Add CDL Utility to PCF Software Image

Table 1: Feature History

Feature Name	Release Information	Description
Addition of CDL Utility to PCF Software Image	2023.04	PCF supports the `pcf-utilities pod` to retain the CDL utility scripts on master nodes post force VM redeploy from Cluster Manager. **Default Setting**: Enable – Always on

Feature Summary and Revision History

Summary Data

Table 2: Summary Data

Applicable Products or Functional Area	PCF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled - Always-on
Related Documentation	Not Applicable

Revision History

Table 3: Revision Details

Revision Details	Release
First Introduced.	2023.04.0

Feature Description

PCF supports the `pcf-utilities` pod to retain the CDL utility scripts on master nodes post force VM redeploy from Cluster Manager. Only the CDL utility scripts are productized through PCF software image.

The scripts is available on following master node persistent volume path:

`/data/<pcf-namepsace>/ data-pcf-utilities-0/cdl/`

There is high availability during master node failure where scripts are available. The ouput generated from the utility are available in the same location where scripts are executed.

Configuration

The following configuration confirms the status of `volume-claims` to ensure if the volume is enabled:

```
# show running-config k8s
Tue Oct 3 17:48:44.943 UTC+00:00
k8s name unknown
k8s namespace pcf
k8s nf-name pcf
k8s registry dockerhub.cisco.com/smi-fuse-docker-internal
k8s single-node false
k8s use-volume-claims true
k8s image-pull-secrets regcred
k8s ingress-host-name 10.84.124.37.nip.io
```

Volume storage class is to be `local` in the DB configuration.

```
[unknown] pcf# show running-config db
Tue Oct 3 18:59:36.348 UTC+00:00
db global-settings db-replica 1
db global-settings volume-storage-class local
db spr shard-count 1
[unknown] pcf#
```

Note By default, the volume configurations are enabled.

Troubleshooting

Following are the troubleshooting scenarios:

1. To show persistent volume and volume claims.

Following is an output for the persistent volume and volume claims:

```
luser@rid5704583-aneeluru-1-master1:~$ kubectl get pvc -A | grep utilities
pcf data-pcf-utilities-0 Bound data-pcf-utilities-0-pcf 5Gi RWO local-storage 18h
luser@rid5704583-aneeluru-1-master1:~$
luser@rid5704583-aneeluru-1-master1:~$
luser@rid5704583-aneeluru-1-master1:~$ kubectl get pvc -A | grep utilities
pcf data-pcf-utilities-0 Bound data-pcf-utilities-0-pcf 5Gi RWO local-storage 18h
luser@rid5704583-aneeluru-1-master1:~$
```

2. To display pcf-utilities pod.

Following is an output to show pcf-utilities pod:

```
luser@rid5704583-aneeluru-1-master1:~$ kubectl get pod -A | grep utilities

pcf          pcf-utilities-0                1/1     Running 0          18h  192.xxx.xxx.xxx
 rid5704583-anneeluru-1-master1        <none>   <none>
luser@rid5704583-aneeluru-1-master1:~$
```

3.To display the pcf-utilities volume path and output.

Following example displays the pcf-utilities volume path and output:

```
luser@rid5704583-aneeluru-1-master1:~$ getpvs

NAMESPACE    NAME                                 STATUS     VOLUME
  CAPACITY    ACCESS MODES   STORAGECLASS    AGE
pcf          data-pcf-utilities-0                 Bound     data-pcf-utilities-0-pcf
  5Gi         RWO            local-storage   18h
pcf          db-etcd-pcf-etcd-cluster-0           Bound     db-etcd-pcf-etcd-cluster-0-pcf
  10Gi        RWO            local-storage   18h
pcf          db-etcd-pcf-etcd-cluster-1           Bound     db-etcd-pcf-etcd-cluster-1-pcf
  10Gi        RWO            local-storage   18h
pcf          db-etcd-pcf-etcd-cluster-2           Bound     db-etcd-pcf-etcd-cluster-2-pcf
  10Gi        RWO            local-storage   18h
pcf          db-local-data-db-admin-0             Bound     db-local-data-db-admin-0-pcf
  5Gi         RWO            local-storage   18h
pcf          db-local-data-db-admin-config-0      Bound     db-local-data-db-admin-config-0-pcf
  5Gi         RWO            local-storage   18h
NAME                                 CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS
CLAIM                                STORAGECLASS    REASON    AGE


data-pcf-utilities-0-pcf             5Gi        RWO            Retain           Bound
pcf/data-pcf-utilities-0             local-storage            18h


db-etcd-pcf-etcd-cluster-0-pcf       10Gi       RWO            Retain           Bound
pcf/db-etcd-pcf-etcd-cluster-0       local-storage            18h


db-etcd-pcf-etcd-cluster-1-pcf       10Gi       RWO            Retain           Bound
pcf/db-etcd-pcf-etcd-cluster-1       local-storage            18h


db-etcd-pcf-etcd-cluster-2-pcf       10Gi       RWO            Retain           Bound
pcf/db-etcd-pcf-etcd-cluster-2       local-storage            18h


db-local-data-db-admin-0-pcf         5Gi        RWO            Retain           Bound
pcf/db-local-data-db-admin-0         local-storage            18h
```