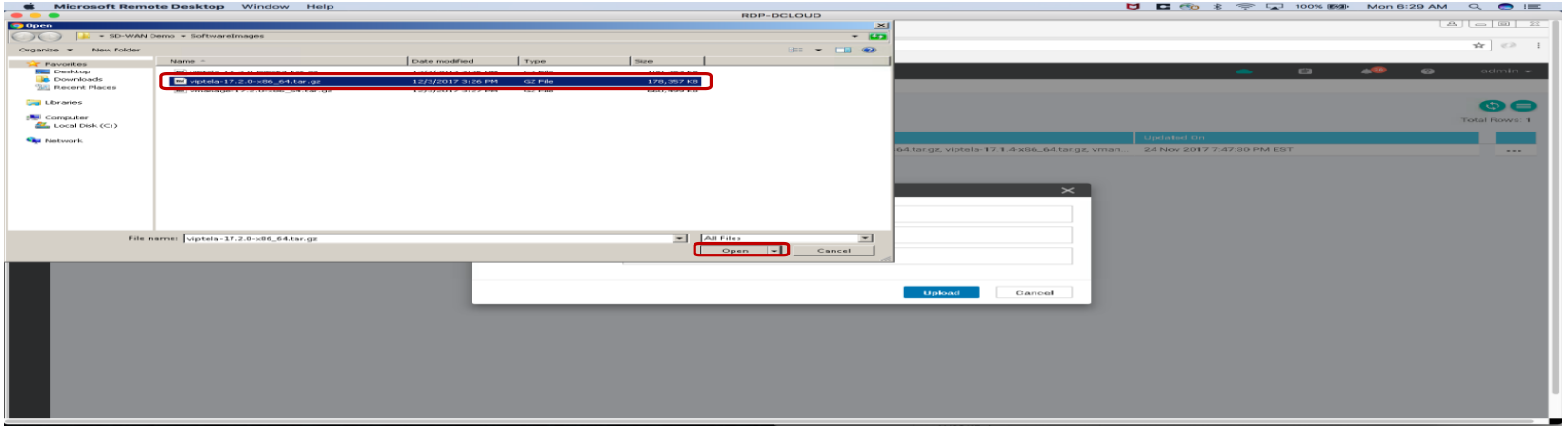

Chrome File Edit View History Bookmarks People Window Help
100% Mon 6:20 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/repository
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Repository
Add New Software
vManage
Remote Server
Total Rows: 1
Version
Software Location
Software URL
Available Files
17.1.4
vmanage
http://<VMANAGE_HOST>:8080/software/pack...
viptela-17.1.4-mips64.tar.gz, viptela-17.1.4-x86_64.tar....
24 Nov 2017 4:47:30 PM PST



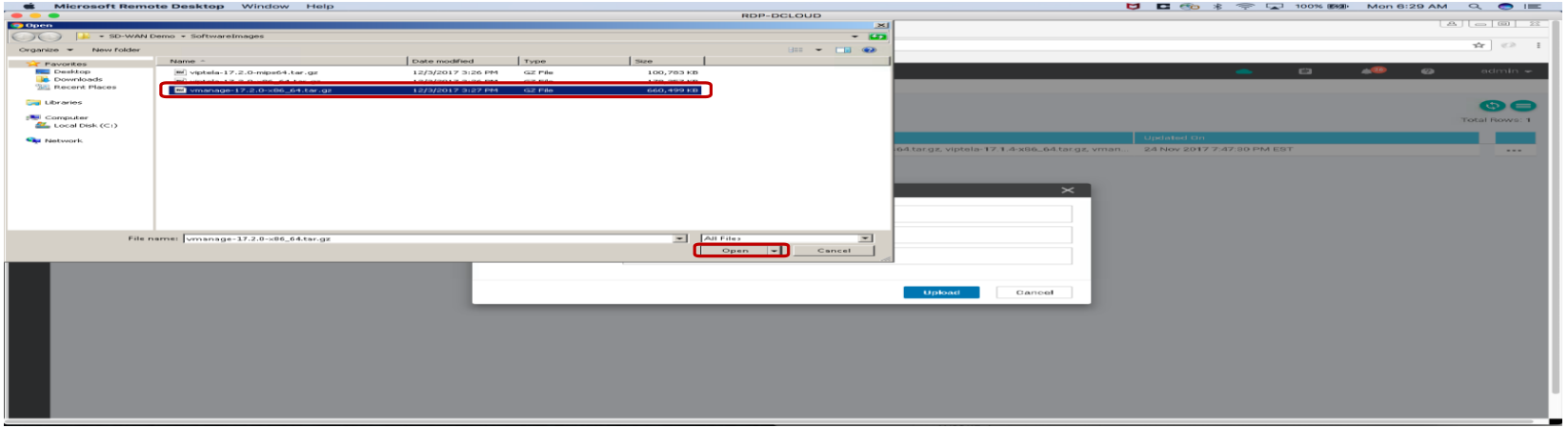
The software images are in the folder \Desktop\SD-WAN Demo\SoftwareImages. Select the following files for each and click on “Open” tab.
For vEdge (select the mips file):



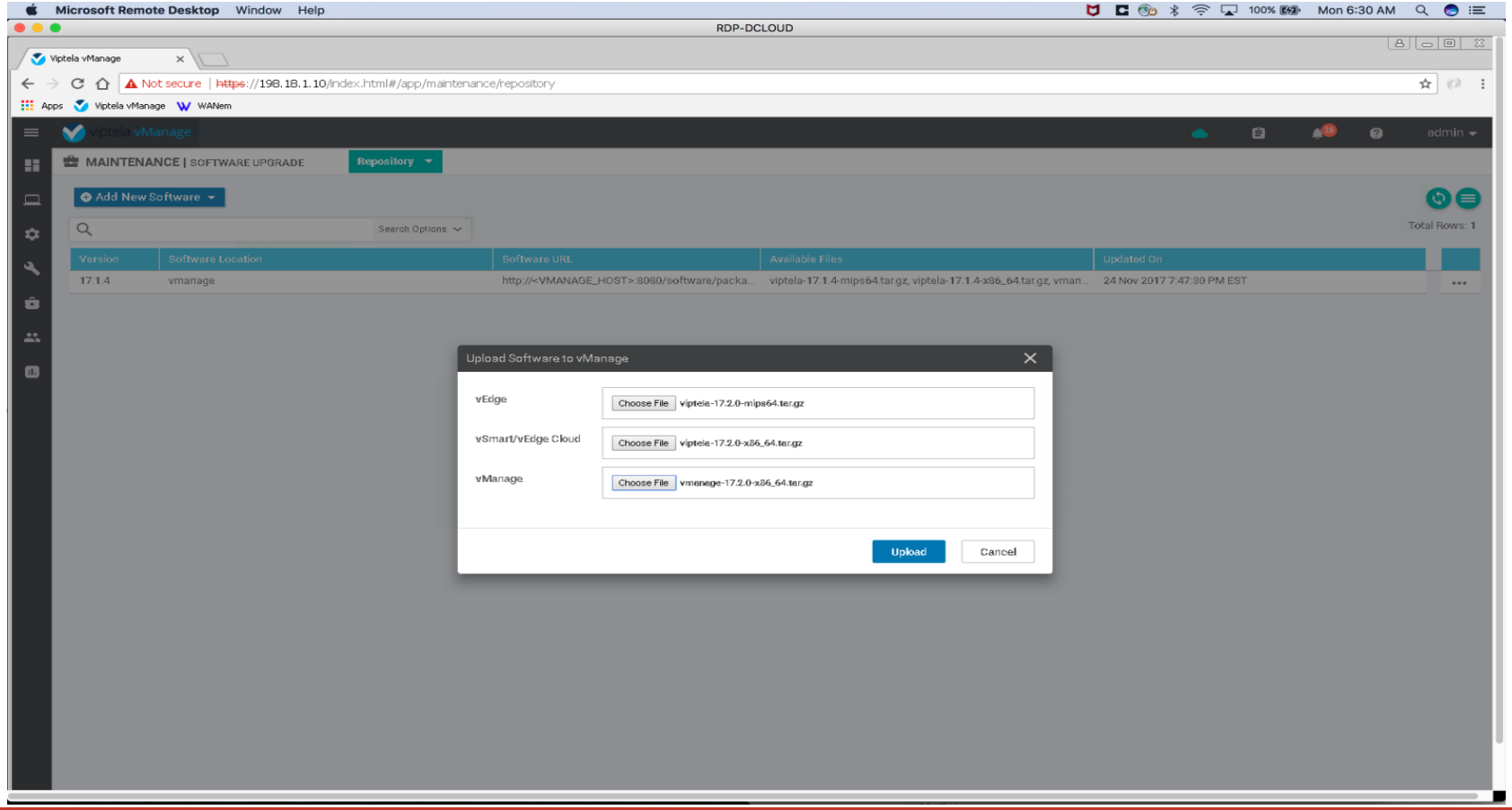
For vSmart/vEdge Cloud (Select the x86 file):

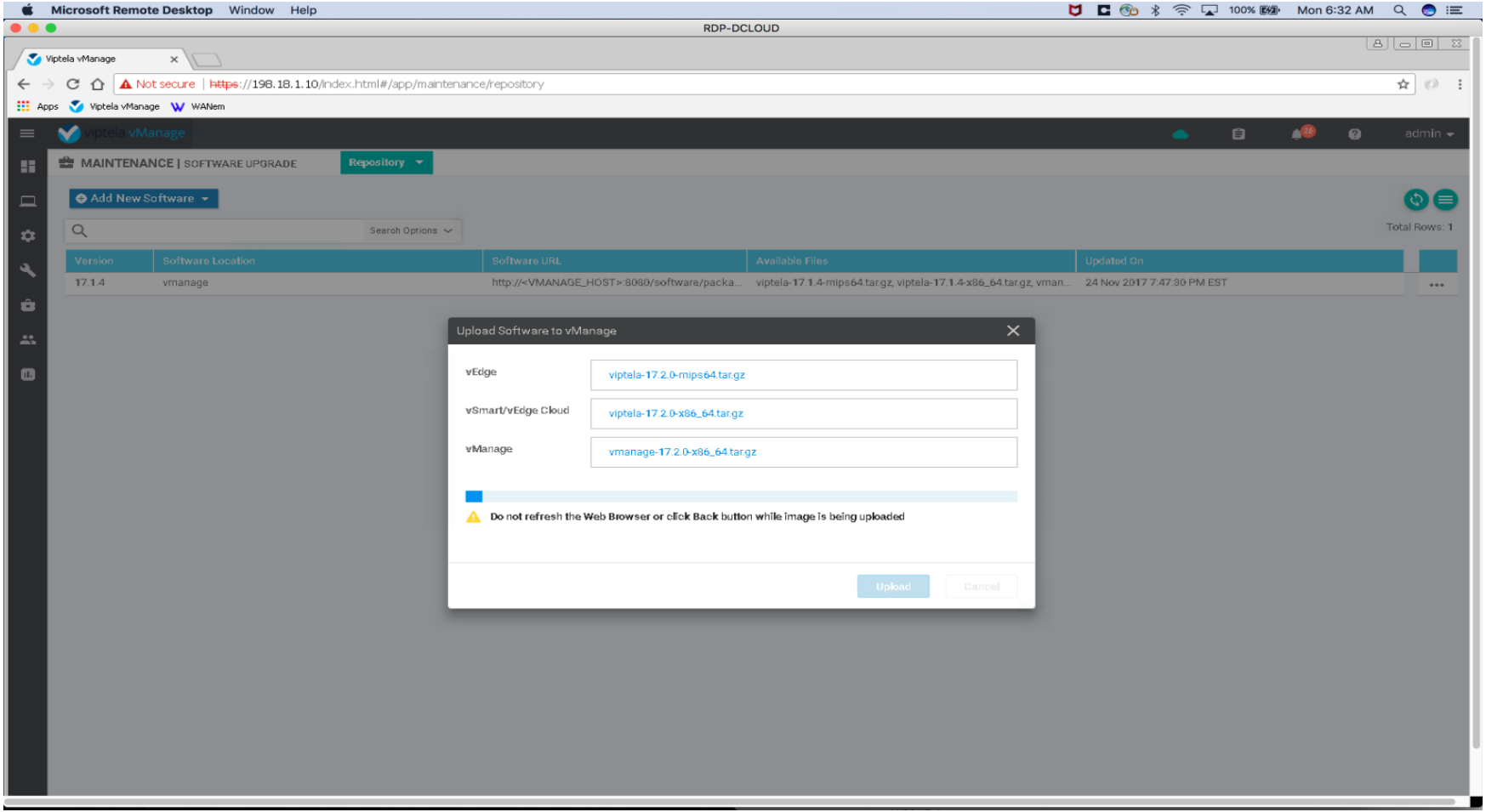


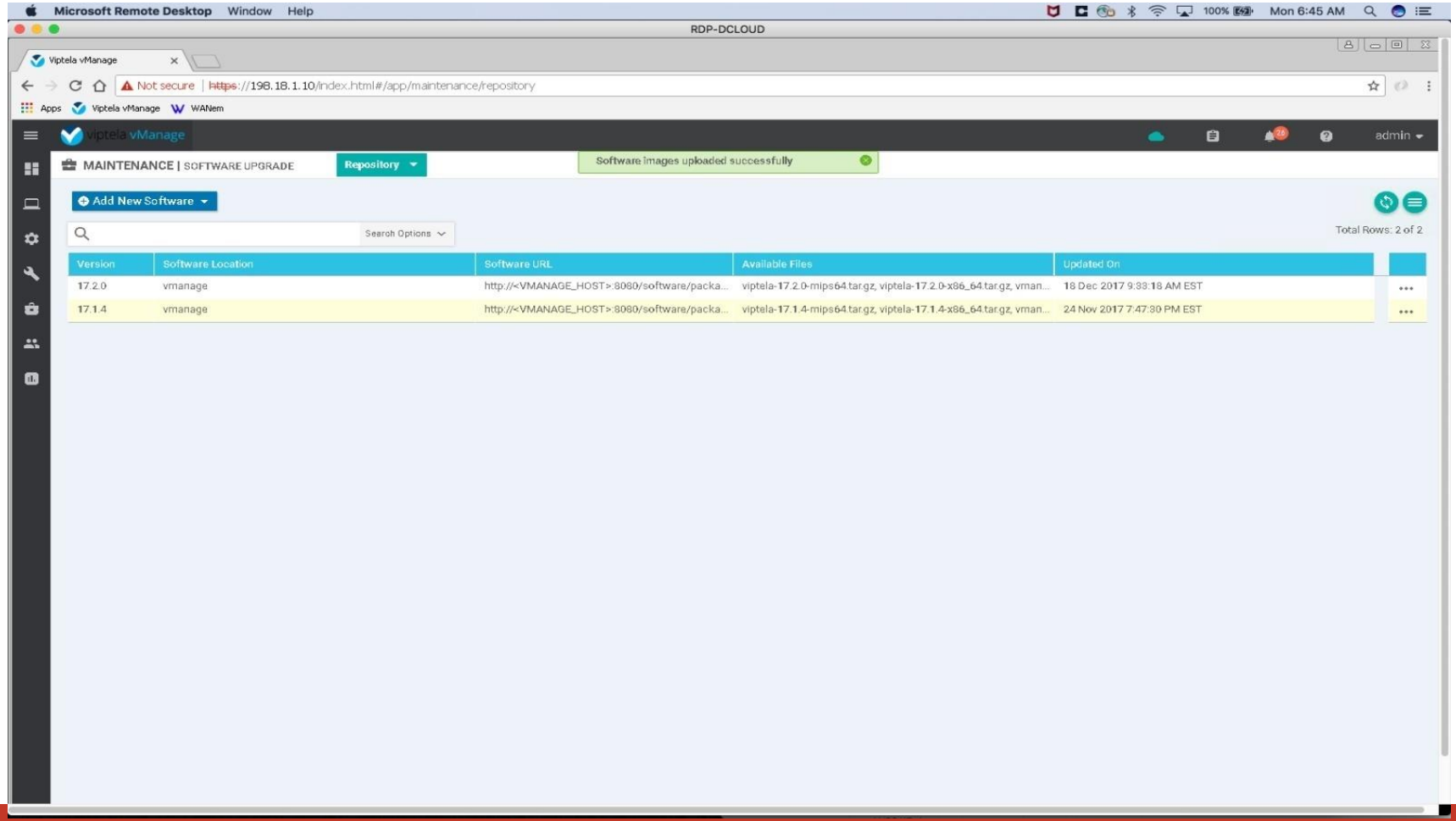
For vManage (select vmanage file):

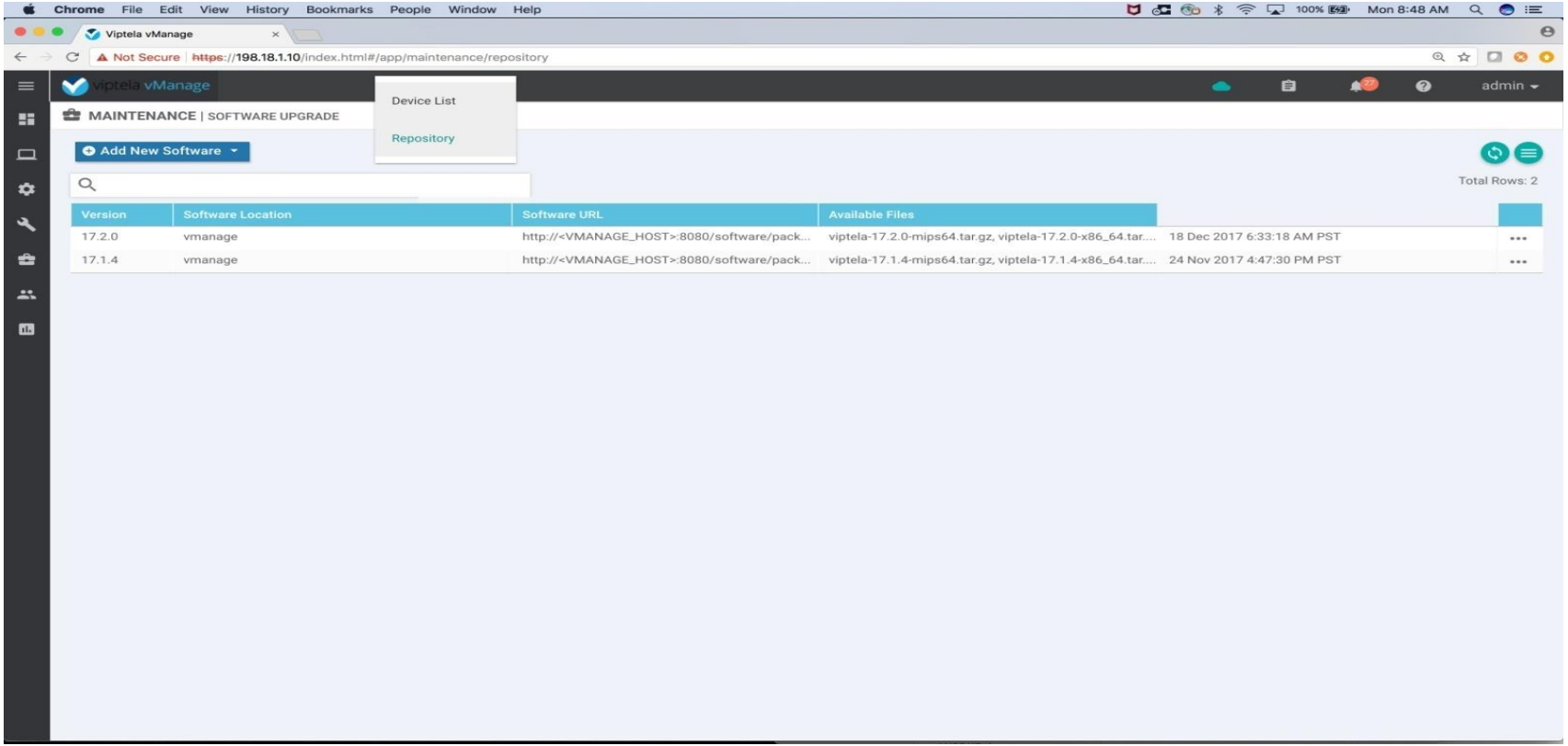


On the next screen, click on Update.

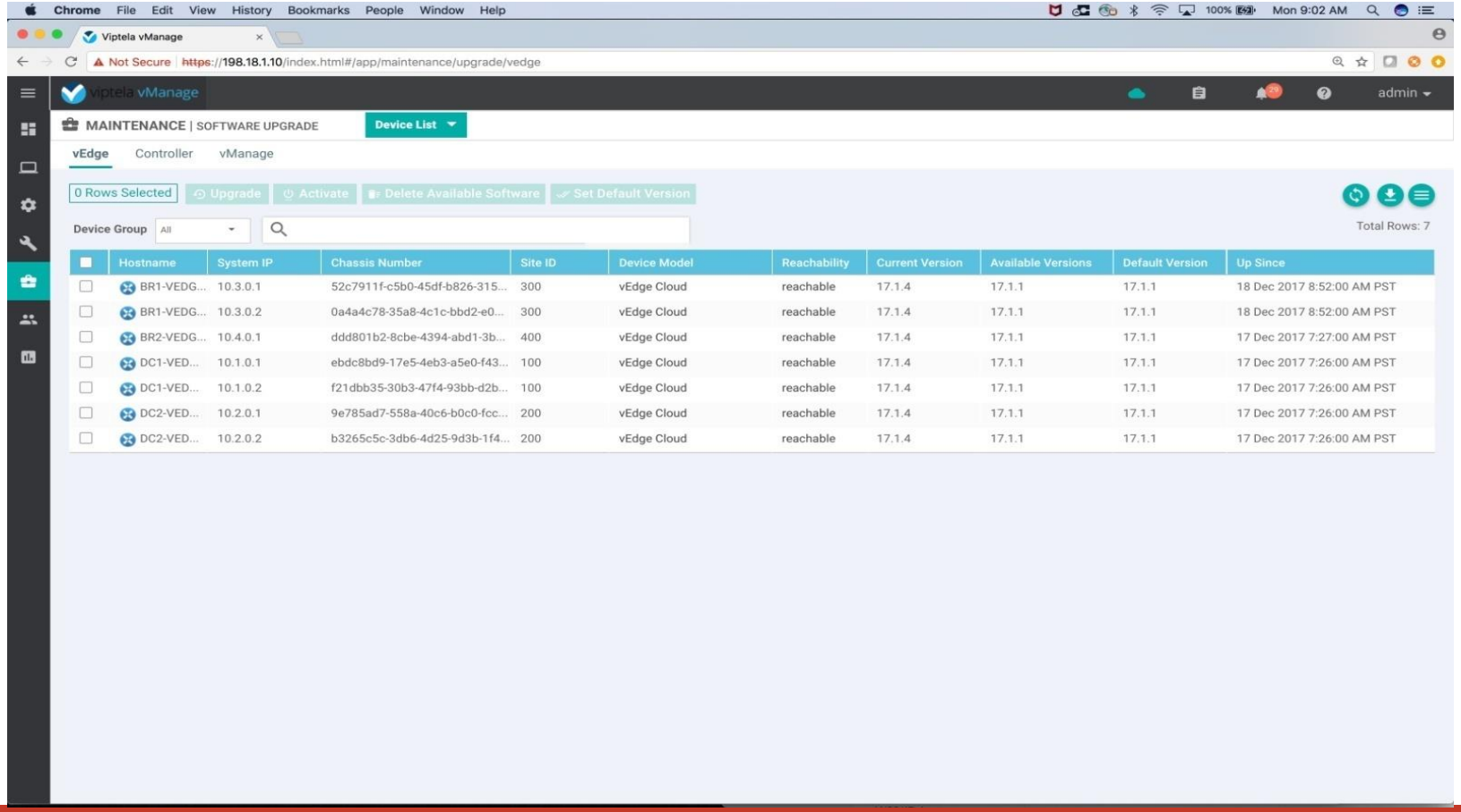

Microsoft Remote Desktop Window Help
Mon 6:30 AM
RDP-DCLOUD
Viptela vManage
Not secure | https://198.18.1.10/index.html#/app/maintenance/repository
Apps
Viptela vManage
WANem
admin
MAINTENANCE | SOFTWARE UPGRADE
Repository
Add New Software
Search Options
Total Rows: 1
Version
Software Location
Software URL
Available Files
Updated On
17.1.4
vmanage
http://<VMANAGE_HOST>:8080/software/packa...
viptela-17.1.4-mips64.tar.gz, viptela-17.1.4-x86_64.tar.gz, vman...
24 Nov 2017 7:47:30 PM EST
Upload Software to vManage
vEdge
Choose File
viptela-17.2.0-mips64.tar.gz
vSmart/vEdge Cloud
Choose File
viptela-17.2.0-x86_64.tar.gz
vManage
Choose File
vmanage-17.2.0-x86_64.tar.gz
Upload
Cancel

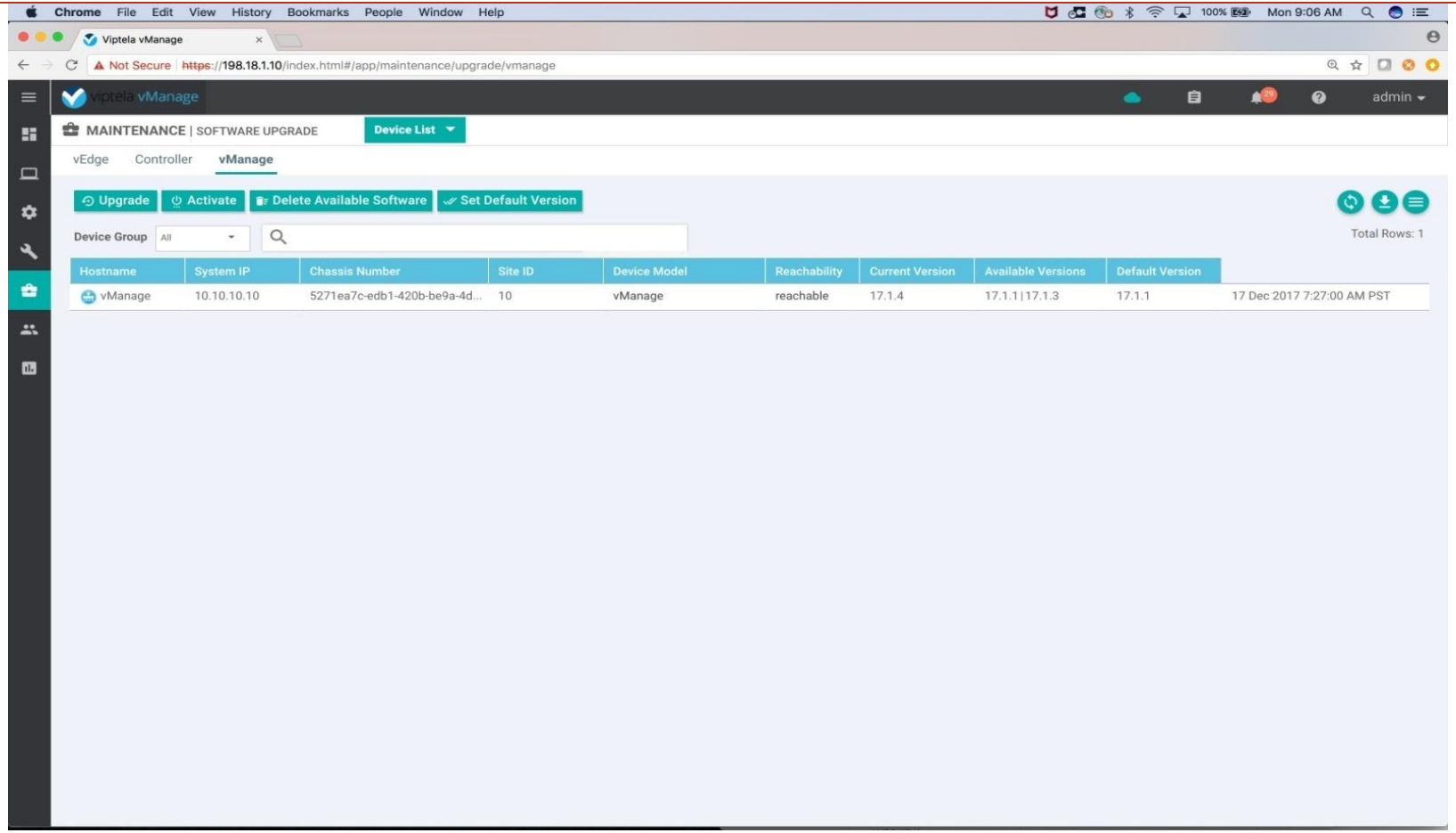

Microsoft Remote Desktop Window Help
100% Mon 6:32 AM
RDP-DCLOUD
Viptela vManage
Not secure | https://198.18.1.10/index.html#/app/maintenance/repository
Apps Viptela vManage WANem
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Repository
Add New Software
Search Options
Total Rows: 1
Version
Software Location
Software URL
Available Files
Updated On
17.1.4
vmanage
http://<VMANAGE_HOST>:8080/software/packa...
viptela-17.1.4-mips64.tar.gz, viptela-17.1.4-x86_64.tar.gz, vman...
24 Nov 2017 7:47:30 PM EST
Upload Software to vManage
vEdge
viptela-17.2.0-mips64.tar.gz
vSmart/vEdge Cloud
viptela-17.2.0-x86_64.tar.gz
vManage
vmanage-17.2.0-x86_64.tar.gz
Do not refresh the Web Browser or click Back button while image is being uploaded
Upload
Cancel

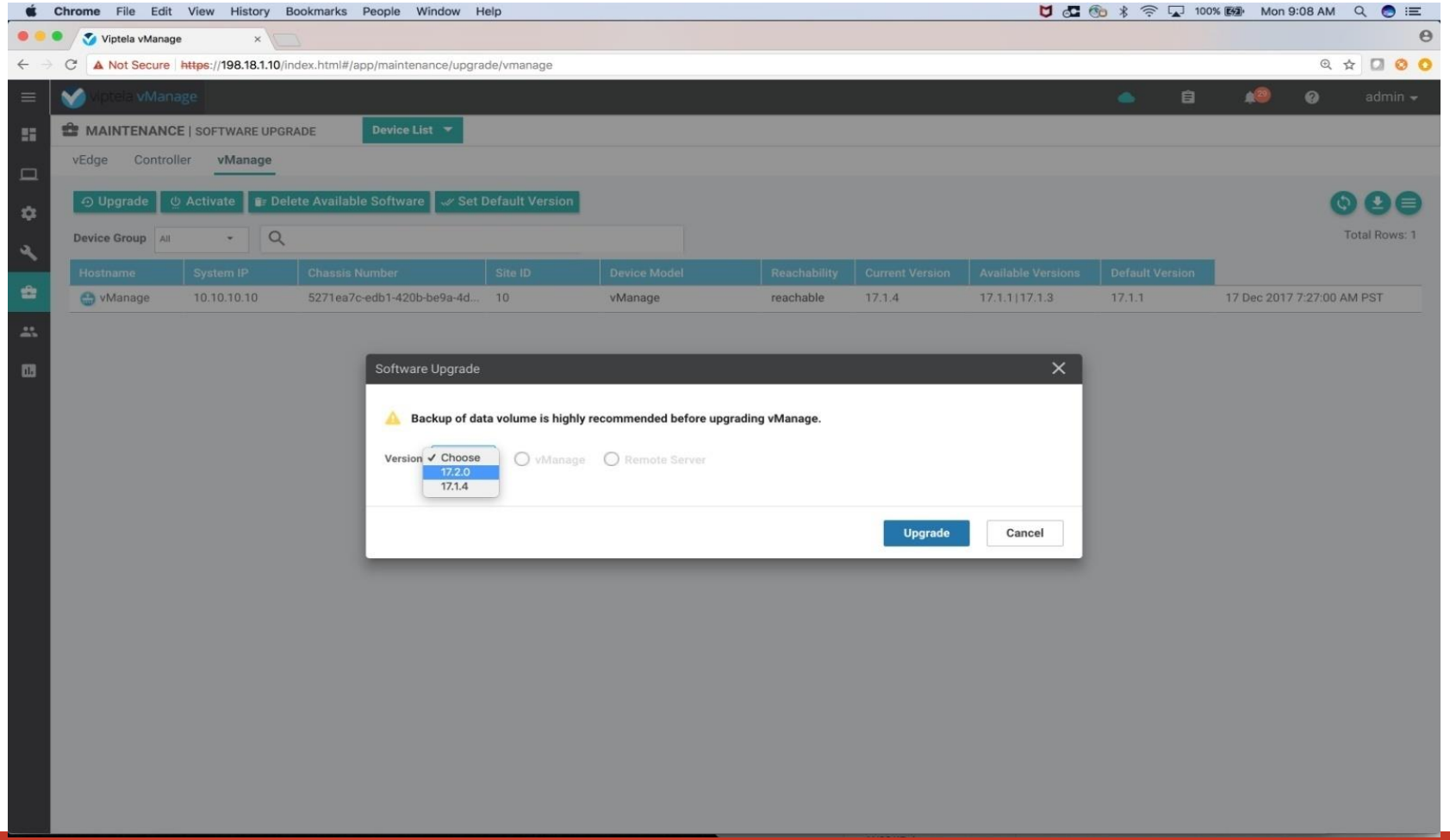

Microsoft Remote Desktop Window Help
Mon 6:45 AM
RDP-DCLOUD
Viptela vManage
Not secure | https://198.18.1.10/index.html#/app/maintenance/repository
Apps Viptela vManage WANem
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Repository
Software Images uploaded successfully
Add New Software
Search Options
Total Rows: 2 of 2
Version
Software Location
Software URL
Available Files
Updated On
17.2.0
vmanage
http://<VMANAGE_HOST>:8080/software/packa...
viptela-17.2.0-mips64.tar.gz, viptela-17.2.0-x86_64.tar.gz, vman...
18 Dec 2017 9:33:18 AM EST
17.1.4
vmanage
http://<VMANAGE_HOST>:8080/software/packa...
viptela-17.1.4-mips64.tar.gz, viptela-17.1.4-x86_64.tar.gz, vman...
24 Nov 2017 7:47:30 PM EST

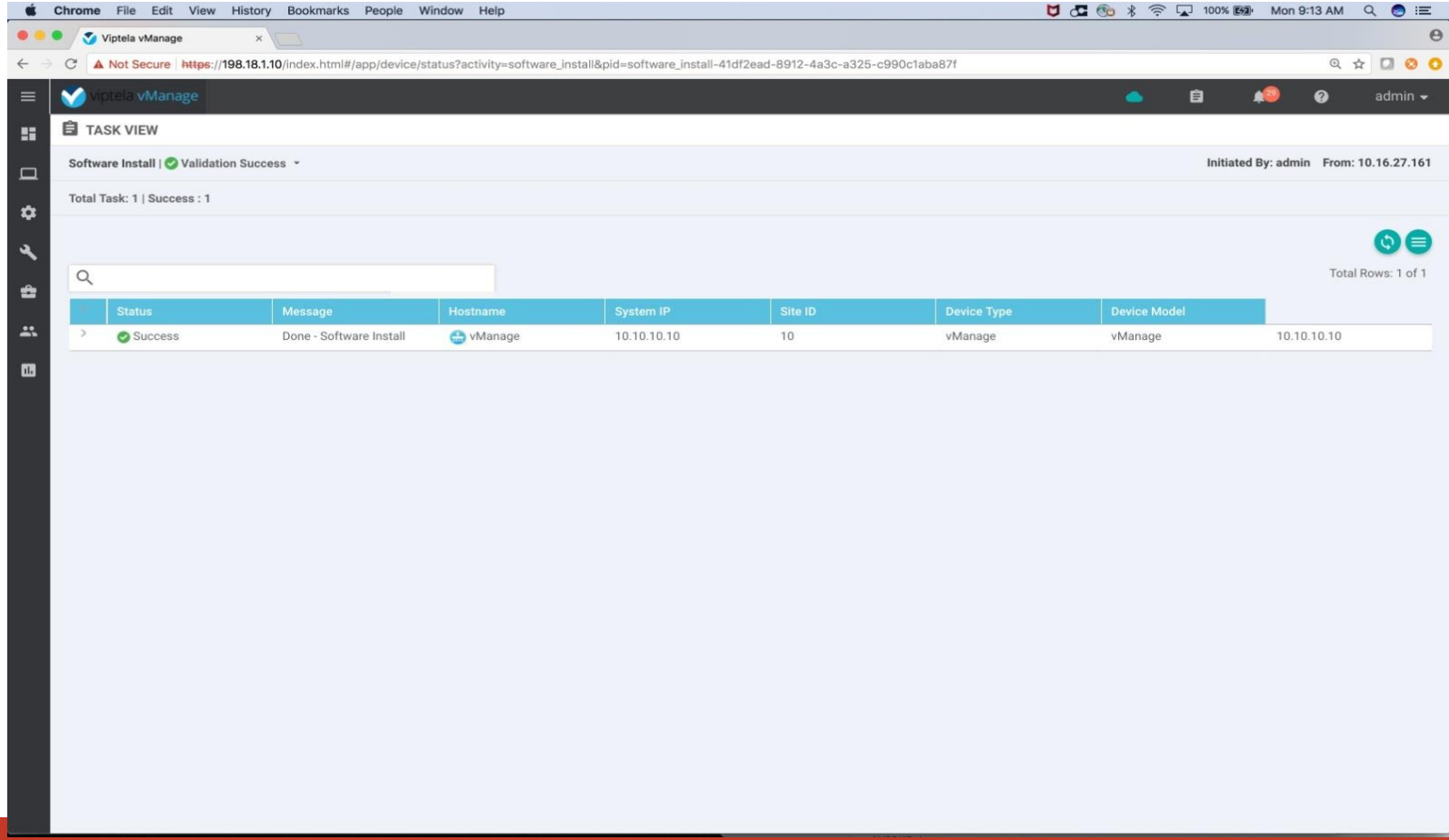


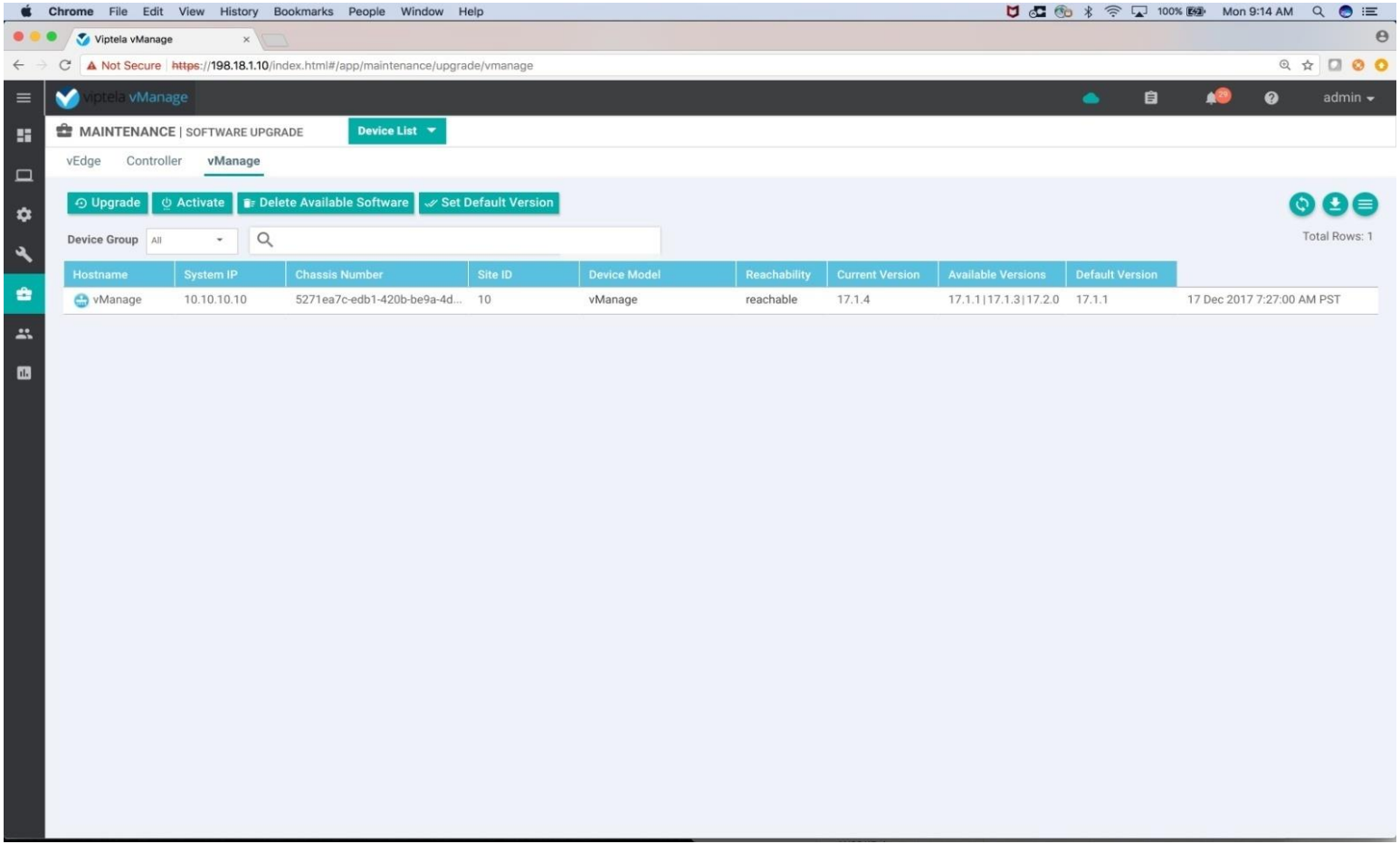
First, upgrade vManage.
Click on vManage tab.

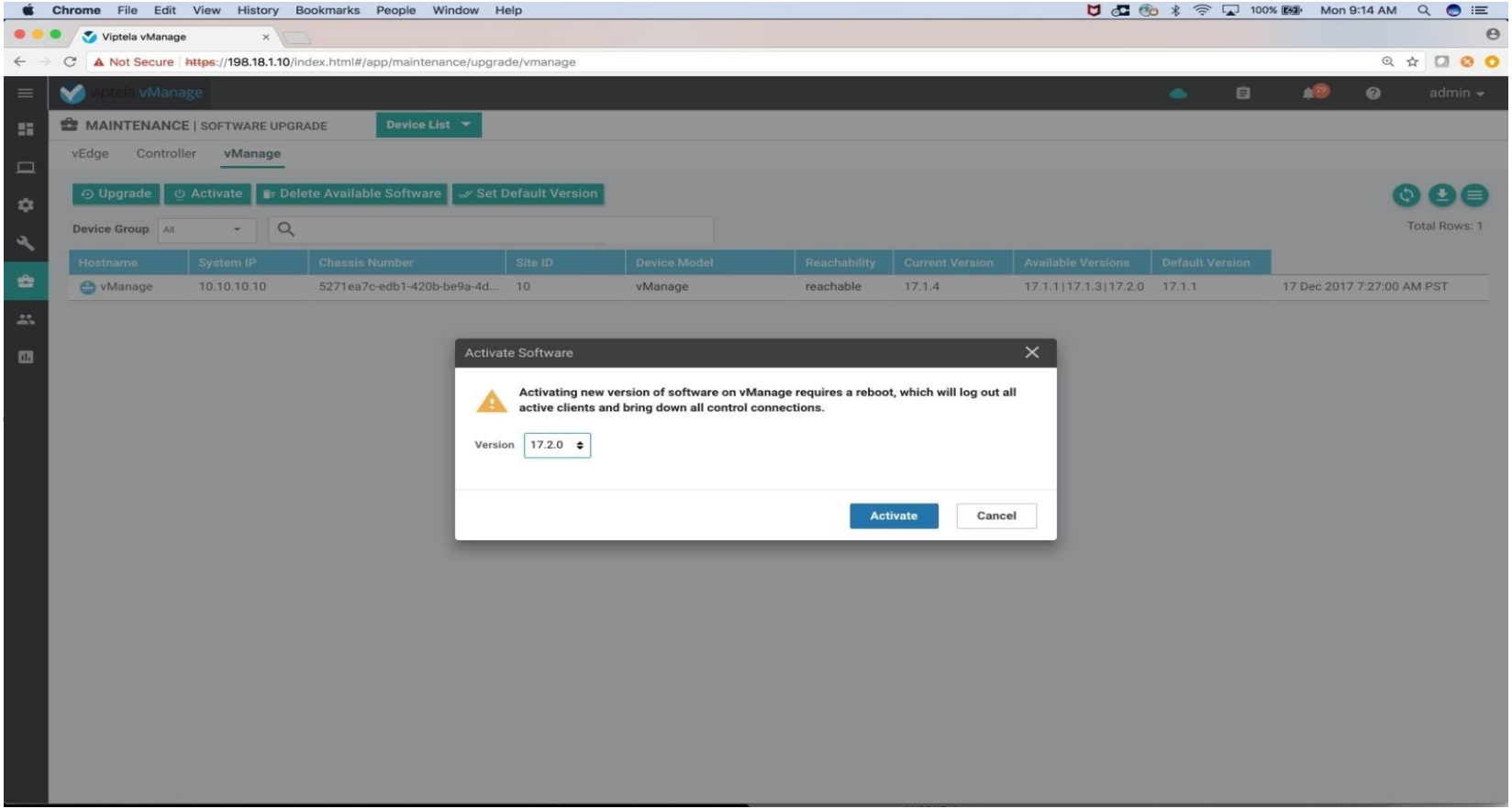

Chrome File Edit View History Bookmarks People Window Help
Mon 9:02 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vedge
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
vEdge
Controller
vManage
0 Rows Selected
Upgrade
Activate
Delete Available Software
Set Default Version
Device Group
All
Total Rows: 7
Hostname
System IP
Chassis Number
Site ID
Device Model
Reachability
Current Version
Available Versions
Default Version
Up Since
BR1-VEDG... 10.3.0.1 52c7911f-c5b0-45df-b826-315... 300 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 18 Dec 2017 8:52:00 AM PST
BR1-VEDG... 10.3.0.2 0a4a4c78-35a8-4c1c-bbd2-e0... 300 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 18 Dec 2017 8:52:00 AM PST
BR2-VEDG... 10.4.0.1 ddd801b2-8cbe-4394-abd1-3b... 400 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:27:00 AM PST
DC1-VED... 10.1.0.1 ebdc8bd9-17e5-4eb3-a5e0-f43... 100 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC1-VED... 10.1.0.2 f21dbb35-30b3-47f4-93bb-d2b... 100 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC2-VED... 10.2.0.1 9e785ad7-558a-40c6-b0c0-fcc... 200 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST
DC2-VED... 10.2.0.2 b3265c5c-3db6-4d25-9d3b-1f4... 200 vEdge Cloud reachable 17.1.4 17.1.1 17.1.1 17 Dec 2017 7:26:00 AM PST

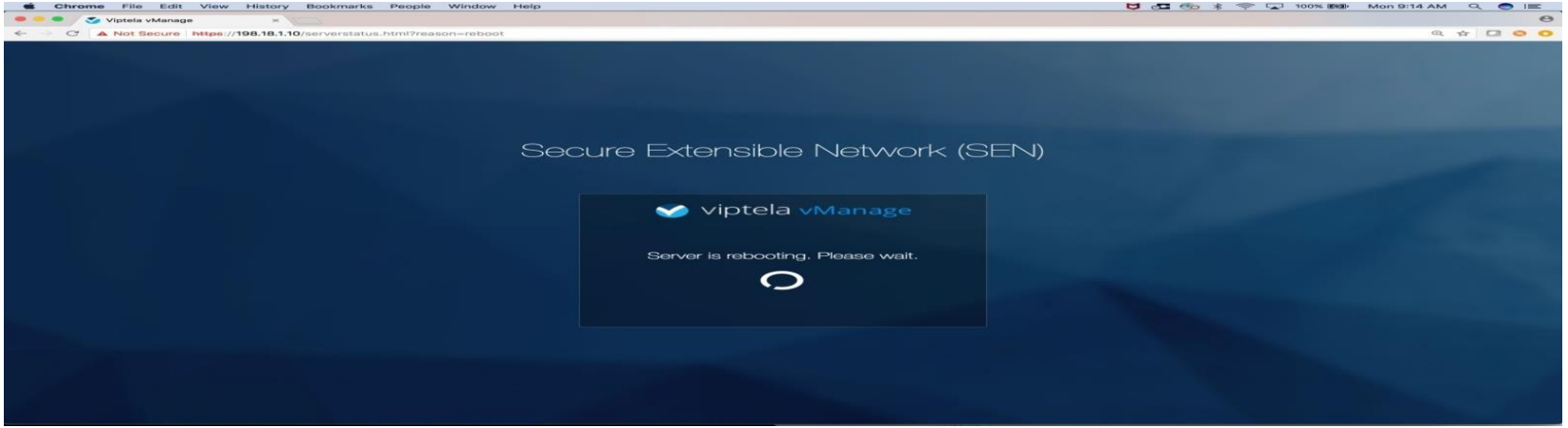

Chrome File Edit View History Bookmarks People Window Help
100% Mon 9:06 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vmanage
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
vEdge Controller vManage
Upgrade Activate Delete Available Software Set Default Version
Device Group All
Total Rows: 1
Hostname System IP Chassis Number Site ID Device Model Reachability Current Version Available Versions Default Version
vManage 10.10.10.10 5271ea7c-edb1-420b-be9a-4d... 10 vManage reachable 17.1.4 17.1.1|17.1.3 17.1.1 17 Dec 2017 7:27:00 AM PST


Chrome File Edit View History Bookmarks People Window Help
Mon 9:08 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vmanage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
vEdge Controller vManage
Upgrade Activate Delete Available Software Set Default Version
Device Group All
Total Rows: 1
Hostname System IP Chassis Number Site ID Device Model Reachability Current Version Available Versions Default Version
vManage 10.10.10.10 5271ea7c-edb1-420b-be9a-4d... 10 vManage reachable 17.1.4 17.1.1|17.1.3 17.1.1 17 Dec 2017 7:27:00 AM PST
Software Upgrade
Backup of data volume is highly recommended before upgrading vManage.
Version Choose
17.2.0
17.1.4
vManage
Remote Server
Upgrade
Cancel

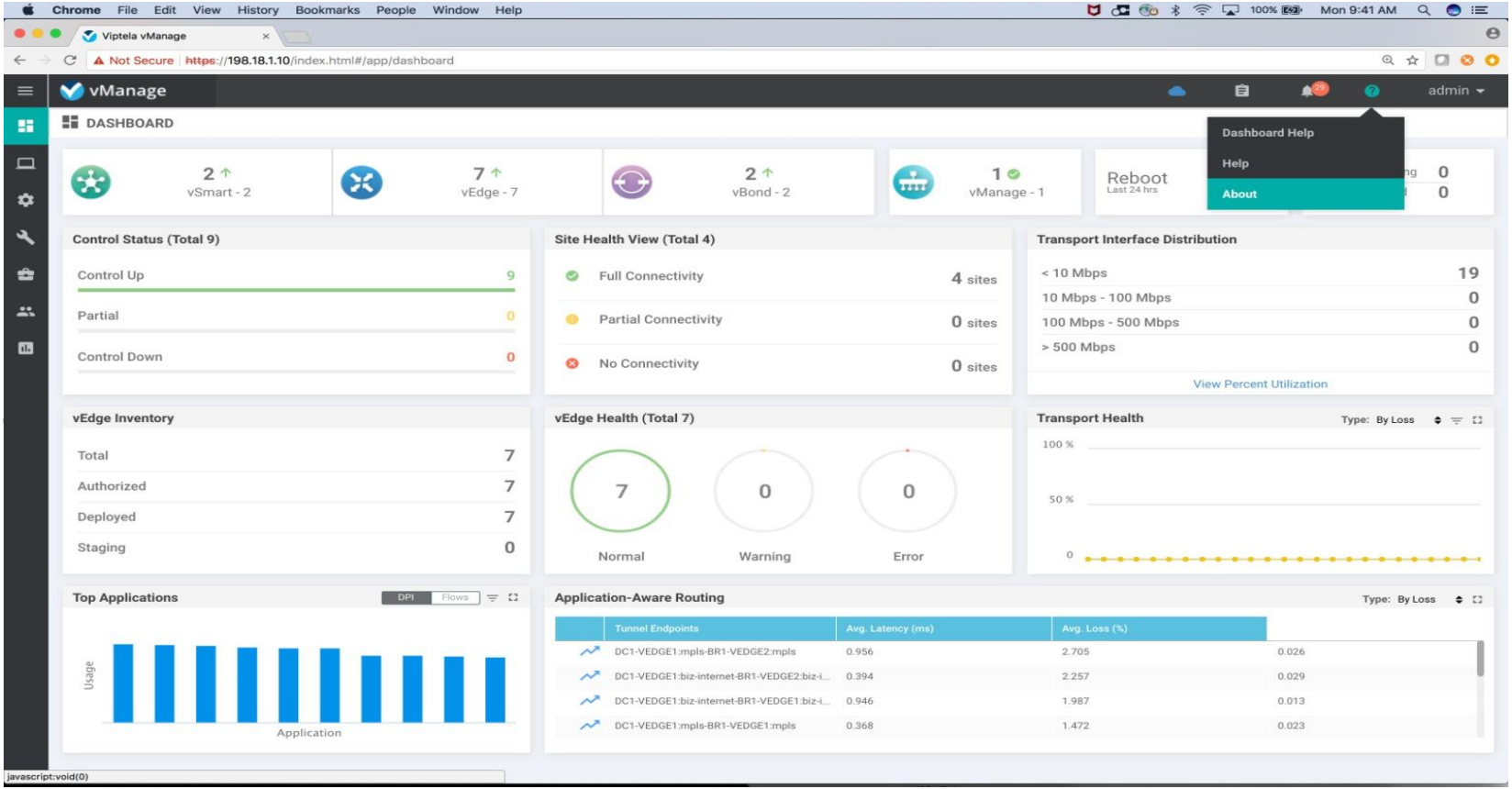

Chrome File Edit View History Bookmarks People Window Help
Mon 9:13 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/device/status?activity=software_install&pid=software_install-41df2ead-8912-4a3c-a325-c990c1aba87f
Viptela vManage
admin
TASK VIEW
Software Install | Validation Success
Initiated By: admin From: 10.16.27.161
Total Task: 1 | Success : 1
Total Rows: 1 of 1
Status Message Hostname System IP Site ID Device Type Device Model
Success Done - Software Install vManage 10.10.10.10 10 vManage vManage 10.10.10.10

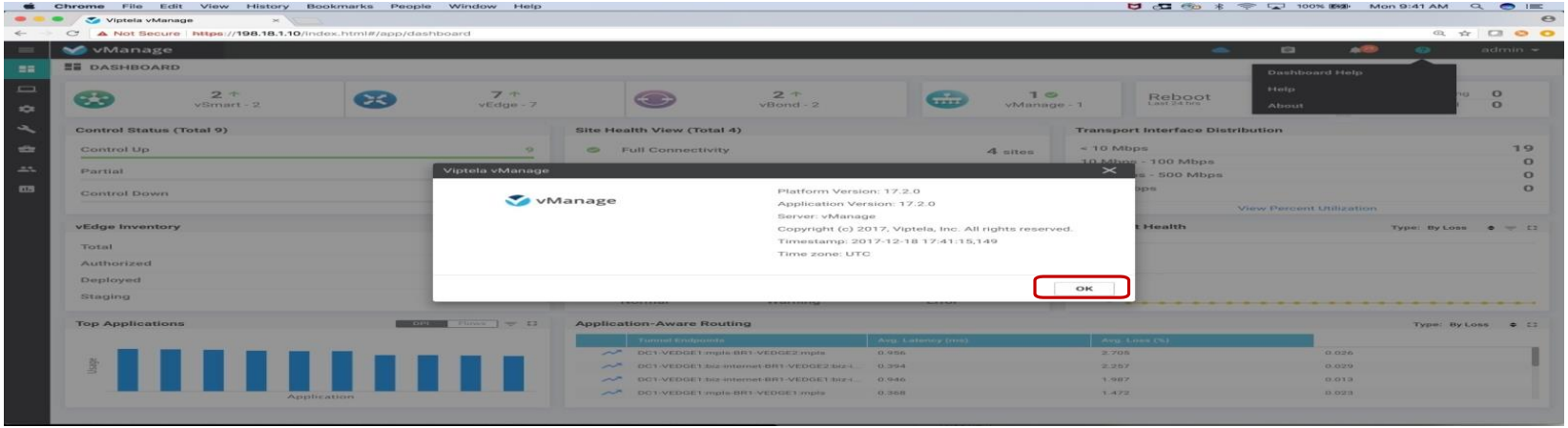

Chrome File Edit View History Bookmarks People Window Help
100% Mon 9:14 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vmanage
viptela vManage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
vEdge Controller vManage
Upgrade Activate Delete Available Software Set Default Version
Device Group All
Total Rows: 1
Hostname System IP Chassis Number Site ID Device Model Reachability Current Version Available Versions Default Version
vManage 10.10.10.10 5271ea7c-edb1-420b-be9a-4d... 10 vManage reachable 17.1.4 17.1.1|17.1.3|17.2.0 17.1.1 17 Dec 2017 7:27:00 AM PST


Chrome File Edit View History Bookmarks People Window Help
Mon 9:14 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/maintenance/upgrade/vmanage
admin
MAINTENANCE | SOFTWARE UPGRADE
Device List
vEdge Controller vManage
Upgrade Activate Delete Available Software Set Default Version
Device Group All
Total Rows: 1
Hostname System IP Chassis Number Site ID Device Model Reachability Current Version Available Versions Default Version
vManage 10.10.10.10 5271ea7c-edb1-420b-be9a-4d... 10 vManage reachable 17.1.4 17.1.1|17.1.3|17.2.0 17.1.1 17 Dec 2017 7:27:00 AM PST
Activate Software
Activating new version of software on vManage requires a reboot, which will log out all active clients and bring down all control connections.
Version 17.2.0
Activate
Cancel

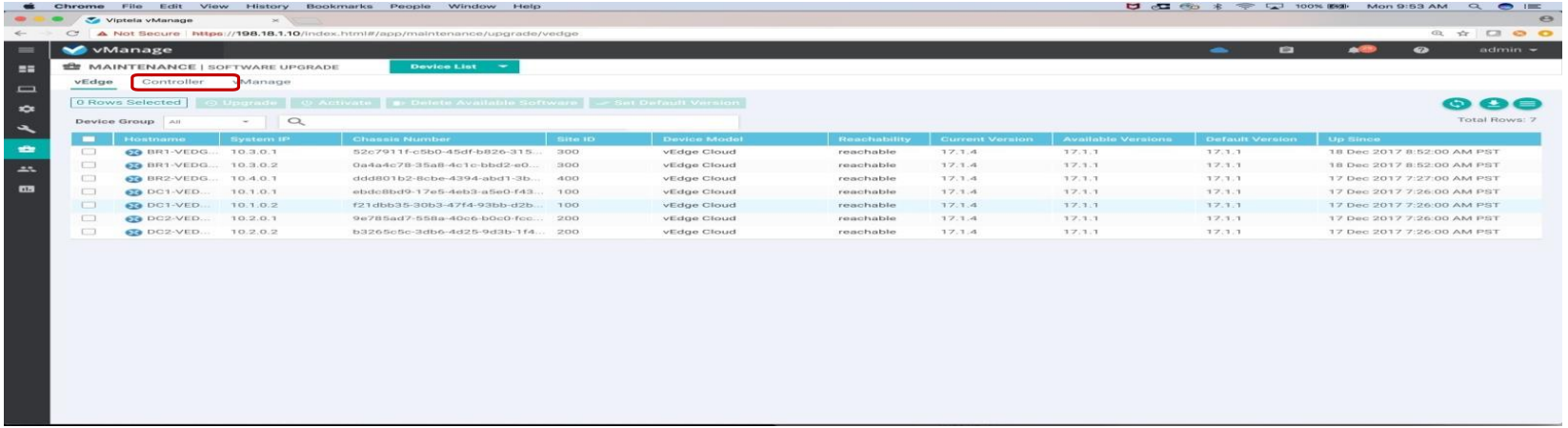


It will take few minutes to reboot. Once the vManage is back on-line, log back in again to vManage portal. To validate the current version on vManage, click on the icon with ? and then click on “About” in the pull down menu.

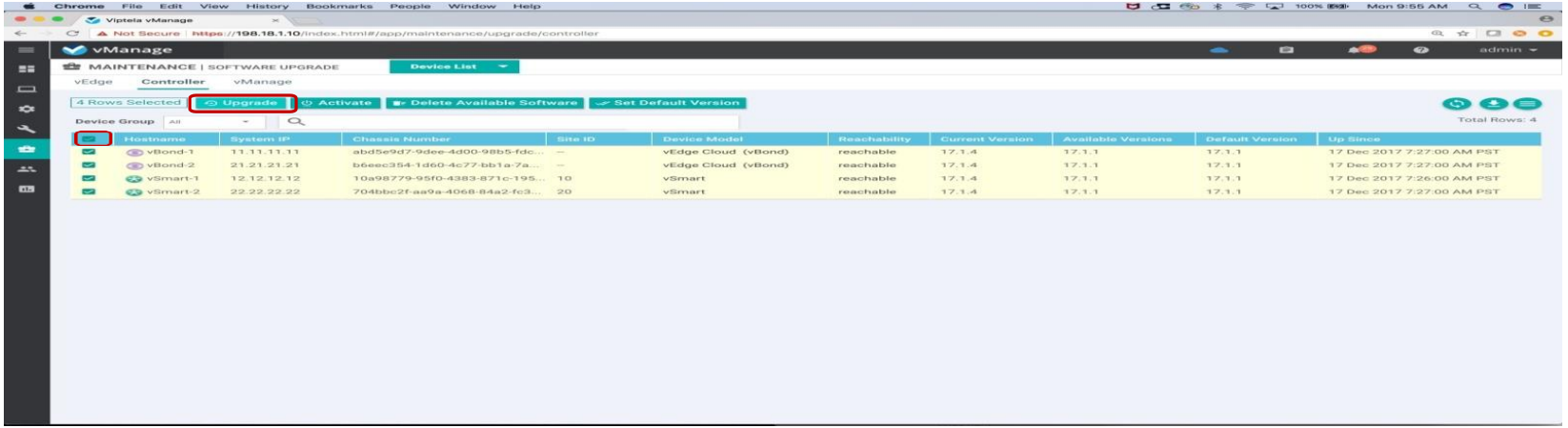

Chrome File Edit View History Bookmarks People Window Help
Mon 9:41 AM
Viptela vManage
Not Secure https://198.18.1.10/index.html#/app/dashboard
vManage
admin
DASHBOARD
Dashboard Help
Help
About
2 vSmart - 2
7 vEdge - 7
2 vBond - 2
1 vManage - 1
Reboot
Last 24 hrs
0
0
Control Status (Total 9)
Control Up 9
Partial 0
Control Down 0
Site Health View (Total 4)
Full Connectivity 4 sites
Partial Connectivity 0 sites
No Connectivity 0 sites
Transport Interface Distribution
< 10 Mbps 19
10 Mbps - 100 Mbps 0
100 Mbps - 500 Mbps 0
> 500 Mbps 0
View Percent Utilization
vEdge Inventory
Total 7
Authorized 7
Deployed 7
Staging 0
vEdge Health (Total 7)
7
0
0
Normal
Warning
Error
Transport Health
Type: By Loss
100 %
50 %
0
Top Applications
DPI
Flows
Usage
Application
Application-Aware Routing
Type: By Loss
Tunnel Endpoints
Avg. Latency (ms)
Avg. Loss (%)
DC1-VEDGE1:mpls-BR1-VEDGE2:mpls 0.956 2.705 0.026
DC1-VEDGE1:biz-internet-BR1-VEDGE2:biz-i... 0.394 2.257 0.029
DC1-VEDGE1:biz-internet-BR1-VEDGE1:biz-i... 0.946 1.987 0.013
DC1-VEDGE1:mpls-BR1-VEDGE1:mpls 0.368 1.472 0.023
javascript:void(0)



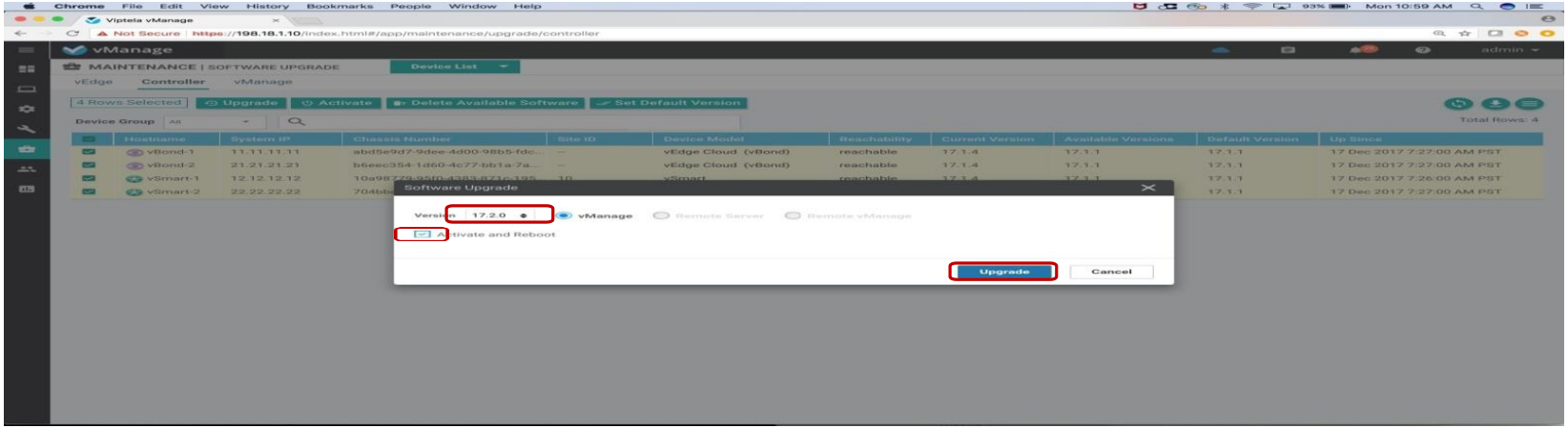
Go to Software Upgrade page and Click on “Controllers” to upgrade vBonds and vSmarts.



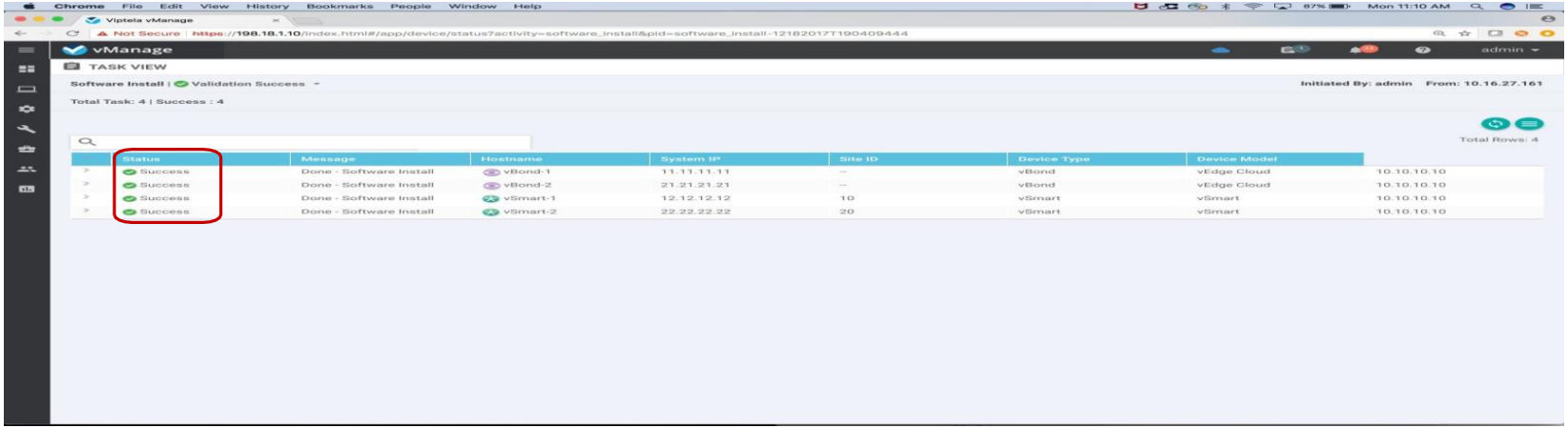
Click on the top Select button to select all the controllers. Controllers can be upgraded one at a time manually as well. The click on “Upgrade”.



Select 17.2.0 from the version field. Check mark the “Activate and Reboot” option. Then click on “Upgrade” button.



vManage will download the code and will activate the new version by rebooting the devices. This may take some time. When the controllers are upgraded successfully, the status column will show it.



Now the vEdges are left for upgrade. Go to the Software Upgrade page and select ALL the vEdges. Individual or a sub-group of vEdges can be upgraded at a given time. Click on “Upgrade” button.

Thanks ☺