

# SVN UUID Mismatch and SVN Data Synchronization



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## Contents

### Introduction

#### SVN UUID MISMATCH

#### Verify SVN Synchronization Across PCRFCClient VMs

#### Fix the SVN Repository Synchronization

#### Reinitialize SVN Synchronization

#### Scripts

check\_svn\_sync.sh

svn\_uuid\_mismatch.sh

## Introduction

This document describes how to synchronize the Subversion control (SVN) repository between PCRFCClient01 and PCRFCClient02.

## SVN UUID MISMATCH

All the policy configurations in policy builder (PB) are stored as an SVN repository. So, in order to have high availability (HA) you need to have the same SVN Universal Unique Identifier (UUID) across both of the PCRFCClient Virtual Machines (VMs). However, Cisco Policy Suite (CPS) Version 7.X does not have the same UUID across PCRFCClient VMs. That is, higher CPS versions have the same UUID. An enhancement bug has been entered, Cisco bug ID CSCuu85319. You could achieve HA if you have the same revision number in both PCRFCClient0X VMs.

## Verify SVN Synchronization Across PCRFCClient VMs

Since the UUID is not the same across both PCRFCClient VMs, enter these commands:

```
svn info http://pcrfclient01/repos/configuration
svn info http://pcrfclient02/repos/configuration
```

**Note:** With these commands, you have to give the exact host name of the PCRFCClient01 and PCRFCClient02 VMs. You can also use the script check\_svn\_sync.sh in order to check whether the SVN repository is synchronized across PCRFCClient VMs. This script is provided at the end of this article.

You might notice these Quantum Network suite (QNS) error logs. These error messages can be checked with the script svn\_uuid\_mismatch.sh. This script is provided at the end of this article.

```
==qns-1.log==
2015-06-10 00:51:15,058 [pool-4-thread-1] WARN
  c.b.r.impl.ReferenceDataManager - SVN directory failed in updating
2015-06-10 01:51:44,050 [pool-4-thread-1] WARN
  c.b.r.impl.ReferenceDataManager - SVN directory failed in updating
```

```
2015-06-10 03:52:41,061 [pool-4-thread-1] WARN
c.b.r.impl.ReferenceDataManager - SVN directory failed in updating
```

```
==Service-qns-1.log==
svn: Repository UUID '70e98d90-b9c7-4c5b-a3db-681dd68c62a6'
doesn't match expected UUID 'ed2f2f76-f588-443e-9bb8-3fb05abd903b'
svn: Repository UUID '70e98d90-b9c7-4c5b-a3db-681dd68c62a6'
doesn't match expected UUID 'ed2f2f76-f588-443e-9bb8-3fb05abd903b'
svn: Repository UUID '70e98d90-b9c7-4c5b-a3db-681dd68c62a6'
doesn't match expected UUID 'ed2f2f76-f588-443e-9bb8-3fb05abd903b'
```

As shown below you can observe the UUID is different across VMs, but the versions have to remain the same. If the SVN version in both the PCRFCClient VMs are same, then the SVN repository synchronization is there and subsequently you have high availability.

===PCRFCClient01===

```
[root@pcrfclient01 ~]# svn info http://pcrfclient01/repos/configuration
Path: configuration
URL: http://pcrfclient01/repos/configuration
Repository Root: http://pcrfclient01/repos
Repository UUID: ed2f2f76-f588-443e-9bb8-3fb05abd903b
Revision: 392 <<<< revision number
Node Kind: directory
Last Changed Author: broadhop
Last Changed Rev: 392
Last Changed Date: 2015-06-01 15:52:12 -0600 (Mon, 01 Jun 2015)
```

===PCRFCClient02===

```
[root@pcrfclient01 ~]# svn info http://pcrfclient02/repos/configuration
Path: configuration
URL: http://pcrfclient02/repos/configuration
Repository Root: http://pcrfclient02/repos
Repository UUID: 70e98d90-b9c7-4c5b-a3db-681dd68c62a6
Revision: 392 <<<< revision number
Node Kind: directory
Last Changed Author: broadhop
Last Changed Rev: 392
Last Changed Date: 2015-06-01 15:52:12 -0600 (Mon, 01 Jun 2015)
```

## Fix the SVN Repository Synchronization

The previous section explained how to check the SVN repository synchronization. This section discusses how to fix the SVN synchronization. Assume that PCRFCClient01 is primary and PCRFCClient02 is secondary and that the PCRFCClient02 SVN repository is out of sync.

Complete these steps in order to make PCRFCClient02 SVN repository sync up with PCRFCClient01:

1. On PCRFCClient01, disable the SVN sync job:

```
crontab -e
```

```
Comment this cron job entry:
/usr/bin/svnsync sync http:// pcrfclient02/repos-proxy-sync
```

**Note:** Here, PCRFCClient02 is the customer host name of the PCRFCClient02 VM.

2. Log in to PCRFCClient02 and edit "/etc/httpd/conf.d/subversion.conf" and update it with this bolded text:

```

<Location /repos-proxy-sync>
    DAV svn
    SVNPath /var/www/svn/repos
    Order deny,allow
    Deny from all
    Allow from pcrfclient01 <<< # customer host name of PCRFClient01 VM
</Location>

```

3. On the PCRFClient02 VM , enter this command in order to restart the HTTPD service.

```
service httpd restart
```

4. On PCRFClient01, enter this command in order to synchronize the SVN data. The SVN repository synchronization might take time dependent upon the number and size of revisions.

```
/usr/bin/svnsync sync http://pcrfclient02/repos-proxy-sync
```

**Note:** Here, PCRFClient02 is the customer host name of PCRFClient02 VM.

If lock errors are reported, then enter this command and then retry the **svnsync** command:

```
/usr/bin/svn propdel svn:sync-lock --revprop -r 0 http:// pcrfclient02/repos-proxy-sync
```

If the errors are still seen, proceed to Reinitialize SVN Synchronization.

5. In order to verify that the revision number for the SVN repository is the same in PCRFClient01 and PCRFClient02, use the `check_svn_sync.sh` script or the CLI command mentioned in Verify SVN Synchronization Across PCRFClient VM.

6. On PCRFClient01, enable the SVN sync job:

```
crontab -e
/usr/bin/svnsync sync http://pcrfclient02/repos-proxy-sync
```

## Reinitialize SVN Synchronization

Perform these steps only if you encounter an error in step 4 in section Fix the SVN Repository Synchronization. If you do not encounter any errors in the previous section, you can ignore these steps.

**Note:** Reach out to the Cisco Technical Support team before you perform these steps.

1. Before you reinitialize the SVN sync, first disable PCRFClient02 from `svn_proxy` in the haproxy configuration:
  - a. Go to standby lb (lb02 in this example) and modify `/etc/haproxy/haproxy.cfg` and comment out the bolded line shown here:

```

listen svn_proxy lbvip02:80
    mode http
    balance roundrobin
    option httpchk
    option httpclose
    option abortonclose
    server pcrfclient01 pcrfclient01:80 check
    #server pcrfclient02 pcrfclient02:80 check backup

```

- b. Go to active lb (lb01 in this example) and enter this command in order to do a HA failover:

```
/etc/init.d/heartbeat restart
```

- c. Verify that `"haproxy/memcached/VIP"` shifted to the other lb (lb02 in this example).
  - d. Go to standby lb (now lb01 is standby) and modify `/etc/haproxy/haproxy.cfg` and comment out the bolded line:

```
listen svn_proxy lbvip02:80
```

```

mode http
balance roundrobin
option httpchk
option httpclose
option abortonclose
server pcrfclient01 pcrfclient01:80 check
#server pcrfclient02 pcrfclient02:80 check backup

```

- e. Go to active lb (now lb02 is active) and enter this command in order to do an HA failover:

```
/etc/init.d/heartbeat restart
```

- f. Verify "haproxy/memcached/VIP" shifted to the other lb (lb01 in this example).

2. On PCRFCliient02, enter these commands in order to reinitialize the SVN repository directory:

```

tar -czf /var/tmp/repos.tar.gz /var/www/svn/repos
mkdir -p /var/www/svn/repos
rmdir /var/www/svn/repos
/usr/bin/svnadmin create /var/www/svn/repos
chown -R apache:apache /var/www/svn/repos

```

3. On PCRFCliient02, create a file named "pre-revprop-change" in the path "/var/www/svn/repos/hooks/" with this data:

```

#!/bin/sh
#/var/www/svn/repos/hooks/pre-revprop-change
exit 0

```

4. On PCRFCliient02, enter these commands in order to change the permissions of the previously created file and also perform HTTPD service restarts:

```

chmod 700 /var/www/svn/repos/hooks/pre-revprop-change
chown apache:apache /var/www/svn/repos/hooks/pre-revprop-change
service httpd restart

```

5. On PCRFCliient01, enter these commands in order to perform SVN data synchronization:

```

/usr/bin/svnsync init http://pcrfclient02/repos-proxy-sync
http:// pcrfclient01/repos-proxy-sync
/usr/bin/svnsync sync http:// pcrfclient02/repos-proxy-sync

```

**Note:** In place of PCRFCliient01 and PCRFCliient02, provide the appropriate host-name of PCRFCliient01 and PCRFCliient02 as per your setup.

6. In order to verify whether your SVN repositories are synchronized, complete the steps in Verify SVN Synchronization Across PCRFCliient VM.

7. Enable PCRFCliient02 from the SVN proxy in the haproxy configuration. Basically, uncomment the lines which you commented out in step 1.

- a. Go to standby lb (lb02 in this example) and modify "/etc/haproxy/haproxy.cfg" and **uncomment** the bolded line:

```

listen svn_proxy lbvip02:80
    mode http
    balance roundrobin
    option httpchk
    option httpclose
    option abortonclose
    server pcrfclient01 pcrfclient01:80 check
    server pcrfclient02 pcrfclient02:80 check backup

```

- b. Verify "haproxy/memcached/VIP" shifted to the other lb (lb02 in this example).

```
/etc/init.d/heartbeat restart
```

- c. Verify "haproxy/memcached/VIP" shifted to the other lb (lb02 in this example).

- d. Go to the standby lb (now lb01 is standby) and modify "/etc/haproxy/haproxy.cfg" and **uncomment** the bolded line shown here:

```
listen svn_proxy lbvip02:80
    mode http
    balance roundrobin
    option httpchk
    option httpclose
    option abortonclose
    server pcrfclient01 pcrfclient01:80 check
    server pcrfclient02 pcrfclient02:80 check backup
```

e. Go to active lb (nowlb02 is active) and enter this command in order to complete the HA failover:

```
/etc/init.d/heartbeat restart
```

f. Verify that "haproxy/memcached/VIP" shifted to the other lb (lb01 in this example).

8. On PCRFCliient01, enable the SVN sync job:

```
crontab -e/usr/bin/svnsync sync http://pcrfclient02/repos-proxy-sync
```

## Scripts

### check\_svn\_sync.sh

Please put this script in your CPS system in order to check the SVN synchronization across PCRFCliient VMs.

```
#!/bin/bash
a=$(svn info http://pcrfclient01/repos/configuration | grep -i Revision | grep -o '[0-9]*')
b=$(svn info http://pcrfclient02/repos/configuration | grep -i Revision | grep -o '[0-9]*')
if [ "$a" == "$b" ]; then
    echo -e "SVN repository Synchronization:\e[0;32m PASS \e[0m"
    echo -e "PCRFCliient01 SVN repository revision number is : \e[1;33m $a \e[0m"
    echo -e "PCRFCliient02 SVN repository revision number is : \e[1;33m $b \e[0m"
else
    echo -e "SVN repository Synchronization : \e[0;31m FAIL \e[0m"
    echo -e "PCRFCliient01 SVN repository revision number is : \e[1;33m $a \e[0m"
    echo -e "PCRFCliient02 SVN repository revision number is : \e[1;33m $b \e[0m"
fi
```

### svn\_uuid\_mismatch.sh

Please put this script in your CPS system in order to monitor the SVN UUID related error messages from the individual QNS VMs.

```
#!/bin/bash
for HN in `hosts.sh |grep qns`;
do echo -e "\e[1;32m $HN\e[0m";
echo -e "\e[1;33m===qns-1.log===\e[0m"
ssh $HN grep -wh "SVN directory failed" 2>/dev/null /var/log/broadhop/qns-1.log | tail -10;
echo -e "\e[1;33m===service-qns-1.log===\e[0m"
ssh $HN grep -wh "match expected UUID" 2>/dev/null /var/log/broadhop/service-qns-1.log | tail -1
done
```