Step - by - Step DDOS Upgrade Guide

Contents

Introduction	2
Step 1: Pre – Upgrade Preparation	
Step 2: Pre - Upgrade Health Check and Reboot	6
Sten 3: Unorade DDOS	9



Introduction

This document will guide you through the steps necessary to upgrade the DDOS version on your Data Domain System.

Step 1: Pre - Upgrade Preparation

A. DDOS Version: Choose the DDOS version you wish to upgrade to. Use the following KB to do this;

DD OS Software Versions https://support.emc.com/kb/334649

B. Release Notes

Read the release notes for this DDOS version here:

DD OS Software Versions https://support.emc.com/kb/334649

C. Compatibility

Then ensure the DDOS version is suitable for your Backup Environment by using the following compatibility guide: http://compatibilityguide.emc.com:8080/CompGuideApp/

D. Download DDOS rpm file

The DDOS rpm package can be found in KB https://support.emc.com/kb/334649 or downloaded from here: https://support.emc.com/downloads/9012_Data-Domain Expand "DD OS" tab on left hand menu and click on the DDOS you want.

Note:

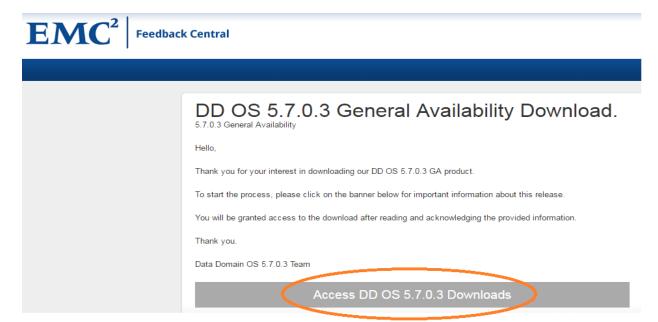
The rpm file will download directly to your PC up to DDOS 5.5.0.9 From DDOS 5.5.2.0 onwards you will be redirected to Feedback Central.



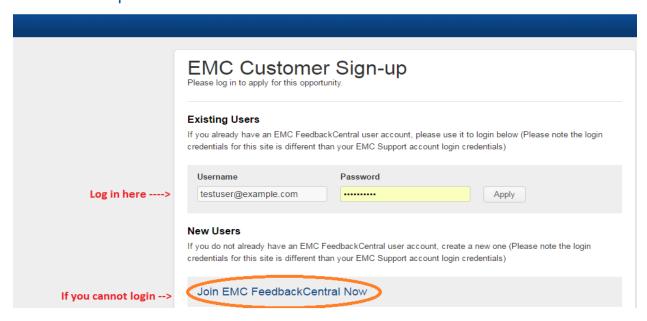
Once on Feedback Central, do the following;

Click on "Access Downloads" and log in.

If you cannot log in here, you will need to create a new account on http://feedbackcentral.emc.com)

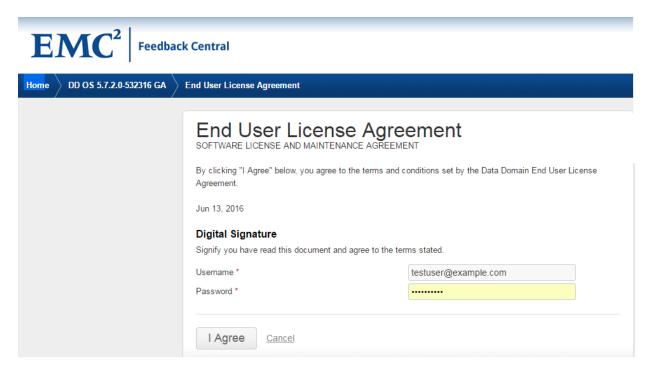


EMC² Feedback Central

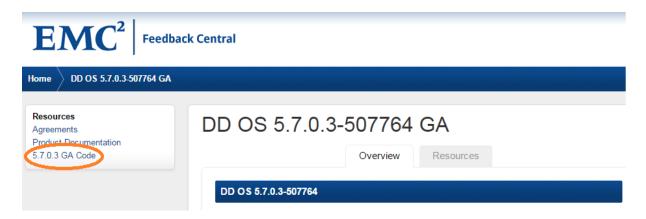




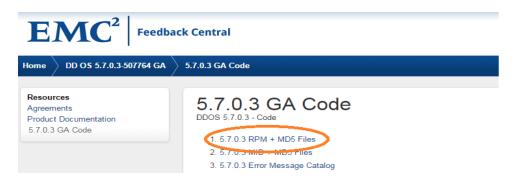
Read and agree to the End User License Agreement



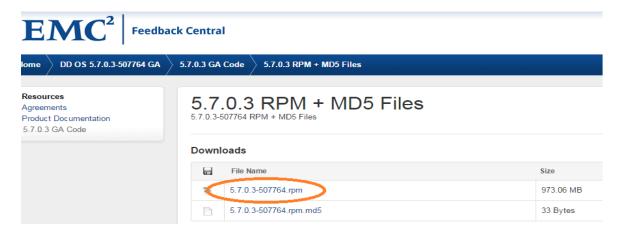
Click on "GA Code" on left side bar



Click on option 1.



Download first .rpm file onto your computer



E. Upload DDOS rpm file

The RPM can be loaded onto the DD system using the System Manager GUI: **Maintenance -> Upload Upgrade Package**

Step 2: Pre - Upgrade Health Check and Reboot 2.A Health Check

Log into the DD system using SSH (i.e. putty). Input your DD user credentials. Then run the following commands;

#hostname and #system show serialno

```
sysadmin@dd690# hostname
The Hostname is: dd690.
sysadmin@dd690# system show serialno
Serial number: 8F46.....
```

Ensure this is the correct DD system to upgrade

fi st

```
sysadmin@dd690# filesys status
The filesystem is enabled and running.
sysadmin@dd690#
```

Ensure Filesystem is enabled

alerts show current

sysadmin@dd690# alerts show current							
Id	Post Time	Severity	Class	Object	Message		
5957	Wed Feb 17 14:23:03 2016	CRITICAL	Environment	Slot=3	EVT-SAS-03806: Invalid SAS cable topology detected.		
There	is 1 active alert.						

If there are current alerts, contact DD support. If not, continue with next command.

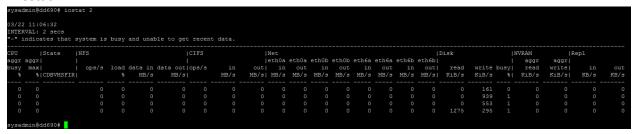
Note: Replication out of sync alerts are ok and will not affect the upgrade

df



Under "Use", ensure that /data is 90% or lower. Upgrades need available capacity to be at least 10%. If >90%, please reduce space by running a cleaning cycle # filesys clean start

#iostat 2



Ensure no backup/restore activity is occurring (Look at NFS, CIFS and Net columns).

Ensure you STOP all backups/restores from backup application before proceeding with upgrade

filesys clean status

```
sysadmin@dd690# filesys clean status
Cleaning finished at 2016/03/22 06:05:11.
sysadmin@dd690# [
```

Ensure cleaning is not running. If running, please stop it with the command **#filesys clean stop Note:** Let cleaning finish if space is > 90%

#disk show reliability-data and #disk show state

Ensure there are no disks with "Reallocated Sectors" above 50. If a disk has RAS count >50, please open an SR to get this disk replaced.

Ensure there is no Failed (F), Reconstructing (R) or Absent disks (A).

Note: If you find any issues with the health check above, please open a Service Request (SR) for this or inform your Remote Technical engineer if an SR case is already open

2.B System Reboot

For any DDOS upgrade, always reboot the DD system first. On system reboot, any hidden hardware issues that may be present will be identified here.

#system reboot

```
sysadmin@dd690# system reboot

The 'system reboot' command reboots the system. File access is interrupted during the reboot.

Are you sure? (yes|no|?) [no]: y
```

Tip: For the reboot and DDOS upgrade itself, open a command prompt and type # ping -t <dd-hostname> This will show you when the system starts up again.

Once the DD system boots up again, wait 10 minutes, then run the commands

fi st (ensure filesystem is enabled)

alerts show current

If the filesystem is enabled and there are still no alerts, then you can run the upgrade.

If the filesystem is still not enabled, wait 10-15 minute and run the command again. If still not enabled and/or alerts are now present, please contact DD Support.

Step 3: Upgrade DDOS

system upgrade <upgrade.rpm> (find the file name under in System Manager GUI -> Maintenance)

```
sysadmin@dd690# system upgrade 5.5.1.4-464376.rpm

The 'system upgrade' command upgrades the Data Domain OS. File access is interrupted during the upgrade. The system reboots automatically after the upgrade.

Are you sure? (yes|no|?) [no]: y[]
```

An automatic pre-upgrade check will be performed

```
OK, proceeding.

[UPGRADE]: Check DDOS rpm .......[success]

[UPGRADE]: Finish DDOS version check.......[EXACT SAME VERSION]

[UPGRADE]: Data upgrade completeness checking

[UPGRADE]: Private NFS mounting point check ........[success]

[UPGRADE]: Data upgrade completeness checking .......[success]

[UPGRADE]: Pre-upgrade Checking [ | ]...........

[UPGRADE]: Pre-upgrade Checking [ \ ]03/22 12:13:26.263 (tid 0xadfb70): NOTICE: Soft 4293918720, Hard 4293918720, Parent 16305

[UPGRADE]: Pre-upgrade Checking [ / ]

Pre-upgrade check completed successfully

[UPGRADE]: Pre-upgrade Checking ......[success]

[UPGRADE]: System pre-upgrade check successful.

Upgrade will take approximately 66 minutes. The actual time may vary based on system configuration.
```

After this, the upgrade script will run

The DD system will then reboot automatically as part of the upgrade process.

Note: The reboot time can take from **30 minutes to 90 minutes**, depending on DD system size and DDOS level being upgraded to. Do not worry if this part takes some time

Once the system restarts after the reboot, please wait for at least 10 - 15 minutes before running any commands to let the filesystem fully enable and the upgrade to fully complete

Important Note:

- 1. It is not uncommon for the Filesystem to take up to an hour to enable after an upgrade. If the FS is still not enabled after 1 hour, please contact DD support.
- **2.** The System Manager Web GUI may also be unresponsive for a length of time after the upgrade but will eventually become responsive again.

Tip: Clearing the cache in your web browser can help here.

Log in via SSH again and run the commands;

system upgrade status

```
sysadmin@dd690# system upgrade status
Current upgrade status: upgrade complete
End time: Tue 2016-03-22 12:39:50 GMT
Stage(24/24): Filesystem upgrade
Status: completed
Failure: No error.
sysadmin@dd690#
```

alerts show current (as seen above) – Ensure there is no active alerts

system show version

```
sysadmin@dd690# system show version
Data Domain OS 5.5.1.4-464376
```

fi st (as seen above) – Ensure the filesuste

If you see the error "filesystem has encountered a problem" when you run the command #fi st, do not worry. See "Important Note" above.

If there are no issues at this stage, then the upgrade has been successfully completed. Check that backups to the DD system are running ok after the upgrade.

Finally, if you do encounter any issues during or after the DDOS upgrade, please open a SR with DD support.