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## Introduction

Cisco UCS Manager 2.2(4) introduces Fabric Evacuation, which is the ability to gracefully suspend traffic that flows through a Fabric Interconnect from all servers attached to it through an IOM or FEX while upgrading a system.

## Prerequisites

- UCSM Version = 2.2(4) or higher

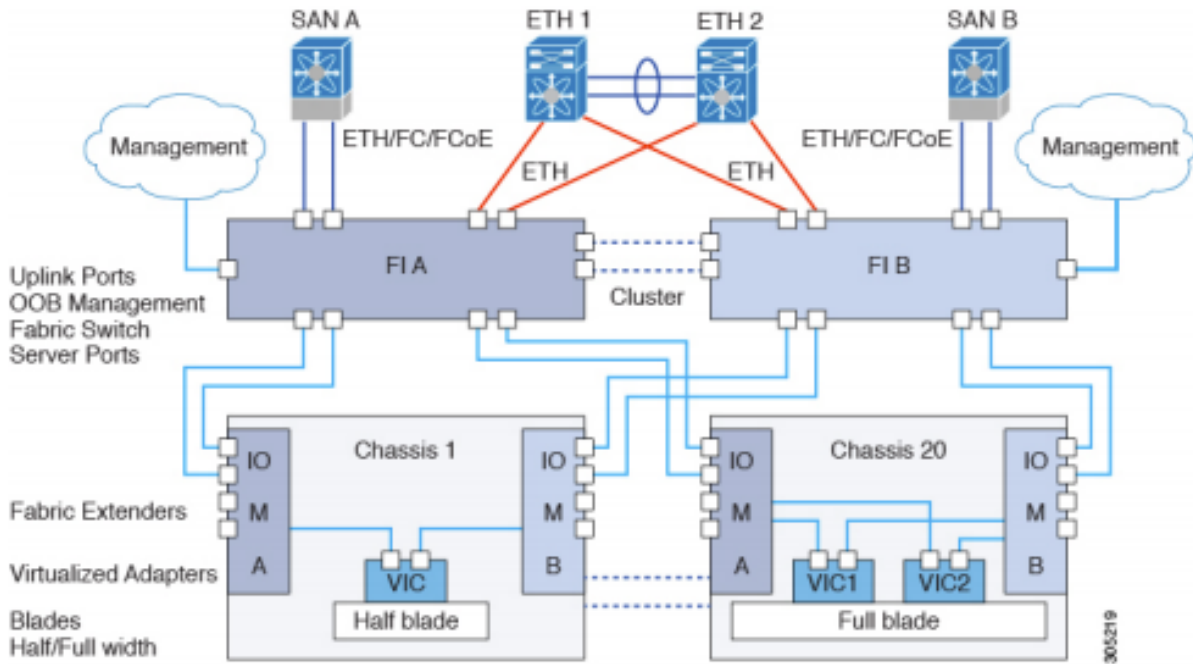
## Components Used

- UCSM 3.1
- Fabric Interconnect 6248
- IOM/FEX 2204 / 2208

## Network Diagram

Upgrading the secondary Fabric Interconnect in a system disrupts the traffic that is active on the Fabric Interconnect. This traffic automatically fails over to the primary Fabric Interconnect.

Fabric Evacuation is used to confirm traffic will indeed fail over to the primary Fabric Interconnect prior to beginning an upgrade on the secondary Fabric Interconnect.

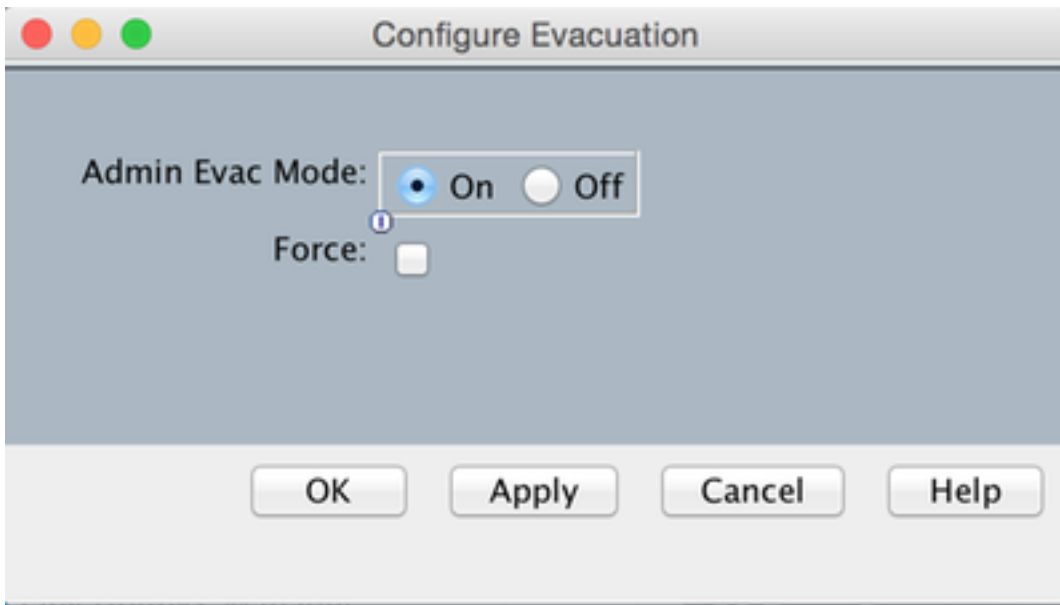


## Configurations

You can follow the procedure as indicate to configure Fabric Failover:

1. To achieve this, Click on "Configure Evacuation" on the Fabric Interconnect.

2. Change the Admin Evac Mode to "On".



3. A confirmation message highlighting the result of enabling Fabric Evacuation appears.

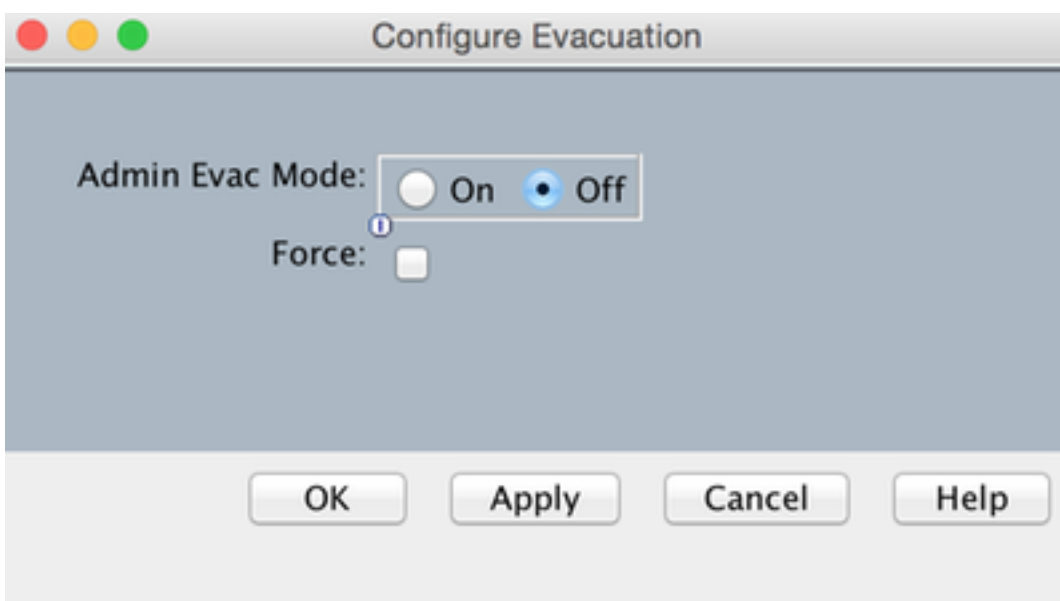


4. Click **OK** to confirm evacuation of traffic from the fabric. You will observe vNICs configured with Fabric Failover will repin traffic to the alternate fabric. Confirm in the host operating system that traffic is flowing on the alternate fabric.

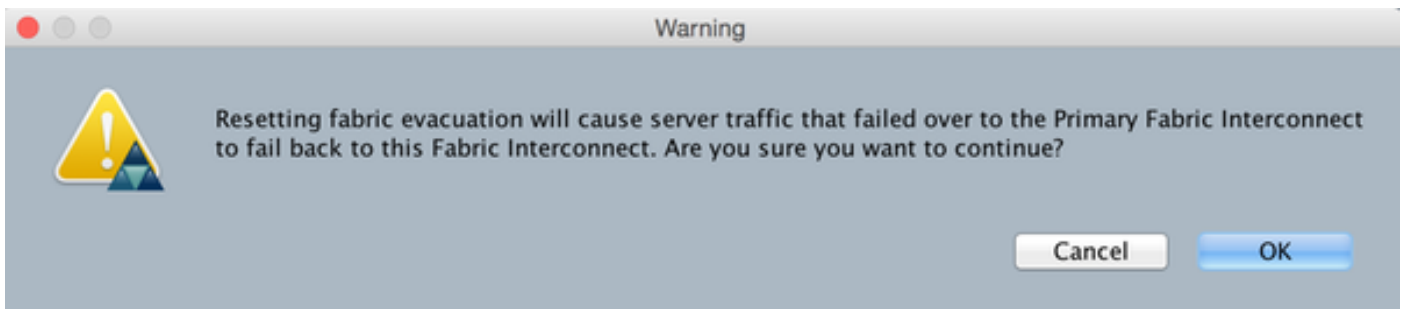
5. At this time proceed with upgrading the secondary Fabric Interconnect.

6. When the upgrade is complete restart traffic flows on the evacuated fabric.

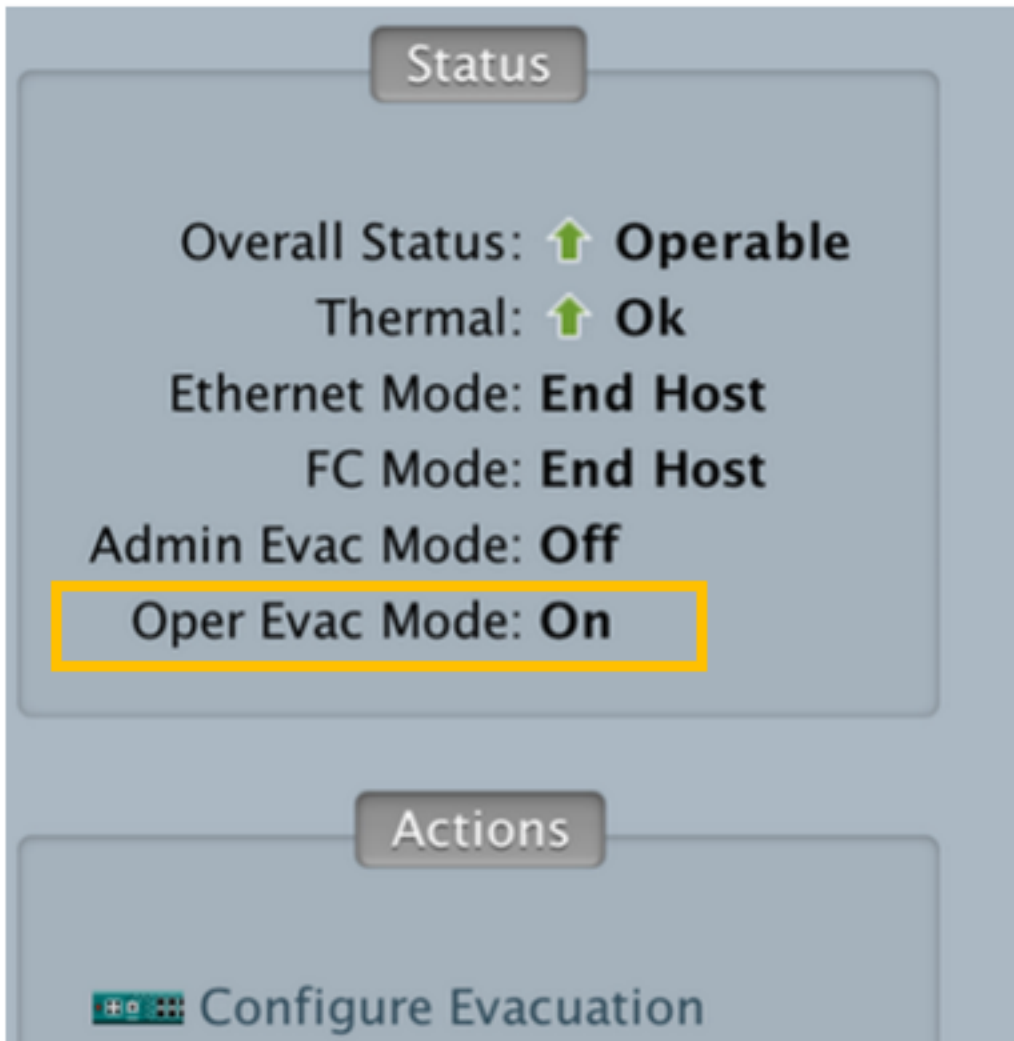
7. Turn Admin Evacuation **Off**



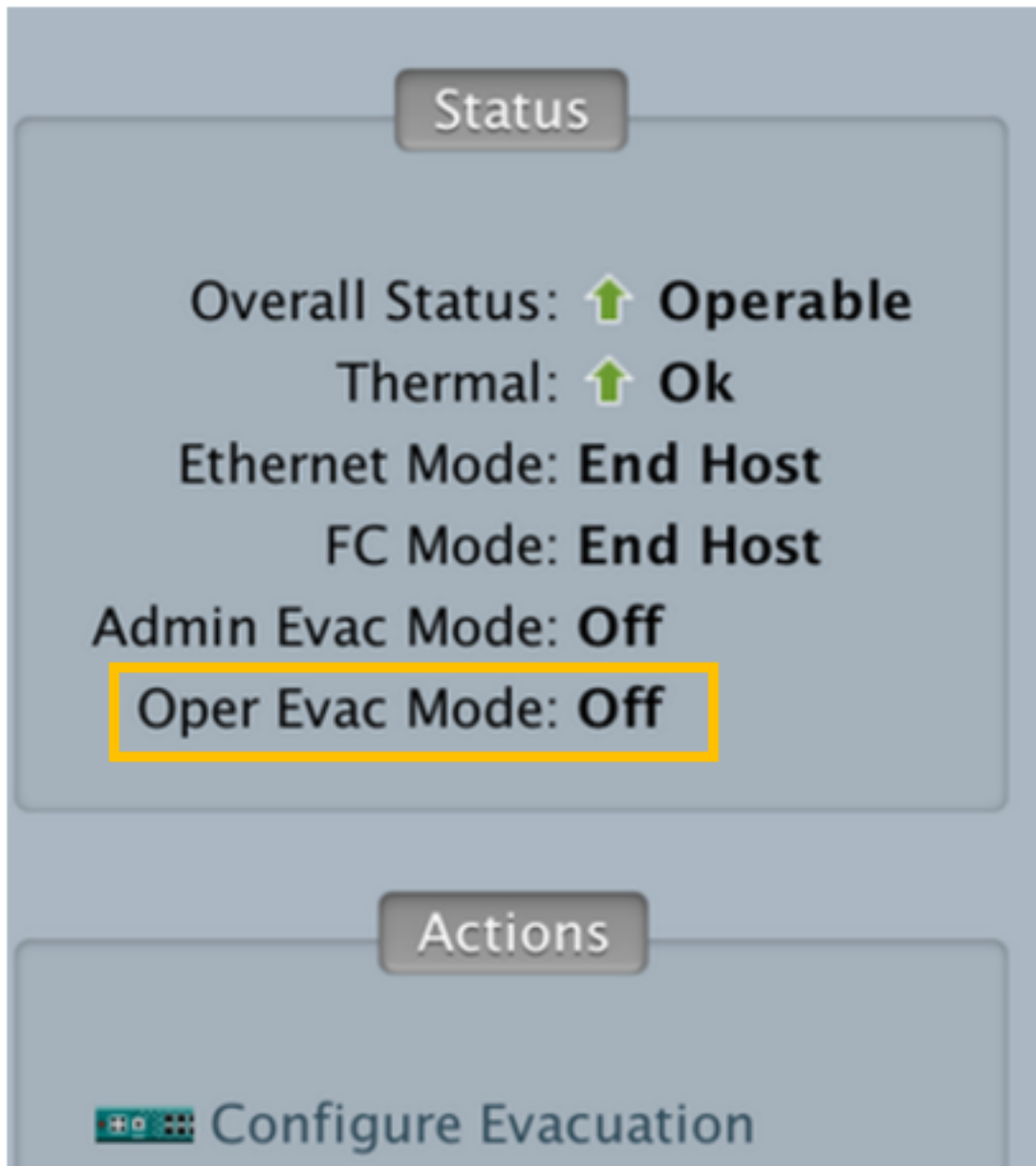
8. Acknowledge the Reset warning.



9. Verify the **Oper Evac Mode** changes from **On** to **Off**.



10. Status after Evacuation is complete.



11. Change the cluster lead to the secondary Fabric Interconnect

12. Repeat the above steps and upgrade the other Fabric Interconnect.

## Verify

Check the traffic flowing through the Fabric Interconnect (FI) before Fabric Evacuation. You can check if from IOM stats

- Before the evacuation you would see the HIF(Host Interface) interfaces and the Transmit (Tx) and Receive (Rx) stats.

> Before Fabric Evacuation-

fex-1# show platform software woodside rate

Port	Tx Packets	Tx Rate (pkts/s)	Tx Bit Rate	Rx Packets	Rx Rate (pkts/s)	Rx Bit Rate	Avg Pkt (Tx)	Avg Pkt (Rx)	Err
0-BI	61	12	26.50Kbps	8	1	1.48Kbps	251	96	
0-CI	39	7	15.39Kbps	36	7	34.73Kbps	226	583	
0-NI7	18	3	12.71Kbps	27	5	5.59Kbps	421	109	
0-NI6	15	3	5.80Kbps	36	7	6.80Kbps	222	98	
0-NI5	2	0	3.48Kbps	9	1	2.99Kbps	1072	188	
0-NI4	9	1	2.81Kbps	2	0	2.13Kbps	176	648	
0-NI3	2	0	3.48Kbps	3	0	1.48Kbps	1072	290	
0-NI2	11	2	3.10Kbps	40	8	23.87Kbps	156	353	
0-NI1	123	24	118.62Kbps	126	25	21.92Kbps	582	88	
0-NI0	1	0	1.74Kbps	2	0	1.28Kbps	1072	380	
0-HI19	10	2	1.79Kbps	1	0	352.00 bps	92	200	
0-HI18	1	0	496.00 bps	1	0	288.00 bps	290	164	
0-HI17	41	8	23.45Kbps	6	1	896.00 bps	337	74	
0-HI16	1	0	496.00 bps	1	0	288.00 bps	290	164	
0-HI15	9	1	1.29Kbps	10	2	1.76Kbps	70	90	
0-HI14	160	32	42.94Kbps	8	1	1.07Kbps	147	64	
0-HI13	26	5	4.44Kbps	121	24	115.13Kbps	86	574	
0-HI12	2	0	656.00 bps	0	0	0.00 bps	185	0	

- After the evacuation you should not see HIF stats from the FI where you performed evacuation. Instead you should only see the NIF(Network Interface) Tx and Rx stats as seen below

> After Fabric Evacuation-

fex-1# show platform software woodside rate

Port	Tx Packets	Tx Rate (pkts/s)	Tx Bit Rate	Rx Packets	Rx Rate (pkts/s)	Rx Bit Rate	Avg Pkt (Tx)	Avg Pkt (Rx)	Err
0-BI	75	15	29.16Kbps	18	3	18.40Kbps	223	619	
0-CI	25	5	13.55Kbps	24	4	29.69Kbps	318	753	
0-NI7	17	3	17.46Kbps	22	4	5.88Kbps	622	147	
0-NI6	19	3	20.32Kbps	9	1	6.52Kbps	648	433	
0-NI5	1	0	1.74Kbps	12	2	3.46Kbps	1072	160	
0-NI4	1	0	1.74Kbps	14	2	6.01Kbps	1072	248	
0-NI3	1	0	1.74Kbps	3	0	1.48Kbps	1072	290	
0-NI2	1	0	1.74Kbps	25	5	11.07Kbps	1072	256	
0-NI1	1	0	1.74Kbps	6	1	2.51Kbps	1072	242	
0-NI0	1	0	1.74Kbps	9	1	6.61Kbps	1072	439	

## Troubleshoot

At the time of this writing, there is no alert thrown on the UCSM when this feature is turned on.

An easy way to tell if this feature is turned on is to have a look at the status of the IOM backplane ports, If all of them report "admin down" then you'd want to check if this feature is enabled.



IO Module 2		Cisco Systems Inc	UCS-IOM-22080P	Cisco UCS 2...			
Backplane Ports							
Backplane Port 2/1	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/2	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/3	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/4	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/5	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/6	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/7	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/8	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/9	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/10	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/11	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/12	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/13	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/14	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/15	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/16	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/29	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/30	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/31	Server	Physical	Admin Down	Lan	Doe		
Backplane Port 2/32	Server	Physical	Admin Down	Lan	Doe		
Fabric Ports							
Fabric Port 2/1	Network	Physical	Up	Lan	Doe		
Fabric Port 2/2	Network	Physical	Up	Lan	Doe		
Fabric Port 2/3	Network	Physical	Up	Lan	Doe		
Fabric Port 2/5	Network	Physical	Up	Lan	Doe		
Fabric Port 2/7	Network	Physical	Up	Lan	Doe		
Fabric Port 2/8	Network	Physical	Up	Lan	Doe		

For ease of troubleshooting defect [CSCuy49191](#) is logged for an alert to be raised in UCSM when this feature is turned on.

If you need to double check in the logs, look for an output that says:

Creation Time: 2016-10-05T22:10:05.121  
 User: admin  
 Session ID: web\_11801\_A  
 ID: 18706522  
 Action: Modification  
 Description: Switch attributes modified  
 Affected Object: sys/switch-B  
 Trigger: Admin  
 Modified Properties: **adminEvacState(Old:fill, New:drain)**

This will confirm that all the backplane ports (Host Interfaces aka HIF's) on the IOM are in an "Admin Down" state because of fabric evacuation being turned on.



Fabric evacuation is supported only with the following:

- Manual install
- Cluster configuration