Installation of OCFS2 with AoE Giga SAN - A Workthrough



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Objectives

•OCFS2 installation and configuration.

•To test OCFS2 cluster failover.



Requirement

- Hosts support intel x86 or x86_64 on linux base.
- •Hosts support AMD or AMD64 on linux base.
- •Operation systems are Linux system.
- •DNS Resovle resolves correctly host name and ip address.

OCFS2 lab is in AoE SAN infrastructure



Lab environment

•AoE enabler external box

• External hard drive (including eSATA interface)

OCFS2 server A

- Operation system :Novell SuSE enterprise server 10
- Hostname :ocfsa.linux.demo
- Ip address :172.16.0.1/12
- Package :ocfs2console
 ocfs2-tools
 aoe6-73

OCFS2 server B

- Operation system :Novell SuSE enterprise server 10
- Hostname :ocfsb.linux.demo
- Ip address :172.16.0.2/12
- Package : ocfs2console \circ ocfs2-tools \circ aoe6-73



Step 1: Connect with AoE product

- To use eSATA cable connecting AoE enabler external box and external hard drive.
- The network cable link AoE enabler external box and a gigabit switch.





Step 2: Connect with OCFS2 server A and B

• A gigabit switch connects with OCFS2 server A and B using network cable.





Step 3: Check network connection status between server A and B

Log on host "ocfsa".

•Type command:

#ping -c4 ocfsa

#ping -c4 ocfsb

<u>File Edit View Terminal Tabs H</u>elp ocfsa:~ # ping -c2 ocfsa PING ocfsa.linux.demo (172.16.0.1) 56(84) bytes of data. 64 bytes from ocfsa.linux.demo (172.16.0.1): icmp seq=1 ttl= 64 time=0.615 ms 64 bytes from ocfsa.linux.demo (172.16.0.1): icmp seq=2 ttl= 64 time=0.068 ms --- ocfsa.linux.demo ping statistics ---2 packets transmitted, 2 received, 0% packet loss, time 1002 ms rtt min/avg/max/mdev = 0.068/0.341/0.615/0.274 ms ocfsa:~ # ping -c2 ocfsb PING ocsfb.linux.demo (172.16.0.2) 56(84) bytes of data. 64 bytes from ocsfb.linux.demo (172.16.0.2): icmp seq=1 ttl= 64 time=3.91 ms 64 bytes from ocsfb.linux.demo (172.16.0.2): icmp seq=2 ttl= 64 time=0.604 ms --- ocsfb.linux.demo ping statistics ---2 packets transmitted, 2 received, 0% packet loss, time 999m S rtt min/avg/max/mdev = 0.604/2.258/3.913/1.655 ms ocfsa:~ #

Step 4: Install OCFS2 cluster

•Type command:

#yast -i ocfs2console ocfs2-tools

• Check OCFS2 cluster installing successfully or not.

#rpm -qa ocfs2console ocfs2-tools



Step 5: Repeat step 3 ~ 4 Check network connection status between server A and B

Log on host "ocfsb".

•Type command:

#ping -c4 ocfsa

#ping -c4 ocfsb

<u>File Edit View Terminal Tabs Help</u> ocfsb:~ # ping -c2 ocfsa PING ocfsa.linux.demo (172.16.0.1) 56(84) bytes of data. 64 bytes from ocfsa.linux.demo (172.16.0.1): icmp seq=1 ttl= 64 time=0.425 ms 64 bytes from ocfsa.linux.demo (172.16.0.1): icmp seq=2 ttl= 64 time=0.437 ms --- ocfsa.linux.demo ping statistics ---2 packets transmitted, 2 received, 0% packet loss, time 999m S rtt min/avg/max/mdev = 0.425/0.431/0.437/0.006 ms ocfsb:~ # ping -c2 ocfsb PING ocfsb.linux.demo (172.16.0.2) 56(84) bytes of data. 64 bytes from ocfsb.linux.demo (172.16.0.2): icmp seq=1 ttl= 64 time=0.023 ms 64 bytes from ocfsb.linux.demo (172.16.0.2): icmp seq=2 ttl= 64 time=0.033 ms --- ocfsb.linux.demo ping statistics ---2 packets transmitted, 2 received, 0% packet loss, time 999m S rtt min/avg/max/mdev = 0.023/0.028/0.033/0.005 ms ocfsb:~ #

Step 6: Install OCFS2 cluster

•Type command:

yast -- i ocfs2console ocfs2-tools

• Check OCFS2 cluster installing successfully or not.

rpm -qa ocfs2console ocfs2-tools





Step 7-1: Configure OCFS2 cluster

Log on host "ocfsa".

•Open OCFS cluster UI:

#type command "ocfs2console".

• Setup ocfs2 node's configuration:

click "Cluster" \rightarrow click "Configure Nodes..." \rightarrow click "Add" \rightarrow type "ocfsa" in "Name:" field \rightarrow type "172.16.0.1" in "IP Address:" field \rightarrow choose "7777" in "IP Port:" field \rightarrow click "OK" \rightarrow click "Add" \rightarrow type "ocfsb" in "Name:" field \rightarrow type "172.16.0.2" in "IP Address:" field \rightarrow choose "7777" in "IP Port:" field \rightarrow click "OK" \rightarrow click "Close" \rightarrow click "Yes".

Step 7-2: Configure OCFS2 cluster

• Follow example below:

Device Mountpoint			
		Node Configuration	×
	<u>N</u> odes:		
	Active Name Node	IP Address IP Port	
General File Listing	🐲 ocfsa 0	172.16.0.1 7777	
Version: N/A Label: N/A UUID: N/A Maximum Nodes: N/A Cluster Size: N/A Block Size: N/A Free Space: N/A Total Space: N/A	🕲 ocfsb 1	172.16.0.2 7777	Edit Remove



Step 7-3: Configure OCFS2 cluster

Setup ocfs2 propagate cluster's configuration:

click "Cluster"→ click "Propagate Cluster"→ type "yes" in "Propagate Cluster Configuration" console→ type ocfsb's password in "Password:" \rightarrow click "Close".



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Step 7-4: Configure OCFS2 cluster

 Format ocfs2 click "T 	disk: [•] ask"→ click "F	Format".		
•For example:	Elle Quster Tasks Help Mount Onmount Refresh Device Mountpoint	Filter:	2 Console	
	Cluster Size: N/A Block Size: N/A Free Space: N/A Total Space: N/A	Block size:	Auto	

oppo

Step 7-5: Configure OCFS2 cluster

Log on host "ocfsb".

Setup ocfs2 propagate cluster's configuration:

click "Cluster" \rightarrow click "Propagate Cluster" \rightarrow type "yes" in "Propagate Cluster Configuration" console \rightarrow type ocfsa's password in "Password:" \rightarrow click "Close".

• Follow example below:



Step 7-6: Configure OCFS2 cluster

Log on host "ocfsa" :

To type command "mkdir /ocfs2".

•Log on host "ocfsb" :

To type command "mkdir /ocfs2".



Step 7-7: Configure OCFS2 cluster

Log on host "ocfsa".

•Open OCFS cluster UI:

To type command "ocfs2console"

•Setup ocfs2 node's configuration:

click "Mount" \rightarrow type "/ocfs2" in "Mountpoint:" field \rightarrow click "OK".

ile Cluster Tasks Help Mount Image: Console Mountpoint dev/etherd/e0.0p1 dev/etherd	×
Mount Refresh Filter: Wountpoint Mountpoint dev/etherd/e0.0p1 ocfs2console Mountpoint: /ocfs2 Options: Options: General File Listing Version: 0.90 Label: oracle UUID: 6e82194d-3723-4bd0-83d7-3fa2f3112d1f	×
Aevice Mountpoint dev/etherd/e0.0p1 General File Listing Version: 0.90 Label: oracle UUID: 6e82194d-3723-4bd0-83d7-3fa2f3112d1f	×
dev/etherd/e0.0p1	×
General File Listing Version: 0.90 Label: oracle UUID: 6e82194d-3723-4bd0-83d7-3fa2f3112d1f	
Version: 0.90 Label: oracle UUID: 6e82194d-3723-4bd0-83d7-3fa2f3112d1f	
Labe: oracle UUID: 6e82194d-3723-4bd0-83d7-3fa2f3112d1f	
Maximum Nodes: 4	
Cluster Size: 16 K	
Block Size: 4 K	
Free Space: 75.6 GB (81170235392b)	

Step 7-8: Repeat step 7-7 Configure OCFS2 cluster

Log on host "ocfsb".

• Open OCFS cluster UI:

To type command "ocfs2console"

•Setup ocfs2 node's configuration:

click "Mount" \rightarrow type "/ocfs2" in "Mountpoint:" field \rightarrow click "OK".

- File Cluster	Tasks Help	OCFS2 Console
Mount Un	mount Refresh	Filter:
)evice	Mountpoint	
		ocfs2console X
General File	Listing	Options:
Vers La U	sion: 0.90 abel: oracle UID: 6e82194d-372	3-4bd0-83d7-3fa2f3112d1f
an an an airti	des: 4	
Maximum No	Size: 16 K	
Maximum No Cluster S	Sacc. 1014	
Maximum No Cluster S Block S	Size: 4 K	

Step 8-1: Test OCFS2 function

Log on host "ocfsa":
Type command: #ls /ocfs2 #cp -rv *.* /ocfs2



Step 8-2: Test OCFS2 function

Log on host "ocfsb":
Type command: #ls /ocfs2 #cp -rv *.* /ocfs2



Step 8-3: Test OCFS2 function

Break "ocfsb"'s network connection.

- •Observe and check fail over.
- Reconnect "ocfsb"'s network connection.
- Power off host "ocfsa".
- •Observe and check failover.