

SOP: PCS Cluster Working Process & Failover Management

Cluster Details

- **Cluster Name:** nagios_cluster
 - **Cluster Stack:** Corosync / Pacemaker
 - **Preferred Node:** app2-2.spectra.co
 - **Failover Node:** app2-1.spectra.co
 - **DRBD Resource:** r0
 - **MySQL:** Master-Master Replication
 - **DRBD Mount Point Resource:** fs_drbd
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1. Normal Cluster Behavior

- By default, **all resources (VIP, DRBD master, services)** are **hosted on app2-2.spectra.co**.
 - If app2-2.spectra.co becomes **unreachable** or is **manually set to standby**, cluster resources **failover** to app2-1.spectra.co.
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2. Failover Behavior

- When app2-2.spectra.co is **offline/unreachable**, resources move to app2-1.spectra.co.
 - Once app2-2.spectra.co **comes back online**, **PCS automatically migrates resources** back to the preferred node (as per location constraints).
 - This **migration may take a few minutes** depending on service/resource status.
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3. Manual Standby & Recovery Steps

Put Node in Standby

pcs node standby app2-2.spectra.co

Un-standby Node (Bring Back to Cluster)

```
pcs node unstandby app2-2.spectra.co
```

4. Cleanup Failed Resource Actions

After any failover or recovery, always clean failed resource states:

```
pcs resource cleanup
```

5. Verification Steps After Failover or Recovery

A. Check DRBD Sync Status

```
drbdadm status r0
```

- Ensure both nodes are in sync.
- Preferred node should show as `Primary`.

B. Check MySQL Replication (Master-Master)

```
mysql -e "SHOW SLAVE STATUS\G"
```

- Look for `Seconds_Behind_Master`, `Slave_IO_Running`, `Slave_SQL_Running` values.
- Both should show replication in healthy state.

C. Check Cluster Status

```
pcs status
```

- Verify all resources are running on the correct node (`app2-2.spectra.co`).

- Example:

```
* Promoted: [ app2-2.spectra.co ]
```

```
* Started: [ app2-2.spectra.co ]
```

6. Logs & History

Check logs for any anomalies:

```
journalctl -xe | grep pacemaker
```

```
cat /var/log/pacemaker.log
```

7. Important Notes

- **Always verify DRBD and MySQL replication** after failover or maintenance.
- Ensure fencing (`fence_ipmilan`) is working correctly for both nodes.
- If frequent failures occur, check the `monitor` action results and logs for root cause.