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1. How to Validate AD Cluster Delegation is Ready for Failover and failback of SPNs published

Technical Note

Abstract:

This technical note provides test methodologies to AD delegation is ready for failover under four scenarios:

- **PRIMARY Cluster SELF SPN Delegation**
- **PRIMARY Cluster CROSS SPN Delegation**
- **DR Cluster SELF SPN Delegation**
- **DR Cluster CROSS SPN Delegation**

Use this procedure to validate AD delegation is done correctly. A common mistake is the computer account delegation.

Understanding how failover works

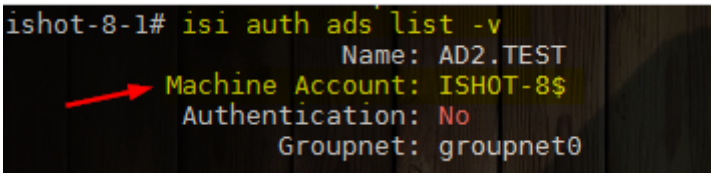
Failover process requires the target cluster to have AD permissions to manage SPN(s) on the source cluster AD machine account. The delegation guide sets this up for each cluster machine account to failover in either direction.
If not setup correctly the following issues are frequently seen:

- Ldap constraint violation
- Ldap permissions error

Locate AD PowerScale machine Account Name

Log into you cluster as 'root' and run the following CLI command to locate machine account name:

 # isi auth ads list -v



For OneFS 8.x

Section 1 - All Steps performed on PRIMARY CLUSTER [For OneFS 8.x.x.x]

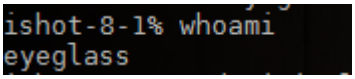
1A - SELF test

- CREATE SPN for PRIMARY Cluster [oneFS 8.x]

  For this test, you will need 2 OneFS 8.x.x.x clusters connected to same AD.

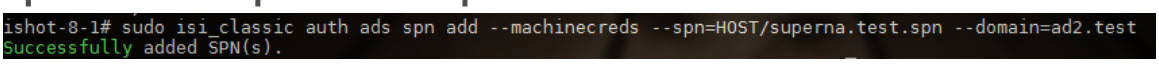
  Step 1. Log in to your PRIMARY cluster using "eyeglass" user and issue the following command

  "**whoami**"



  Step 2. Add a SPN by using the following command

  "**sudo isi_classic auth ads spn add --machinecreds --spn=HOST/superna.test.spn --domain=xxx**"



  [--machinecred is needed to authenticate your cluster]
  [--domain= Enter your Domain name]

  Step 3. Check if SPN was created successfully.

  "**sudo isi_classic auth ads spn list --machinecreds --domain=xxx**"

```
ishot-8-1# sudo isi_classic auth ads spn list --machinecreds --domain=ad2.test
SPNs registered for ISHOT-8$:
        HOST/superna.test.spn
```

[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

- DELETE SPN for PRIMARY Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your PRIMARY cluster using "eyeglass" user and issue the following command

"**whoami**"

```
ishot-8-1% whoami
eyeglass
```

Step 2. Delete the SPN from the same cluster by issuing the following command

"**sudo isi_classic auth ads spn delete --machinecreds --spn=HOST/superna.test.spn --domain=xxx**"

```
ishot-8-1# sudo isi_classic auth ads spn delete --machinecreds --spn=HOST/superna.test.spn --domain=ad2.test
Successfully deleted SPN(s).
```

[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

Step 3. Check if SPN was deleted successfully.

"**sudo isi_classic auth ads spn list --machinecreds --domain=xxx**"

```
ishot-8-1% sudo isi_classic auth ads spn list --machinecreds --domain=ad2.test
SPNs registered for ISHOT-8$:
```

[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

1B - CROSS test

- CREATE SPN for DR Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your PRIMARY cluster using "eyeglass" user and issue the following command

"**whoami**"

```
ishot-8-1% whoami
eyeglass
```

Step 2. Add SPN for DR cluster using PRIMARY cluster

"**sudo isi_classic auth ads spn add --machinecreds --account=xxx$ --spn=HOST/superna.test.spn --domain=xxx**"

```
ishot-8-1# sudo isi_classic auth ads spn add --machinecreds --account=ISCOLD-8$ --spn=HOST/superna.test.spn --domain=ad2.test
Successfully added SPN(s).
```

[--account= is the AD computer machine name that we are deleting SPN from. "$" sign is needed after the AD computer name.]

[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

Step 3. Check if SPN was created successfully

"**sudo isi_classic auth ads spn list --machinecreds --account=xxx$ --domain=xxx**"

```
ishot-8-1# sudo isi_classic auth ads spn list --machinecreds --account=ISCOLD-8$ --domain=ad2.test
SPNs registered for ISCOLD-8$:
        HOST/superna.test.spn
```

[--account= is the AD computer machine name that we are deleting SPN from. "$" sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

- DELETE SPN for DR Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your PRIMARY cluster using "eyeglass" user and issue the following command

"**whoami**"

```
ishot-8-1% whoami
eyeglass
```

Step 2. Delete SPN for DR cluster using PRIMARY cluster

"**sudo isi_classic auth ads spn delete --machinecreds --account=xxx$ --spn=HOST/superna.test.spn --domain=xxx**"

```
ishot-8-1# sudo isi_classic auth ads spn delete --machinecreds --account=ISCOLD-8$ --spn=HOST/superna.test.spn --domain=ad2.test
Successfully deleted SPN(s).
```

[--account= is the AD computer machine name that we are deleting SPN from. "$" sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

Step 3. Check if SPN was deleted successfully

"**sudo isi_classic auth ads spn list --machinecreds --account=xxx$ --domain=xxx**"

```
ishot-8-1% sudo isi_classic auth ads spn list --machinecreds --account=ISCOLD-8$ --domain=ad2.test
SPNs registered for ISCOLD-8$:
```

[--account= is the AD computer machine name that we are deleting SPN from. "$" sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

Section 2 - All Steps performed on DR CLUSTER [For OneFS 8.x.x.x]

1A - SELF test

- CREATE SPN for DR Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your DR cluster using “eyeglass” user and issue the following command

“**whoami**”

```
ishot-8-1% whoami
eyeglass
```

Step 2. Add a SPN by using the following command

“**sudo isi_classic auth ads spn add --machinecreds --spn=HOST/superna.test.spn.domain.com --domain=xxx**”

```
ishot-8-1% sudo isi_classic auth ads spn add --machinecreds --spn=HOST/superna.test.spn.domain.com --domain=ad2.test
Successfully added SPN(s).
```

[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

Step 3. Check if SPN was created successfully.

“**sudo isi_classic auth ads spn list --machinecreds --domain=xxx**”

```
ishot-8-1% sudo isi_classic auth ads spn list --machinecreds --domain=ad2.test
SPNs registered for ISHOT-8$:
        HOST/superna.test.spn.domain.com
```

[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

- DELETE SPN for DR Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your DR cluster using “eyeglass” user and issue the following command

“**whoami**”

```
ishot-8-1% whoami
eyeglass
```

Step 2. Delete the SPN from the same cluster by issuing the following command

“**sudo isi_classic auth ads spn delete --machinecreds --spn=HOST/superna.test.spn --domain=xxx**”

```
iscold-8-1# sudo isi_classic auth ads spn delete --machinecreds --spn=HOST/superna.test.spn --domain=ad2.test
Successfully deleted SPN(s).
```

[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

Step 3. Check if SPN was deleted successfully.

“**sudo isi_classic auth ads spn list --machinecreds --domain=xxx**”

```
ishot-8-1% sudo isi_classic auth ads spn list --machinecreds --domain=ad2.test
SPNs registered for ISHOT-8$:
```

[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

1B - CROSS test

- CREATE SPN for PRIMARY Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your DR cluster using “eyeglass” user and issue the following command

“whoami”

```
ishot-8-1% whoami
eyeglass
```

Step 2. Add SPN for PRIMARY cluster using DR cluster

“sudo isi_classic auth ads spn add --machinecreds --account=xxx$ --spn=HOST/superna.test.spn --domain=xxx”

```
ishot-8-1% sudo isi_classic auth ads spn add --machinecreds --account=ISCOLD-8$ --spn=HOST/superna.test.spn.domain.com --domain=ad2.test
Successfully added SPN(s).
```

[--account= is the AD computer machine name that we are deleting SPN from. “$” sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

Step 3. Check if SPN was created successfully

“sudo isi_classic auth ads spn list --machinecreds --account=xxx$ --domain=xxx”

```
ishot-8-1% sudo isi_classic auth ads spn list --machinecreds --account=ISCOLD-8$ --domain=ad2.test
SPNs registered for ISCOLD-8$:
        HOST/superna.test.spn.domain.com
```

[--account= is the AD computer machine name that we are deleting SPN from. “$” sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]
[--domain= Enter your Domain name]

- DELETE SPN for PRIMARY Cluster [oneFS 8.x]

For this test, you will need OneFS 8.x.x.x clusters connected to same AD.

Step 1. Log in to your DR cluster using “eyeglass” user and issue the following command

“whoami”

```
ishot-8-1% whoami
eyeglass
```

Step 2. Delete SPN for PRIMARY cluster using DR cluster

“sudo isi_classic auth ads spn delete --machinecreds --account=xxx$ --spn=HOST/superna.test.spn.domain.com --domain=xxx”

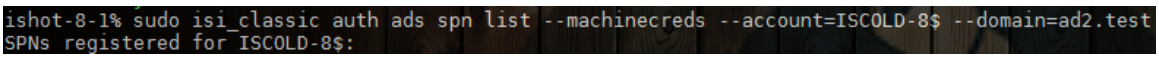
```
ishot-8-1% sudo isi_classic auth ads spn delete --machinecreds --account=ISCOLD-8$ --spn=HOST/superna.test.spn.domain.com --domain=ad2.test
Successfully deleted SPN(s).
```

[--account= is the AD computer machine name that we are deleting SPN from. “$” sign is needed after the AD computer name.]
[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

Step 3. Check if SPN was deleted successfully

"**sudo isi_classic auth ads spn list --machinecreds --account=xxx$ --domain=xxx**"



[--account= is the AD computer machine name that we are deleting SPN from. "$" sign is needed after the AD computer name.]

[--machinecred is needed to authenticate your cluster]

[--domain= Enter your Domain name]

2. How To Healthcheck Eyeglass with 3rd party monitoring tools

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How To Healthcheck Eyeglass with 3rd party monitoring tools

Technical Note

Abstract:

This technical note details how to setup healthcheck script for use with 3rd party monitoring applications to detect if Eyeglass process are operating normally

Overview

This solution can be used with 3rd party monitoring applications to detect if Eyeglass process are operating normally.
The key processes that should be monitored as running are

- Sca
- Scadb
- sera
- lighttpd
- apache
- iglsauth.service
- iglsservicebroker.service

Monitor these process with 3rd party monitoring tools.

The rest api can also be used to remotely collect alarms from Eyeglass, see the guide on how to retrieve alarms with an api token and curl builder tools. API Guide is here.

3. DR Manager Configuration Sync Errors and Resolutions

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Message AEC_NOT_FOUND "Path 'X/Y/Z' Not Found: No Such File Or Directory" For Eyeglass Configuration Replication Job

Problem:

Eyeglass Configuration Replication Job fails with error AEC_NOT_FOUND "Path 'x/y/z' not found: No such file or directory". (Alarm code SCA0004)
This error is issued when the Eyeglass Configuration Replication job runs and attempts to replicate a share or export or quota when the associated directory does not exist on the target.

Resolution:

See below for the various reasons we see this error and their resolution (in bullets)
SyncQ Policy associated with the path has not been run and therefore the path does not exist on the target cluster

- Ensure the SyncIQ policy has recently run on the cluster.

The SMB Share or NFS Export path points to a path that does not exist on the Source cluster filesystem OR the share path does not match the path on the filesystem exactly (case-sensitive)

- Review the SMB Share or NFS Export path on the source cluster and copy it to the clipboard and then SSH to the Source cluster and run command: cd <pasted path>
- If the cd command fails then either the path does not exist or there is a mismatch in the case-sensitivity of the path

SyncIQ Policy has paths in the included or excluded list and the path that was not found is protected by the policy but is not in either list.

- Review the policy configuration and determine if the excludes or includes are configured as expected. Please note that using those options are not supported by Dell EMC for failover/failback

SMB Share path has a trailing "/" at the end of the share path - example /ifs/home/

- Remove the trailing "/" from the path of the share to resolve the error.

Once resolved the next Configuration Replication job will succeed and the alarm will be cleared.

Other possible causes for Missing Path on target cluster:

1) SyncIQ Policy associated with the path has not been run.
2) Path is on the SyncIQ Policy Excluded list.
3) SyncIQ Policy has paths in the Included or Excluded list and the path that was not found is protected by the policy but is not in either list.

Message AEC_FORBIDDEN For Eyeglass Configuration Replication Job

Problem:

Eyeglass configuration replication Job fails with error “AEC_FORBIDDEN…..”.

Possible Cause:

Isilon is provisioned in Eyeglass with a user who does not have minimum required privileges.

Troubleshooting Steps:

1. Cross reference the permissions of the Isilon OneFS user that is used in Eyeglass provisioning with Minimum Required Privileges documented here: User Minimum Privileges.
2. If the OneFS user does not have the required privileges, update the user privileges in OneFS. The next Eyeglass configuration replication job will be based on these updated privileges.
3. If the OneFS user has the minimum required privileges, double check the OneFS user privileges from the Isilon command line to ensure that they are set as required.

Message AEC_NOT_FOUND Zone <Zone Name> Not Found For Eyeglass Configuration Replication Job

Problem:

Eyeglass Configuration Replication Job fails with error “AEC_NOT_FOUND Zone <Zone Name> not found”. (Alarm code SCA0004)
This error is issued when the Eyeglass configuration replication job runs and attempts to replicate a share or export when the associated Zone does not exist on the target.

Resolution:

Review the SyncIQ policy associated to the Configuration Replication job in error and determine the following information:

- The SyncIQ policy source path on the Source cluster
- What is the name of the Access Zone where that SyncIQ policy source path is a part of on the Source cluster?
- What path is the SyncIQ policy target path replicating to on the Target cluster?
- On the Target cluster, what is the name of the Access Zone where the SyncIQ policy target path is pointing to?
- These Access Zone names need to be the same on source and target cluster otherwise you will receive the error in question.

Ensure that all Zones associated with shares and exports exist on the target.

Once the Zones exist, the next configuration replication job will succeed and the alarm will be cleared.

Message AEC_EXCEPTION Bad Hostname For Eyeglass Configuration Replication Job

Problem:

Eyeglass Configuration Replication Job fails with error “AEC_EXCEPTION message bad hostname 'host name'”. (Alarm code SCA0004)
This means that Eyeglass cannot replicate the NFS Export to the target cluster due to a hostname listed on the NFS Export "Clients" list not resolving on the target cluster.
It is best practice to allow the DR cluster to resolve host names, or data will not be mountable after a failover.

Possible Causes:

NFS Exports "Clients" field has a host name entry that cannot be resolved on replication of the Export.

Resolution:

1. Ensure that "Clients" field on the NFS Export on the source has valid host name entry.
2. Run nslookup <hostname> to determine if that name resolves correctly or not
3. Remove the host name from the clients list if not required any longer
4. If unable to remove or make the name resolve in DNS you can use the Eyeglass CLI command:
   igls admin ignoreunresolvablehosts
5. If issue still persists after running command to ignore then remove the export from the target cluster and allow Eyeglass to recreate it during Configuration Replication job

MESSAGE "AEC_NOT_FOUND", "message" : "Zone 'x' not found" For Eyeglass Configuration Replication Job

Problem:

This error will occur when Eyeglass attempts to replicate a share or export and the associated Zone does not exist on the target.

Possible Cause for Missing Zone:

1) Zone associated with share or export on the source cluster does not exist on the target cluster with the exact same name.

Solution:

Directory associated with the share or export or quota being replicated must exist on the target.
1) Run SyncIQ Policy to create the paths.
2) For SyncIQ Policy with Includes or Excludes, manually verify that the error relates to excluded paths and Job has succeeded for Included paths.
Zone associated with the share or export being replicated must exist on the target with the same name.