



Platform

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Health Check to Prevent Primary Flapping

Feature Summary and Revision History

Table 1: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	CPS Installation Guide for VMware CPS Installation Guide for OpenStack

Table 2: Revision History

Revision Details	Release
First introduced	20.2.0

Feature Description

In GR setup, when the primary of a replica-set keeps on flapping between the sites (Site1 and Site2) because of continuous reboot scenario in Session Manager VMs, the application fails to detect the appropriate primary member for write operation which brings QNS process down.

CPS now supports health check to prevent primary flapping from impacting the remote sites.

To enable this feature in VMware environment, the flag `prevent_primary_flapping_enabled` is set to **true** in `Configuration.csv` file

To enable this feature in OpenStack environment, the flag `preventPrimaryFlappingEnabled` is set to **true** in YAML file.



Restriction

- When the local site is handling traffic, during local site reboot scenario, if the latency is more between the local and remote sites, then there may be some timeout or high response time from remote site since the PRIMARY is shifted to remote site.
- If the member state is not stable within the stipulated 300 seconds time, then the priority level is retained as 1 for those members until it becomes stable for minimum 300 seconds.
- If `mon_db*` is enabled, make sure not to enable the `prevent_primary_flapping_enabled/preventPrimaryFlappingEnabled` flag. If both the parameters are enabled in a setup, it creates conflicts in MongoDB operations.

For more information, see the following sections:

- *General Configuration Parameters* table in the *CPS Installation Guide for VMware*
- *Configuration Parameters - HA System, Enable Health Check to Prevent Flapping, and Disable Health Check to Prevent Flapping* sections in the *CPS Installation Guide for OpenStack*

Support for HAProxy Connection Balancing

Feature Summary and Revision History

Table 3: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	CPS Installation Guide for VMware CPS Installation Guide for OpenStack

Table 4: Revision History

Revision Details	Release
First introduced	20.2.0

Feature Description

CPS now supports connection transfer between the Policy Director (LB) servers in order to prevent high CPU utilization issues.

To support this, the code has been implemented to check for total number of available HAProxy servers and the total number of connections to calculate the average connection for each Policy Director (LB) HAProxy servers. Any servers handling connections more than its average threshold are evaluated and existing connections that exceed the threshold are gracefully terminated. Once the terminated connections reconnect, the HAProxy adds those connections to the next available Policy Director (LB) HAProxy server based on leastconn algorithm. However, the script also ensures that the new connections added in runtime does not exceed its average threshold value. The script has been added as a part of Monit which constantly checks HAProxy servers and initiates the script if balancing is required.

The HAProxy diameter servers diagnostic report and their total number of connections can be displayed using `diagnostics.sh` script.

On Cluster Manager, run `diagnostics.sh --ha_proxy` to fetch details of the diameter servers and the active connections.

To enable this feature in VMware environment, add `auto_haproxy_balancing_list` with the diameter endpoints that are required for Policy Director (LB) HAProxy diameter in `Configuration.csv` file.

To enable this feature in OpenStack environment, add `autoHaproxyBalancingList` with diameter endpoint details in YAML file.

For more information, see the following sections:

- *General Configuration Parameters* table in the *CPS Installation Guide for VMware*
- *Configuration Parameters - HA System* table in the *CPS Installation Guide for OpenStack*

Support for Multiple User Login Privileges

Feature Summary and Revision History

Table 5: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always-on
Related Changes in This Release	Not Applicable
Related Documentation	CPS Installation Guide for OpenStack

Table 6: Revision History

Revision Details	Release
First introduced	20.2.0

Feature Description

CPS now supports multiple user login credentials with different privileges for all non-cluman VMs in OpenStack environment. To support this, **allowUserForCluman** parameter has been added in YAML file.



Note Multiple user login credentials with different privileges for all non-cluman VMs is already supported for VMware environment.

For more information on **allowUserForCluman** parameter, refer to *Configuration Parameters - HA System* section in the *CPS Installation Guide for OpenStack*

Support for vCenter APIs

Feature Summary and Revision History

Table 7: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	CPS Migration and Upgrade Guide

Table 8: Revision History

Revision Details	Release
First introduced	20.2.0

Feature Description

CPS now provides support to disable ESXi host SSH access for VM management and use the vCenter API calls with IT service domain authentication for vCenter users.

vCenter manages all ESXi hosts by using the vpxa and vpxd services. vCenter REST APIs are used to stop and start the services to enable the CPS deployment on the ESXi hosts managed by the vCenter.

You need to append **--nossh** to the `deploy_all.py` command to deploy VMs using VMware Rest API. make the feature effective.

Example: `python deploy_all.py --nossh`



Note vCenter Rest API support is available from vCenter 6.5 onwards only.

Upgrade/Migration/Backward Compatibility Considerations

- **Upgrade CPS (ISSU):** As the upgrade is initiated from Cluster Manager, the current ISSU deployment approach works after implementing the vCenter REST API deployment approach.
- **Migrate CPS (ISSM):** Migrate procedure/steps are same as in current implementation.

For more information, see the following sections:

- *Migrate CPS Set 1 VMs* and *Migrate CPS Set 2 VMs* in the *CPS Migration and Upgrade Guide*
- `deploy_all.py` command in the *CPS Operations Guide*

Support to Check VM Power Status

Feature Summary and Revision History

Table 9: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Not Applicable
Related Changes in This Release	Not Applicable
Related Documentation	CPS Operations Guide

Table 10: Revision History

Revision Details	Release
First introduced	20.2.0

Feature Description

CPS now supports displaying the VM power state.

You need to append `--vmPowerstate` to the `python vm_utilities.py` command to check the VM power state.

Example:



Note `python vm_utilities.py --vmPowerstate` works only with vCenter 6.5 or 6.7.

```
[root@localhost support]# python vm_utilities.py --vmPowerstate
esxi-host-1.cisco.com is reachable
esxi-host-2.cisco.com is reachable
Found a valid certificate file [/var/tmp/combined.crt] to establish a secure communication
Validated the hostname/username/password of the vCenter
```

Host	Vmname	Status
qns01	ssh-qns01	POWERED_ON
sessionmgr02	ssh-sessionmgr02	POWERED_ON
qns02	ssh-qns02	POWERED_ON
sessionmgr01	ssh-sessionmgr01	POWERED_ON
lb02	ssh-lb02	POWERED_ON
lb01	ssh-lb01	POWERED_ON
pcrfclient02	ssh-pcrfclient02	POWERED_ON
pcrfclient01	ssh-pcrfclient01	POWERED_ON

For more information, see the *vmutilities.py* section in the *CPS Operations Guide*.