

Infrastructure Power up & Power down procedure

Prepared for

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Contents



1

Power off the Infrastructure 3

Power down the Virtual Servers 3

Power down the Host Servers 3

Power down the EMC NS120 3

Remove all remaining power to the infrastructure 6

Power on the Infrastructure 6

Restore power to the infrastructure 6

Power up the EMC NS120 7

Power on the Host Servers 9

Power on the Virtual Servers 9

Usernames and passwords 10

Power off the Infrastructure

Power down the Virtual Servers

1. Login to vCenter - 10.1.4.22 and if necessary, vmotion DES-DC01, DES- vCenter01 and DES-SQL01 to Host 1 (You only need to vmotion Des-vCenter01 or DES-SQL01 and the other one will automatically vmotion due to an affinity rule).
2. Gracefully shutdown all running vm's on all Hosts except for DES-DC01, DES- vCenter01 and DES-SQL01.
3. Move all of the hosts except for Host 1 into Maintenance Mode
    a. Right click and select Enter Maintenance Mode
4. Exit the viClient and shutdown the vCenter Server
5. Connect to Host 1 with the viClient software – 10.1.1.81 and gracefully shutdown DES-SQL01 and DES-DC01.
6. Move Host 1 into Maintenance Mode
    a. Right click and select Enter Maintenance Mode

Power down the Host Servers

1. Login to the Cisco UCS Manager – 10.1.1.10.
2. Navigate to Equipment> Chassis> Chassis 1> Servers.
3. Right click and select Shutdown on each server in the list.

Power down the EMC NS120

Note: Before you power down the Celerra NS-120, be sure to notify all users of the planned power down. To perform a planned power down, you must be in close proximity of the server.

1. Log in to the Control Station 10.1.1.50 as root by using an SSH client IE. Putty.
2. Verify the system's health.
    a. Type: /nas/bin/nas_checkup
        i. The checkup command reports back on the state of the control station, data mover(s), and storage system.
3. To halt the Celerra server:
    a. Type: /nasmcd/sbin/nas_halt now
        i. ARE YOU SURE YOU WANT TO CONTINUE? [yes or no] : yes

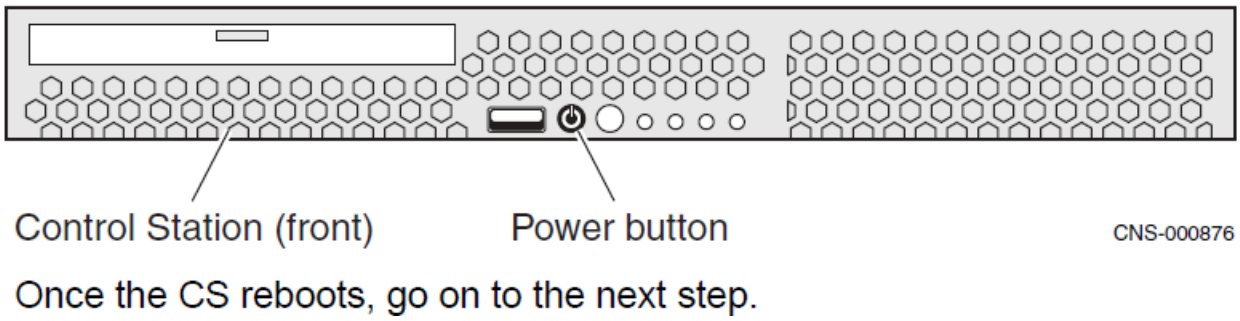
        Sending the halt signal to the Master Control Daemon...: Done
        Halting system...

flushing ide devices: hda hdd
Power down.
It can take as long as 20 minutes to halt the server, depending on the configuration of the Celerra. Wait until the command completes before continuing. If the Control Station halted successfully, the Putty session will be unresponsive. See screenshot below of successfully halted Control Station.

```
Aug 15 17:46:34 DES-EMC-SAN1 auditd[12571]: The audit daemon is exiting.
Aug 15 17:46:34 DES-EMC-SAN1 mt_mon[12573]: stopping mt_mon...
Aug 15 17:46:34 DES-EMC-SAN1 mt_mon[12573]: rc == 0(No such file or directory)
Aug 15 17:46:34 DES-EMC-SAN1 kernel: printk: 108 messages suppressed.
Aug 15 17:46:34 DES-EMC-SAN1 kernel: audit(1313444794.263:781503): audit_pid=0 old=12571 by auid=4294967295
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781504): auid=4294967295 op=remove rule key=(null) list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781505): auid=4294967295 op=remove rule key="Audit_Log_Access" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781506): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781507): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781508): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781509): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.369:781510): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.370:781511): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: type=1305 audit(1313444794.370:781512): auid=4294967295 op=remove rule key="CFG_Authentication" list=4 res=1
Aug 15 17:46:34 DES-EMC-SAN1 kernel: Kernel logging (proc) stopped.
Aug 15 17:46:34 DES-EMC-SAN1 kernel: Kernel log daemon terminating.
Aug 15 17:46:35 DES-EMC-SAN1 exiting on signal 15
```

4. Reboot Control Station:
    a. Reboot the Control Station by pressing the power button in the front of the CS. Please see Figure 1 below. Note: To reach the power button on the CS, you have to remove the front bezel.

Figure 1



Once the CS reboots, go on to the next step.

5. Verify the shutdown of the blade(s):
    a. Wait five minutes, and then login as root at the login prompt. Then verify the shutdown of the blades by running the following command:
        i. Type: /nasmcd/sbin/getreason
            1. [Sample output for a 2 blade configuration]

slot_0 primary control station ready
slot_2 powered off
slot_3 powered off

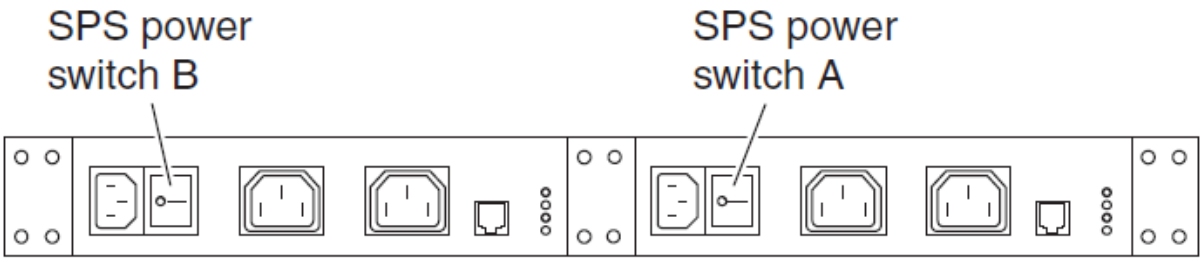
6. Shutdown the storage array:
    a. Stop all I/O activity and wait five minutes before continuing.

Note: All I/O activity flowing from the blades was stopped when the blades were shutdown in step 5. If any additional external hosts are attached to the storage array, stop all I/O activity from these hosts as well.

b. Use the SPS power switches to power off the array. Turn off (0 position) the power switch on the standby power supplies (SPSs). See Figure 2 below.

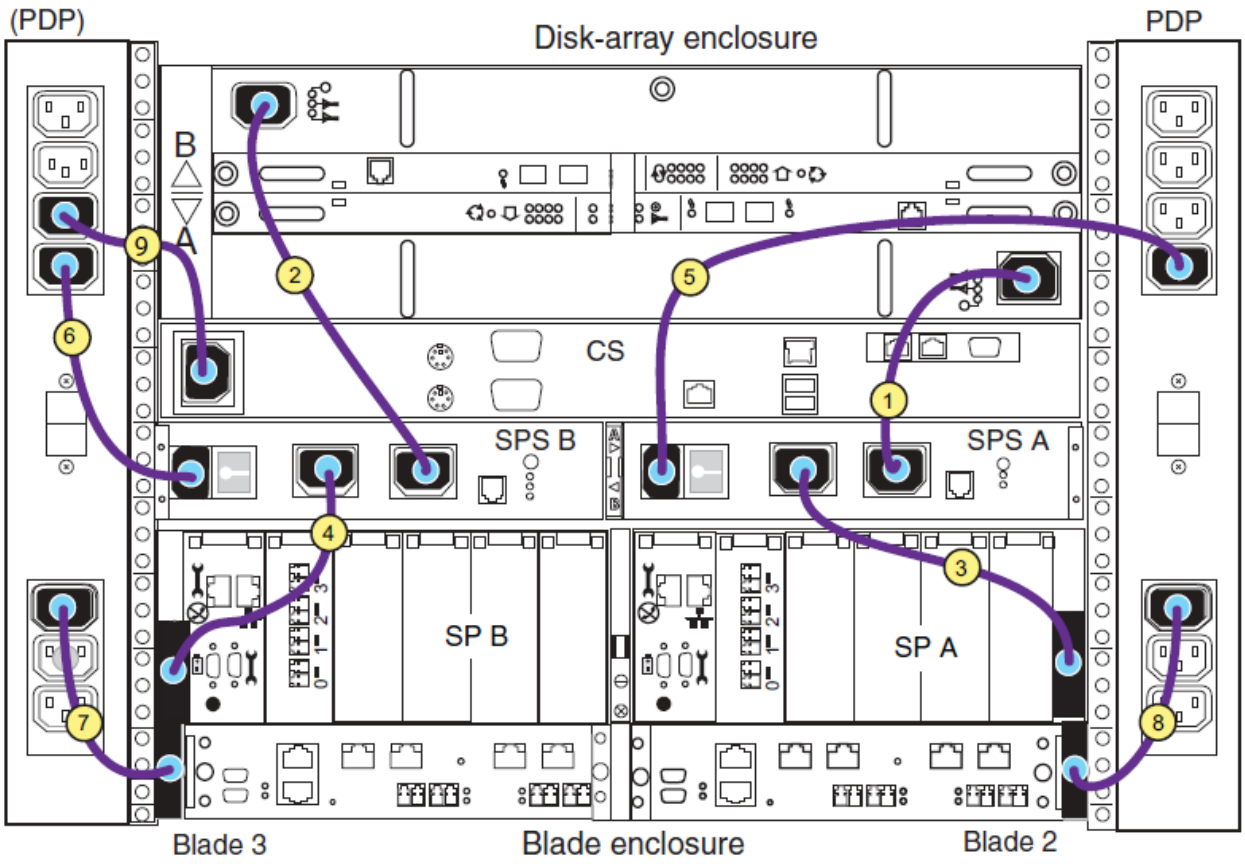
c. Wait two minutes to allow the storage system to write its cache to disk. Make sure the SPS power indicators are off before continuing.

FIGURE 2



7. Disconnect the power cables to the DAEs. Please see #'s 1 & 2 in Figure 3 below.
8. Disconnect the power cables to the DataMovers. Please see #'s 7 & 8 in Figure 3 below.
9. Run the following command to halt the Control Station:
    a. Type: /sbin/halt
        i. Sample Output:# /sbin/halt
        Broadcast message from root (ttyS1) (Fri Feb 13 17:53:59 2009): The system is going down for system halt NOW!
        ii. Wait 5 minutes to allow the system to shutdown
10. Disconnect the power cables to the control station. Please see #9 in Figure 3 below.

FIGURE 3



Remove all remaining power to the infrastructure

1. In APC Power cabinets, locate the breaker labeled Main.
2. Flip the Main Breaker to the Off Position.
    a. This will take all of the Cisco equipment offline
        i. Nexus 7010
        ii. ASR Router
        iii. Firewall
        iv. UCS Chassis

Power on the Infrastructure

Restore power to the infrastructure

1. In APC Power cabinets, locate the breaker labeled Main.
2. Flip the Main breaker to the On Position.
    a. This will bring the Cisco equipment online

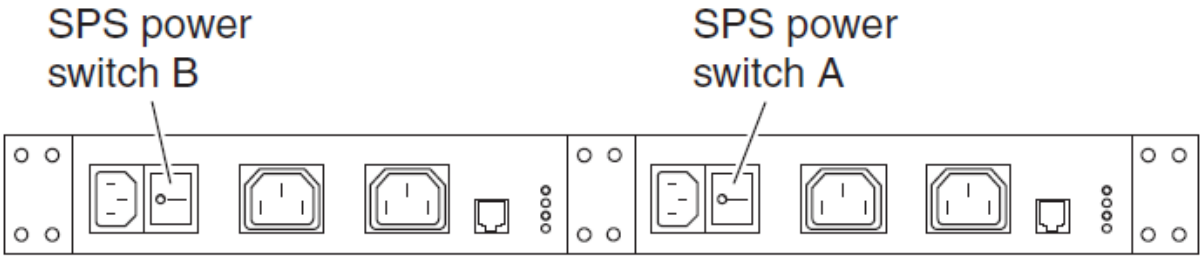
i. Cisco Nexus 7010
ii. ASR Router
iii. Firewall
iv. UCS Chassis

3. Wait 10 minutes for cisco networking components to power up

Power up the EMC NS120

1. Connect power cables to the DAE's. Please see #'s 1 & 2 in Figure 5 below.
2. Use the SPS power switches to power on the array. Turn on (-- position) the power switch on the standby power supplies (SPSs). Please see Figure 4 below.
3. Wait five minutes to allow the storage system to power up.

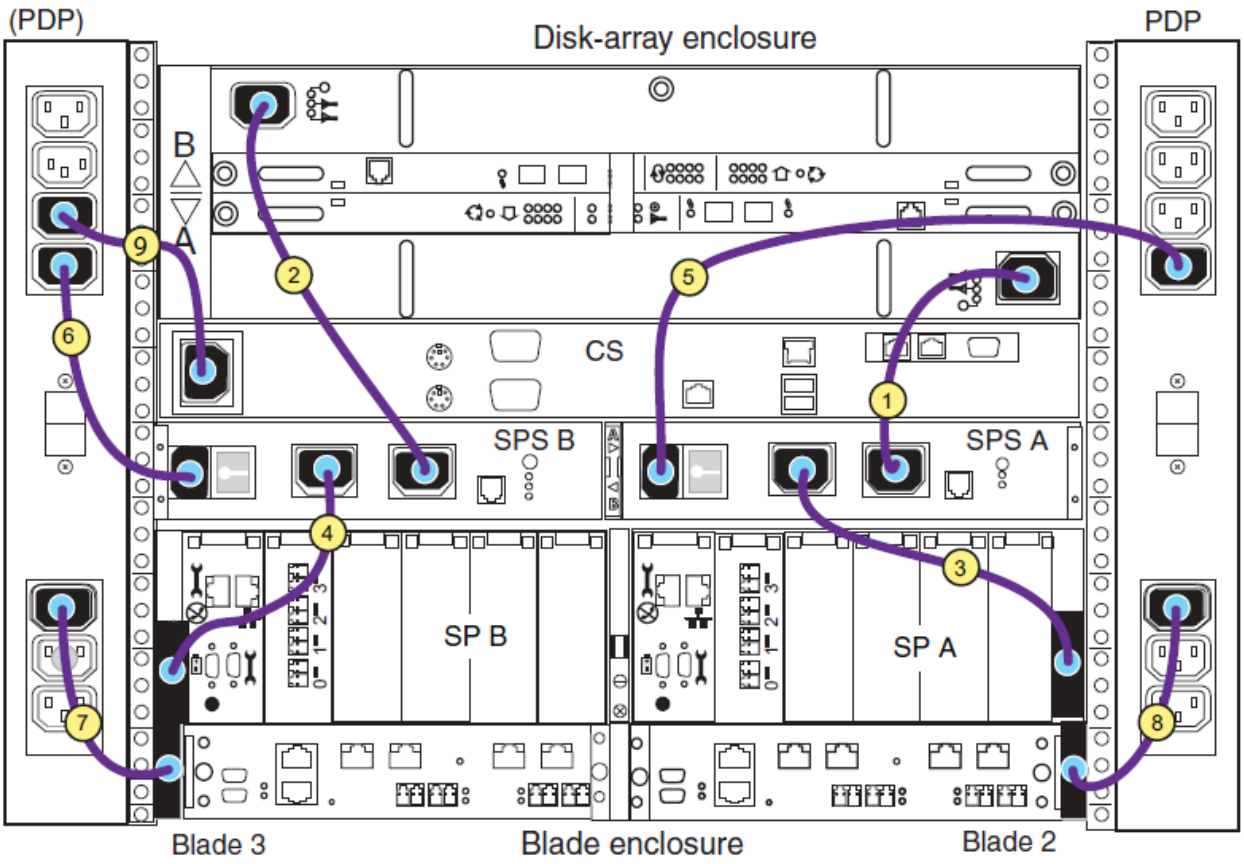
Figure 4



4. Connect the power cables to the Data Movers. Please see #'s 7 & 8 in Figure 5 below.
5. Wait 5 minutes to allow the DM's to power up.
6. Connect the power cables to the Control Station. Please see # 9 in Figure 5 below.
7. Wait 5 minutes to allow the CS to power up.

   If you wish, you can open a command prompt and do a ping -t 10.1.1.50 and wait for the control station to reply.

Figure 5



8. From a browser, go to http://10.1.1.51 to access SPA
9. From a browser, go to http://10.1.1.52 to access SPB
10. From a browser, go to http://10.1.1.50 to access the control station.
    a. Login as nasadmin.
    b. From the Celerra Manager Home page, make sure a green check and OK appear beside System Status and Hardware Status.
    c. In the navigation pane, select Celerra > Storage > Systems.
        i. Make sure Celerra Manager lists the server's storage array.
    d. Verify that the blades have booted successfully:

        Note: This process takes about 20 or 30 minutes

        i. /nasmcd/sbin/getreason

            Sample output for systems with 2 blades and a single CS:

            10 - slot_0 primary control station

            5 - slot_2 contacted

            5 - slot_3 contacted

Power on the Host Servers

1. Login to the Cisco UCS Manager – 10.1.1.10.
2. Navigate to Equipment> Chassis> Chassis 1> Servers.
3. Right click and select Boot Server on each server in the list.
    a. Wait 10 minutes for all the servers to power on

Power on the Virtual Servers

1. Connect to Host 1 with the viClient software – 10.1.1.81
2. Right Click on DES-DC01 and select Power On.
    a. Open the DES-DC01 Console
        i. Right Click on the Server
        ii. Select Open Console
        iii. Wait until you see the Press CTL-ALT-DELETE screen
3. Right Click on DES-SQL01 and select Power On.
    a. Open the DES_SQL01 Console
        i. Right Click on the Server
        ii. Select Open Console
        iii. Wait until you see the Press CTL-ALT-DELETE screen
4. Right Click on DES-vCenter01 and select Power On.
    a. Open the DES-vCenter01 Console
        i. Right Click on the Server
        ii. Select Open Console
        iii. Wait until you see the Press CTL-ALT-DELETE screen
5. Terminal Serve into the vCenter Server
    a. Click Start>Run and Type: MSTSC and hit Enter
    b. Connect to 10.1.4.22 and log into the server
    c. Connect to vCenter with the viClient software
    d. Move all of the hosts out of Maintenance Mode
        i. Right click on each host and select Exit Maintenance Mode

            Note: If any hosts have a red exclamation mark, check the Tasks & Events Tab. If the error is HA related, right click on the host and select Reconfigure for VMware HA.
6. Power on all necessary virtual servers

a. Select each Virtual Machine
b. Right click and select Power> Power On

Usernames and passwords

Since usernames and passwords are easily changed it is not reasonable to include all of the user accounts and passwords to log into the various systems in the infrastructure. Default usernames and passwords have been included in the As-Built document. Please refer to this and any other documentation system administrators have made available.