



The bridge to possible

Cisco DNA Center

Understanding and Troubleshooting common issues in
Disaster Recovery

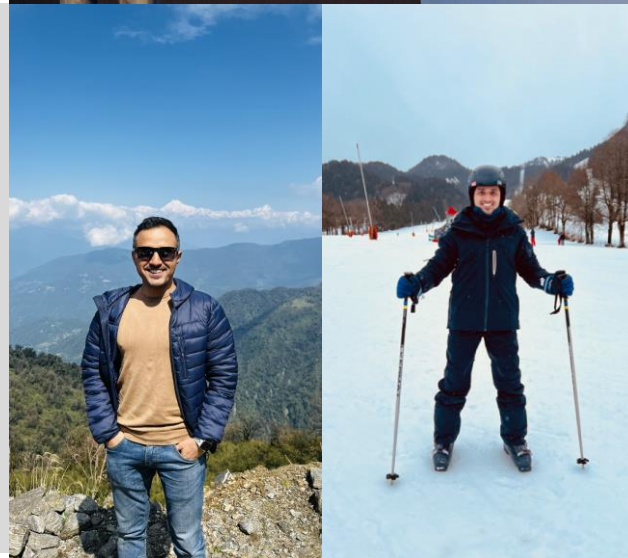
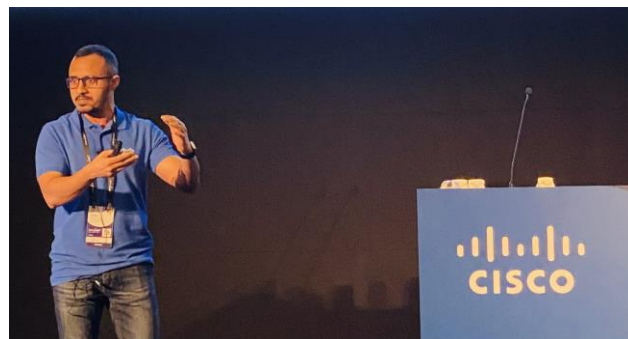
Abhay Kaviya, Customer Success Specialist

Tweet: @abhaykaviya

Abhay Kaviya



- Joined Cisco in 2014 as a professional services engineer
- Worked in Cisco TAC for DNA/SDA solution support
- Currently part of Customer success team focused on DNA center and SD-Access



Cisco Webex App

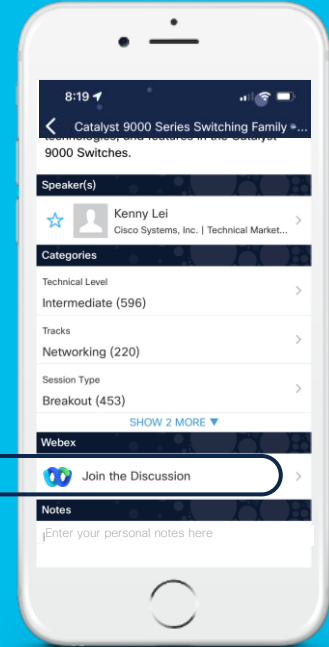
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated until February 24, 2023.

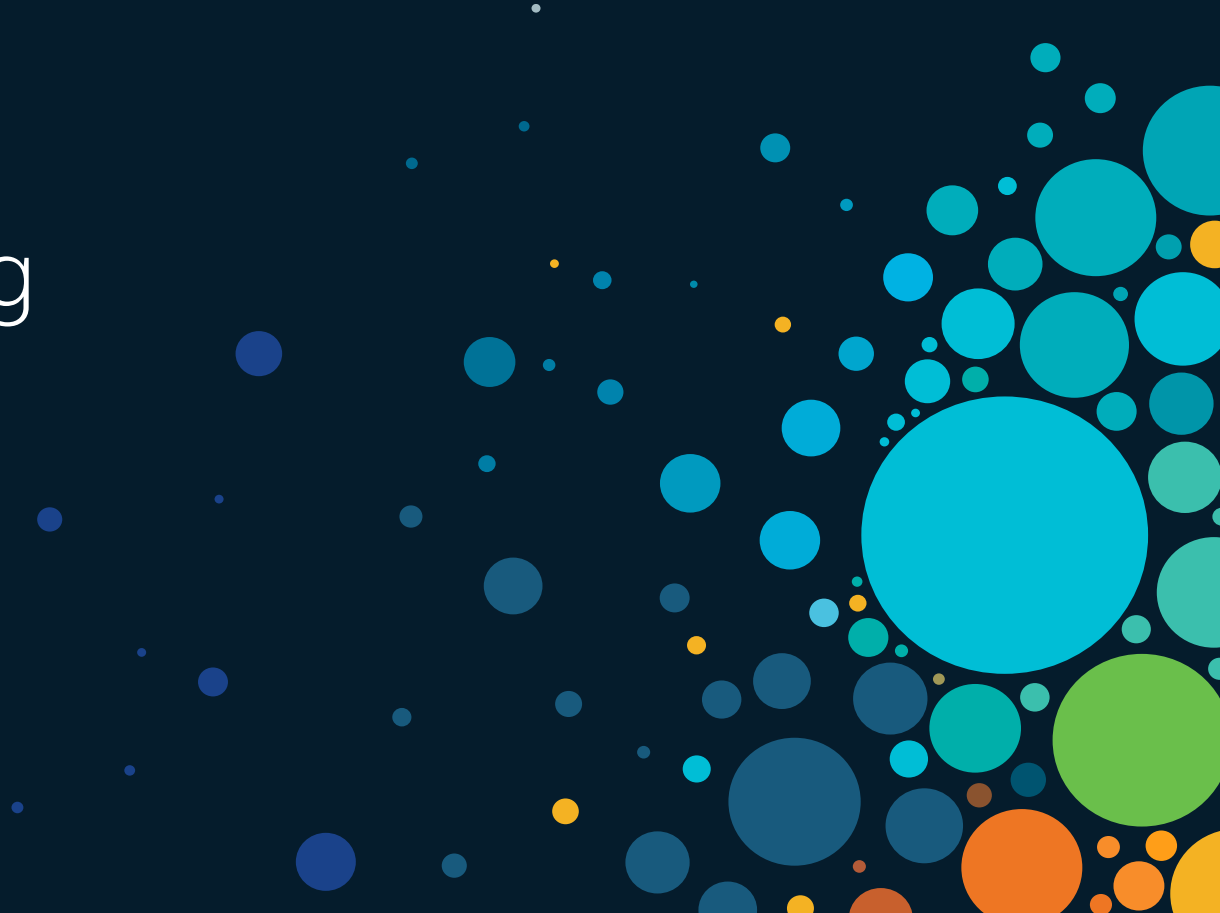




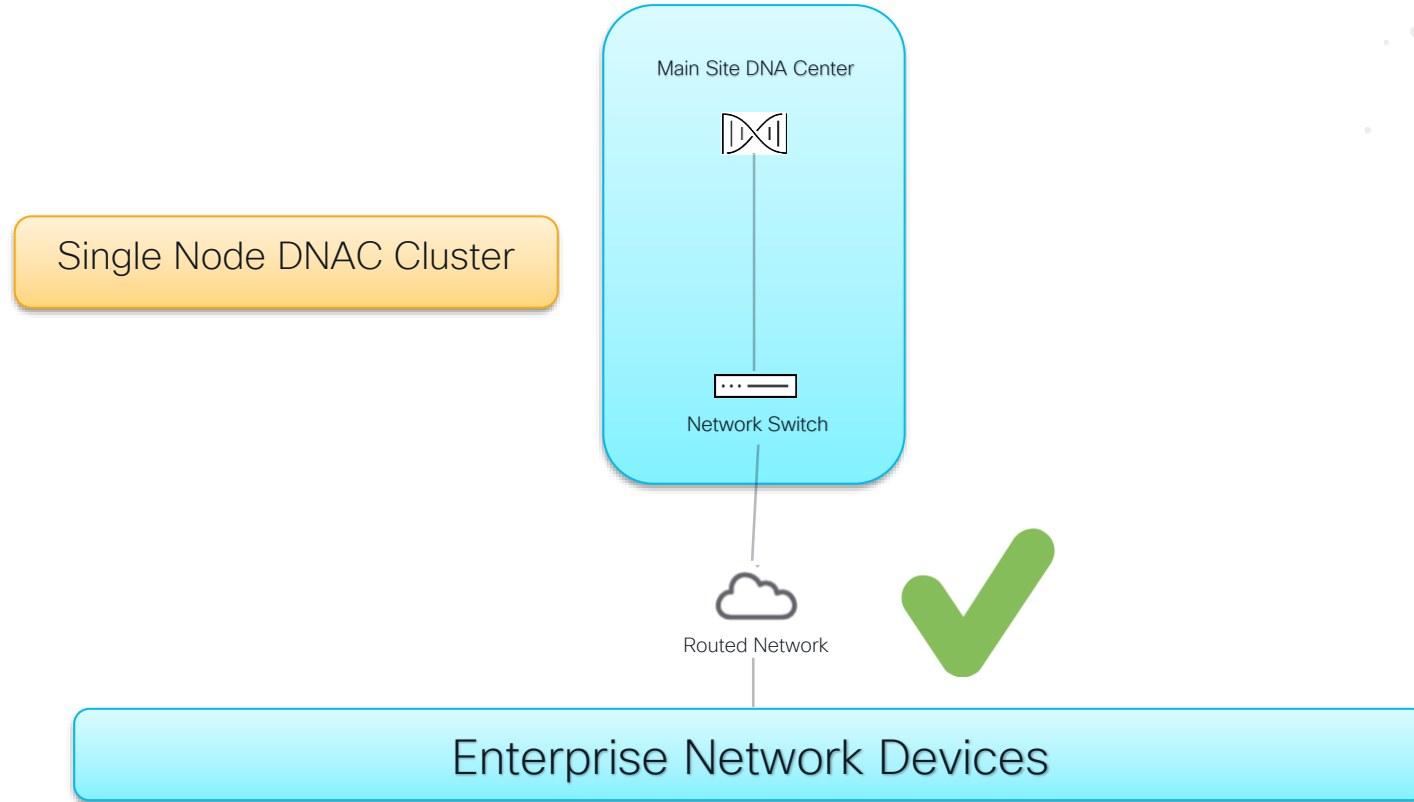
Agenda

- Understanding Disaster Recovery(DR)
- Understanding DR VIP
- Disaster Recovery States and Lifecycle
- Disaster Recovery common tasks
- Common issues seen in DR setup
- Troubleshooting DR issues
- Walk-Through of Disaster Recovery logs

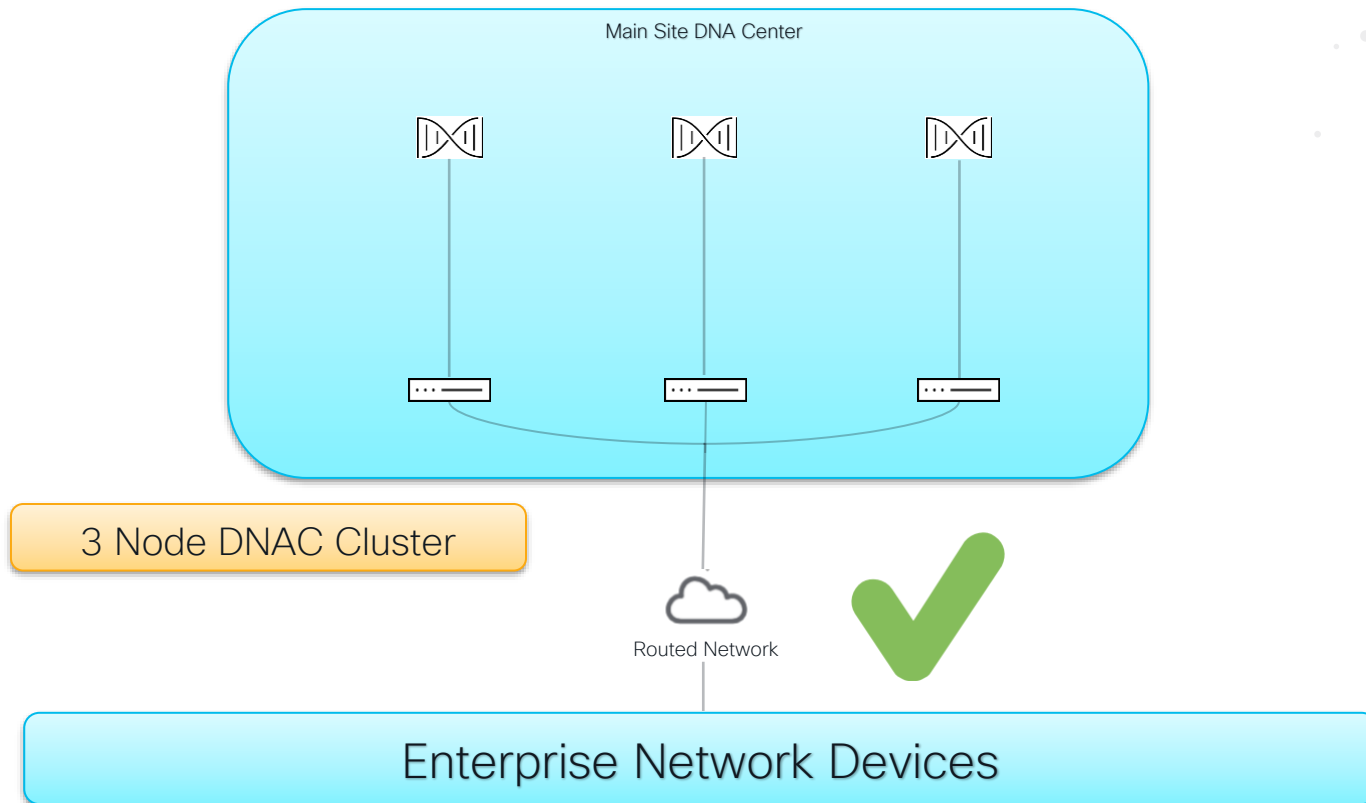
Understanding Disaster Recovery



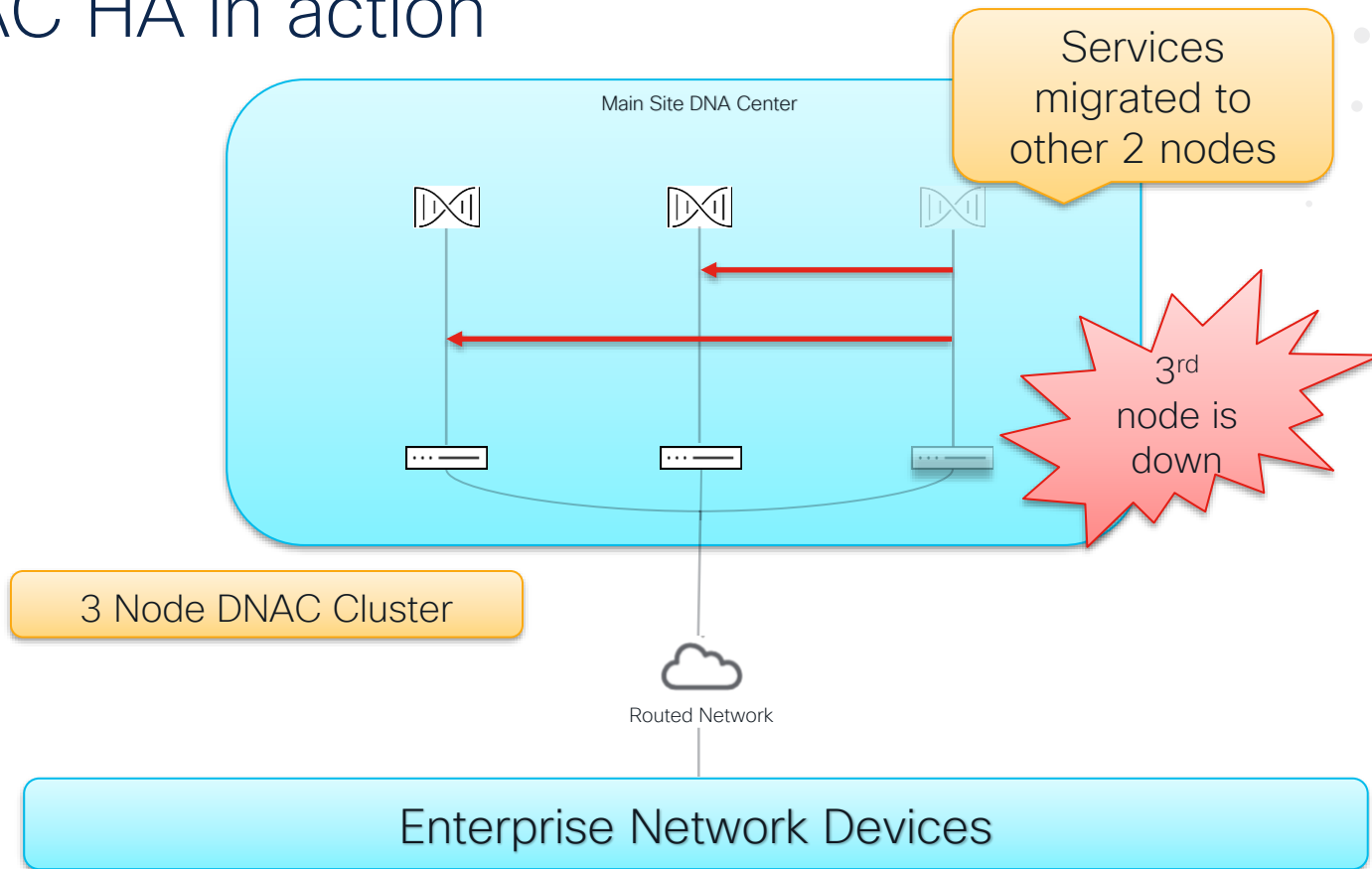
In a Perfect World



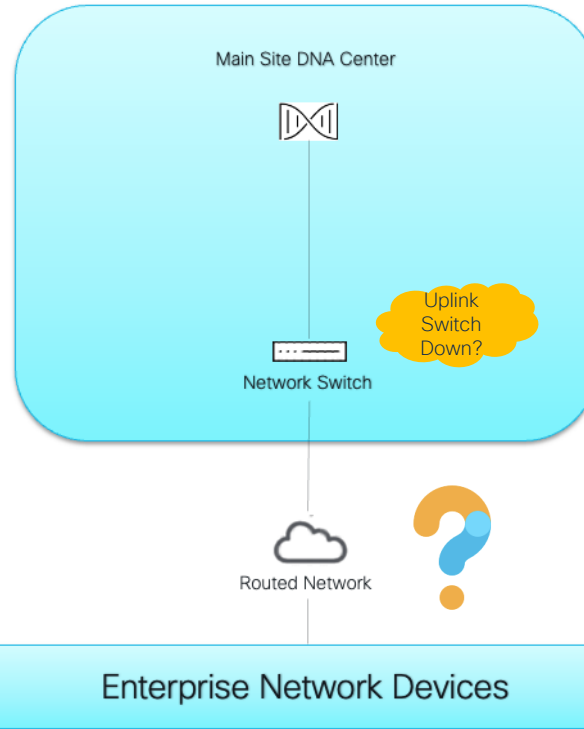
In a Perfect World



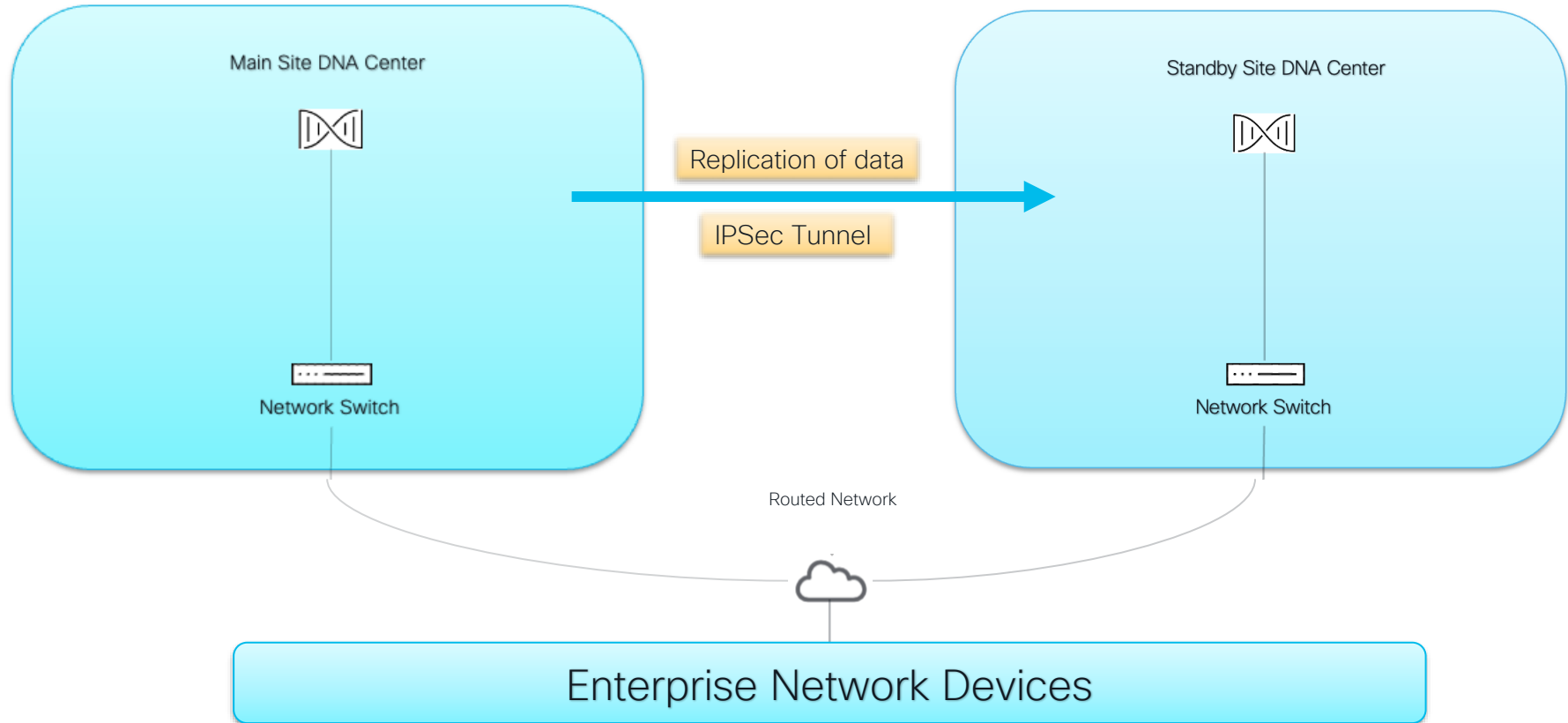
DNAC HA in action



Problem #1: What happens if there is a disaster?



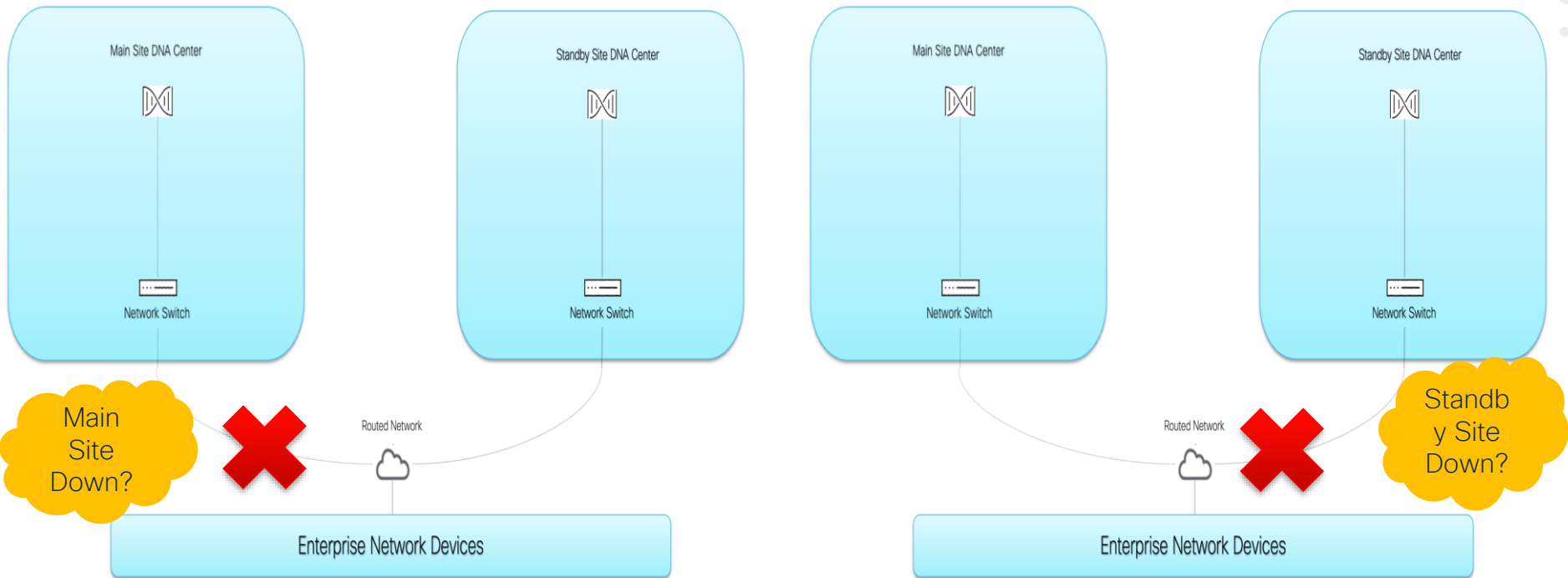
Solution: Create a standby cluster and replicate



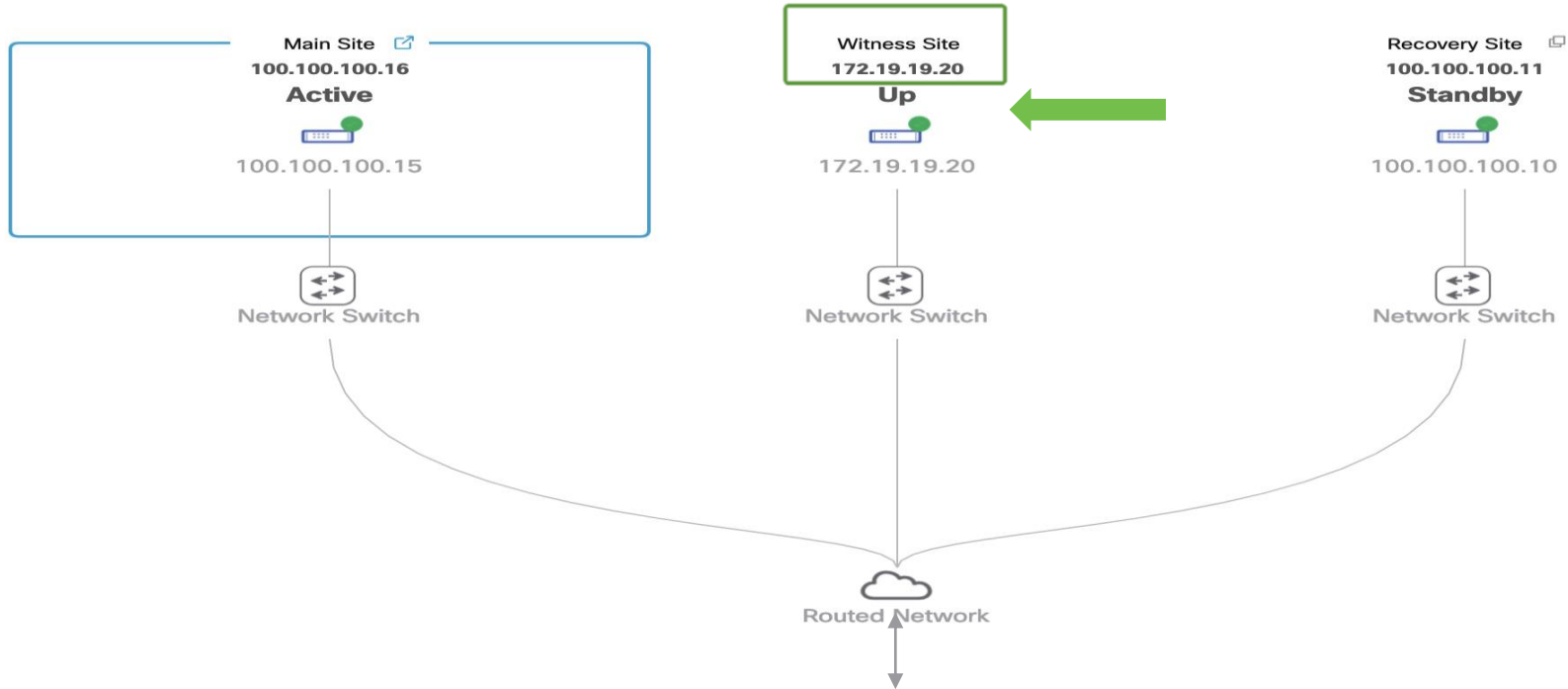
Solution: Create a standby cluster and replicate

- 2nd DNAC cluster as standby cluster
- Replicate essential data from main site to standby site
 - MongoDB
 - Postgres
 - Credentials/Certificates
 - File service contents
- IPSec used to secure traffic between Main and Recovery site
 - Strongswan IPSec library used for IPSec tunneling
 - Openssl certificates used for authentication and encryption

Problem #2: How to identify which site is isolated/down?

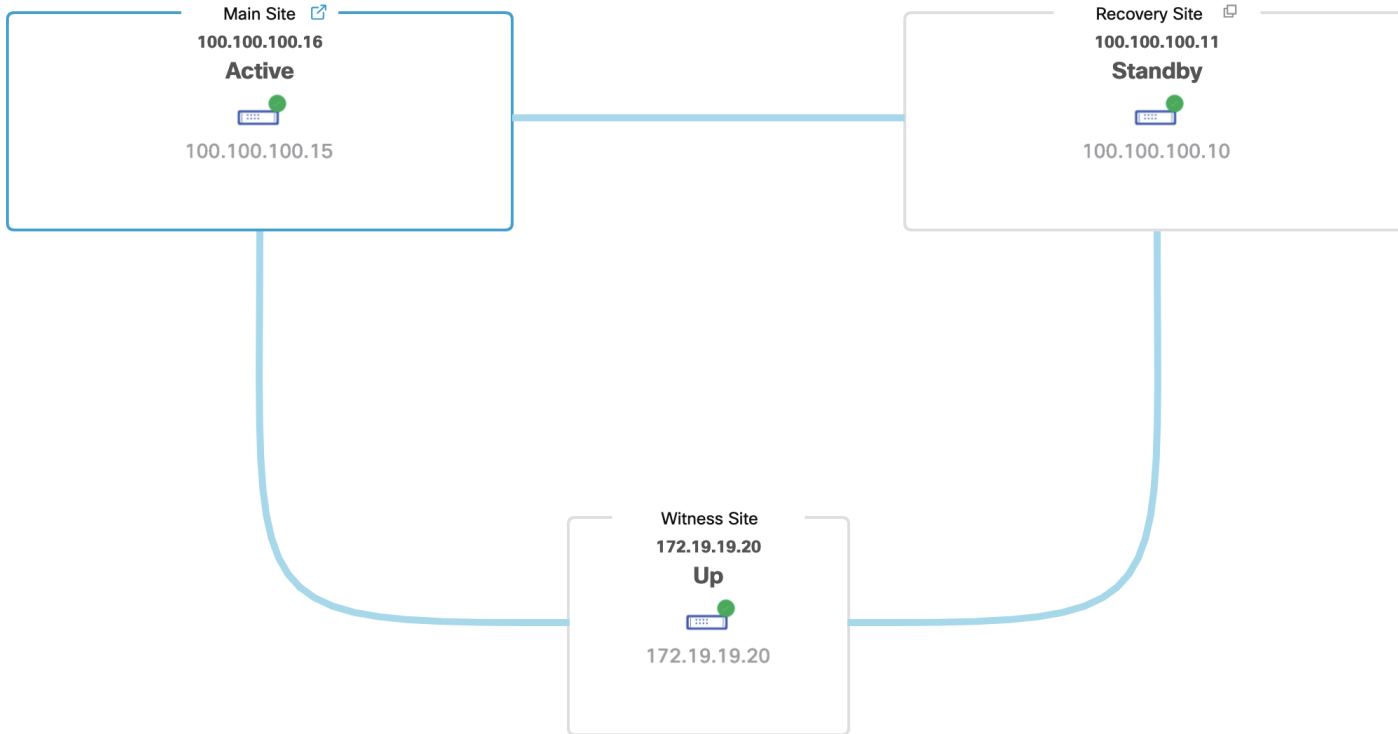


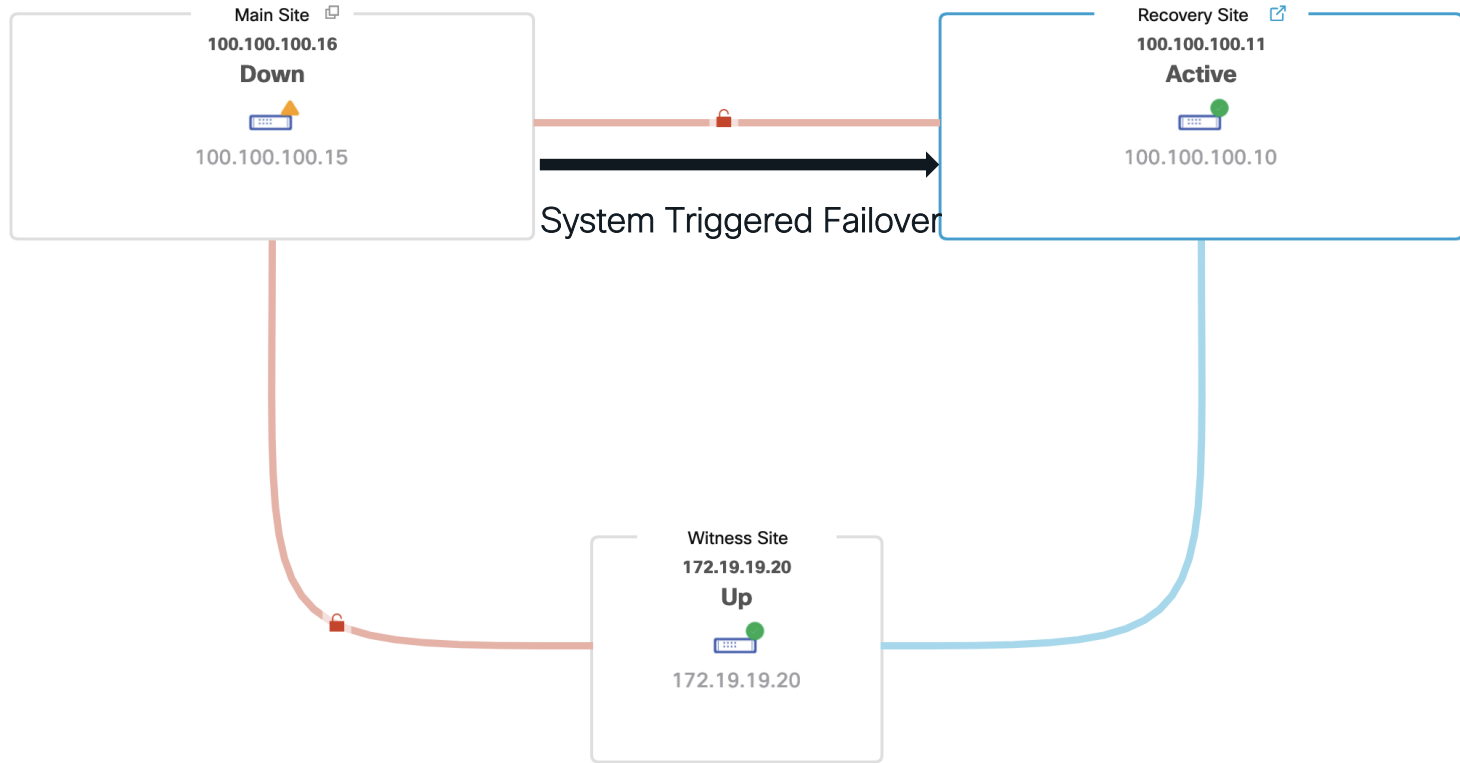
Solution: Introduce a witness



Solution: Introduce a witness

- The Witness is a small footprint VM that is installed on another part of the network.
 - A small VM running secured Linux
 - Only requires a single CPU, 1 GB RAM and 10 GB Disk
 - Simple CLI for configuration
- The witness is used to determine which of the other clusters is isolated
- When a cluster can communicate with neither the other cluster nor the witness it is considered as isolated
- When a cluster can communicate with the witness but not the other cluster then it has a quorum and will ultimately become the Active system
- Consul Raft and Gossip protocols used for quorum and cluster membership
- This enables System Triggered Failover





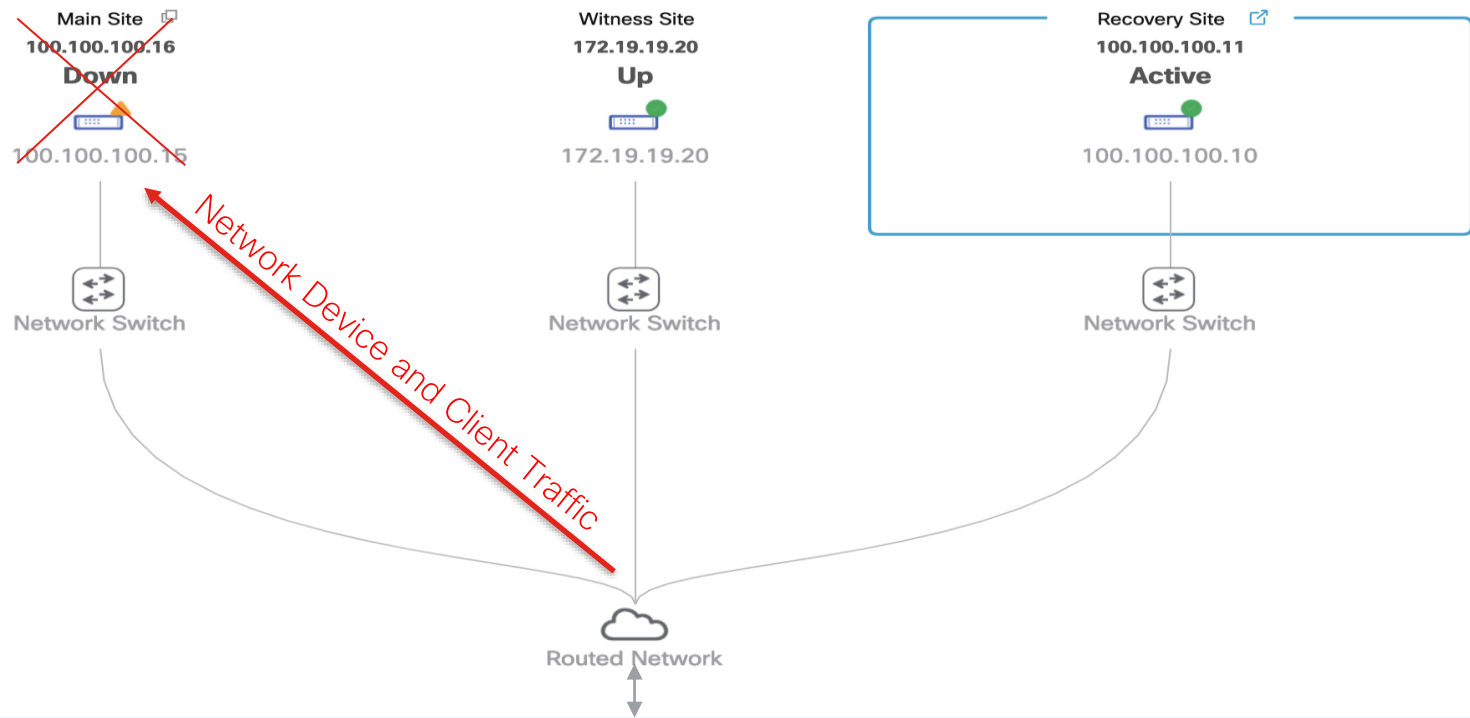
Understanding DR VIP



Problem #3: Network Device traffic flow after failover

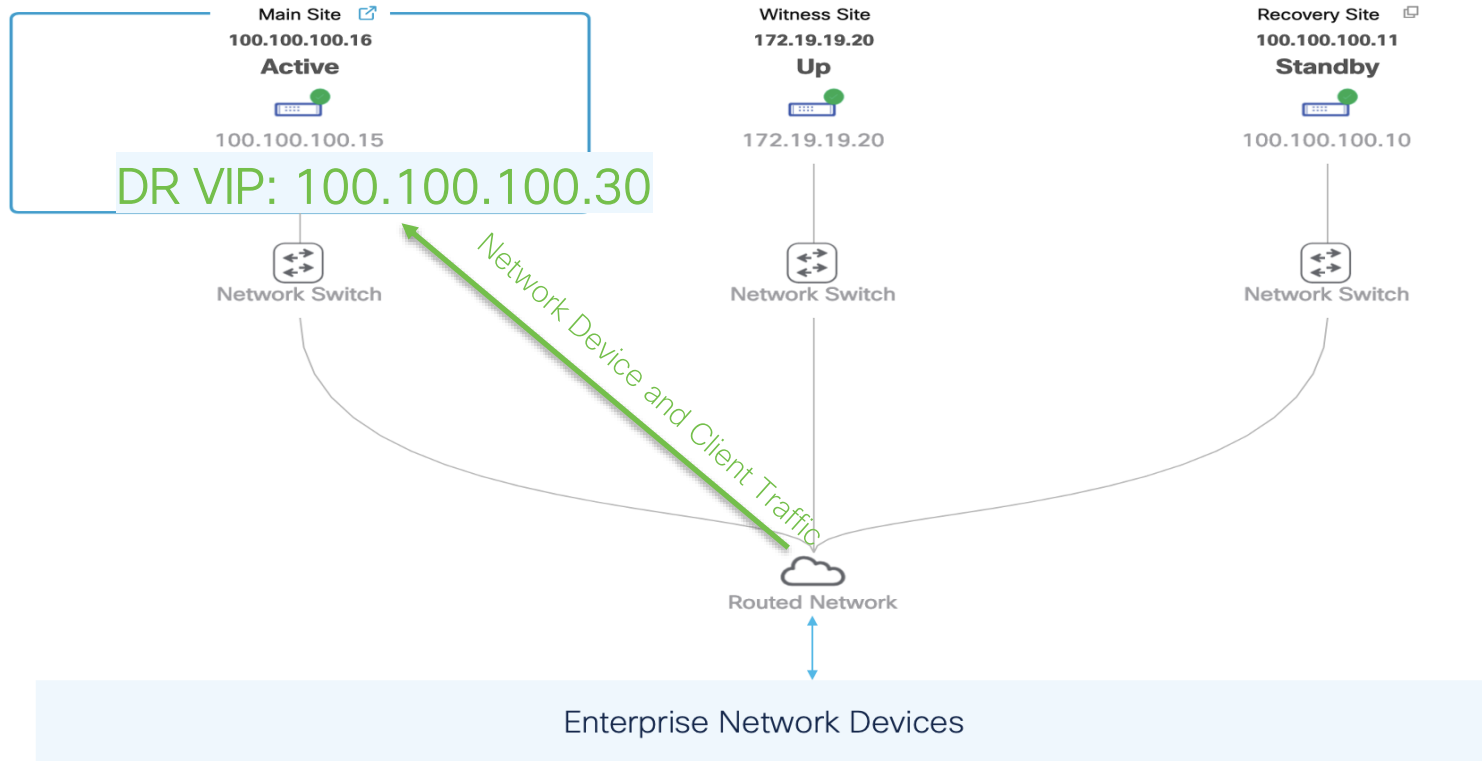
- Typically, a network device is configured to access DNAC via the Enterprise Cluster VIP(virtual IP Address).
- If devices are configured with the Enterprise Cluster VIP of the Main site, then after failover traffic will continue to be sent to enterprise VIP of main site.
- The main site is down or not reachable due to which devices would not be able to connect to DNA Center.

Problem #3: Network Device traffic flow after failover

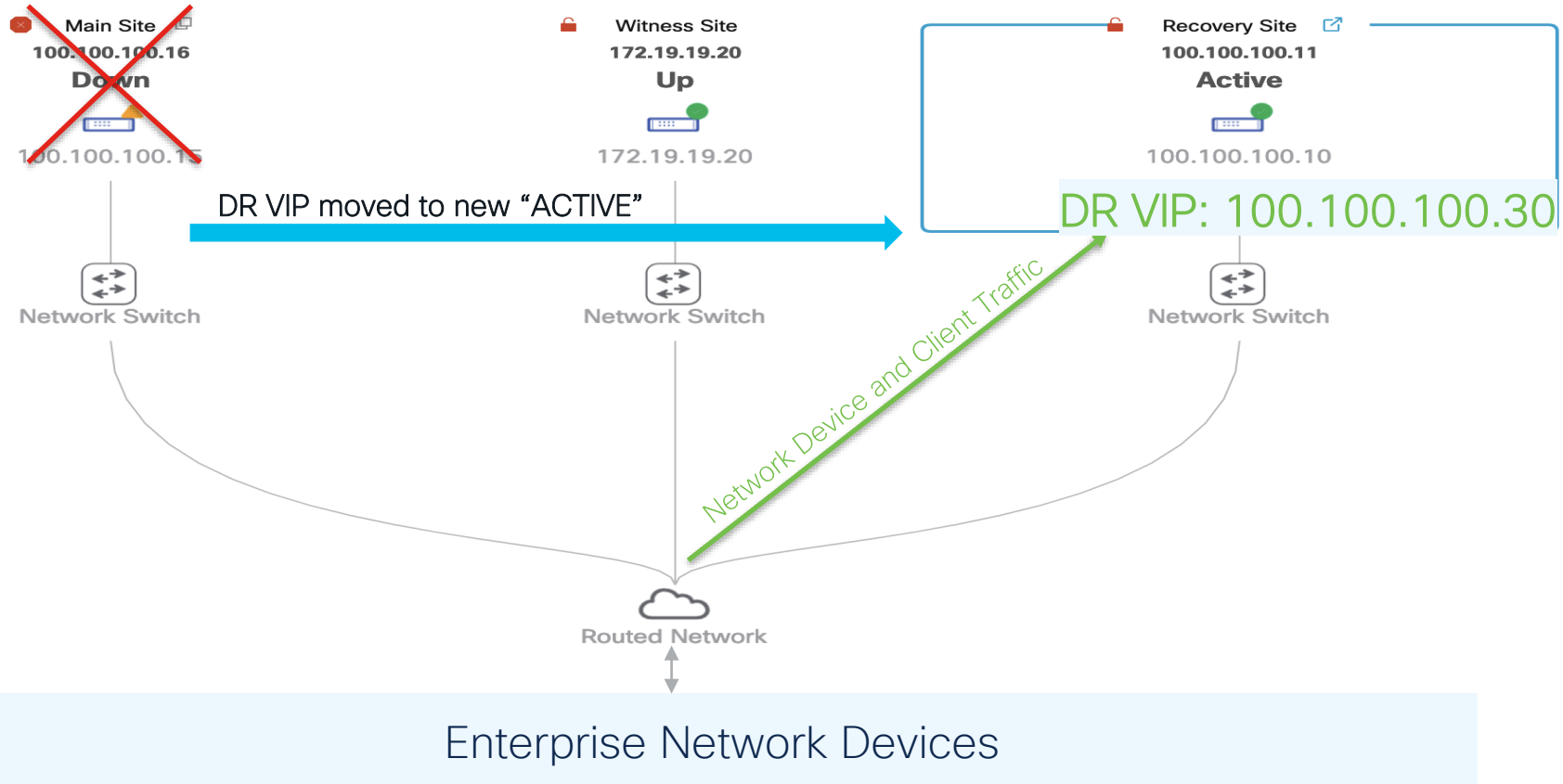


Enterprise Network Devices

Solution: Introducing DR VIP's



Solution: Introducing DR VIP's



Solution: Introducing DR VIP's

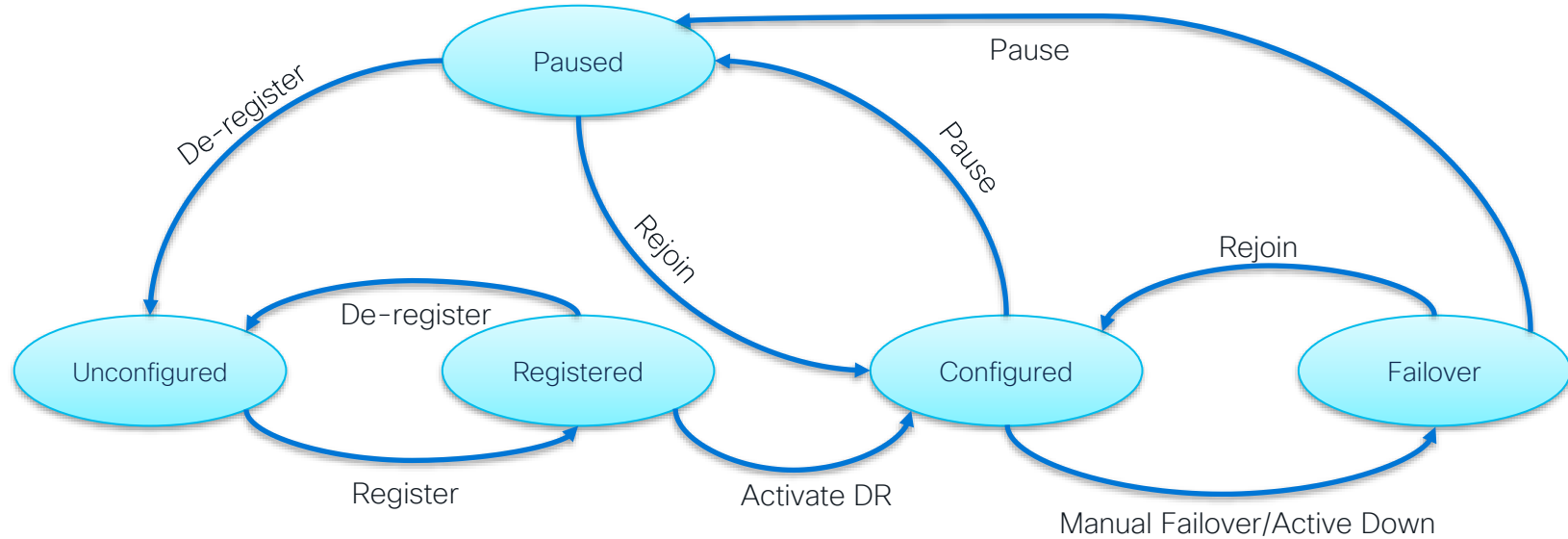
- The DR VIP is used to transparently enable devices to send traffic to whichever DR Site is active
- Devices are configured to use the DR VIP rather than the Enterprise Cluster VIP
- DR VIP is initially configured on the Main Site, so traffic flows to this site (Main is Active)
- During failover, the DR VIP is moved from the Main site to Recovery Site (now Standby/Recovery is Active)
- Devices need not be reconfigured on Failover
- Both an Enterprise VIP (required) and a Management VIP (optional) is supported.

DR system supported configuration

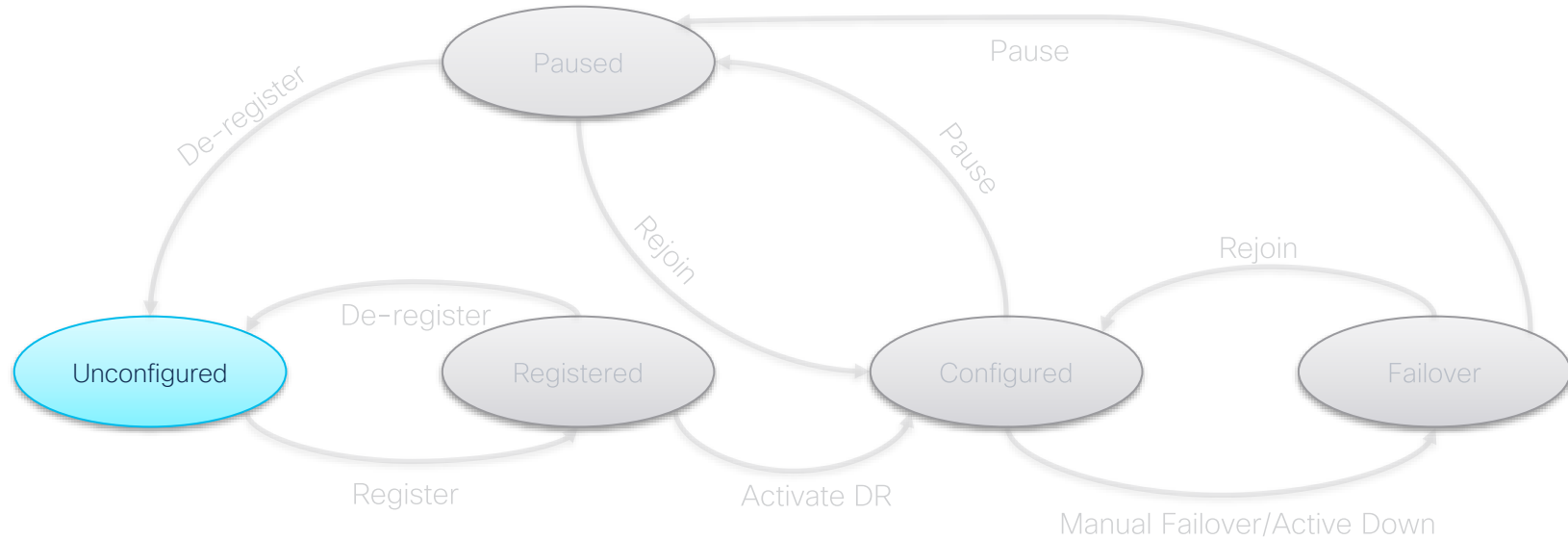
	Main Site	Recovery Site	Witness Site	Remarks
Nodes	1 Node Cluster 3 Node Cluster	1 Node Cluster 3 Node Cluster	1 VM 1 VM	
Type of Appliance	DN1-HW- APL/DN2-HW- APL/DN2-HW- APL-L/DN2-HW- APL-XL	DN1-HW-APL/DN2- HW-APL/DN2-HW- APL-L/DN2-HW- APL-XL	1 VM	<i>Both Main and Recovery site must consist of Cisco DNA Center appliances that have the same number of cores</i>
Software version	2.1.2.x and above	2.1.2.x and above	2.1.2.x and above	<i>All sites are running the same Software version.</i>
Latency	350 ms			

Disaster Recovery States and Lifecycle

Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Unconfigured

Disaster Recovery Topology

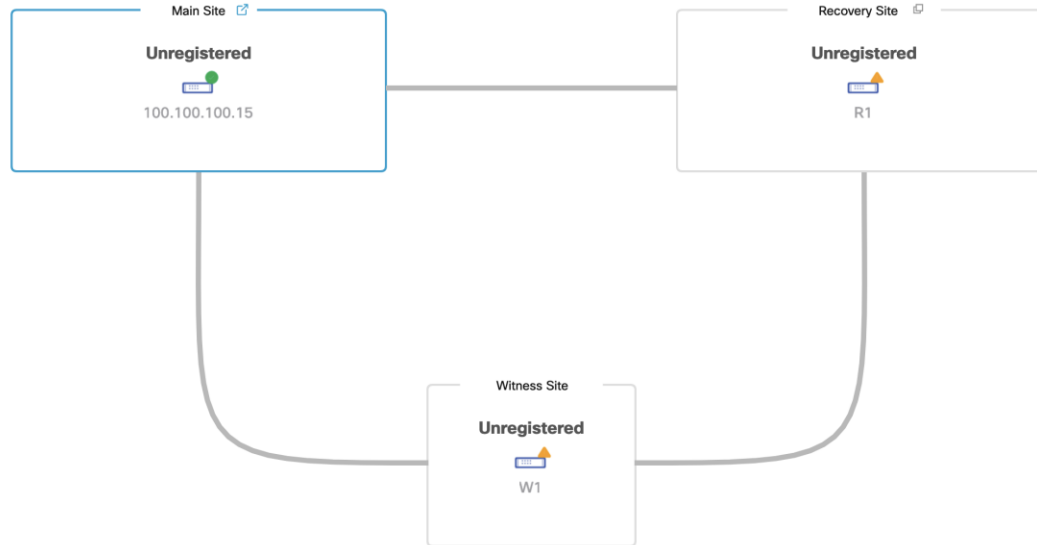
[Show Detail Information](#)

Logical

Physical

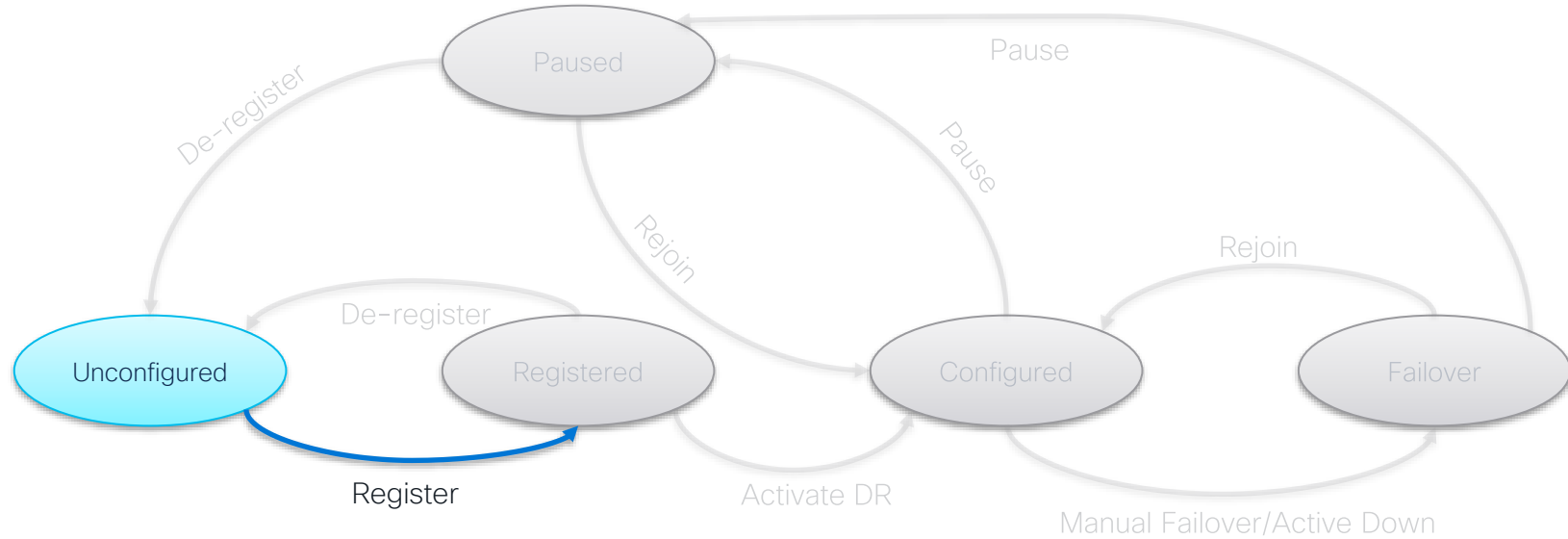
Status: Unconfigured

Please complete registration for all three sites in the order of Main, Recovery, and Witness. Then configure/activate the disaster recovery system from the Main Site.



[Go to Configure tab](#)

Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Configuration/Registration – Main Site

Set up this cluster to be the ☒ Main Site ☐ Recovery Site

Monitoring Configure

Set up this cluster to be the ☒ Main Site ☐ Recovery Site

Promote the cluster VIPs to the disaster recovery VIPs >

☒ Yes ☐ No

- ⚠ Reverting to the original state after cluster VIPs are promoted is a lengthy process involving manual steps. Make sure that
- The replacement VIP addresses are unique and are in the same enterprise and management subnets as the original VIPs respectively.
 - The promoted disaster recovery system VIPs (100.100.100.16) are accessible from the recovery site as well.

Promote the cluster enterprise VIP, 100.100.100.16, to the disaster recovery enterprise VIP

New main site enterprise VIP*

Enter replacement enterprise VIP of main site

⚠ There is no management VIP set up for this cluster. Please configure it before continue to register, if you want to use management VIP later.

Promote the cluster VIPs to the disaster recovery VIPs >

☐ Yes ☒ No

Site VIP/IP addresses

Main Site VIP

100.100.100.16

Enter enterprise VIP of main site

Recovery Site VIP*

100.100.100.11

Enter enterprise VIP of recovery site

Witness Site IP*

172.19.19.20

Enter IP address of witness site

Route advertisement ⓘ

☐ Border Gateway Protocol (BGP) ⓘ **Recommended**

☒ Disaster recovery VIPs without route advertisement ⓘ

☐ No disaster recovery VIPs ⓘ

Enterprise VIP for Disaster Recovery*

100.100.100.30

Enter enterprise VIP of Disaster Recovery System

Management VIP for Disaster Recovery

10.127.253.180

Enter management VIP of Disaster Recovery System

Reset

Register

Disaster Recovery States and Lifecycle

Configuration/Registration – Recovery Site

Monitoring

Configure

Set up this cluster to be the ☐ Main Site ☒ Recovery Site

Main Site VIP*

100.100.100.16



Enter enterprise VIP of main site

Recovery Site VIP

100.100.100.11

Enter enterprise VIP of recovery site

Registration Token*

dc2cd3237ca4427caf8380d555f3779e

Enter registration token from main site

Username*

admin



Enter username for main site

Password*

.....

[SHOW](#)

Enter password for main site

Details

The second step of the three-step registration is to register the Recovery Site. Copy and enter the token below to the [Recovery Site](#):

dc2cd3237ca4427caf8380d555f3779e

[Copy Token](#)

Copy the token provided
from the registration page of
Main Site

[Reset](#)

[Register](#)

Disaster Recovery States and Lifecycle

Configuration/Registration – Witness Site



Details

The third and final step of registration is to register the Witness Site. Use the following command to login to witness:

```
ssh -p 2222 maglev@172.19.19.20
```

[Copy Witness Login Cmmnd.](#)

then register via CLI:

```
witness register -w 172.19.19.20 -m 100.100.100.16 -t dc2cd3237ca4427caf8380d555f3779e -u <main_admin_user>
```

[Copy Witness Register Cmmnd.](#)

Or opt for copy the token only:

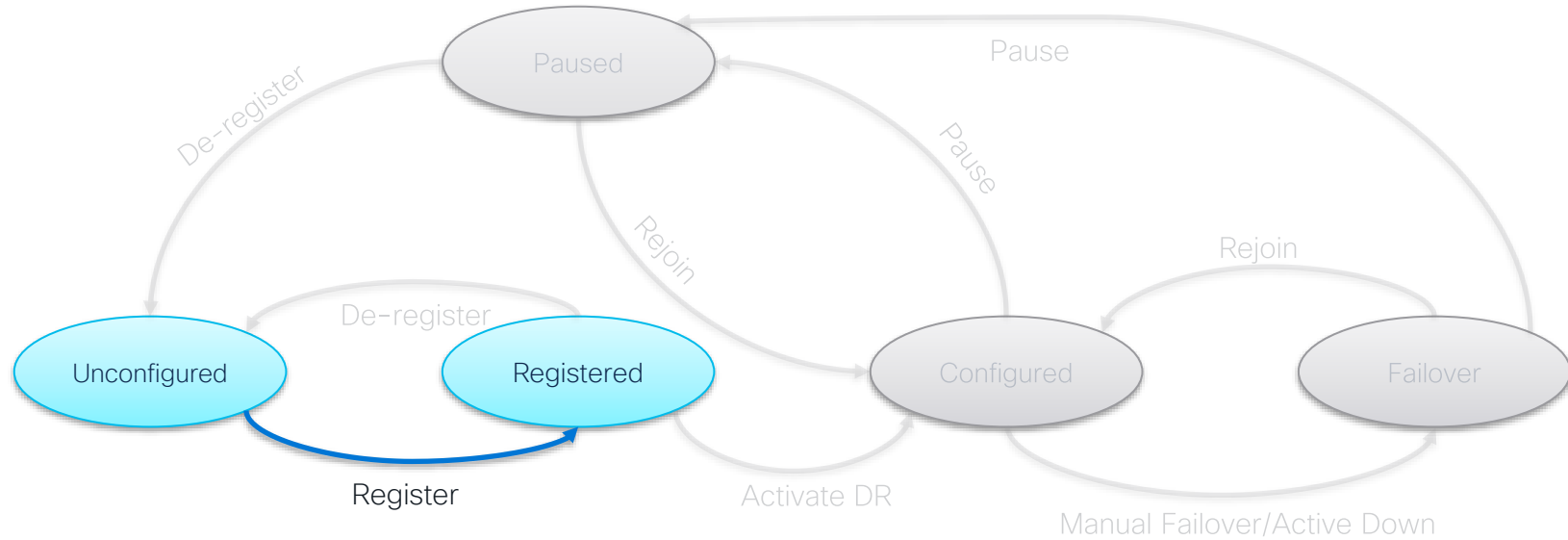
```
dc2cd3237ca4427caf8380d555f3779e
```

[Copy Token](#)

```
maglev@witness:~$ witness register -w 172.19.19.20 -m 100.100.100.16
-t dc2cd3237ca4427caf8380d555f3779e -u admin
password for admin:
1a54b1255c04ce88e204f792b793a86428582cc3626aa262695cb33d367d7fca
Witness docker container is running
Waiting for witness web server to start
Witness Web Server is up and running!
Witness Registration Successful!
```

Copy the token provided from the registration page of Main Site

Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Registered

Disaster Recovery Topology

Enterprise VIP: 100.100.100.30

Management VIP: 10.127.253.180

[Show Detail Information](#)

Logical

Physical

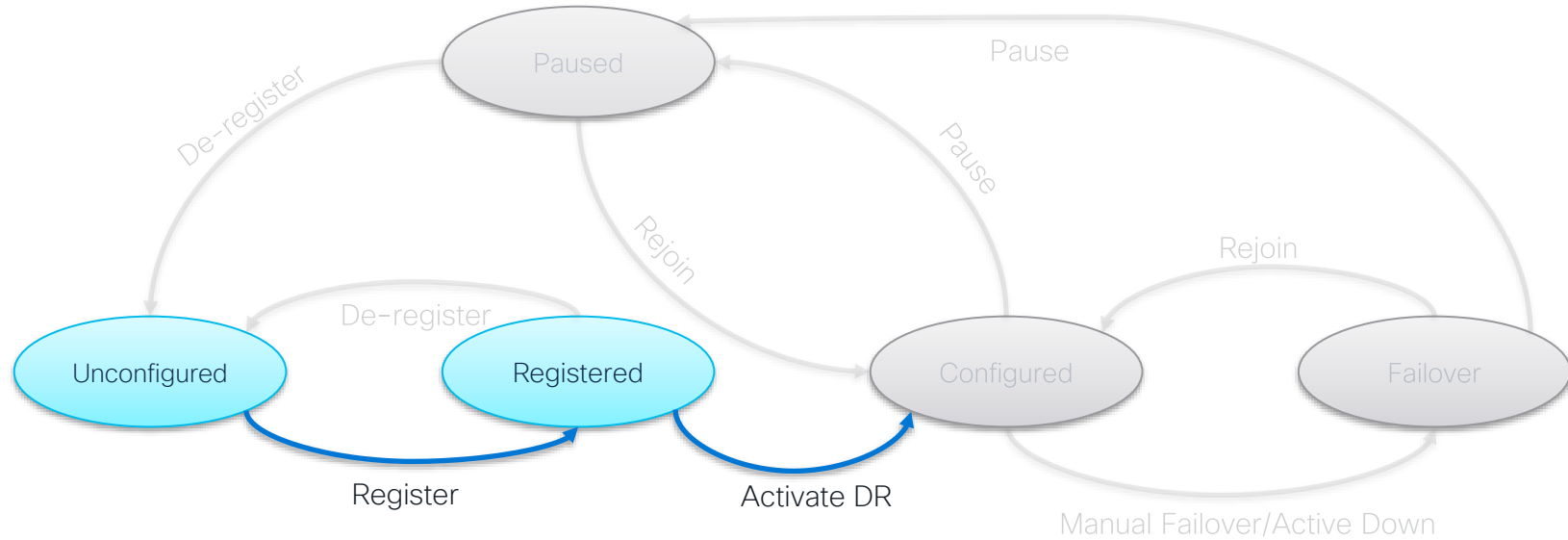
Status: Registered

All three sites are registered. Ready to configure/activate the disaster recovery system.



Activate

Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Activate DR

▼ **Activate Disaster Recovery System - 100.100.100.16**

Nov 30, 2022 7:50:27 AM

Start Time Nov 30, 2022 7:38:07 AM

Status Message Successfully setup disaster recovery

End Time Nov 30, 2022 7:50:27 AM

Hide Details

▶ **Configure active - 100.100.100.16**

Nov 30, 2022 7:43:21 AM

▶ **Configure standby - 100.100.100.11**

Nov 30, 2022 7:50:21 AM

▼ **Configure standby - 100.100.100.11**

Nov 30, 2022 7:50:21 AM

Start Time Nov 30, 2022 7:38:13 AM

Status Message Successfully configured standby system

End Time Nov 30, 2022 7:50:21 AM

Hide Details

▶ **Configure replication - 100.100.100.11**

Nov 30, 2022 7:50:13 AM

▶ **Prepare services to standby - 100.100.100.11**

Nov 30, 2022 7:46:26 AM

▶ **Enable standby mode - 100.100.100.11**

Nov 30, 2022 7:45:45 AM

▶ **Configure standby services - 100.100.100.11**

Nov 30, 2022 7:45:41 AM

▶ **Add other cluster metadata - 100.100.100.11**

Nov 30, 2022 7:41:02 AM

▶ **Save cluster metadata - 100.100.100.11**

Nov 30, 2022 7:39:21 AM

▶ **Validate standby cluster - 100.100.100.11**

Nov 30, 2022 7:38:13 AM

▼ **Configure active - 100.100.100.16**

Nov 30, 2022 7:43:21 AM

Start Time Nov 30, 2022 7:38:15 AM

Status Message Successfully configured active system

End Time Nov 30, 2022 7:43:21 AM

Hide Details

▶ **Configuring global VIPs for Disaster Recovery System. - 100.100.100.16**

Nov 30, 2022 7:43:12 AM

▶ **Configure standby to active services - 100.100.100.16**

Nov 30, 2022 7:42:06 AM

▶ **Add other cluster metadata - 100.100.100.16**

Nov 30, 2022 7:41:15 AM

▶ **File system migration - 100.100.100.16**

Nov 30, 2022 7:39:34 AM

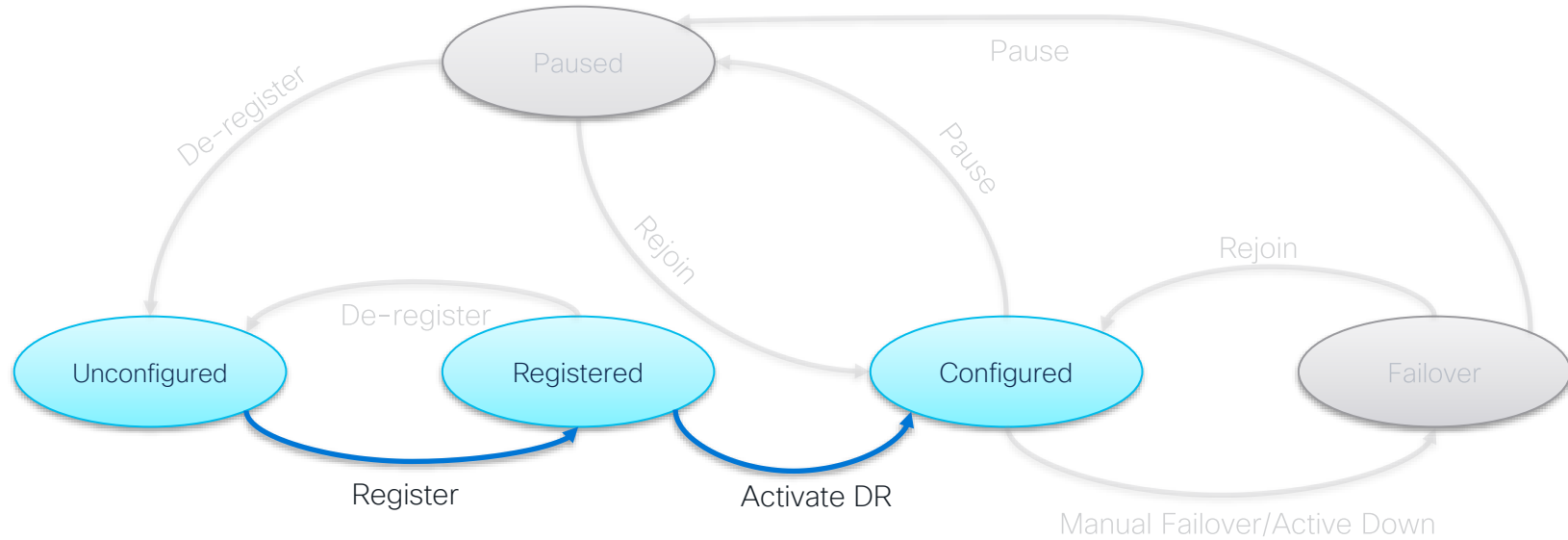
▶ **Save cluster metadata - 100.100.100.16**

Nov 30, 2022 7:39:23 AM

▶ **Validate active cluster - 100.100.100.16**

Nov 30, 2022 7:38:15 AM

Disaster Recovery States and Lifecycle



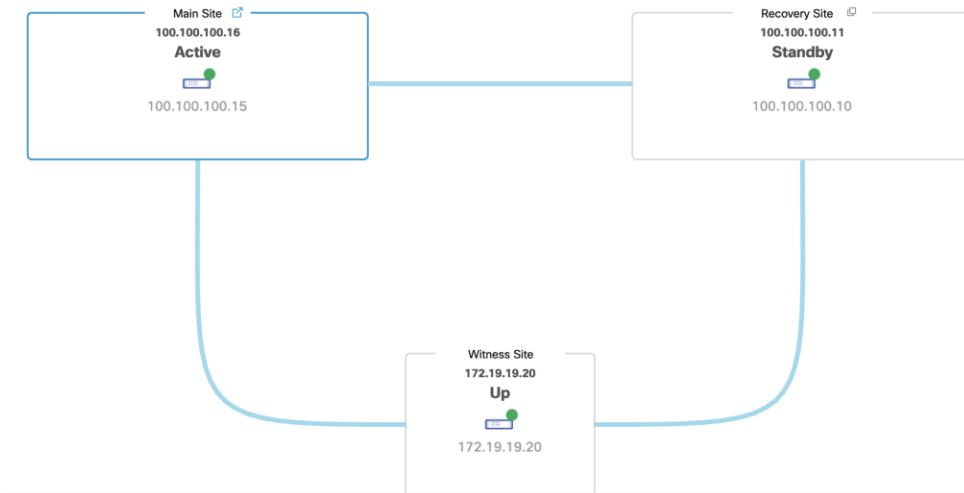
Disaster Recovery States and Lifecycle Configured

Disaster Recovery Topology

Enterprise VIP: 100.100.100.30

Management VIP: 10.127.253.180

[Show Detail Information](#)



Logical

Physical

Status: Up and Running

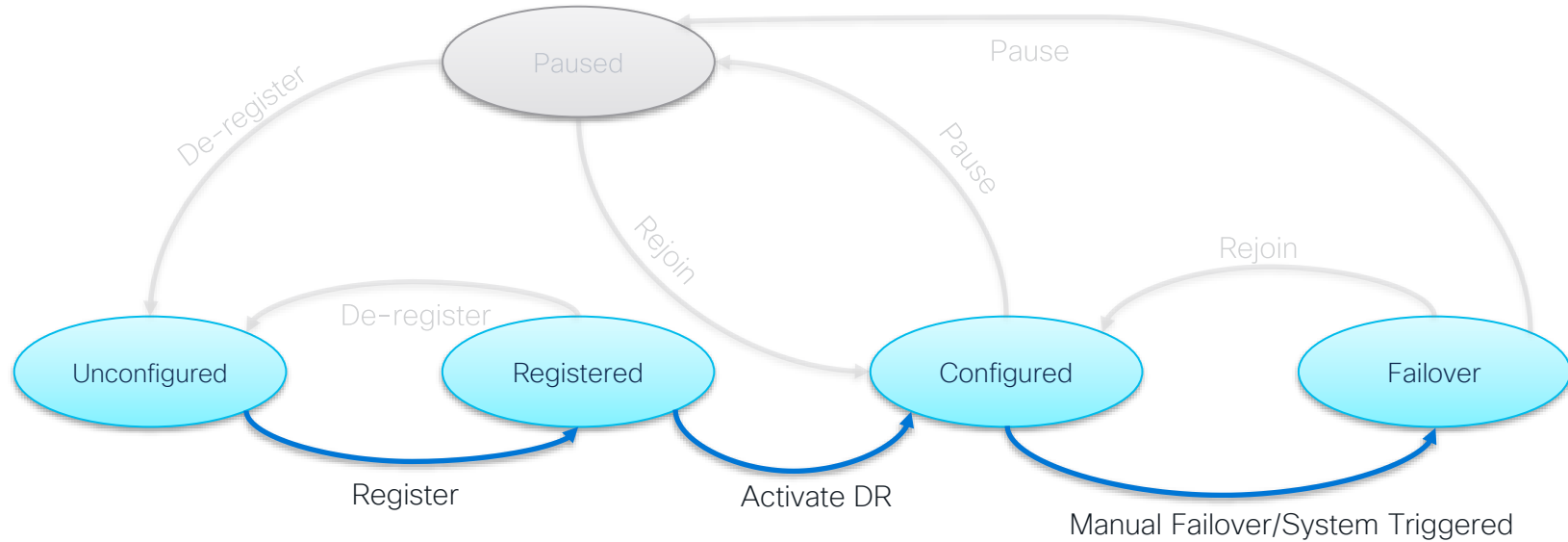
The disaster recovery system is up and running. It will perform replication as needed.



Manual Failover



Disaster Recovery States and Lifecycle

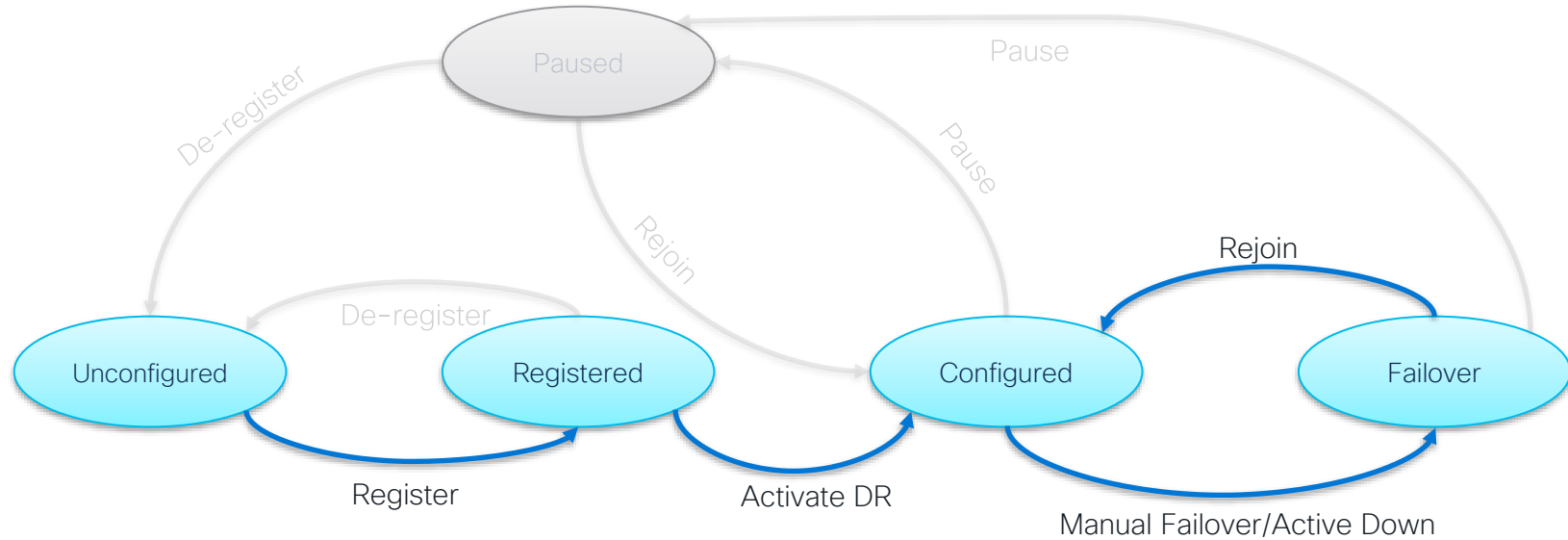


Disaster Recovery States and Lifecycle

Failover



Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

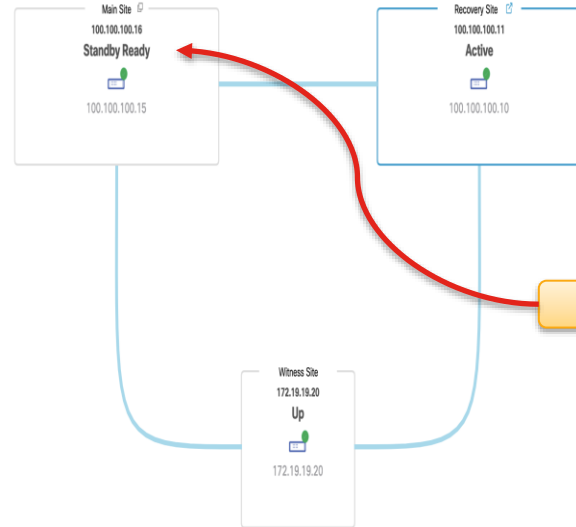
Re-Join

Disaster Recovery Topology

Enterprise VIP: 100.100.100.30

Management VIP: 10.127.253.180

[Show Detail Information](#)



Status: Active cluster up, standby cluster ready to re-join

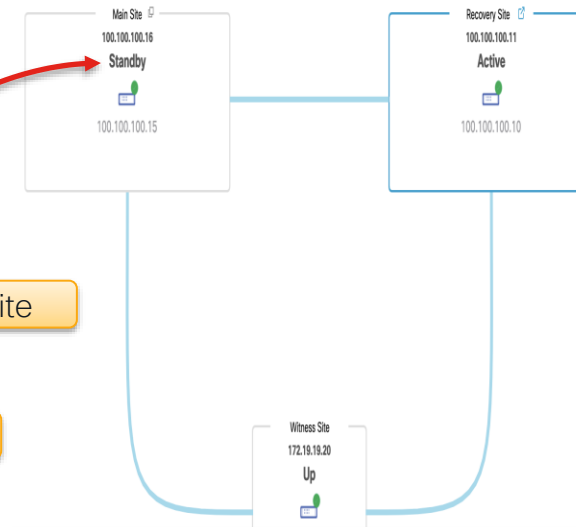
Fallover completed. The new active cluster is up as a standalone cluster. The standby cluster has not joined back to the disaster recovery system. No further failover allowed, until the standby cluster re-joined.

Disaster Recovery Topology

Enterprise VIP: 100.100.100.30

Management VIP: 10.127.253.180

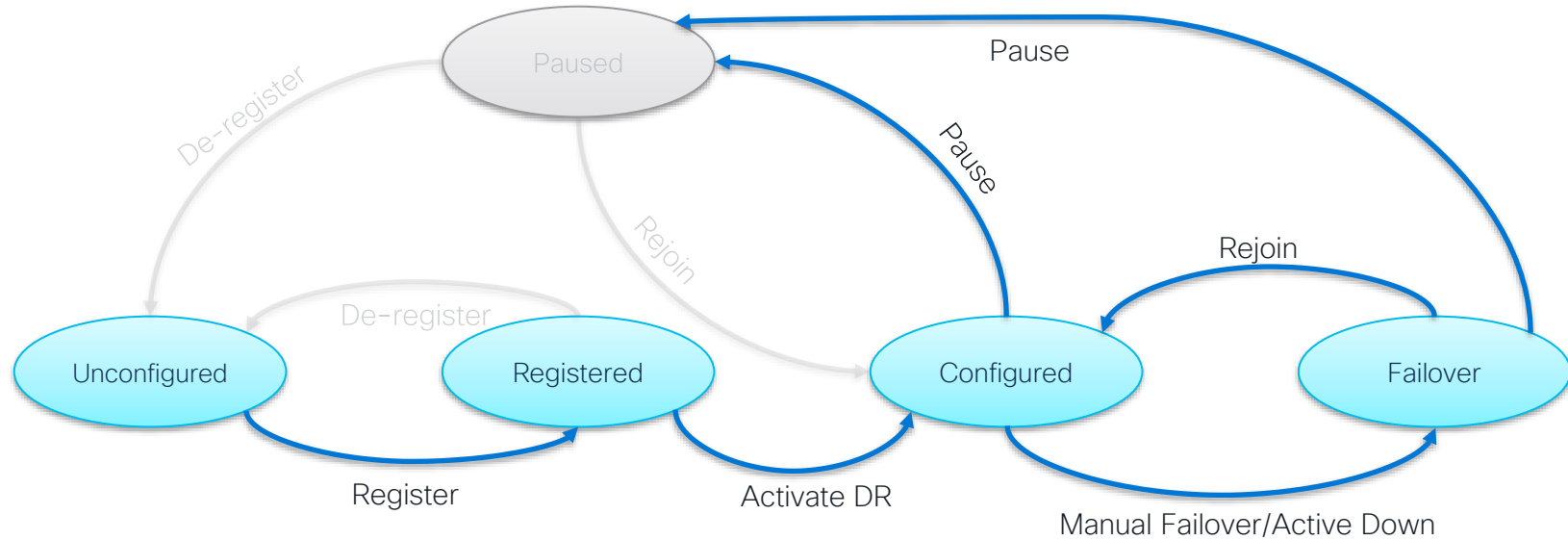
[Show Detail Information](#)



Status: Up and Running

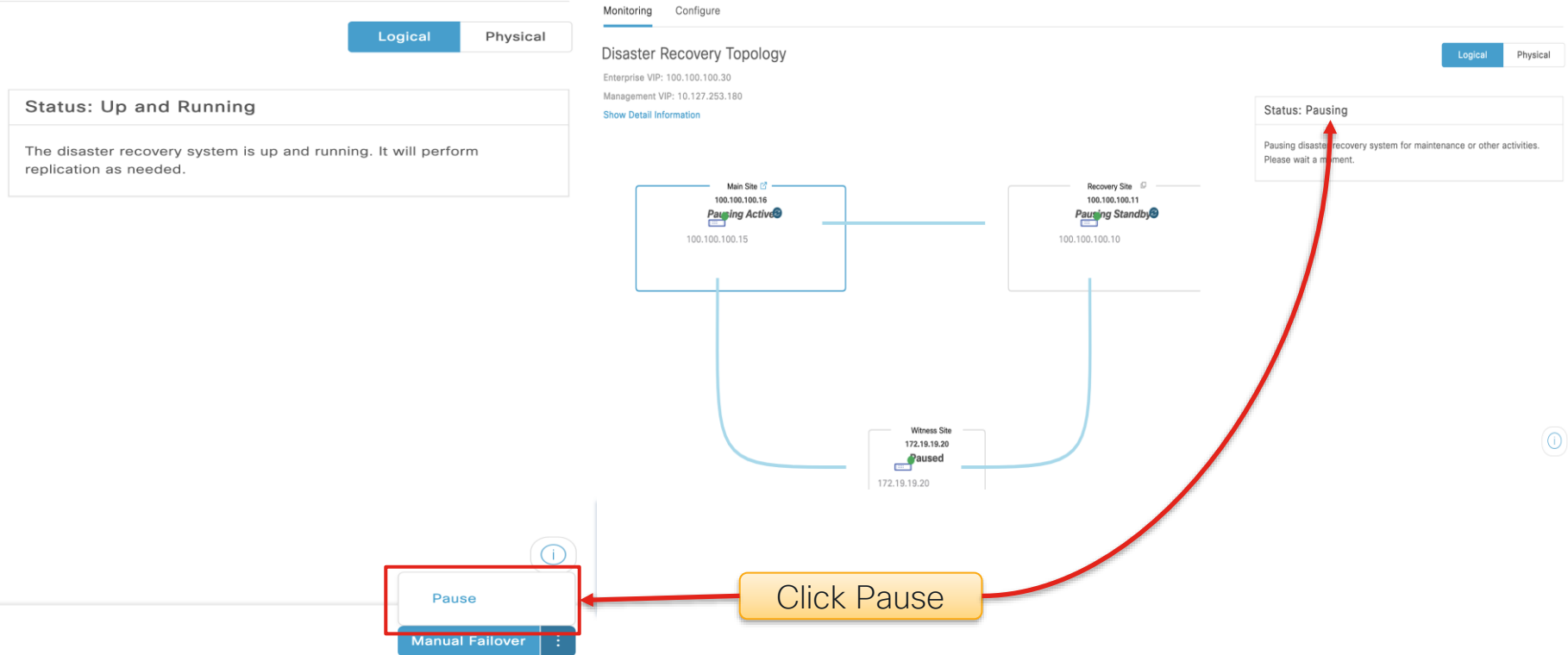
The disaster recovery system is up and running. It will perform replication as needed.

Disaster Recovery States and Lifecycle

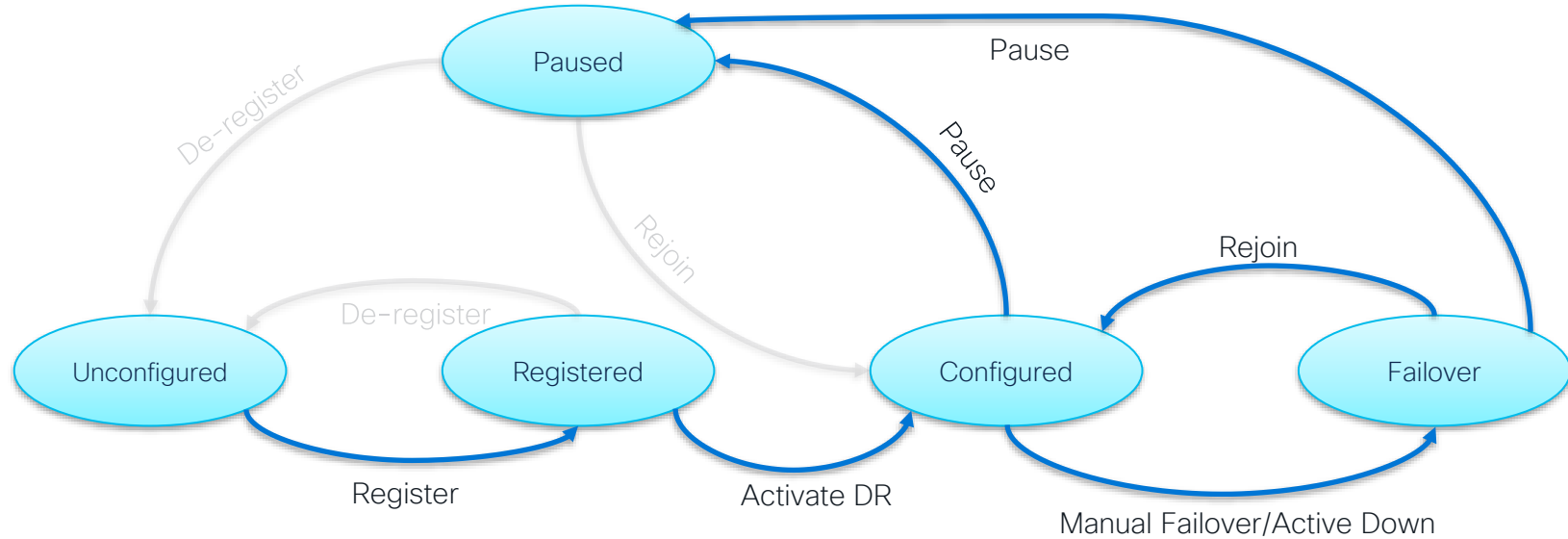


Disaster Recovery States and Lifecycle

Pause



Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Paused

Disaster Recovery Topology

Enterprise VIP: 100.100.100.30

Management VIP: 10.127.253.180

[Show Detail Information](#)

Logical

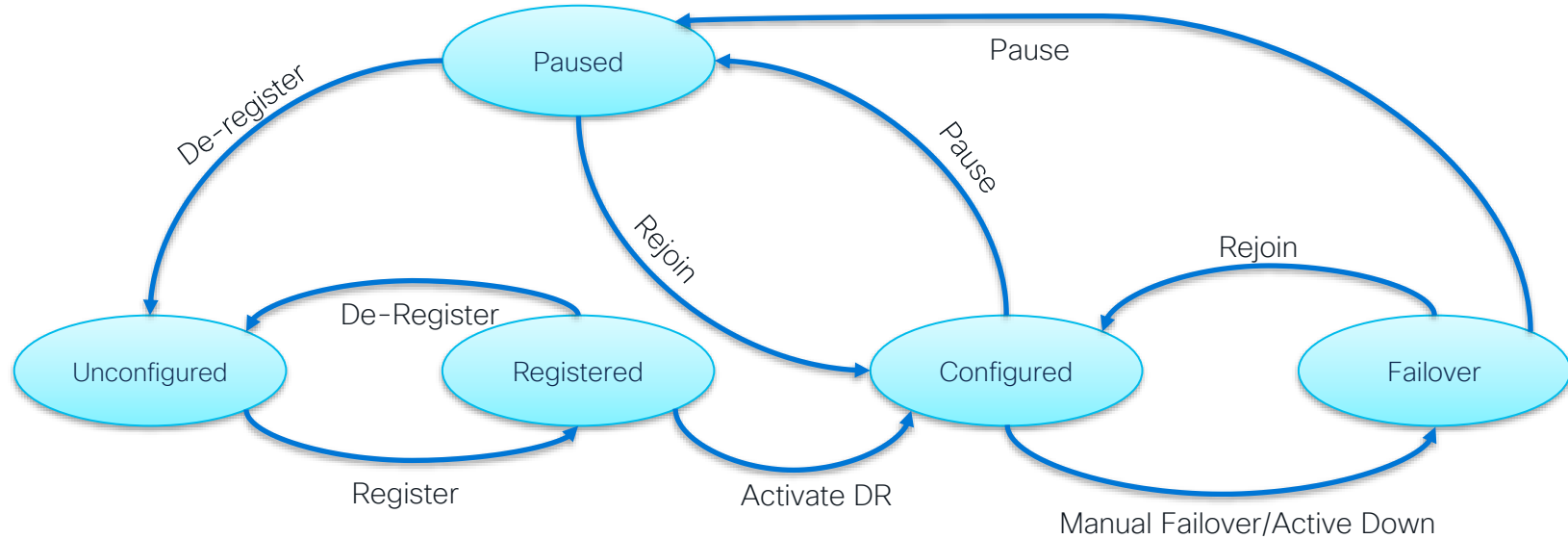
Physical

Status: Paused

The disaster recovery system is now paused. Main and Recovery Sites are two standalone clusters. There is no replication between these two sites. Click 'Re-Join' to form the disaster recovery system again and resume replication.



Disaster Recovery States and Lifecycle



Disaster Recovery States and Lifecycle

Re-Join and De-Register

Logical

Physical

Status: Paused

The disaster recovery system is now paused. Main and Recovery Sites are two standalone clusters. There is no replication between these two sites. Click 'Re-Join' to form the disaster recovery system again and resume replication.

Click Re-Join to go to Configured state



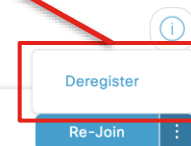
Logical

Physical

Status: Paused

The disaster recovery system is now paused. Main and Recovery Sites are two standalone clusters. There is no replication between these two sites. Click 'Re-Join' to form the disaster recovery system again and resume replication.

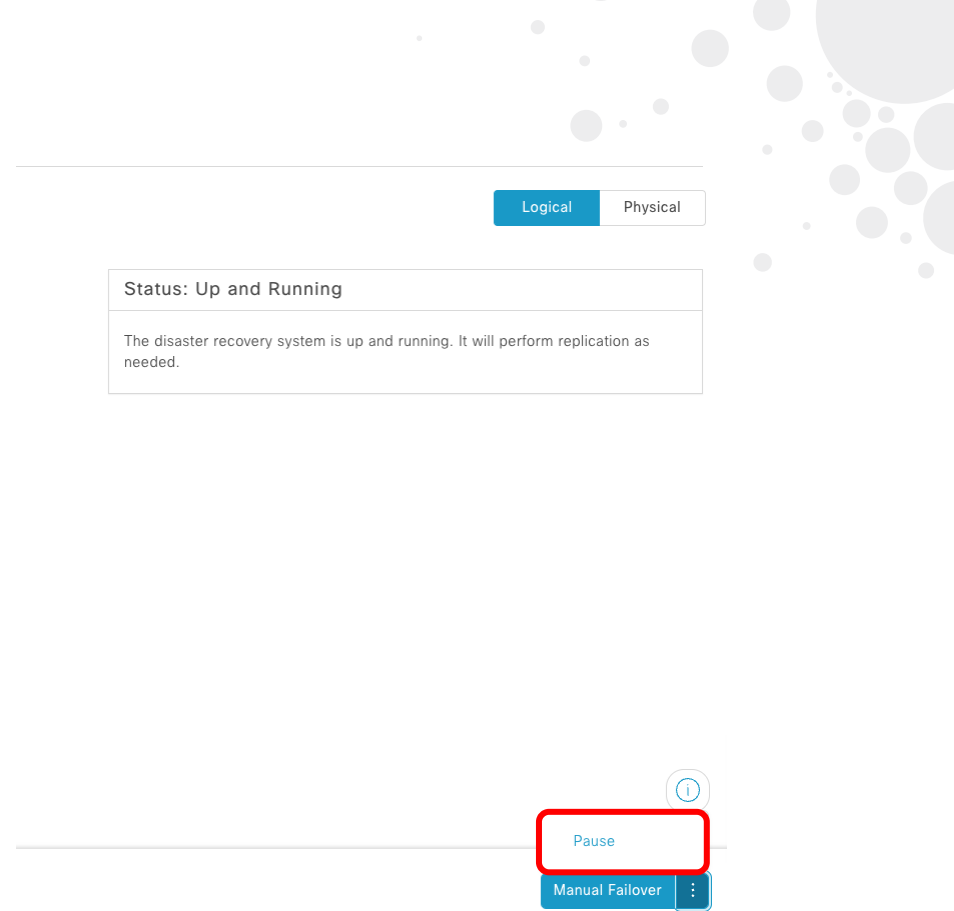
Click Deregister to go to Un-Configured state



Disaster Recovery common tasks

Renewing DR Certificates

- DR must be paused to replace DR certificates.
- Standard certificate requirements mentioned in Security Best Practices Guide are applicable.
- For DR, we need to make sure addition requirements are followed which are mentioned in [Security Best Practices Guide](#).

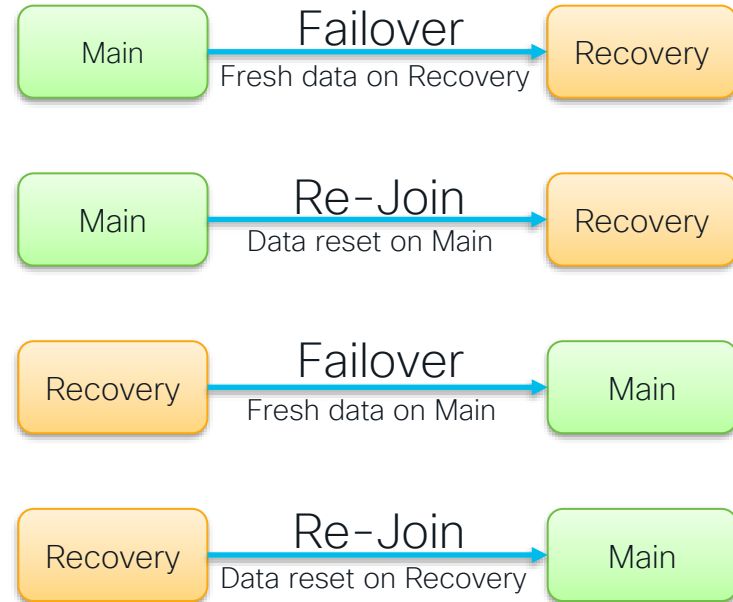


Migration from Lab to Production or Changing IP Address

- DR does not support change of IP address. For that we need to De-Register DR, Change IP address, re-create certificates with new IP Address and then configure DR.
- In case of no IP Address change and DNA-C clusters are moving from Lab to Production environment, below steps need to be followed:
 - Pause DR
 - Power Off DNA-C Clusters and Witness
 - Perform Migration and Power On DNAC-C Clusters and Witness.
 - Un-Pause DR

ISE Integration and Assurance Data replication

- ISE integration data is replicated from Main site to Recovery Site, Hence, there is no need to have separate integration of ISE on recovery site.
- Assurance data will be collection starts anew whenever a "failover" and data is reset whenever "re-join" activity is performed.



Common issues seen in DR System

DR VIP not reachable during Failover Scenario

- In case of failover scenario, DR VIP will not be active on either of DNA-C Clusters.
- Once, failover is failed, we need to identify the reason of failover by accessing the main/recovery systems from their respective Management VIP/Physical IP Address.
- Once, the issue is rectified, we need to initiate re-join which will activate DR VIP on previously known active cluster.

SODR10100:The main site has no third-party certificate

Cause:

- Disaster recovery setup requires third-party certificates to be imported to the main site before registration.
- Verify whether the third-party certificate is imported or not.

Resolution:

- Generate the certificate as mentioned in the Cisco DNA-C Security Best Practices guide. Make sure all the IPs (IPs from main and recovery clusters + DR VIPs) or corresponding DNS names are part of SAN
- Sign via trusted CA
- Import the certificate from DNAC GUI → Settings → System Certificate → Replace Certificate

SODR10140: Disaster recovery requires at least one non-wildcard DNS name. No DNS name was found in the certificate.

Cause:

- Disaster recovery requires at least one non-wildcard DNS name in the SAN field. The first non-wildcard DNS name will be used in the IPSec tunnel configuration between the sites.

Resolution:

- Re-generate the certificate with at least one DNS name in the SAN and import the new certificate to DNAC

SODR10113: The cluster authentication data for site recovery exceeds size limit.

Cause:

- This issue is caused by software defects.
- To verify, get the token:

```
TOKEN=$(curl -s -X POST -u admin  
https://kong-frontend.maglev-system.svc.cluster.local/api/system/v1/identitymgmt/token | jq -r .Token)
```
- And then run command:

```
curl -k -H "Content-Type: application/json" -H  
"X-Auth-Token:$TOKEN" -X GET  
https://credentialmanager.maglev-system.svc.cluster.local:443/api/v1/credentialmanager/secrets -o metadata
```
- Check the size of metadata, it would be very high (Somewhere in thousands)

Resolution:

- Contact TAC to apply the workaround for this issue.
- Defects fixed on DNAC version 2.3.3.x.

SODR10123:Failed to establish secure connection between witness, main and recovery.

Cause:

- Witness time clock is not in synch the Main/Recovery time clock
- Confirm the issue by executing the following command, and if System Clock Synchronized is no, then time difference between main and witness is the root cause

```
maglev@witness:~$ timedatectl status
Local time: Sat 2022-10-29 05:57:17 UTC
Universal time: Sat 2022-10-29 05:57:17 UTC
RTC time: Sat 2022-10-29 05:57:17
Time zone: Etc/UTC (UTC, +0000)
System clock synchronized: no
NTP service: active
RTC in local TZ: no
```

Resolution:

- fix the NTP configuration by correcting the hosts in /etc/systemd/timesyncd.conf
- You can set the witness server time as ntp server time by running command: ntpdate <ntp server IP>

Two System failure

Cause:

- When 2 or more systems (main/recovery/witness) are disconnected from each other for 3 minutes or more, this scenario is identified as Two System failure.
- Below are the symptoms:
 - The user will not be able to login into either of the systems and the standby screen will be displayed.
 - when the command "*maglev dr state display*" is executed on both main and recovery clusters, it will display as "*passive*".

Resolution:

If DNAC version is running 2.2.3.x or less, then TAC support would be needed to reset the clusters.

If DNAC version is running 2.3.2.x and above, the DR design is changed to handle this scenario.

Two System Failure recovery scenario's

Scenario's			
Clusters	Quorum	DNAC version < 2.2.3.x	DNAC Version > 2.3.2.x
2 System down	No	User unable to do any actions due to maintenance mode	Option provided in maintenance mode to make the cluster as standalone
All system online	Re-Established	TAC involvement to reset the DR and start over	Detect two system failure Activate old active as active
Recovery Down	Re-Established	TAC involvement to reset the DR and start over	Detect two system failure Activate the surviving cluster as active cluster
Active Down	Re-Established	TAC involvement to reset the DR and start over	Detect two system failure Activate the surviving cluster as active cluster.
Witness Down	Re-Established	TAC involvement to reset the DR and start over	Detect two system failure Activate old active as active

Troubleshooting DR issues

Checking Status of Services

[Mon Nov 28 16:40:33 UTC] maglev@10.127.253.113 (maglev-master-10-127-253-113) ~
\$ **magctl appstack status | egrep -i "ipsec|disaster|dr-monitor|maintenance"**

fusion	maintenance -service-6854b67558-5ltk7	1/1	Running	6	40d	169.254.37.188	10.127.253.113	<none>	<none>
maglev-system	ipsec manager-fnq72	1/1	Running	17	32d	10.127.253.113	10.127.253.113	<none>	<none>
sys-ops	disaster -recovery-service-ffccc8f-d88ch	3/3	Running	8	26d	169.254.37.192	10.127.253.113	<none>	<none>
sys-ops	dr-monitor -service-mlhmj	1/1	Running	3	26d	169.254.37.143	10.127.253.113	<none>	<none>

[Mon Nov 28 16:46:04 UTC] maglev@10.127.253.113 (maglev-master-10-127-253-113) ~

\$ **systemctl status ipsec**

● strongswan.service - strongSwan IPsec IKEv1/IKEv2 daemon using ipsec.conf
Loaded: loaded (/lib/systemd/system/strongswan.service; enabled; vendor preset: enabled)
Drop-In: /etc/systemd/system/strongswan.service.d
└─start.conf
Active: **active (running)** since Thu 2022-11-24 03:14:59 UTC; 4 days ago

[Mon Nov 28 16:46:10 UTC] maglev@10.127.253.113 (maglev-master-10-127-253-113) ~

\$ **systemctl status strongswan**

● strongswan.service - strongSwan IPsec IKEv1/IKEv2 daemon using ipsec.conf
Loaded: loaded (/lib/systemd/system/strongswan.service; enabled; vendor preset: enabled)
Drop-In: /etc/systemd/system/strongswan.service.d
└─start.conf
Active: **active (running)** since Thu 2022-11-24 03:14:59 UTC; 4 days ago

Common CLI commands used in DR

Main Site

maglev dr state display

[administration] password for 'admin':

maglev-1 [main - <https://kong-frontend.maglev-system.svc.cluster.local:443>]

STATE	LAST_MODIFIED_TIME
active	2022-11-16 16:47:35

Recovery Site

maglev dr state display

[administration] password for 'admin':

maglev-1 [main - <https://kong-frontend.maglev-system.svc.cluster.local:443>]

STATE	LAST_MODIFIED_TIME
passive	2022-11-16 16:44:01

Common CLI commands used in DR

Main Site

magctl service exec disaster-recovery -c consul consul members

Node	Address	Status	Type	Build	Protocol	DC	Segment
100-100-100-11	100.100.100.11:8301	alive	server	1.10.3	2	dc1	<all>
100-100-100-16	100.100.100.16:8301	alive	server	1.10.3	2	dc1	<all>
172-19-19-20	172.19.19.20:8301	alive	server	1.10.3	2	dc1	<all>

Recovery Site

magctl service exec disaster-recovery -c consul consul members

Node	Address	Status	Type	Build	Protocol	DC	Segment
100-100-100-11	100.100.100.11:8301	alive	server	1.10.3	2	dc1	<all>
100-100-100-16	100.100.100.16:8301	alive	server	1.10.3	2	dc1	<all>
172-19-19-20	172.19.19.20:8301	alive	server	1.10.3	2	dc1	<all>

Common CLI commands used in DR

Main Site

sudo ipsec status

Security Associations (2 up, 0 connecting):

```
100.100.100.16-172.19.19.20[153]: ESTABLISHED 93 minutes ago,  
100.100.100.16[pod7.dr.com]...172.19.19.20[pod7.dr.com]  
100.100.100.16-172.19.19.20{489}: INSTALLED, TRANSPORT, reqid 7, ESP in UDP SPIs: c389b62f_i c234f173_o  
100.100.100.16-172.19.19.20{489}: 100.100.100.16/32 === 172.19.19.20/32  
100.100.100.16-100.100.100.11[151]: ESTABLISHED 114 minutes ago,  
100.100.100.16[pod7.dr.com]...100.100.100.11[pod7.dr.com]  
100.100.100.16-100.100.100.11{487}: INSTALLED, TRANSPORT, reqid 46, ESP in UDP SPIs: ceb6dcfb_i c97611f8_o  
100.100.100.16-100.100.100.11{487}: 100.100.100.16/32 === 100.100.100.11/32
```

Recovery Site

sudo ipsec status

Security Associations (2 up, 0 connecting):

```
100.100.100.11-100.100.100.16[244]: ESTABLISHED 115 minutes ago,  
100.100.100.11[pod7.dr.com]...100.100.100.16[pod7.dr.com]  
100.100.100.11-100.100.100.16{881}: INSTALLED, TRANSPORT, reqid 223, ESP in UDP SPIs: c97611f8_i ceb6dcfb_o  
100.100.100.11-100.100.100.16{881}: 100.100.100.11/32 === 100.100.100.16/32  
100.100.100.11-172.19.19.20[243]: ESTABLISHED 2 hours ago, 100.100.100.11[pod7.dr.com]...172.19.19.20[pod7.dr.com]  
100.100.100.11-172.19.19.20{880}: INSTALLED, TRANSPORT, reqid 222, ESP in UDP SPIs: cc2209aa_i c92e5556_o  
100.100.100.11-172.19.19.20{880}: 100.100.100.11/32 === 172.19.19.20/32
```

Important logs involved in DR

- `magctl service logs -r disaster-recovery-service -c disasterrecoveryservice`
- `magctl service logs -r disaster-recovery-service -c consul`
- `magctl service logs -r dr-monitor-service`
- `magctl service logs -r maintenance-service`
- `magctl service logs -r ipsecmanager`
- `/var/log/syslog` (for Strongswan IPSec logs)

Walk-Through of Disaster Recovery logs

Walk-Through of Disaster Recovery logs

- `magctl service logs -r disaster-recovery-service -c disasterrecoveryservice`
- `magctl service logs -r disaster-recovery-service -c consul`
- `magctl service logs -r dr-monitor-service`
- `magctl service logs -r maintenance-service`
- `magctl service logs -r ipsecmanager`
- `/var/log/syslog` (for Strongswan IPsec logs)

Scenarios

- Registration process related logs
- Failover process related logs

Registration process related logs

- Registration of Main site
- Validation
- Main Registration Success
- Recovery Registration
- Recovery Registration Success
- Witness Registration
- Witness Registration
- Configure DR System

Walk-Through of Disaster Recovery logs

Registration of Main site

```
{
  "asctime": "2022-10-27 16:00:35,167",
  "timeMillis": 1666886435.1673806,
  "filename": "servicecontroller.py",
  "funcName": "register_main",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 215,
  "module": "servicecontroller",
  "msecs": 167.38057136535645,
  "message": "Data received on main registration\nMainRegistrationRequest(main=Cluster(ip='100.100.100.16', details=None, state=None, user=None, ipsec_status=None),\nrecovery=Cluster(ip='100.100.100.11', details=None, state=None, user=None, ipsec_status=None), witness=Cluster(ip='172.19.19.20', details=None,\nstate=None, user=None, ipsec_status=None), vip=Vip(enterprise='100.100.100.30', management='10.127.253.180', enterprise_vip_metadata=None,\nmanagement_vip_metadata=None))",
  "name": "disasterrecoveryservice.controller",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/controller/servicecontroller.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33054711.57336235,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

Validation

```
{
  "asctime": "2022-10-27 16:00:35,169",
  "timeMillis": 1666886435.1690383,
  "filename": "registration.py",
  "funcName": "validate_interfaces",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 66,
  "module": "registration",
  "msecs": 169.0382957458496,
  "message": "Validating Enterprise and Management VIPs on Main.",
  "name": "disasterrecoveryservice.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33054713.23108673,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:00:35,273",
  "timeMillis": 1666886435.2734883,
  "filename": "registration.py",
  "funcName": "validate_certificate",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 102,
  "module": "registration",
  "msecs": 273.48828315734863,
  "message": "Validating Certificates on Main.",
  "name": "disasterrecoveryservice.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33054817.681074142,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Registration of Main

```
{"asctime": "2022-10-27 16:00:35,324", "timeMillis": 1666886435.324951, "filename": "certificate.py", "funcName": "get_root_and_client_certificates", "levelName": "INFO", "levelNo": 20, "lineno": 131, "module": "certificate", "msecs": 324.9509334564209, "message": "Extension not found: No <class 'cryptography.x509.extensions.BasicConstraints'> extension was found", "name": "disasterrecoveryservice.network", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/network/certificate.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33054869.14372444, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO"}
```

```
{"asctime": "2022-10-27 16:00:35,326", "timeMillis": 1666886435.3261235, "filename": "registration.py", "funcName": "validate_high_availability", "levelName": "INFO", "levelNo": 20, "lineno": 118, "module": "registration", "msecs": 326.1234760284424, "message": "Validating High Availability on Main.", "name": "disasterrecoveryservice.validators", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33054870.316267014, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO"}
```

```
{"asctime": "2022-10-27 16:00:35,343", "timeMillis": 1666886435.3437307, "filename": "registration.py", "funcName": "validate_request", "levelName": "INFO", "levelNo": 20, "lineno": 129, "module": "registration", "msecs": 343.7306880950928, "message": "Main request has errors False", "name": "disasterrecoveryservice.validators", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33054887.92347908, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO"}
```

Walk-Through of Disaster Recovery logs

Registration of Main

```
{
  "asctime": "2022-10-27 16:00:35,438",
  "timeMillis": 1666886435.4385343,
  "filename": "main_registration.py",
  "funcName": "register",
  "levelName": "INFO",
  "levelNo": 20,
  "lineno": 92,
  "module": "main_registration",
  "msecs": 438.5342597961426,
  "message": "Saving dr details ClusterDetails(network=Network(as_number=64513,
pod_cidr='169.254.32.0/20', service_cidr='169.254.48.0/20'), platform='DN2-HW-APL', nodes=[Node(name='10.127.253.113',
enterprise_ip='100.100.100.15', management_ip='10.127.253.113', cluster_ip='', cloud_ip='', status=<Status.UP: 'up'>)],
packages=[Package(name='ndp-ui', version='1.8.244'), Package(name='ndp-base-analytics', version='1.8.239'), Package(name='dnac-search', version='1.8.1.10'), Package(name='sensor-
assurance', version='2.3.3.375'), Package(name='rogue-management', version='2.5.0.20'), Package(name='wide-area-bonjour', version='2.4.511.75063'), Package(name='system',
version='1.7.769'), Package(name='platform-ui', version='1.7.1.339'), Package(name='cloud-connectivity-tethering', version='2.30.1.72'), Package(name='cloud-connectivity-contextual-
content', version='2.4.1.338'), Package(name='ncp-system', version='2.1.515.60238'), Package(name='automation-core', version='2.1.515.60238'), Package(name='machine-reasoning',
version='2.1.515.210125'), Package(name='ise-bridge', version='2.1.515.450'), Package(name='network-visibility', version='2.1.515.60238'), Package(name='dna-core-apps',
version='2.1.515.60238'), Package(name='system-commons', version='2.1.515.60238'), Package(name='image-management', version='2.1.515.60238'), Package(name='device-onboarding',
version='2.1.515.60238'), Package(name='base-provision-core', version='2.1.515.60238'), Package(name='sensor-automation', version='2.1.515.60238'), Package(name='ndp-platform',
version='1.8.396'), Package(name='assurance', version='2.3.3.463'), Package(name='rbac-extensions', version='2.1.515.1900002'), Package(name='path-trace', version='2.1.515.60238'),
Package(name='command-runner', version='2.1.515.60238'), Package(name='ssa', version='2.1.515.1090110'), Package(name='dnac-platform', version='1.8.1.137'), Package(name='cloud-
connectivity-data-hub', version='1.8.43'), Package(name='ai-network-analytics', version='2.9.24.406'), Package(name='access-control-application', version='2.1.515.60238'),
Package(name='sd-access', version='2.1.515.60238'), Package(name='cloud-provision-core', version='2.1.515.60238'), Package(name='icap-automation', version='2.1.515.60238'),
Package(name='application-registry', version='2.1.515.117391'), Package(name='application-policy', version='2.1.515.117391'), Package(name='group-based-policy-analytics',
version='2.3.3.35'), Package(name='app-hosting', version='1.9.02209020733'), Package(name='application-visibility-service', version='2.1.515.117391'), Package(name='endpoint-analytics',
version='1.7.702'), Package(name='umbrella', version='2.1.515.590102'), Package(name='support-services', version='2.1.560.880041'), Package(name='disaster-recovery',
version='2.1.515.360031')],
vips=['100.100.100.16', '10.127.253.111'], cluster_vips=[ClusterVip(interface='enterprise',
vip='100.100.100.16'), ClusterVip(interface='management', vip='10.127.253.111')]),
"name":
"disasterrecoveryservice.services.registration",
"pathname": "/opt/maglev/lib/python3.6/site-
packages/disasterrecoveryservice/services/registration/main_registration.py",
"process": 722,
"processName": "MainProcess",
"relativeCreated": 33054982.72705078,
"thread":
139768139577152,
"threadName": "MainThread",
"level": "INFO"}
```

Walk-Through of Disaster Recovery logs

Registration of Main

```
{"asctime": "2022-10-27 16:00:35,466", "timeMillis": 1666886435.4666667, "filename": "main_registration.py", "funcName": "register", "levelName": "INFO", "levelNo": 20, "lineno": 95, "module": "main_registration", "msecs": 466.66669845581055, "message": "Initializing main state machine", "name": "disasterrecoveryservice.services.registration", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/services/registration/main_registration.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33055010.85948944, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO"}
```

```
{"asctime": "2022-10-27 16:00:35,489", "timeMillis": 1666886435.4896145, "filename": "manager.py", "funcName": "update_task_status_to_store", "levelName": "INFO", "levelNo": 20, "lineno": 86, "module": "manager", "msecs": 489.61448669433594, "message": "Updating tasks
```

```
[Task(operation=<TaskOperation.MAIN_REGISTRATION: 'MAIN_REGISTRATION'>, status=<TaskStatus.RUNNING: 'RUNNING'>, message=None, sub_task=None, user_context=UserContext(user_id='62ff014db39f062ebfbe9396', user_name='admin', tenant_id='62ff014bb39f062ebfbe9393', tenant_name='TNT0', source_ip='10.65.61.168'))] on store LOCAL_STORE", "name": "disasterrecoverysdk.store", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoverysdk/store/manager.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33055033.80727768, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO"}
```

```
{"asctime": "2022-10-27 16:00:35,525", "timeMillis": 1666886435.5253444, "filename": "common.py", "funcName": "call", "levelName": "INFO", "levelNo": 20, "lineno": 115, "module": "common", "msecs": 525.3443717956543, "message": "LocalSiteEventWatcher: Reading from store LOCAL_STORE", "name": "disasterrecoverysdk.store.watcher", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoverysdk/common.py", "process": 722, "processName": "MainProcess", "relativeCreated": 33055069.53716278, "thread": 139765743609600, "threadName": "LocalSiteEventWatcher", "level": "INFO"}
```

Walk-Through of Disaster Recovery logs

Main Registration Success

```
{
  "asctime": "2022-10-27 16:01:54,056",
  "timeMillis": 1666886514.0567217,
  "filename": "manager.py",
  "funcName": "update_task_status_to_store",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 86,
  "module": "manager",
  "msecs": 56.72168731689453,
  "message": "Updating tasks
[Task(operation=<TaskOperation.MAIN_REGISTRATION: 'MAIN_REGISTRATION'>, status=<TaskStatus.COMPLETED: 'COMPLETED'>,
message=None, sub_task=None, user_context=None)] on store LOCAL_STORE",
  "name": "disasterrecovery.sdk.store",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.sdk/store/manager.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33133600.914478302,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:01:54,079",
  "timeMillis": 1666886514.0799975,
  "filename": "handler.py",
  "funcName": "execute",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 27,
  "module": "handler",
  "msecs": 79.99753952026367,
  "message": "Return value from workflow handler InitializedMainClusterHandler is
HandlerStatus.SUCCESS on site main",
  "name": "disasterrecovery.sdk.state_machine.handler.common",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.sdk/state_machine/handler/handler.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33133624.190330505,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:01:54,500",
  "timeMillis": 1666886514.5006082,
  "filename": "model.py",
  "funcName": "get_dr_event",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 95,
  "module": "model",
  "msecs": 500.6082057952881,
  "message": "RESPONSE::{
    'main': {
      'ip': '100.100.100.16',
      'state': 'INITIALIZED',
      'recovery': {
        'ip': '100.100.100.11',
        'state': 'UNCONFIGURED',
        'witness': {
          'ip': '172.19.19.20',
          'state': 'UNCONFIGURED',
          'vip': {
            'enterprise': '100.100.100.30',
            'management': '10.127.253.180',
            'token': 'b4c738e1b35e4e64a52ddf78e5732495',
            'state': 'REGISTERING',
            'site': 'main',
            'tasks': [
              {
                'operation': 'MAIN_REGISTRATION',
                'status': 'COMPLETED',
                'sub_task': 'MAIN_REGISTRATION',
                'user_context': {
                  'user_id': '62ff014db39f062ebf9396',
                  'user_name': 'admin',
                  'tenant_id': '62ff014bb39f062ebf9393',
                  'tenant_name': 'TNT0',
                  'source_ip': '10.65.61.168'
                }
              }
            ],
            'actions': [
              {
                'name': 'LINK_TO_RECOVERY',
                'url': '',
                'type': 'POST'
              },
              {
                'name': 'UNREGISTER',
                'url': '/dr/system/unregister',
                'type': 'POST'
              }
            ],
            'primary': 'main',
            'replication': [],
            'vips': [],
            'cluster_vips': [
              {
                'interface': 'enterprise',
                'vip': '100.100.100.16'
              }
            ]
          }
        }
      }
    }
  }",
  "name": "disasterrecovery.service.audit",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.service/audit/model.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33134044.80099678,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Recovery Registration

```
{
  "asctime": "2022-10-27 16:04:09,904",
  "timeMillis": 1666886649.904757,
  "filename": "actions.py",
  "funcName": "is_action_allowed_on_cluster",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 128,
  "module": "actions",
  "msecs": 904.757022857666,
  "message": "Local site main is in cluster state None and action REGISTER_RECOVERY",
  "name": "disasterrecoveryservice.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/actions.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33269448.949813843,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:05:34,945",
  "timeMillis": 1666886734.9452803,
  "filename": "handler.py",
  "funcName": "execute",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 22,
  "module": "handler",
  "msecs": 945.2803134918213,
  "message": "Executing workflow handler AddRecoveryToMainClusterHandler on site main",
  "name": "disasterrecoverysdk.state_machine.handler.common",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoverysdk/state_machine/handler/handler.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33354489.473104477,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:05:34,945",
  "timeMillis": 1666886734.9453719,
  "filename": "handler.py",
  "funcName": "execute",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 23,
  "module": "handler",
  "msecs": 945.3718662261963,
  "message": "State LocalStateEvent(class_name='disasterrecoverymodel.events.local.LocalStateEvent', name='REGISTERING_RECOVERY_NETWORK', site='main', type=<EventType.INTERNAL: 'Internal'>) received in workflow handler.",
  "name": "disasterrecoverysdk.state_machine.handler.common",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoverysdk/state_machine/handler/handler.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33354489.56465721,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:05:35,074",
  "timeMillis": 1666886735.074575,
  "filename": "network.py",
  "funcName": "add_cluster",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 84,
  "module": "network",
  "msecs": 74.57494735717773,
  "message": "Adding the cluster metadata of other site recovery",
  "name": "disasterrecoveryservice.services.network",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/services/network/network.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33354618.767738342,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Recovery Registration Success

```
{
  "asctime": "2022-10-27 16:07:26,016",
  "timeMillis": 1666886846.0161529,
  "filename": "manager.py",
  "funcName": "update_task_status_to_store",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 86,
  "module": "manager",
  "msecs": 16.15285873413086,
  "message": "Updating tasks
[Task(operation=<TaskOperation.RECOVERY_MAIN_NETWORK_REGISTRATION: 'RECOVERY_MAIN_NETWORK_REGISTRATION'>,
status=<TaskStatus.COMPLETED: 'COMPLETED'>, message=None, sub_task=None, user_context=None)] on store LOCAL_STORE",
  "name": "disasterrecoverysdk.store",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoverysdk/store/manager.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33465560.34564972,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:08:19,995",
  "timeMillis": 1666886899.9957726,
  "filename": "model.py",
  "funcName": "get_dr_event",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 95,
  "module": "model",
  "msecs": 995.7726001739502,
  "message": "RESPONSE::{'main': {'ip': '100.100.100.16', 'state':
'REGISTERED_RECOVERY_NETWORK'}, 'recovery': {'ip': '100.100.100.11', 'state': 'REGISTERED_MAIN_NETWORK'}, 'witness': {'ip':
'172.19.19.20', 'state': 'UNCONFIGURED'}, 'vip': {'enterprise': '100.100.100.30', 'management': '10.127.253.180'}, 'token':
'b4c738e1b35e4e64a52ddf78e5732495', 'state': 'REGISTERING', 'site': 'main', 'tasks': [{'operation': 'RECOVERY_REGISTRATION',
'status': 'COMPLETED', 'sub_task': 'RECOVERY_REGISTRATION', 'user_context': {'user_id': '62ff014db39f062ebf9396', 'user_name': 'admin', 'tenant_id':
'62ff014bb39f062ebf9393', 'tenant_name': 'TNT0', 'source_ip': '10.65.61.168'}}], 'actions': [{'name': 'UNREGISTER', 'url': '/dr/system/unregister', 'type': 'POST'}, {'name':
'LINK_TO_WITNESS', 'url': '', 'type': 'POST'}], 'primary': 'main', 'replication': [], 'vips': [], 'cluster_vips': []}",
  "name": "disasterrecoveryservice.audit",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/audit/model.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33519539.96539116,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Witness Registration

```
{ "asctime": "2022-10-27 16:12:11,544", "timeMillis": 1666887131.5445518, "filename": "registration.py", "funcName": "validate_main_site", "levelName": "INFO",  
"levelNo": 20, "lineno": 438, "module": "registration", "msecs": 544.5518493652344, "message": "Validating site Witness on Main.", "name":  
"disasterrecoveryservice.validators", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py", "process": 722,  
"processName": "MainProcess", "relativeCreated": 33751088.74464035, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO" }
```

```
{ "asctime": "2022-10-27 16:12:11,544", "timeMillis": 1666887131.5447648, "filename": "registration.py", "funcName": "validate_token", "levelName": "INFO", "levelNo": 20,  
"lineno": 560, "module": "registration", "msecs": 544.7647571563721, "message": "Validating site Witness token on Main.", "name":  
"disasterrecoveryservice.validators", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py", "process": 722,  
"processName": "MainProcess", "relativeCreated": 33751088.95754814, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO" }
```

```
{ "asctime": "2022-10-27 16:12:11,547", "timeMillis": 1666887131.5470366, "filename": "registration.py", "funcName": "validate_packages", "levelName": "INFO", "levelNo": 20,  
"lineno": 510, "module": "registration", "msecs": 547.0366477966309, "message": "Validating site Witness packages on Main.", "name":  
"disasterrecoveryservice.validators", "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/registration.py", "process": 722,  
"processName": "MainProcess", "relativeCreated": 33751091.22943878, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO" }
```

```
{ "asctime": "2022-10-27 16:12:11,563", "timeMillis": 1666887131.5639982, "filename": "package.py", "funcName": "validate", "levelName": "INFO", "levelNo": 20, "lineno": 94,  
"module": "package", "msecs": 563.9982223510742, "message": "package_mismatch: []", "name": "disasterrecoveryservice.validators", "pathname":  
"/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/validators/package.py", "process": 722, "processName": "MainProcess", "relativeCreated":  
33751108.191013336, "thread": 139768139577152, "threadName": "MainThread", "level": "INFO" }
```

Walk-Through of Disaster Recovery logs

Witness Registration

```
{
  "asctime": "2022-10-27 16:12:11,564",
  "timeMillis": 1666887131.5643606,
  "filename": "registration.py",
  "funcName": "validate_other_site",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 636,
  "module": "registration",
  "msecs": 564.3606185913086,
  "message": "Response before registering of witness with main:
DRCluster(main=Cluster(ip='100.100.100.16', details=None, state='REGISTERED_RECOVERY_NETWORK', user=None,
ipsec_status=IpsecStatus(main=None, recovery='up', witness=None)), recovery=Cluster(ip='100.100.100.11', details=None,
state='REGISTERED_MAIN_NETWORK', user=None, ipsec_status=IpsecStatus(main='up', recovery=None, witness=None)),
witness=Cluster(ip='172.19.19.20', details=None, state='UNCONFIGURED', user=None, ipsec_status=None), vip=Vip(enterprise='100.100.100.30',
management='10.127.253.180', enterprise_vip_metadata=None, management_vip_metadata=None), token='b4c738e1b35e4e64a52ddf78e5732495', state='REGISTERING', site='main',
tasks=[Task(operation=<TaskOperation.RECOVERY_REGISTRATION: 'RECOVERY_REGISTRATION'>, status=<TaskStatus.COMPLETED: 'COMPLETED'>, message=None, sub_task=None,
user_context=UserContext(user_id='62ff014db39f062ebf9396', user_name='admin', tenant_id='62ff014bb39f062ebf9393', tenant_name='TNT0', source_ip='10.65.61.168'))],
actions=[DRAction(name='UNREGISTER', url='/dr/system/unregister', type='POST'), DRAction(name='LINK_TO_WITNESS', url='', type='POST')], primary='main', error=None, replication=[], vips=[],
cluster_vips=[], cluster_vip_promotion_metadata=None)",
  "name": "disasterrecovery.service.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.service/validators/registration.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33751108.55340958,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:12:11,564",
  "timeMillis": 1666887131.564484,
  "filename": "registration.py",
  "funcName": "validate_actions",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 575,
  "module": "registration",
  "msecs": 564.4838809967041,
  "message": "Validating site Witness actions on Main.",
  "name": "disasterrecovery.service.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.service/validators/registration.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33751108.67667198,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:12:11,570",
  "timeMillis": 1666887131.5702667,
  "filename": "actions.py",
  "funcName": "validate",
  "levelname": "INFO",
  "levelno": 20,
  "lineno": 47,
  "module": "actions",
  "msecs": 570.2667236328125,
  "message": "Local site main is in cluster state StoredState(id='REGISTRATION.4279527',
state_machine='REGISTRATION', state=InternalState(system='REGISTERING', main='REGISTERED_RECOVERY_NETWORK',
recovery='REGISTERED_MAIN_NETWORK', witness='UNCONFIGURED', local=None)), local state StoredState(id='LOCAL.42924782',
state_machine='LOCAL', state=InternalState(system=None, main=None, recovery=None, witness=None, local='REGISTERED_RECOVERY_NETWORK')) and action LINK_TO_WITNESS",
  "name": "disasterrecovery.service.validators",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.service/validators/actions.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33751114.45951462,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Witness Registration Success

```
{
  "asctime": "2022-10-27 16:12:53,339",
  "timeMillis": 1666887173.3393292,
  "filename": "manager.py",
  "funcName": "update_task_status_to_store",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 86,
  "module": "manager",
  "msecs": 339.3292427062988,
  "message": "Updating tasks
[Task(operation=<TaskOperation.WITNESS_MAIN_NETWORK_REGISTRATION: 'WITNESS_MAIN_NETWORK_REGISTRATION'>,
status=<TaskStatus.COMPLETED: 'COMPLETED'>, message=None, sub_task=None, user_context=None)] on store LOCAL_STORE",
  "name": "disasterrecovery.sdk.store",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.sdk/store/manager.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33792883.52203369,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

Configure DR System

```
{
  "asctime": "2022-10-27 16:14:02,862",
  "timeMillis": 1666887242.8620021,
  "filename": "activity.py",
  "funcName": "start",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 114,
  "module": "activity",
  "msecs": 862.0021343231201,
  "message": "Activity Start: {'type': 'activity', 'uuid': '5f6b44ee-5612-11ed-bd59-22755fa98223', 'parent': None, 'name':
'Configure Disaster Recovery System', 'site': 'main', 'site_vip': '100.100.100.16', 'title': 'OrderedDict([('code', 'SODR30004'),
('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-10-27T16:14:02.860000+00:00', 'end_timestamp': None,
'initiated_by': 'admin'}",
  "name": "disasterrecovery.sdk.activity",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.sdk/activity/activity.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 33862406.19492531,
  "thread": 139768139577152,
  "threadName": "MainThread",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:16:59,911",
  "timeMillis": 1666887419.9111776,
  "filename": "manager.py",
  "funcName": "process_am_i_the_leader_details",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 103,
  "module": "manager",
  "msecs": 911.1776351928711,
  "message": "Witness is now elected as consul leader, and this site main
is claiming for DR Leader role!",
  "name": "disasterrecovery.sdk.store",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecovery.sdk/store/common/manager.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 34039455.37042618,
  "thread": 139766255302400,
  "threadName": "SiteToLeaderEventWatcher",
  "level": "INFO"
}
```

Walk-Through of Disaster Recovery logs

Configure DR System

```
{
  "asctime": "2022-10-27 16:17:50,471",
  "timeMillis": 1666887470.471901,
  "filename": "maglev.py",
  "funcName": "configure_global_enterprise_vip",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 938,
  "module": "maglev",
  "msecs": 471.90093994140625,
  "message": "Configuring ENTERPRISE Disaster Recovery virtual IP 100.100.100.30",
  "name": "disasterrecoveryservice.network",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/network/maglev.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 34090016.09373093,
  "thread": 139763755489024,
  "threadName": "ThreadPoolExecutor-6_0",
  "level": "INFO"
}
```

```
{
  "asctime": "2022-10-27 16:26:12,454",
  "timeMillis": 1666887972.4543092,
  "filename": "model.py",
  "funcName": "get_dr_event",
  "levelname": "INFO",
  "levelNo": 20,
  "lineno": 95,
  "module": "model",
  "msecs": 454.30922508239746,
  "message": "RESPONSE::{'main': {'ip': '100.100.100.16', 'state': 'LOCAL_ACTIVATED', 'ipsec_status': {'recovery': 'up', 'witness': 'up'}}, 'recovery': {'ip': '100.100.100.11', 'state': 'LOCAL_PASSIVATED', 'ipsec_status': {'main': 'up', 'witness': 'up'}}, 'witness': {'ip': '172.19.19.20', 'state': 'UP', 'ipsec_status': {'main': 'up', 'recovery': 'up'}}, 'vip': {'enterprise': '100.100.100.30', 'management': '10.127.253.180'}, 'token': 'b4c738e1b35e4e64a52ddf78e5732495', 'state': 'CONFIGURED_WITH_WITNESS', 'site': 'main', 'tasks': [{'operation': 'WITNESS_MAIN_NETWORK_REGISTRATION', 'status': 'COMPLETED', 'sub_task': 'WITNESS_MAIN_NETWORK_REGISTRATION'}, {'operation': 'RECOVERY_REGISTRATION', 'status': 'COMPLETED', 'sub_task': 'RECOVERY_REGISTRATION', 'user_context': {'user_id': '62ff014db39f062ebf9396', 'user_name': 'admin', 'tenant_id': '62ff014bb39f062ebf9393', 'tenant_name': 'TNT0', 'source_ip': '10.65.61.168'}}, {'operation': 'WITNESS_RECOVERY_NETWORK_REGISTRATION', 'status': 'COMPLETED', 'sub_task': 'WITNESS_RECOVERY_NETWORK_REGISTRATION'}, {'operation': 'CONFIGURE', 'status': 'COMPLETED', 'sub_task': 'CONFIGURE', 'user_context': {'user_id': '62ff014db39f062ebf9396', 'user_name': 'admin', 'tenant_id': '62ff014bb39f062ebf9393', 'tenant_name': 'TNT0', 'source_ip': '10.65.61.168'}}], 'actions': [{'name': 'MANUAL_FAILOVER', 'url': '/dr/system/failover', 'type': 'POST'}, {'name': 'MAINTAIN', 'url': '/dr/system/maintenance', 'type': 'POST'}], 'primary': 'main', 'replication': [{'name': 'postgres', 'status': 'completed', 'percentage': 100}, {'name': 'mongodb', 'status': 'completed', 'percentage': 100}, {'name': 'total', 'status': 'completed', 'percentage': 100}], 'vips': [], 'cluster_vips': []}",
  "name": "disasterrecoveryservice.audit",
  "pathname": "/opt/maglev/lib/python3.6/site-packages/disasterrecoveryservice/audit/model.py",
  "process": 722,
  "processName": "MainProcess",
  "relativeCreated": 34591998.50201607,
  "thread": 139765743609600,
  "threadName": "LocalSiteEventWatcher",
  "level": "INFO"
}
```

Failover process related logs

- CLI command outputs in failover scenario
- DR Event for IPSec Down
- Transition to Standby
- Disable Standby Mode
- Unconfigure Replication
- Prepare Database for service initialization
- Configure Standby
- Complete Service Initialization
- Configure VIP's for DR
- Failover Success

Walk-Through of Disaster Recovery logs

CLI command outputs in failover scenario

\$ sudo ipsec status

Security Associations (1 up, 1 connecting):

```
100.100.100.11-100.100.100.16[1]: CONNECTING, 100.100.100.11[%any]...100.100.100.16[%any]
100.100.100.11-172.19.19.20[2]: ESTABLISHED 2 minutes ago, 100.100.100.11[pod7.dr.com]...172.19.19.20[pod7.dr.com]
100.100.100.11-172.19.19.20{1}: INSTALLED, TRANSPORT, reqid 1, ESP in UDP SPIs: c5b0bf89_i c5ec4b00_o
100.100.100.11-172.19.19.20{1}: 100.100.100.11/32 === 172.19.19.20/32
```

\$ magctl service exec disaster-recovery -c consul consul members

Node	Address	Status	Type	Build	Protocol	DC	Segment
100-100-100-11	100.100.100.11:8301	alive	server	1.10.3	2	dc1	<all>
100-100-100-16	100.100.100.16:8301	failed	server	1.10.3	2	dc1	<all>
172-19-19-20	172.19.19.20:8301	alive	server	1.10.3	2	dc1	<all>

Walk-Through of Disaster Recovery logs

DR Event for IPSec Down

```
| 11032 | 2022-11-14 17:19:00,261 | INFO | 105 | HealthMonitorThread | 139880659130112 | disasterrecovery.service.audit | audit.py:65 | {'id': 'SYSTEM_DISASTER_RECOVERY', 'namespace': 'SystemRawEvent', 'instanceId': '6db1373e-6440-11ed-ad25-3a21a4f323b6', 'name': 'IPSEC_DOWN', 'type': 'SYSTEM', 'category': 'WARN', 'severity': 2, 'description': 'Ipsec session between recovery(100.100.100.11) and main(100.100.100.16) is down.', 'domain': 'Cisco DNA Center Appliance', 'subDomain': 'Disaster Recovery', 'source': '100.100.100.11', 'userId': 'System', 'tenantId': 'SYS0', 'version': '1.0.0', 'timestamp': 1668446340139, 'message': 'Ipsec session is down.', 'payload': {'event_payload': {'name': 'IPSEC_DOWN', 'health': 'DisasterRecoveryHealthDegraded', 'main': '100.100.100.16-Active', 'recovery': '100.100.100.11-Active', 'witness': '172.19.19.20-Up', 'description': 'Ipsec session between recovery(100.100.100.11) and main(100.100.100.16) is down.'}, 'system_event': {'tags': 'DR', 'event': 'Degraded', 'site': 'recovery', 'state': 'Standby', 'event_instance_id': {'ip': '100.100.100.11', 'hostname': '100.100.100.11', 'component': 'recovery'}}}} successfully published DR EVENT |
```

Transition to Standby

```
| 11163 | 2022-11-14 17:26:20,841 | INFO | 105 | SiteToLeaderEventWatcher | 139881749657344 | disasterrecovery.service.state_machine.cluster | manager.py:85 | Transitioning to State(id='FAILOVER.93347929', state=InternalState(system='FAILING_OVER_WITH_WITNESS', main='DOWN', recovery='LOCAL_PASSIVE_ACTIVATING', witness='UP', local=None), state_machine='FAILOVER') |
```

```
| 11192 | 2022-11-14 17:26:24,528 | INFO | 105 | LocalSiteEventWatcher | 139881237964544 | disasterrecovery.sdk.activity | activity.py:279 | Activity Started: {'type': 'activity', 'uuid': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'parent': 'MISSING_PARENT', 'name': 'Failover', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30016'), ('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:26:24.451000+00:00', 'end_timestamp': None, 'initiated_by': None} |
```

Walk-Through of Disaster Recovery logs

Disable Standby Mode

| 11206 | 2022-11-14 17:26:24,733 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': '76cfc73a-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Disable standby mode', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30038'), ('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:26:24.716000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 11213 | 2022-11-14 17:26:32,603 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': '76cfc73a-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30038', 'message_args': []}, 'message': 'OrderedDict([('code', 'SODR30133'), ('message_args', [])]), 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:26:24.716000+00:00', 'end_timestamp': '2022-11-14T17:26:32.527000+00:00', 'initiated_by': None} |

Unconfigure Replication

| 11229 | 2022-11-14 17:26:33,015 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': '7bbf963a-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Unconfigure replication', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30166'), ('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:26:32.997000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 11337 | 2022-11-14 17:27:39,010 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': '7bbf963a-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30166', 'message_args': []}, 'message': 'OrderedDict([('code', 'SODR30086'), ('message_args', [])]), 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:26:32.997000+00:00', 'end_timestamp': '2022-11-14T17:27:38.990000+00:00', 'initiated_by': None} |

Walk-Through of Disaster Recovery logs

Prepare Database for service initialization

| 11351 | 2022-11-14 17:27:39,295 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': 'a3411bfc-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Prepare databases for service initialization', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30022'), ('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:27:39.259000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 11564 | 2022-11-14 17:28:50,912 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': 'a3411bfc-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30022', 'message_args': []}, 'message': 'OrderedDict([('code', 'SODR30088'), ('message_args', [])]), 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:27:39.259000+00:00', 'end_timestamp': '2022-11-14T17:28:50.888000+00:00', 'initiated_by': None} |

Configure Standby

| 11579 | 2022-11-14 17:28:51,203 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': 'ce1d62b8-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Configure standby to active services', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30023'), ('message_args', [])]), 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:28:51.166000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 12655 | 2022-11-14 17:35:02,702 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': 'ce1d62b8-6441-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30023', 'message_args': []}, 'message': 'OrderedDict([('code', 'SODR30090'), ('message_args', [])]), 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:28:51.166000+00:00', 'end_timestamp': '2022-11-14T17:35:02.631000+00:00', 'initiated_by': None} |

Walk-Through of Disaster Recovery logs

Complete Service Initialization

12670 | 2022-11-14 17:35:03,077 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': 'abc4d4fc-6442-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Complete service initialization', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30024'), ('message_args', [])])', 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:35:03.053000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 12816 | 2022-11-14 17:35:49,031 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': 'abc4d4fc-6442-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30024', 'message_args': []}, 'message': 'OrderedDict([('code', 'SODR30091'), ('message_args', [])])', 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:35:03.053000+00:00', 'end_timestamp': '2022-11-14T17:35:49.007000+00:00', 'initiated_by': None} |

Configure VIP's for DR

12832 | 2022-11-14 17:35:49,720 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:250 | Child Activity Started: {'type': 'activity', 'uuid': 'c791ebf2-6442-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': 'Configuring VIPs for Disaster Recovery System', 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': 'OrderedDict([('code', 'SODR30098'), ('message_args', [])])', 'message': None, 'status': 'IN_PROGRESS', 'start_timestamp': '2022-11-14T17:35:49.604000+00:00', 'end_timestamp': None, 'initiated_by': None} |

| 12833 | 2022-11-14 17:35:49,898 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.service.network | maglev.py:938 | Configuring ENTERPRISE Disaster Recovery virtual IP 100.100.100.30 |

Walk-Through of Disaster Recovery logs

Configure VIP's for DR

13084 | 2022-11-14 17:37:01,612 | INFO | 105 | ThreadPoolExecutor-6_0 | 139878813652736 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': 'c791ebf2-6442-11ed-98bb-3a21a4f323b6', 'parent': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30098', 'message_args': [], 'message': 'OrderedDict([('code', 'SODR30099'), ('message_args', [])])', 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:35:49.604000+00:00', 'end_timestamp': '2022-11-14T17:37:01.584000+00:00', 'initiated_by': None} |

Failover Success

| 13143 | 2022-11-14 17:37:08,414 | INFO | 105 | LocalSiteEventWatcher | 139881237964544 | disasterrecovery.sdk.activity | activity.py:133 | Activity Complete: {'type': 'activity', 'uuid': '76ae2ba2-6441-11ed-aa14-3a21a4f323b6', 'parent': 'MISSING_PARENT', 'name': None, 'site': 'recovery', 'site_vip': '100.100.100.11', 'title': {'code': 'SODR30016', 'message_args': [], 'message': 'OrderedDict([('code', 'SODR30072'), ('message_args', [])])', 'status': 'SUCCESS', 'start_timestamp': '2022-11-14T17:26:24.451000+00:00', 'end_timestamp': '2022-11-14T17:37:08.380000+00:00', 'initiated_by': None} |

| 13144 | 2022-11-14 17:37:08,709 | INFO | 105 | LocalSiteEventWatcher | 139881237964544 | disasterrecovery.service.audit | audit.py:32 | Audit Event - {'id': 'AUDIT_LOG_EVENT', 'instanceId': 'f687a2a8-6442-11ed-aa14-3a21a4f323b6', 'name': 'Failover', 'type': 'AUDIT_LOG', 'category': 'INFO', 'severity': 1, 'description': 'Successfully failed over.', 'domain': 'DNA-Event', 'subDomain': '', 'source': '10.65.70.209', 'payload': {}, 'userId': 'admin', 'tenantId': '62ff014bb39f062ebf9393', 'version': '1.0.0', 'timestamp': 1668447428710} successfully published

| 13191 | 2022-11-14 17:37:15,111 | INFO | 105 | SiteToLeaderEventWatcher | 139881749657344 | disasterrecovery.service.state_machine.cluster | manager.py:85 | Transitioning to State(id='FAILOVER.70791947', state=InternalState(system='FAILING_OVER_WITH_WITNESS', main='DOWN', recovery='LOCAL_PASSIVE_ACTIVATED', witness='UP', local=None), state_machine='FAILOVER') |

| 13192 | 2022-11-14 17:37:15,121 | INFO | 105 | SiteToLeaderEventWatcher | 139881749657344 | disasterrecovery.service.state_machine.cluster | manager.py:93 | Transitioning completed |

Summary

- Always collect RCA zip file which would consist of all DR logs and command outputs.
- Always make sure that enterprise IP is reachable within Main/Standby/Witness Nodes.
- Follow the workflow of DR system and understand at which stage failure is happening and check relevant logs.

Wrap Up



Key Take Aways



How to deploy DNA center in disaster recovery setup



Unverstand The DR Registration process



Be your own TAC Engineer

- Identify issues
- Fix Issues

Complete your Session Survey

- Please complete your session survey after each session. Your feedback is very important.
- Complete a minimum of 4 session surveys and the Overall Conference survey (open from Thursday) to receive your Cisco Live t-shirt.
- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Session Catalog and clicking the "Attendee Dashboard" at <https://www.ciscolive.com/emea/learn/sessions/session-catalog.html>



Continue Your Education



Visit the Cisco Showcase for related demos.



Book your one-on-one Meet the Engineer meeting.



Attend any of the related sessions at the DevNet, Capture the Flag, and Walk-in Labs zones.



Visit the On-Demand Library for more sessions at ciscolive.com/on-demand.



The bridge to possible

Thank you

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