



# HA Cluster exporter Release 0.1.0

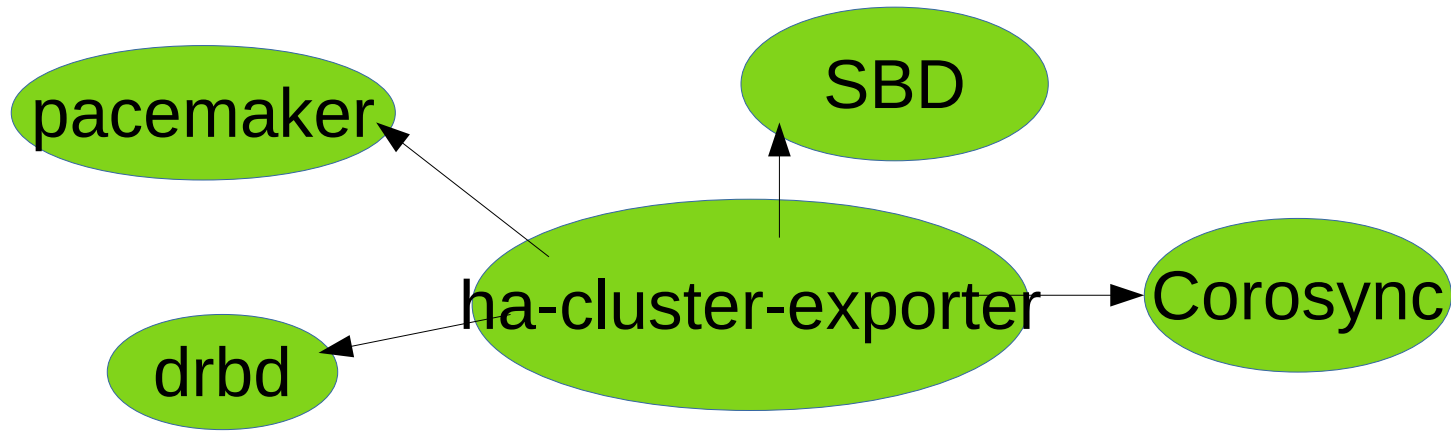
# Agenda:

**1) What's new on the 0.1.0 Release of HA-Cluster exporter**

**2) Presentation of new metrics:**  
**High-level usage and metric details**

**Note: visualization and alerts of some metrics are work in progress**

# What are we monitoring right now?



# New metrics:

## Metrics

- `ha_cluster_pacemaker_fail_count` and `ha_cluster_pacemaker_migration_threshold` (#71)
- `ha_cluster_pacemaker_config_last_change` to track if the cluster CIB changes (#80)
- `ha_cluster_drbd_connections_sync` to track sync percentage of DRBD connections (#75)
- `ha_cluster_pacemaker_constraints` to track resource constraints (#84)

pacemaker

drbd

# 1) Failcount and threshold metric:

## Use-case:

When the failcount exceeds the migration threshold, pacemaker will stop to try actions to reestablish the cluster until the sysadm intervention. As much it is a normal behavior, it is very common that sysadms don't know that manual interventions are expected.

An warning should be raise and presented on the dashboard in such a situation guiding the sysadm that the cluster will not react until it is health and a resource clean-up is done.

## **ha\_cluster\_pacemaker\_fail\_count**

ha\_cluster\_pacemaker\_fail\_count{node="hana01",resource="rsc\_SAPHanaTopology\_PRD\_HDB00"} 0 1234

ha\_cluster\_pacemaker\_fail\_count{node="hana01",resource="rsc\_SAPHana\_PRD\_HDB00"} +Inf 1234

ha\_cluster\_pacemaker\_fail\_count{node="hana02",resource="rsc\_ip\_PRD\_HDB00"} 2 1234

## **ha\_cluster\_pacemaker\_migration\_threshold**

ha\_cluster\_pacemaker\_migration\_threshold{node="hana01",resource="rsc\_SAPHanaTopology\_PRD\_HDB00"} 1 1234

ha\_cluster\_pacemaker\_migration\_threshold{node="hana01",resource="rsc\_SAPHana\_PRD\_HDB00"} 5000 1234

ha\_cluster\_pacemaker\_migration\_threshold{node="hana02",resource="rsc\_SAPHanaTopology\_PRD\_HDB00"} 3 1234

ha\_cluster\_pacemaker\_migration\_threshold{node="hana02",resource="rsc\_SAPHana\_PRD\_HDB00"} 50 1234

# Possible visualisation

Cluster resource failcount

damadog-hana01 rsc\_SAPHanaTopology\_PRD\_HDB00

0

damadog-hana01 rsc\_SAPHana\_PRD\_HDB00

0

damadog-hana01 rsc\_ip\_PRD\_HDB00

0

damadog-hana01 stonith-sbd

0

damadog-hana02 rsc\_SAPHanaTopology\_PRD\_HDB00

0

damadog-hana02 rsc\_SAPHana\_PRD\_HDB00

0

damadog-hana02 rsc\_ip\_PRD\_HDB00

0

Resource migration threshold

damadog-hana01 rsc\_SAPHanaTopology\_PRD\_HDB00



damadog-hana01 rsc\_SAPHana\_PRD\_HDB00



damadog-hana01 rsc\_ip\_PRD\_HDB00



damadog-hana01 stonith-sbd



damadog-hana02 rsc\_SAPHanaTopology\_PRD\_HDB00



damadog-hana02 rsc\_SAPHana\_PRD\_HDB00



damadog-hana02 rsc\_ip\_PRD\_HDB00

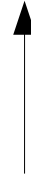


## 2) Config last change

The monitoring solution should raise a warning when the configuration of resource changes. Even that it can be intentional, it is not common that the configuration changes that often, and it can be changed by mistake, so raising a warning can help the user to identify undesired changes.



ha\_cluster\_pacemaker\_config\_last\_change 1 1571399302000



This is a timestamp which will updated when the config changes.

An admin should use this metric with delta or other function to check if they have changed over time period

The 1 indicates it is present so it can be ignored

### 3) ha\_cluster\_drbd\_connections\_sync

```
ha_cluster_drbd_connections_sync{peer_node_id="2",resource="1-single-0",volume="0"} 100.00 1234  
ha_cluster_drbd_connections_sync{peer_node_id="1",resource="1-single-1",volume="0"} 100.00 1234
```

#### Use-case:

Monitor the data changed on the master disk that needs to be shipped/synched on the other disks...

if this starts to grow because network bottleneck or any problem, customers can loose data in case of failure

# pacemaker\_constraints (2 types: ban/prefer)

## Use-case:

The command ``crm resource move`` creates location constraints that the sysadm needs to manually remove.

Even that the behavior is expected, it is common that the sysadm forget about that or lack the knowledge about this.

The problem occurs when a new failure occurs, and the constraint avoid pacemaker to take correct actions.

# Pacemaker constraints(metric)

```
ha_cluster_pacemaker_constraints{id="cli-ban-msl_SAPHana_PRD_HDB00-hana01",resource="msl_SAPHana_PRD_HDB00",type="ban"} 1 1234
```

```
ha_cluster_pacemaker_constraints{id="cliprefercln_SAPHanaTopology_PRD_HDB00",resource="cln_SAPHanaTopology",type="prefer"} 1 1234
```

```
ha_cluster_pacemaker_constraints{id="cli-prefer-msl_SAPHana_PRD_HDB00",resource="msl_SAPHana_PRD_HDB00",type="prefer"} 1 1234
```