

# Oracle® Talari D2000

## Hardware Guide



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Oracle Talari D2000 Hardware Guide,

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# About this Guide

This guide describes the physical characteristics of the Oracle Talari D2000 Appliance. It includes setting up the physical connections on front panel as well as how to mount this appliance in a rack. The intended audience of this document is a Network Administrator or a Network Operator.

## My Oracle Support

My Oracle Support (<https://support.oracle.com>) is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <http://www.oracle.com/us/support/contact/index.html>. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request.
2. Select **3** for Hardware, Networking and Solaris Operating System Support.
3. Select one of the following options:
  - For Technical issues such as creating a new Service Request (SR), select **1**.
  - For Non-technical issues such as registration or assistance with My Oracle Support, select **2**.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

## Emergency Response

If a critical service situation occurs, the Tekelec Customer Care Center offers emergency response twenty-four hours a day, seven days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure a rapid resolution to the problem.

A critical situation is defined as a problem that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical problems affect service or system operation, resulting in:

- Failure in the system that prevents transaction processing
- Reduction in system capacity or in system traffic-handling capability
- Inability to restart the system
- Corruption of the database

- Inability to perform maintenance or recovery operations
- Inability to provide any required critical or major trouble notification
- Any other problem severely affecting service, capacity, traffic, and billing. Maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

# Revision History

**Table 1 Revision history table**

Date	Change
June 2019	<ul style="list-style-type: none"><li>Initial Release</li></ul>
October 2019	<ul style="list-style-type: none"><li>Oracle Branding change</li></ul>
March 2020	<ul style="list-style-type: none"><li>Adds ILOM Snapshot setup and capture procedure</li><li>Adds Creating bootable USB drive (on Windows and Linux) procedure</li><li>Adds Booting with USB drive procedure</li></ul>
November 2020	<ul style="list-style-type: none"><li>Adds procedure for getting images on MOS to "Creating a Bootable USB Drive on Linux" and "Creating a Bootable USB Drive on Windows"</li></ul>
April 2021	<ul style="list-style-type: none"><li>Adds procedure for formatting USB and configuring Out of Band ZTP.</li></ul>
July 2021	<ul style="list-style-type: none"><li>Removing Easy 1st Install procedure</li></ul>

# 1

## Oracle Talari D2000 Hardware Guide

The following sections explain how to use your Oracle Talari D2000

### Hardware and Software Requirements

Oracle Talari D2000 appliances have the following hardware and software requirements.

#### Hardware

D2000 appliances require a standard 19 inch (480 mm) 4-post rack for mounting.

#### Software

The Talari Web Console is supported in latest versions of the following web browsers:

- Microsoft IE9 - IE11
- Mozilla Firefox
- Google Chrome

Supported browsers must have cookies enabled.

Supported browsers must have JavaScript installed and enabled.

#### Display

A minimum screen resolution of 1024 x 960 or greater is recommended.

### Overview

The Oracle Talari D2000 is part of the D-series of Talari Appliances and intended for use in data centers that demand high performance and physical resiliency. The Oracle Talari D2000 supports WAN Optimization and Easy 1st Install.

**Figure 1-1 Oracle Talari D2000**



### Talari APN Overview

Talari Networks is redefining WAN reliability and application performance with its family of APN Appliances by aggregating and transforming affordable broadband links to deliver business-class performance and reliability at consumer prices. Talari APN Appliances (APNAs) are seamlessly added to existing networks to deliver more bandwidth, reduced WAN operating expenses, and greater reliability than any existing single-provider WAN.



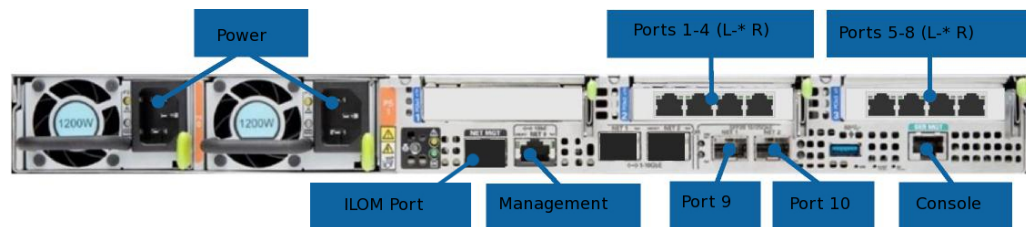
Using our patented Adaptive Private Network technology, Talari's solution combines diverse, abundant, affordable IP bandwidth sources, and provides reliable, resilient and high-quality connectivity between sites, insuring application continuity. Talari APNAs deployed in the main office and remote offices provide a network of Conduits between sites. Each Conduit is made of multiple WAN links and data transmitted across the Conduits is controlled and optimized to use network resources available across all WAN Links.

## Front Panel Configuration



For more information on the front panel status indicators, please see the [Oracle Server X7-2 Service Manual](#).

## Rear Panel Configuration



**Table 1-1 Ports**

1	Gigabit Ethernet (Bypass pair with Port 2)
2	Gigabit Ethernet (Bypass pair with Port 1)
3	Gigabit Ethernet (Bypass pair with Port 4)
4	Gigabit Ethernet (Bypass pair with Port 3)
5	Gigabit Ethernet (Bypass pair with Port 6)
6	Gigabit Ethernet (Bypass pair with Port 5)
7	Gigabit Ethernet (Bypass pair with Port 8)
8	Gigabit Ethernet (Bypass pair with Port 7)
MGT	Dedicated network management port
9	1/10 Gigabit SFP+ (non-bypass)
10	1/10 Gigabit SFP+ (non-bypass)
Console	RJ45 console port (9600/8-N-1). Used for service and maintenance.

## NIC Indicator Codes

All Ethernet ports on the D2000 have indicator lights for information on network activity and link status.

**Table 1-2 MGT**

Indicator	Location	Color	Meaning
Activity	Left	Green	On: Link up Off: No activity Blinking: Packet Activity
Link Speed	Right	Green	Off: 10/100 Mbps On: 1Gbps

**Table 1-3 Ports 1 - 8**

Indicator	Location	Color	Meaning
Activity	Left	Green	Off: No activity Blinking: Packet Activity
Link Speed	Right	Amber/Green	Off: No activity/10 Mbps Green: 100 Mbps Amber: 1 Gbps

**Table 1-4 Ports 9 - 10**

Indicator	Location	Color	Meaning
Activity	Top	Green	Off: No activity Blinking: Packet Activity
Link Speed	Bottom	Amber	Off: No activity Amber: 10 Gbps

## Hardware Specifications

The D2000 has the following hardware specifications.

Power	Redundant 1200 watt power supply 100-240V 50-60 Hz
Estimated BTU Per Hour	Active idle: 416 BTU/hr 50% Workload: 549 BTU/hr 90% Workload: 659 BTU/hr
Physical Dimensions	Height 1.68" (42.6mm) Width 18.9" (482mm) Depth 29.02" (737mm) Gross Weight 40 lbs (18.1kg)
Mounting Options	Rack mount, rail kit (included)
System LEDs	See <a href="#">Oracle Server X7-2 Service Manual</a>
Link LEDs	Link activity Link speed

Operating Temperature	41°F to 95°F (5° to 35°C)
Storage Temperature	-40°F to 154°F (-40°C to 68°C)
Humidity Range	10% to 90% (non-condensing) operating environment
Network Data Interfaces	8 Gigabit Ethernet Fail-To-Wire Ports 2 1/10-Gigabit Ethernet SFP+ Ports
Other interfaces	1 Gigabit Ethernet Management Port 1 USB 3.0 port 1 RJ-45 Console Port

---

## Installing the Talari Appliance

### Rack Mounting

Prior to installing the device, adhere to the following installation guidelines:

- Ensure that there is adequate airflow in the rack. Restricted airflow can damage the equipment.
- Leave at least 1U of vertical space between each device installed in the rack.
- The rack width and depth should allow for proper serviceability and cable management.
- Ensure the rack is properly secured to the floor or ceiling.
- Ensure the rack is properly grounded.
- Ensure the installer is properly grounded and wearing appropriate safety equipment.
- Always load the rack from the bottom up.
- Load the heaviest devices in the rack first.
- Make sure the rack is level and stable before pulling a device out of the rack.
- Do not move racks by yourself; at least two people are recommended to move a rack.
- Cables should be easily identifiable.

Please refer to the Oracle® Servers X7-2 and X7-2L Installation Guide for additional appliance specifications and detailed rackmounting instructions: [https://docs.oracle.com/cd/E72435\\_01/html/E72440/index.html](https://docs.oracle.com/cd/E72435_01/html/E72440/index.html).

### LAN/WAN Connections

When connecting each Ethernet cable (LAN, WAN) to the appropriate connector on the D2000.

- Position the cables carefully, so that they do not put strain on the connectors.
- Organize cables in bundles such that cables do not intertwine.
- Inspect the cables to make sure that the routing and bend radii are satisfactory. Reposition cables, if necessary.

- Install cable ties in accordance with site requirements.

## Cabling and Bypass Mode

If your Talari appliance is operating in bypass mode, logic used by the appliance represents the functionality provided by a crossover cable. This may cause a loss of the link between the Talari appliance and older network devices that do not support Auto-MDIX when straight-through cables are used to connect the LAN and WAN ports of the Talari appliance. In such a case, a crossover cable is required from the Talari WAN port to the network device.

If your network devices support Auto-MDIX capability, the link should be automatically established when in bypass mode and there should be no need for crossover cables. Talari recommends testing and verifying this capability with the Talari appliance powered off for proper operation.

For assistance, please contact your Talari representative, or the Talari Support team.

## Powering Up the Appliance

When connecting power to the D2000:

- Plug the AC power cords into the appliance.
- Plug the AC power cords into an uninterrupted AC power source.
- The appliance will start automatically.

The D2000 uses 100 - 240 VAC.

## Network Deployment Options

Before getting started, it is important to determine how the Oracle Talari D2000 will be deployed.

### Note:

When considering deployment options, please note that the bypass pairs will default to Fail-To-Block until configured otherwise.

Example instructions for some of the most common deployment scenarios are provided below:

### **Router (Gateway, Fail to Block)**

The Oracle Talari D2000 is deployed as the WAN gateway for the site, and bypass pair is configured as Fail-To-Block. Use this option if you plan to use the Talari Appliance as the edge device for the site.

### **Layer 2 Fail-To-Wire (Overlay)**

The Oracle Talari D2000 is deployed on the LAN side of the gateway, and bypass pair is configured as Fail-To-Wire. Use this option if you prefer to retain existing edge devices or plan to install an alternative edge device on the WAN side of the Talari Appliance.

### MPLS & Internet Hybrid

The Oracle Talari D2000 is deployed as an overlay for MPLS while performing routing/firewall capabilities for internet links. Use this option if recommended by your Sales Architect, or if you have an MPLS/Internet hybrid network and will not be using the CE Router Replacement functionality of Oracle SD-WAN Edge.

### Other Options

There are other deployment options, and our Talari Implementation team members will assist you with planning and deploying your new appliance.

## Installation Option: Out of Band ZTP

Out of Band Zero Touch Provisioning (ZTP) is a serverless, secure way to provision new SD-WAN Edge devices in your network. This method is used to provision clients without any initial configuration upon start up.



#### Note:

Your appliance must have already be running SD-WAN Edge 9.1 for OOB ZTB to function.

## Formatting the USB Drive

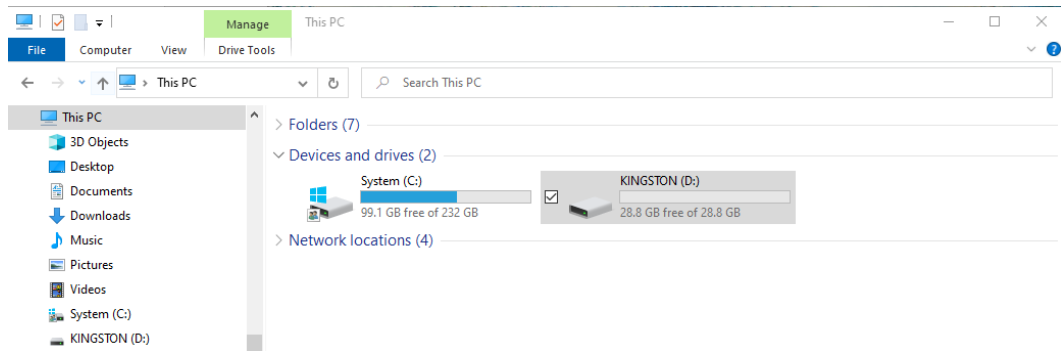
Oracle recommends use of a new USB drive to ensure there are no partitions on the device. The SD-WAN appliance expects a single partition with the specified label.

### For Windows

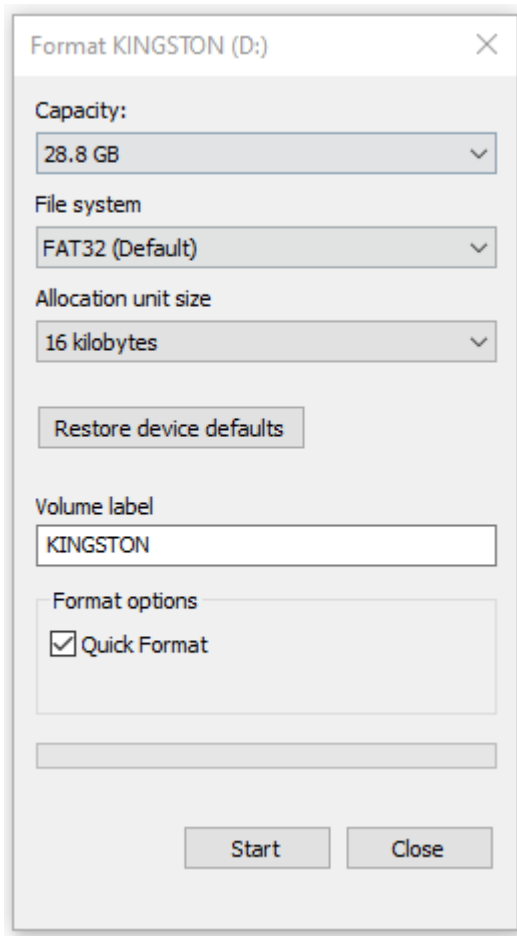
1. Insert the USB drive into your computer
2. If asked, do not encrypt your USB drive



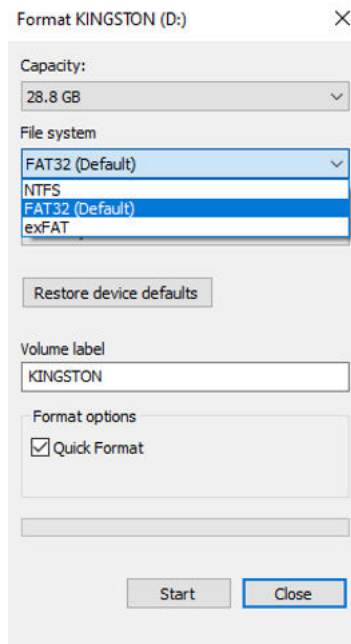
3. Open your Windows or File Explorer to locate the USB drive
4. Ensure the USB drive is at least 100 MB.
5. Select **This PC** to show the USB drive under the **Devices and drives** section



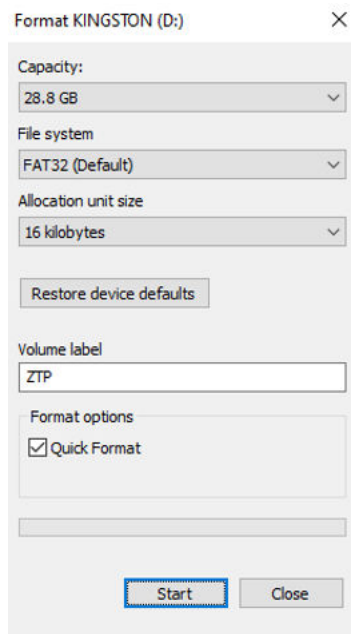
6. Right click on the USB drive and select **Format...** to display the format menu



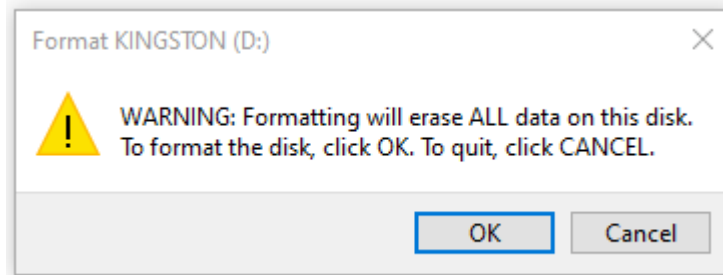
7. In the Format dialog box, do the following:
  - a. Select **FAT32** in the **File system** field if not already selected. It is often the default option.



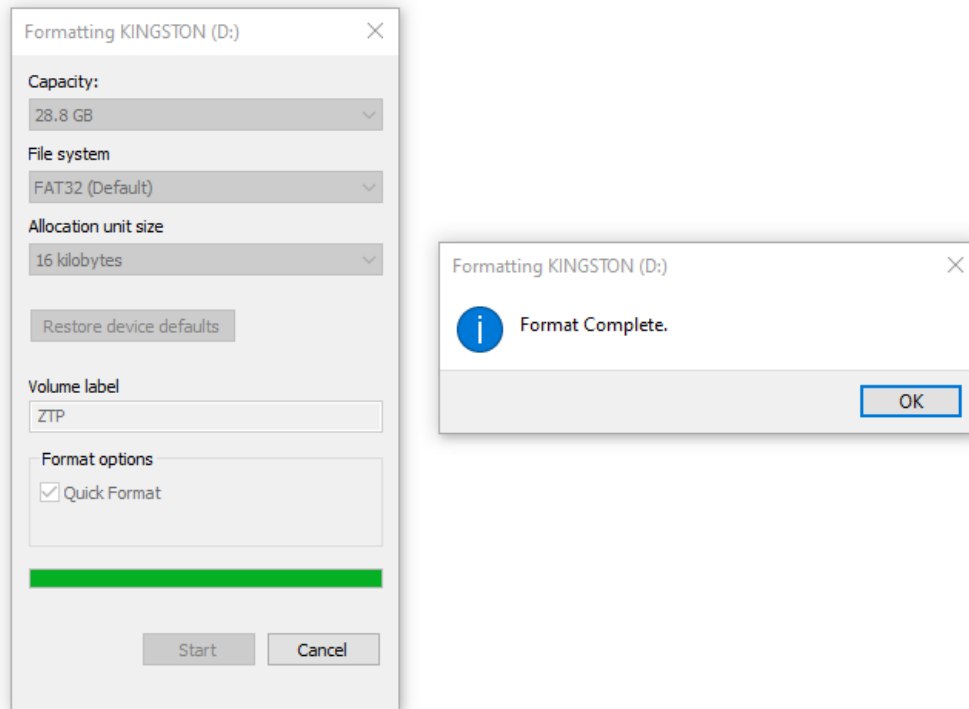
- b. Type **ZTP** in the **Volume label** field
- c. Select **Start** button to confirm show the confirmation box



- d. Select **OK** to confirm and being formatting

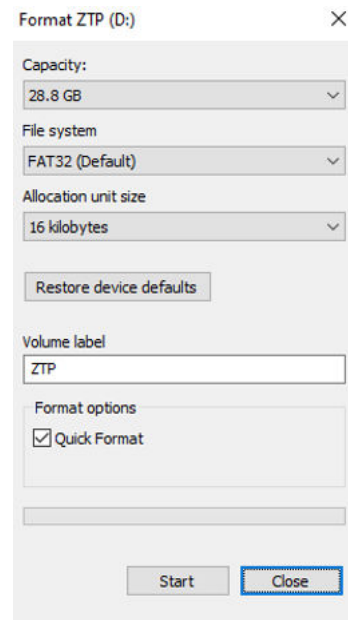


8. After formatting completes, click **OK**.

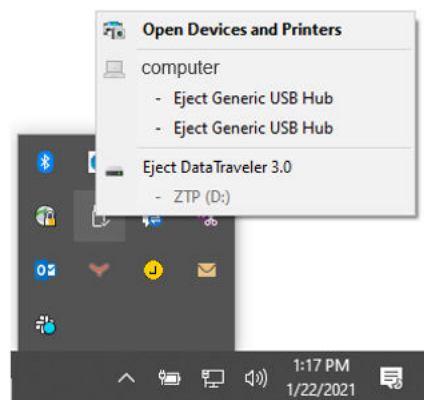


9. Confirm the Format dialog box by doing the following:
  - a. The **Volume label** field and dialog box name shows **ZTP**.
  - b. The **File system** type is **FAT32**
  - c. After above is confirmed, select the **Close** button at the bottom.





10. Locate the downloaded software package (.zip file) on your computer. (ex. Package name: <ApplianceName>-A-R9\_1\_0\_0\_0\_GA\_<date>.zip)
11. Copy the file over to the **ZTP** USB drive. You should have a single software package on the drive in the top directory. Do not create any folders for the file.
12. Eject the **ZTP** USB drive.



13. Continue to the instructions to Configure SD-WAN using out-of-band ZTP.

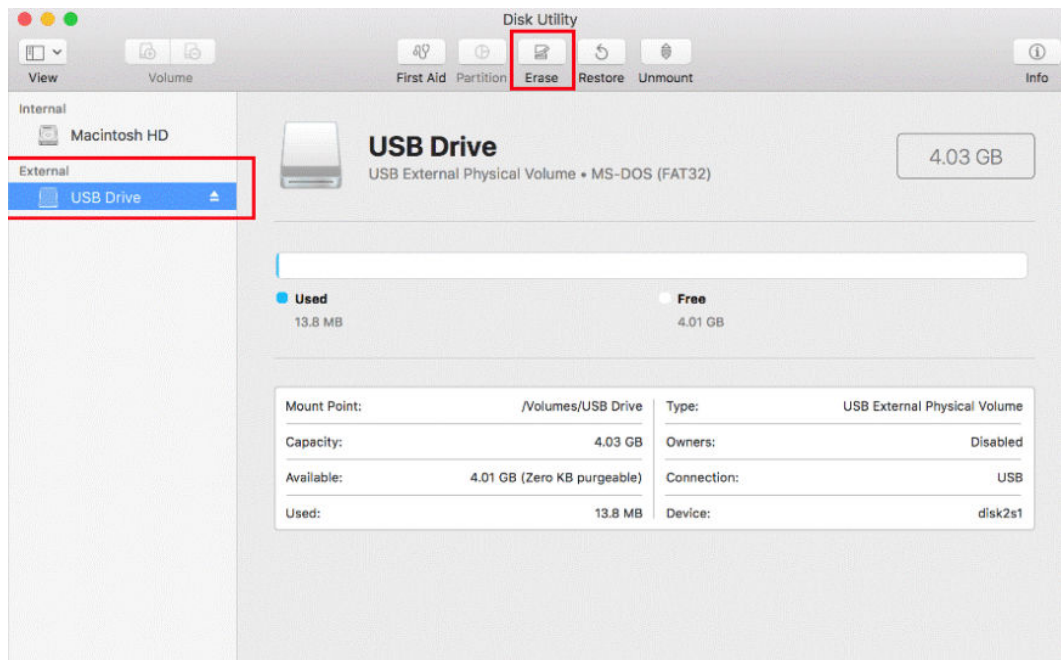
## For Linux

1. Insert the USB drive into the computer
2. Ensure the USB drive is at least 100 MB.
3. Check the device name. These instructions assume it is `/dev/sdb`.
4. Clear the USB using command `sgdisk -Z /dev/sdb`
5. Create a single partition using command `sgdisk /dev/sdb -n 1::0 -t 1:ef00`
6. Format the partition as FAT32 format using command `mkfs.vfat -F32 /dev/sdb1`
7. Format the USB drive for NTFS, naming the volume **ZTP**

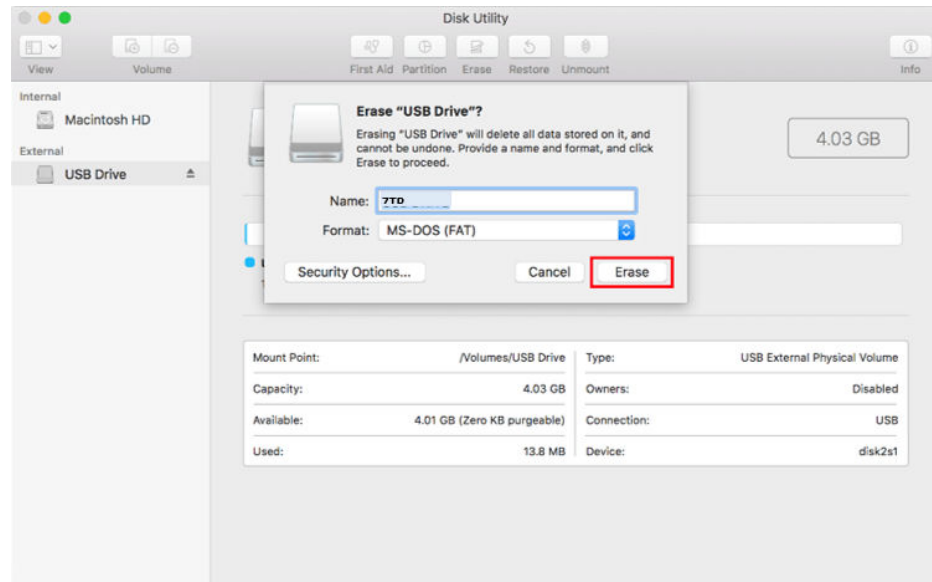
8. Copy the downloaded software package (.zip file) onto the USB drive. It should be the ONLY software package on the USB drive. (ex. Package name: <ApplianceName>-A-R9\_1\_0\_0\_0\_GA\_<date>.zip)
9. Eject the ZTP USB drive.
10. Continue to the instructions to Configure SD-WAN using out-of-band ZTP

## For Mac

1. Insert the USB drive into the Mac
2. Launch Disk Utility, located in **Applications > Utilities**
3. Locate the USB drive name on the left hand side of Disk Utility window and select it



4. Ensure the USB drive is at least 100 MB.
5. In the Disk Utility window for your USB drive, do the following:
  - a. Select **FAT** if it is not already the default option in the Format field
  - b. Type **ZTP** in the Name field
  - c. Select **Erase** to begin formatting



6. Once Erasing is complete, select the **Done** button in the Erasing and creating dialog box
7. Locate the downloaded software package (.zip file) on your computer. (ex. Package name: <ApplianceName>-A-R9\_1\_0\_0\_0\_GA\_<date>.zip)
8. Copy the file over to the ZTP USB drive. You should have a single software package on the drive in the top directory. Do not create any folders for the file
9. Eject the ZTP USB drive.
10. Continue to the instructions to Configure SD-WAN using out-of-band ZTP

## Configure SD-WAN Using Out-of-Band ZTP

1. If not powered, plug in your appliance without a USB drive.
2. After it starts, insert the formatted USB drive with single software package for this appliance into the USB port of your SD-WAN appliance/hypervisor.
3. After installation, remove the USB drive from your SD-WAN appliance/hypervisor.

## Installation Option: Manual Install

For use with Oracle Talari D2000 as a Router (Gateway, Fail to Block), Layer 2 Fail to Wire (Overlay), MPLS and Internet Hybrid

### Manual Install Site Deployment Criteria

Manual (Legacy) Install requires physical access to the appliance. The end user will require a PC which can be connected to the console port of the Talari Appliance. The console port connects the user to the Oracle ILOM command line interface. Cable management, LAN, and WAN ports according to the Talari configuration for site.

### Pre-Deployment Requirements

The network administrator must have an active configuration which includes a client package for this site running on the NCN. An appropriate IP address, subnet mask,

and gateway for the management interface should be provided for the on-site user to configure.

If the network administrator will have access to the new appliance once an on-site user configures the management interface, proceed to step 10 of Deploying the Talari Appliance. If not, the on-site user will require the client package from the running configuration:

1. From the Web Console of the NCN, navigate to Manage Network, and then Change Management.
2. Download the active package for the new client site.
3. Send the zipped client package to the on-site user who will be deploying the appliance.

### Deploying the Talari Appliance

1. Connect the power cords to the Oracle Talari D2000. Connect the other ends to an appropriately grounded power source. The Oracle Talari D2000 will power on automatically.
2. Connect the PC directly to the console port of the Oracle Talari D2000 and console into the appliance using a bit rate of 115200/8-N-1.
3. Log in to Oracle ILOM as an Administrator. To enable first time login and access to Oracle ILOM, a default Administrator account and its password are provided with the system. To build a secure environment, change the default password (Welcome1) for the default Administrator account (root) after your initial login. You may change the password using the command "set /SP/users/root/ password".\*
4. Enter the command "start /HOST/console", confirm, and hit enter again to access the Talari console.
5. Log in to the appliance via the command line. To enable first time login and access to the Talari appliance, a default administrator account and its password are provided with the system. To build a secure environment, change the default password (talari) for the default Administrator account (talariuser) after your initial login.
6. Enter the command "tcon" and wait for the prompt to return.
7. Enter the command "management\_ip".
8. Stage the IP Address, Subnet Mask, and Gateway IP Address for the Talari as provided by the network administrator using the command "set interface <ip address> <subnet mask> <gateway>". Review the staged settings, then enter the "apply" command to activate.
9. Disconnect from the console. If the network administrator will be configuring the appliance, no further action is required.
10. To apply the configuration package, navigate to the Talari management IP in a web browser and log in to the Talari web console using the credentials given above. Select Configuration > Local Change Management from the left-hand menu.
11. Click Browse and select the .zip package provided by your network administrator, then click Upload.
12. When the upload is complete, click Next to proceed to activation.
13. Click Activate Staged to complete the process.
14. Once the activation process is complete, navigate to Manage Appliance > Enable/Disable Services and enable the Talari service.

## Collecting ILOM Diagnostics for D2000 and D6000

Enabling ILOM on your D2000 or D6000 appliance provides hardware support at the component level by means of an ILOM snapshot. Oracle's technical support center can analyze the snapshots and access data such as FMA reports to determine which components require replacement in a fault situation.

To enable ILOM snapshots on your appliance:

1. Sign into SD-WAN OS and sudo to root.

```
talariuser@NCN-d6000:~# sudo su
bash-4.2#
```

2. Verify that the ILOM-to-host interconnect is disabled by observing State:disabled.

```
bash-4.2# ilomconfig list interconnect
Interconnect
=====
State: disabled
Type: USB Ethernet
SP Interconnect IP Address: 169.254.182.76
Host Interconnect IP Address: (none)
Interconnect Netmask: 255.255.255.0
SP Interconnect MAC Address: 02:21:28:57:47:16
Host Interconnect MAC Address: 02:21:28:57:47:17
```

3. Enable and verify ILOM-to-host interconnect.

```
bash-4.2# ilomconfig enable interconnect
Set 'state' to 'enabled'
Host-to-ILOM interconnect successfully configured.
```

```
bash-4.2# ilomconfig list interconnect
Interconnect
=====
State: enabled
Type: USB Ethernet
SP Interconnect IP Address: 169.254.182.76
Host Interconnect IP Address: 169.254.182.77
Interconnect Netmask: 255.255.255.0
SP Interconnect MAC Address: 02:21:28:57:47:16
Host Interconnect MAC Address: 02:21:28:57:47:17
```

 **Note:**

In this example:

- The Host address is 169.254.182.77
- The ILOM address is 169.254.182.76

4. Verify that you can ping the ILOM interface.

```
bash-4.2# ping 169.254.182.76
PING 169.254.182.76 (169.254.182.76) 56(84) bytes of data.
64 bytes from 169.254.182.76: icmp_seq=1 ttl=64 time=0.323 ms
64 bytes from 169.254.182.76: icmp_seq=2 ttl=64 time=0.218 ms
```

5. Enable higher layer IP protocols.

```
bash-4.2# ipmitool sunoem cli "set /SP/network/interconnect
allowed_services=fault-transport,http,https,ipmi,snmp,ssh"
Connected. Use ^D to exit.
-> set /SP/network/interconnect allowed_services=fault-
transport,http,https,ipmi,snmp,ssh
Set 'allowed_services' to 'fault-transport,http,https,ipmi,snmp,ssh'
[fault-transport, http, https, ipmi, ssh, snmp]

-> Session closed
Disconnected
```

6. Set the snapshot type to normal.

```
bash-4.2# ipmitool sunoem cli "set /SP/diag/snapshot dataset=normal"
Connected. Use ^D to exit.
-> set /SP/diag/snapshot dataset=normal
Set 'dataset' to 'normal'

-> Session closed
Disconnected
```

7. Sign into ILOM again.

```
bash-4.2# ssh root@169.254.182.76
Password: *****

Oracle(R) Integrated Lights Out Manager
Version 4.0.4.33 r128860
Copyright (c) 2019, Oracle and/or its affiliates. All rights reserved.
Warning: password is set to factory default.
Warning: HTTPS certificate is set to factory default.
Hostname: ORACLESP-1907XC3025

->
```

8. In one command, initiate Snapshot and transfer the file to /tmp on host with the talariuser login credentials.

```
-> set /SP/diag/snapshot dump_uri=sftp://talariuser@169.254.182.77/tmp
Enter remote user password: ***** // Enter talariuser password
Set 'dump_uri' to 'sftp://talariuser@169.254.182.77/tmp'

-> show /SP/diag/snapshot result

/SP/diag/snapshot
```

```
Properties:
  result = Running
```

The process will take about 10 minutes to complete.

9. You may reissue this show command to check the status. When the result changes from Running to Complete, exit the shell back to the host

```
-> show /SP/diag/snapshot result

/SP/diag/snapshot
  Properties:
    result = Collecting data into sftp://
talariuser@169.254.182.77/tmp/
ORACLESP-1907XC3025_1907XC3025_2020-03-02T17-50-08.zip
    Snapshot Complete.
    Done.

-> exit
Connection to 169.254.182.76 closed.
bash-4.2#
```

The zip file will be in /tmp.

```
bash-4.2# ls -l /tmp/*.zip
-rw-r--r-- 1 talariuser talariuser 17879551 Mar  2 14:00 /tmp/
ORACLESP-1907XC3025_1907XC3025_2020-03-02T17-50-08.zip
bash-4.2#
```

10. Validate the .zip file.

```
bash-4.2# unzip -tq /tmp/
ORACLESP-1907XC3025_1907XC3025_2020-03-02T17-50-08.zip
No errors detected in compressed data of /tmp/
ORACLESP-1907XC3025_1907XC3025_2020-03-02T17-50-08.zip.
```

11. Disable the interconnect.

```
bash-4.2# ilomconfig disable interconnect
Set 'state' to 'disabled'
```

## Creating a Bootable USB Drive on Linux

Before starting this process, ensure that the capacity of your USB drive is at least 4 GB.

To create a bootable USB drive on Linux:

1. Download the D2000 or D6000 image from MOS by doing the following:
  - a. Go to [support.oracle.com](https://support.oracle.com) and log in.
  - b. Click on the **Patches & Updates** tab.
  - c. Under **Patch Search**, click on **Product or Family (Advanced)**.

- d. Begin typing SD-WAN Edge in the search field and then select it from the dropdown.
  - e. Select the release from the dropdown menu.
  - f. Click on **Search**.
2. Copy the image on the USB drive.

Doing this destroys all existing data on the USB drive.

3. Insert the USB drive into the computer and run the `dmesg|tail` command.

```
[4317966.832947] usb 4-1: new SuperSpeed USB device number 39 using
xhci_hcd
[4317966.845892] usb 4-1: New USB device found, idVendor=0951,
idProduct=1666
[4317966.845893] usb 4-1: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
[4317966.845894] usb 4-1: Product: DataTraveler 3.0
[4317966.845895] usb 4-1: Manufacturer: Kingston
[4317966.845896] usb 4-1: SerialNumber: E0D55EA57419E3C139680956
[4317966.848319] usb-storage 4-1:1.0: USB Mass Storage device detected
[4317966.848421] scsi host6: usb-storage 4-1:1.0
[4317967.863955] scsi 6:0:0:0: Direct-Access      Kingston DataTraveler
3.0 PMAP PQ: 0 ANSI: 6
[4317967.864524] sd 6:0:0:0: Attached scsi generic sg4 type 0
[4317967.864606] sd 6:0:0:0: [sdd] 60604416 512-byte logical blocks:
(31.0 GB/28.9 GiB)
[4317967.864790] sd 6:0:0:0: [sdd] Write Protect is off
[4317967.864792] sd 6:0:0:0: [sdd] Mode Sense: 45 00 00 00
[4317967.864972] sd 6:0:0:0: [sdd] Write cache: disabled, read cache:
enabled, doesn't support DPO or FUA
```

4. In this case, the device name is "sdd", and will be referenced by Linux as "/dev/sdd".
5. If Linux has been configured to auto-mount USB devices, unmount the partitions on the drive. Run the "df" command to detect the status of the partitions of the drive:

In this example, the second partition of /dev/sdd is mounted and must be unmounted. In your case there may be no mounts on the USB or more.

```
df
Filesystem                                1K-blocks
Used Available Use% Mounted on
devtmpfs                                  16416036
16416036      0 16416036   0% /dev
/dev/mapper/ol_lobi7u6-root                52403200
37842328 14560872  73% /
/dev/sda1                                  1038336
427060    611276  42% /boot
/dev/mapper/ol_lobi7u6-home                164415040
112140980 52274060  69% /home
/dev/sdd2                                  2755604
2389404    222896  92% /run/media/oracle/USBBoot
```

6. To unmount the partition on the drive, run the command:`umount /run/media/oracle/USBBoot`.



7. Run the `df` command again to make sure that there are no mounts matching your USB device name (`/dev/sdd` in the example.)
8. Insert the USB drive. At this point, the USB drive is ready to receive the image.
9. `gunzip` the downloaded USB raw image file.

```
gunzip
d6000v1_OS_7_0_1_0_0_GA_02282020_OS_52_GA_05022019_R8_2_1_0_0_GA_012
82020.raw.gz
```

10. Burn the image, copy the USB raw image file to the USB device.

In the example, the USB device is identified as `dev/sdd`. This command requires root access and is prefixed with “`sudo`”.

```
sudo cp
d6000v1_OS_7_0_1_0_0_GA_02282020_OS_52_GA_05022019_R8_2_1_0_0_GA_012
82020.raw /dev/sdd
```

The USB burn process on a USB3 device can take 15 minutes. It may take a longer time if the device or port is USB2. After the process is complete, you can remove the USB. It is ready for use.

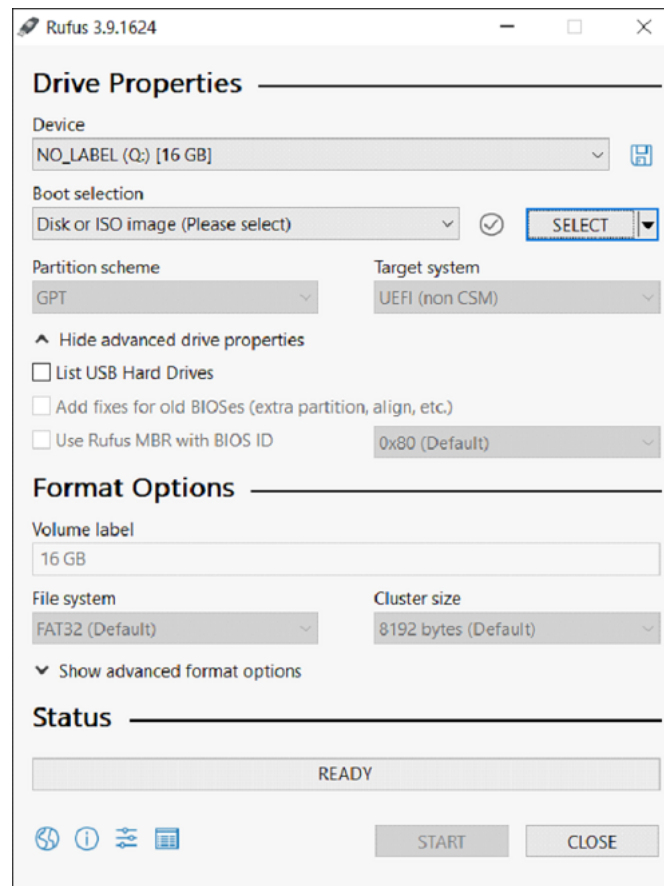
## Creating a Bootable USB Drive on Windows

Before starting this process, ensure that the capacity of your USB drive is at least 4 GB.

To create a bootable USB drive on Windows:

1. Download the D2000 or D6000 image from MOS by doing the following:
  - a. Go to [support.oracle.com](https://support.oracle.com) and log in.
  - b. Click on the **Patches & Updates** tab.
  - c. Under **Patch Search**, click on **Product or Family (Advanced)**.
  - d. Begin typing SD-WAN Edge in the search field and then select it from the dropdown.
  - e. Select the release from the dropdown menu.
  - f. Click on **Search**.
2. Download the Rufus tool. It is a standalone program and requires no installation <https://rufus.ie/>.
3. Place the image on the USB drive. Doing this destroys all existing data on the USB drive.
4. Run Rufus.

You will be prompted to allow administrator access.
5. Click **Yes**.
6. Click **SELECT** and choose the file that you downloaded from MOS. The downloaded file is in compressed format (.gz). Do not uncompress it.



7. Click **Start**.

You will be asked if it is OK to destroy all the data in the device.

8. Click **Yes**.

The USB burn process on a USB3 device can take 15 minutes. It may take longer if the device or port is USB2. After the process is complete, you can remove the USB. It is ready for use.

## Booting with the USB Drive

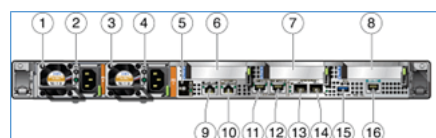
Complete the following tasks to boot with the bootable USB drive.

See the following sections for how to create a bootable USB drive.

To boot the appliance using the bootable USB drive:

1. Connect to the serial port (#16 on back panel). It is configured at 115200 baud.
2. Insert the install USB drive into the rear of the unit (#15 on back panel).

**Figure 1-2 Device Back Panel**



3. Login to the Service Processor.
4. Reset the HOST and connect to the HOST using the following command:

```

ORACLESP-1907XC3025 login: root
Password:
Detecting screen size; please wait...done

Oracle(R) Integrated Lights Out Manager

Version 4.0.4.33 r128860

Copyright (c) 2019, Oracle and/or its affiliates. All rights
reserved.

Warning: password is set to factory default.

Warning: HTTPS certificate is set to factory default.

Hostname: ORACLESP-1907XC3025

-> reset /system                                << RESET HOST
Are you sure you want to reset /System (y/n)? y
Performing hard reset on /System

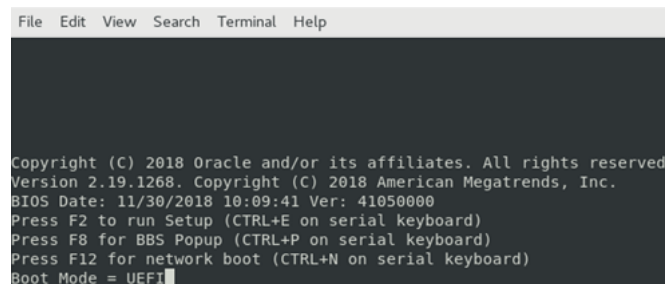
-> start /HOST/console/                          << connect to Host
console
Are you sure you want to start /HOST/console (y/n)? y

Serial console started.  To stop, type ESC (

```

5. Wait for the HOST to boot. After about 1 minute, the first boot screen appears.

**Figure 1-3 Boot Screen**



6. Press CTRL-P until **[Boot Pop Up Menu Selected]** is displayed on the screen.

**Figure 1-4 Boot Pop Up Menu**

```
File Edit View Search Terminal Help

Copyright (C) 2018 Oracle and/or its affiliates. All rights reserved.
Version 2.19.1268. Copyright (C) 2018 American Megatrends, Inc.
BIOS Date: 11/30/2018 10:09:41 Ver: 41050000
Press F2 to run Setup (CTRL+E on serial keyboard)
Press F8 for BBS Popup (CTRL+P on serial keyboard)
Press F12 for network boot (CTRL+N on serial keyboard)
Boot Mode = UEFI
[Boot Pop Up Menu Selected]
```

The Boot Device menu is displayed in about 2 minutes.

**Figure 1-5 Boot Device Menu**

```
File Edit View Search Terminal Help

Please select boot device:

Talari d6000 Boot Disk
USB:KingstonDataTraveler 3.0PMAP, Partition 1
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
NET1:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller
NET2:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller
Enter Setup

^ and v to move selection
ENTER to select boot device
ESC to boot using defaults
```

- Using the Up/Down arrows keys, position the cursor on your install USB boot device. Press the ENTER key to select the USB boot device.

**Figure 1-6 USB Boot Device**

```
File Edit View Search Terminal Help

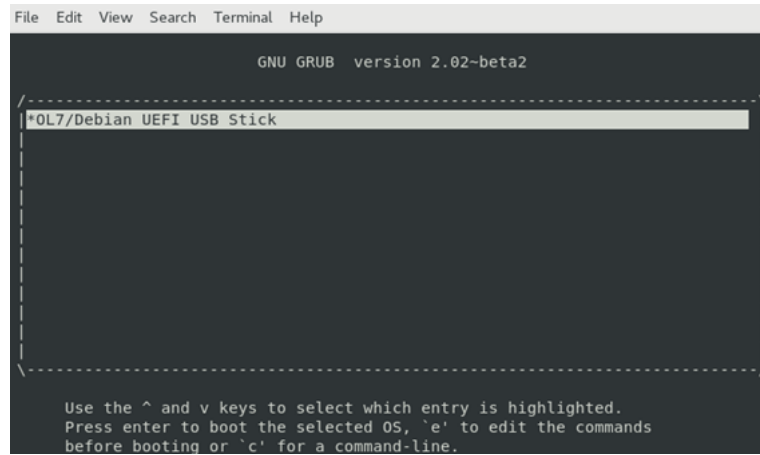
Please select boot device:

Talari d6000 Boot Disk
USB:KingstonDataTraveler 3.0PMAP, Partition 1
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection
NET1:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller
NET2:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller
Enter Setup

^ and v to move selection
ENTER to select boot device
ESC to boot using defaults
```

The **GNU GRUB** menu is displayed. It has a 5 second timeout.

**Figure 1-7 GNU GRUB Menu**



The system is now booting the USB. This process may take up to 5 minutes. After the process is complete, a login prompt is displayed. If you have missed viewing the login prompt in the boot messages, press the ENTER key at any time, for a new login prompt. This is safe.

**Figure 1-8 System Booting Using the USB**

```
File Edit View Search Terminal Help
aesni)
[ 14.840531] intel_rapl: Found RAPL domain package
[ 14.846338] intel_rapl: RAPL package 0 domain package locked by BIOS
[ 14.853967] intel_rapl: Found RAPL domain package
[ 14.859754] intel_rapl: RAPL package 1 domain package locked by BIOS
[ 14.895788] EDAC MC0: Giving out device to 'skx_edac.c' 'Skylake Socket#0 IMC#0
': DEV 0000:3a:0a.0
[ 14.906368] EDAC MC1: Giving out device to 'skx_edac.c' 'Skylake Socket#0 IMC#1
': DEV 0000:3a:0c.0
[ 14.916939] EDAC MC2: Giving out device to 'skx_edac.c' 'Skylake Socket#1 IMC#0
': DEV 0000:ae:0a.0
[ 14.927496] EDAC MC3: Giving out device to 'skx_edac.c' 'Skylake Socket#1 IMC#1
': DEV 0000:ae:0c.0
[ 15.437573] iTCO_vendor_support: vendor-support=0
[ 15.454935] iTCO_wdt: Intel TCO WatchDog Timer Driver v1.11
[ 15.455018] iTCO_wdt: unable to reset NO_REBOOT flag, device disabled by hardwa
re/BIOS

Oracle Linux Server 7.7
Kernel 3.10.0-1062.12.1.el7.x86_64 on an x86_64

localhost login: [ 49.947413] systemd-readahead[1027]: Failed to open pack file:
Read-only file system
```

8. Login to the system with user name root and a password of talari.  
You can set the IP address of the appliance now, or you can set it after installation.
9. Choose any one option:
  - If you want to defer the setup, press the ENTER key when the system prompts you for **IP4 address** and press **y** to indicate that the configuration is correct.
  - Otherwise, enter the IP4 address with mask width and optionally the gateway. After completing it, press **y** to indicate that the configuration is correct.

Figure 1-9 Device IP Address Configuration

```

File Edit View Search Terminal Help
welcome to the SD-WAN Edge Software Installation Tool
Preparing to perform installion on a d6000 Appliance, with 63G memory
Please enter the Management port IP configuration for the appliance
IP address and mask width (ex:192.168.1.1/24)/n
Enter <null> for DHCP

IP4 address (###.###.###.###/##) : 10.75.134.196/24
IP4 Gateway (###.###.###.###) : 10.75.134.1

Management Port IP: 10.75.134.196
Netmask: 255.255.255.0 (width 24)
Gateway: 10.75.134.1

Is IP configuration correct? (y/N) █

```

 **Note:**

After accepting the IP4 configuration, the installation script creates the partitions, formats the partitions, and loads the SDWAN OS and application software on the system. When this is complete, you are asked to type reboot and remove the USB drive. This process takes up to 3 minutes.

Figure 1-10 Rebooting

```

File Edit View Search Terminal Help
x0)/Pci(0x0,0x0)/MAC(000cbd0a9874,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot000D* PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection /Pci(0x0,0
x0)/Pci(0x0,0x1)/MAC(000cbd0a9875,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot000E* PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection /Pci(0x0,0
x0)/Pci(0x0,0x2)/MAC(000cbd0a9876,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot000F* PCIE3:PXE IP4 Intel(R) 82580 Gigabit Network Connection /Pci(0x0,0
x0)/Pci(0x0,0x3)/MAC(000cbd0a9877,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot0010* NET1:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller /P
ci(0x0,0x0)/Pci(0x0,0x0)/MAC(0010e0e969db,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot0011* NET2:PXE IP4 Oracle Dual Port 10Gb/25Gb SFP28 Ethernet Controller /P
ci(0x0,0x0)/Pci(0x0,0x1)/MAC(0010e0e969dc,1)/IPv4(0.0.0.00.0.0.0,0,0)..B0
Boot0012* USB:KingstonDataTraveler 3.0PMAP, Partition 1 /Pci(0x14,0x0)/USB(0,0)/HD
(1,GPT,5bf263f2-956a-4089-860b-85b17454546b,0x800,0x64000)..B0
Boot0002* Talari d6000 Boot Disk HD(1,GPT,f8fba162-2116-42e6-9c2d-14be51ab9
f3e,0x800,0x64000)/File(\EFI\BOOT\bootx64.efi)
MirrorStatus: Platform does not support address range mirror
DesiredMirroredPercentageAbove4G: 0.00
DesiredMirrorMemoryBelow4GB: false
Unmounting all partitions
[ 232.718969] XFS (sda5): Unmounting Filesystem

Please issue reboot command and remove USB stick

[root@localhost ~]# █

```

10. Type reboot after completion of the previous step.
11. After rebooting, and after the second stage install is complete (which may take up to 10 minutes), login to the appliance.

**Figure 1-11 Appliance Ready for Use**

```
File Edit View Search Terminal Help
[ OK ] Started The Apache HTTP Server.
      Stopping System Logging Service...
[ OK ] Stopped System Logging Service.
      Starting System Logging Service...
[ OK ] Started System Logging Service.
[ OK ] Started Talari Appliance Software.
[ OK ] Started Talari Appliance Software.
[ OK ] Reached target Multi-User System.
[ OK ] Started Stop Read-Ahead Data Collection 10s After Completed Startup.
      Starting Update UTMP about System Runlevel Changes...
[ OK ] Started Update UTMP about System Runlevel Changes.

Oracle Linux Server 7.7
Kernel 4.14.35-1902.10.7.el7uek.core2.x86_64 on an x86_64

talari login: talariuser
Password:
=====

                Oracle SD-WAN Operating System 7.0.1.0.0 on D6000v1
                Host IP = 10.75.134.196

=====
talariuser@Talari:~# █
```

The appliance is ready for use.