CIER

Catalog Item to Entitlement Repair Utility

Version 2.0

Abstract

This document explains how to use install and operate the CIER utility which is designed to reinstate vRealize Automation Catalog Items to vRealize Automation Entitlements should the two become disconnected

May 2018

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What's New

CIER New Features

The following new features are included in CIER 2.0:

- Auto configuration of CloudClient
- Record and repair functionality for specified Resource Actions

Setting up the CIER Utility

System Requirements

The CIER utility requires the following in order to operate:

- Windows 7 SP1 or higher
- Windows PowerShell 5.1 or higher
- VMware CloudClient 4.5.0 or higher
- PowervRA (typically self-installed by CIER utility).

If internet access is not available on the machine being used, then PowervRA should be manually installed prior to running CIER

Extracting the Utility

Download and extract the zip file to your windows system

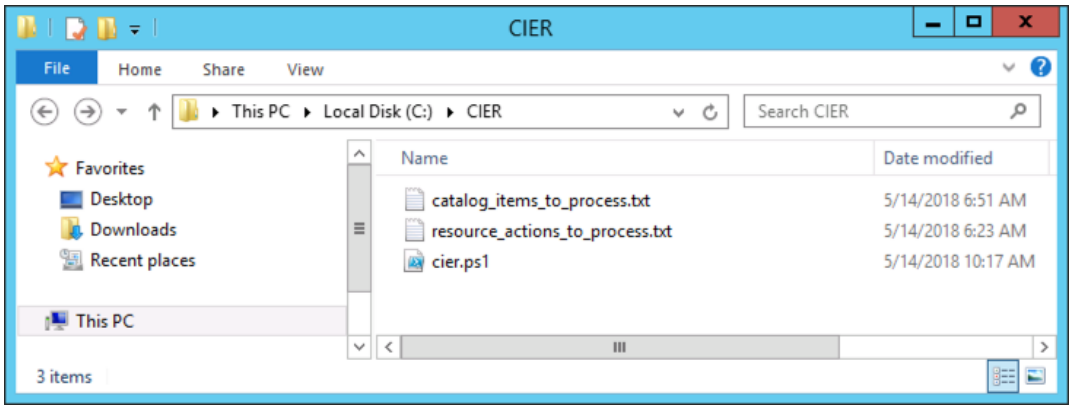

Figure 1. Contents of CIER zip file

Installing CloudClient

Download and obtain CloudClient and extract the contents to the CIER folder

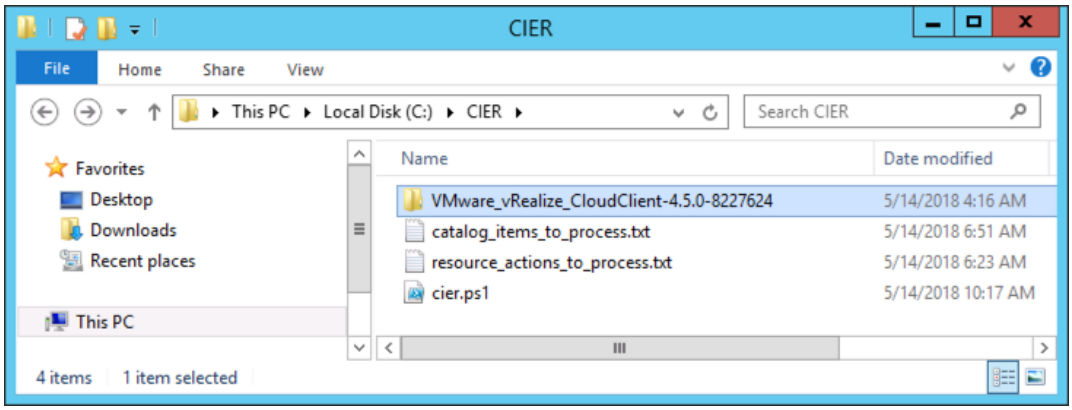

Figure 2. Adding CloudClient to the CIER folder

Configuring CIER

To finalize the configuration, edit the cier.ps1file. There are 8 user editable parameters, as follows:

Parameter Name	Required
vra_address	Default must be changed accordingly
vra_user	Default must be changed accordingly. Ensure this user is a business group admin and tenant admin
vra_password	Default must be changed accordingly
vra_tenant	Default must be changed accordingly
cloudclient_folder	Must be set to location of extracted CloudClient
base_folder	May be left at default
specific_catalog_items_file	May be left at default
specific_resource_ actions_items_file	May be left at default

cier.ps1

```
# Catalog Item <-> Entitlement Repair (CIER) Utility
# Author: Ken Gould (ken.gould@dell.com)
# Provided with zero warranty! Please test before using in anger!
# Version 2
#
# Change Log:
#
# v2
#   Added ability to record Resource Actions to Entitlement Relationships and repair them after upgrade
#   Moved to environment variables vs cloudclient.properties file to reduce setup effort
#   General Code clean up
# v1
#   Initial Release
##################################### USER EDITABLE PARAMETERS ###################################

#vRA Details
$vra_address= "vra-vip.domain.local" #FQDN Formant
$vra_user = "sysadmin@domain.local" #UPN Format
$vra_password = "NotMyRealPassword"
$vra_tenant = "Tenant1"

#Folder Locations
$cloudclient_folder = ".\VMware_vRealize_CloudClient-4.5.0-8227624\bin"
$base_folder = ".\"

#File Names
$specific_catalog_items_file = "catalog_items_to_process.txt"
$specific_resource_actions_file = "resource_actions_to_process.txt"
```

Figure 3. User Editable Parameters in CIER utility

Specifying Catalog Items

CIER is designed to operate against designated catalog items, as provided in a text file. The default name of this text file is

`catalog_items_to_process.txt`

It must be located in the root CIER folder with the cier.ps1 file

You may change the name of this file, as long as you update the *specific_catalog_items_file* parameter in the cier.ps1file accordingly.

Update the contents of the file with the names of Catalog Items you wish to examine and preserve after upgrade.

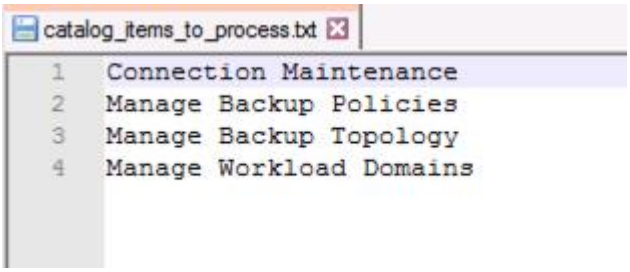

Figure 4. Sample contents of catalog_items_to_process.txt

Note the examples used there are just for illustrative purposes. Please add catalog item names appropriate to the environment

Specifying Resource Actions

CIER is designed to operate against designated resource actions, as provided in a text file. The default name of this text file is

`resource_actions_to_process.txt`

It must be located in the root CIER folder with the cier.ps1 file

You may change the name of this file, as long as you update the *specific_resource_actions_file* parameter in the cier.ps1file accordingly.

Update the contents of the file with the names of Resource Items you wish to examine and preserve after upgrade.

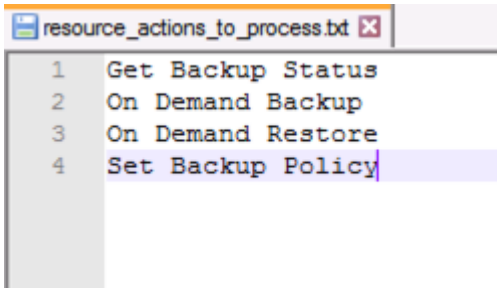

Figure 5. Sample contents of resource_actions_to_process.txt

Note the examples used there are just for illustrative purposes. Please add resource action names appropriate to the environment

Using the CIER Utility

Launching the CIER Utility

To run CIER, doe the following:

- Open a PowerShell console
- Navigate to the location you extracted the CIER zip file to
- Run cier.ps1

If this is the first time CIER has been run, it will do the following:

- Create some necessary subfolders in its base folder.
- Detect (and install if necessary) PowervRA
- Determine if CloudClient has been initialized

Initializing CloudClient

If CloudClient has not been initialized, CIER will do so using the parameters configured earlier with the cier.ps1 file.

You will see a screen as follows

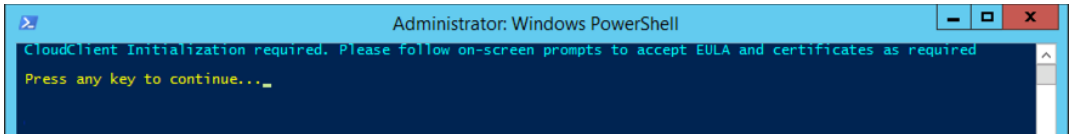

Figure 6. Notification that CloudClient needs to be initialized

Press any key and step through the EULA and Accept

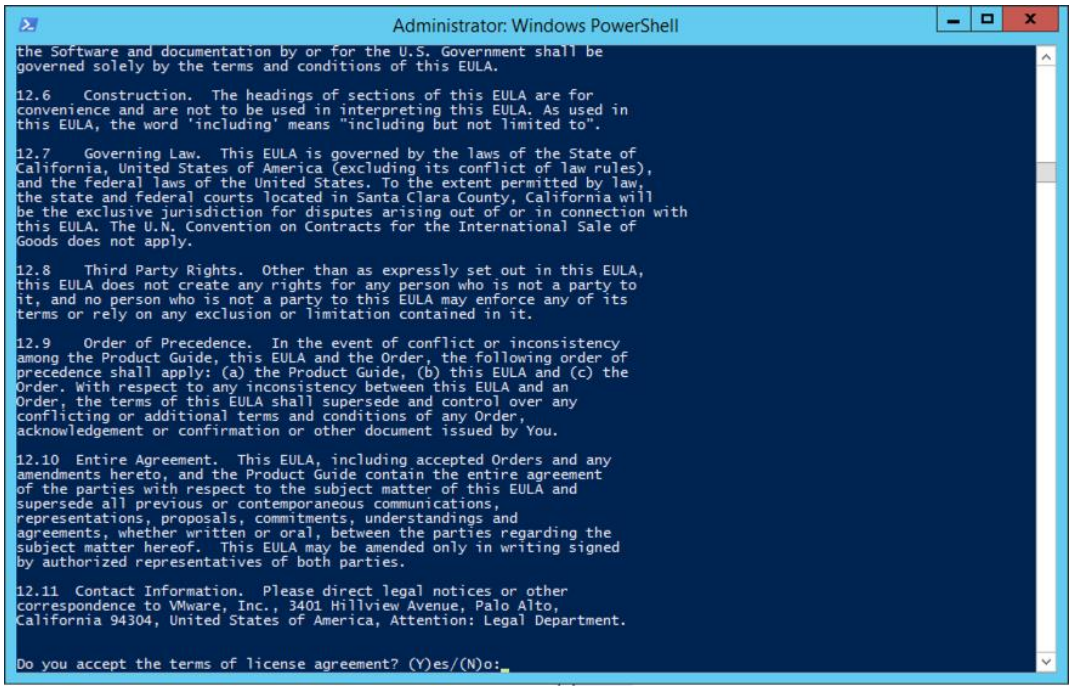

Figure 7. Accept EULA Screen

Accept the VRA certificate if required

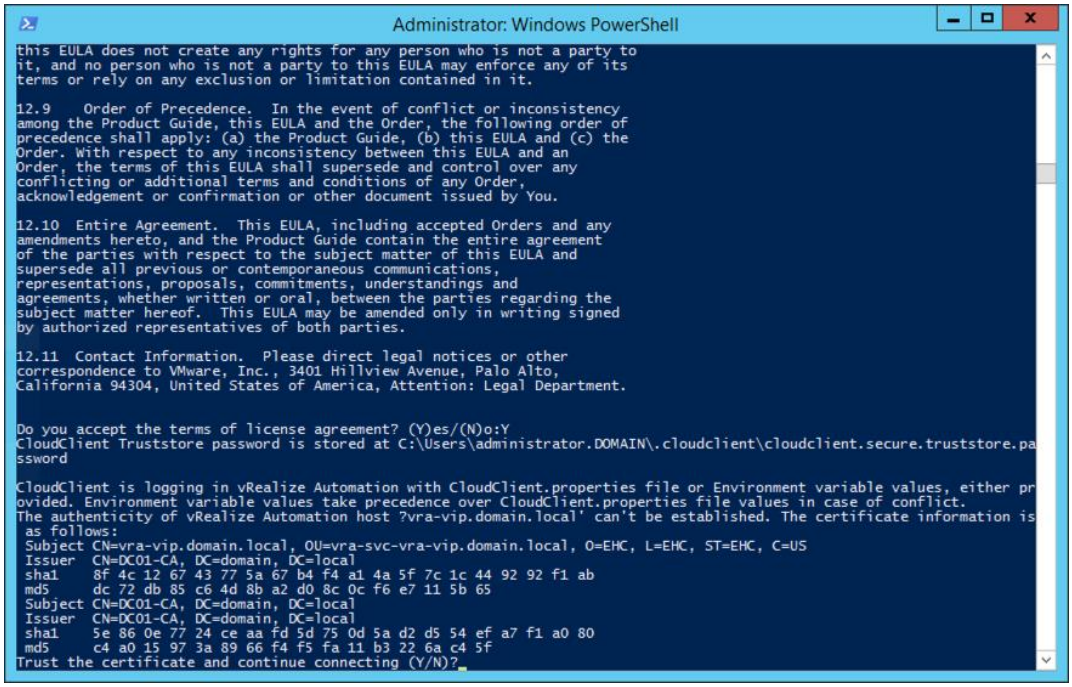

Figure 8. Accepting vRA certificate

Accept the IAAS certificate

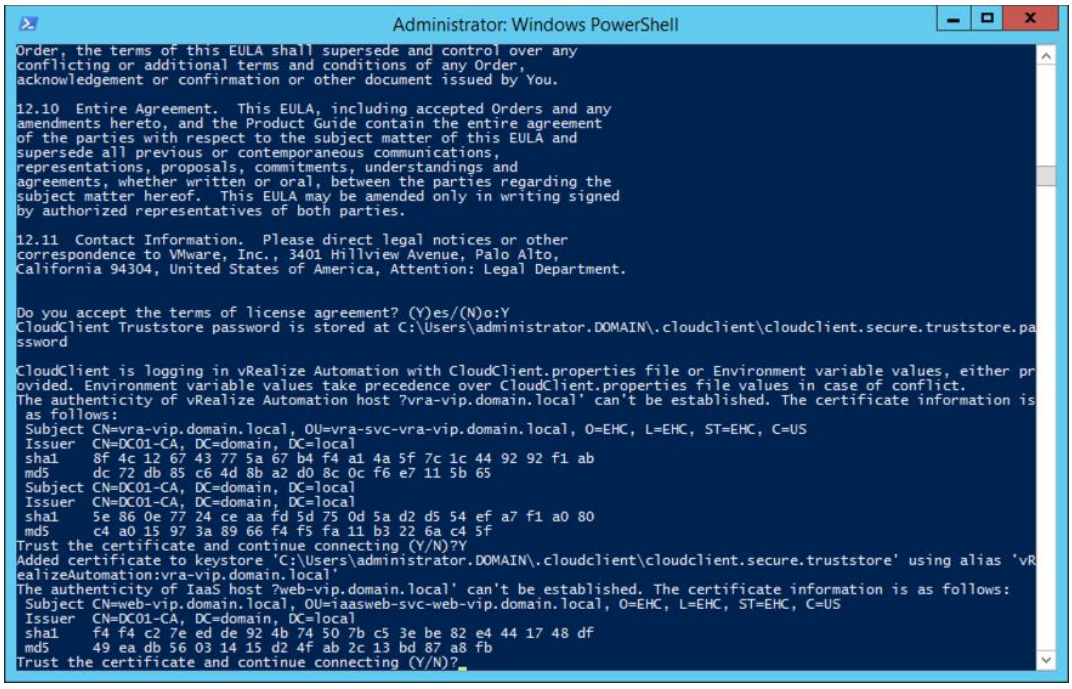

Figure 9. Accepting the IAAS certificate

Once complete you will be presented with the CIER user menu

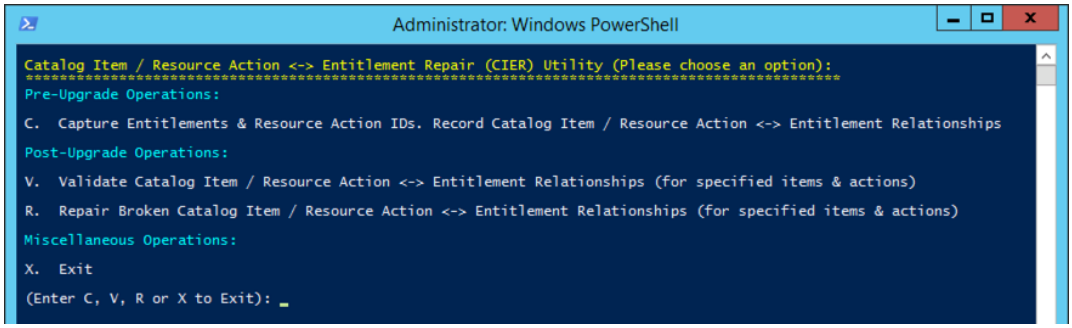

Figure 10. CIER Menu

Pre-Upgrade Tasks

Capturing the Pre-Upgrade State

Before upgrading, you need to capture the state of the entitlements. To do this, select the following option

```
C.  Capture Entitlements & Resource Action IDs. Record Catalog
Item / Resource Action <-> Entitlement Relationships
```

Note: This works only for the items listed in the text files mentioned in the Specifying Catalog Items and Specifying Resource Actions sections mentioned earlier. Ensure these are fully populated ***before*** upgrade as the tool needs to record existing settings in order to remediate them later.

If this is the first time the CIER utility has been run, it will create a local cache and also take a backup of this cache to the 'backup' folder within the CIER root. The CIER utility does nothing with backup content, and doesn't update it further. It is simply there as a safety net.

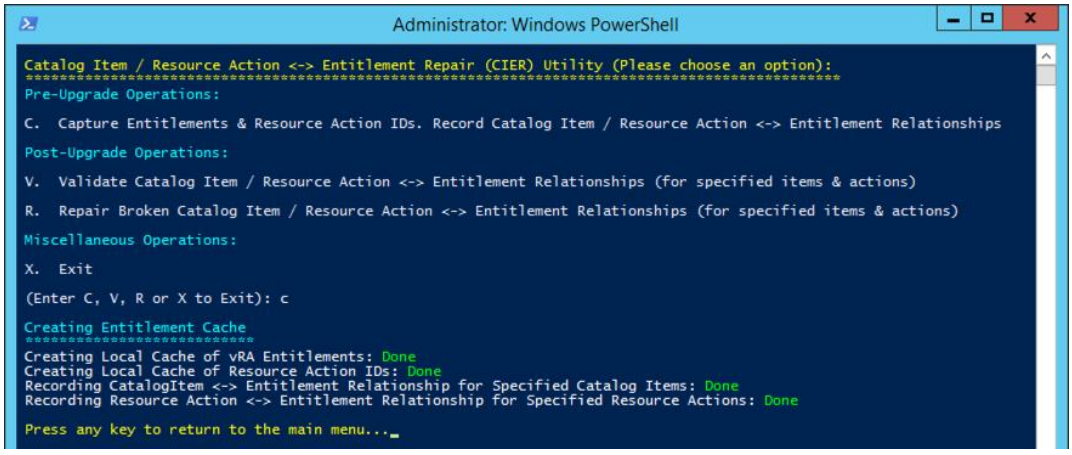

Figure 11. Capturing the Pre-Upgrade state

Note: Do not execute option C more than once, and in particular do not execute option C after the upgrade and before repair as this will recapture the current state of entitlements and remove knowledge of preceding state making repair impossible without manual intervention

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Capturing Changed Entitlements before Upgrade (Advanced/Optional)

If changes were made to vRA entitlements ***after*** the initial capture of the Entitlements and ***before*** upgrade and it desirable to verify and repair these changed entitlements after upgrade, then it is necessary to recapture the initial state. To do this:

1. Remove/archive the contents of the 'backup' folder in the CIER base folder
2. Remove/archive the contents of the 'cache folder in the CIER base folder
3. Follow Capturing the Pre-Upgrade State

Post-Upgrade Tasks

Validating the Post-Upgrade State

After the upgrade you may verify that the catalog items and resource actions are still part of the correct entitlements. To do this, run the following option

```
V.  Validate Catalog Item / Resource Action <-> Entitlement
Relationships (for specified items & actions)
```

If the catalog items / resource actions are not correct you will see a screen similar to the following:

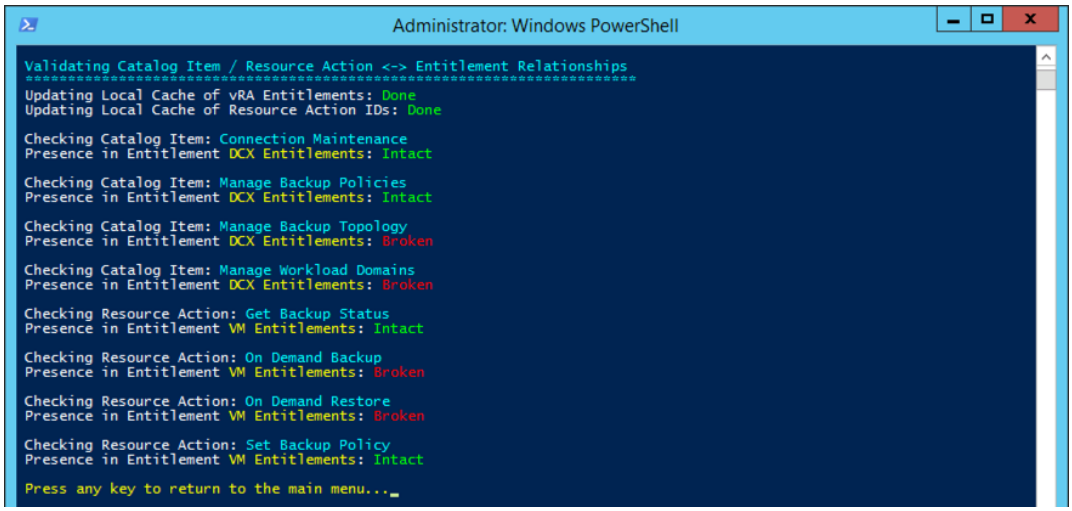

Figure 12. Validation of Catalog Items / Resource Actions shows broken relationships

If all items display as 'Intact', then the none of the specified items or actions were affected by the upgrade.

Repairing the Post Upgrade State (Optional)

Catalog items and Resource Actions that report a 'Broken' status may be repaired as long as the following steps were taken ***before*** the upgrade:

- Names of catalog items to be verified/repaired were saved in the text file referenced in the *specific_catalog_items_file* parameter

- Names of resource actions to be verified/repaired were saved in the text file referenced in the *specific_resource_actions_file* parameter
- Entitlement configuration was backed up using Option C

To perform the repair, run the following option:

```
R.  Repair Broken Catalog Item / Resource Action <-> Entitlement
Relationships (for specified items & actions)
```

You should see a screen similar to the following

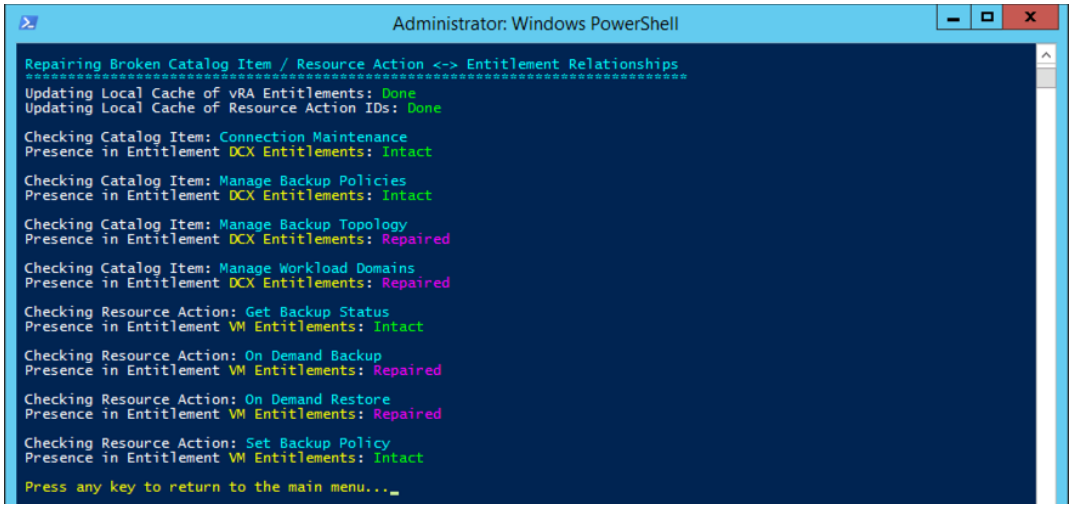

Figure 13. Repair option showing the items and actions that were repaired

You may re-run option V to check that the repair was truly successful

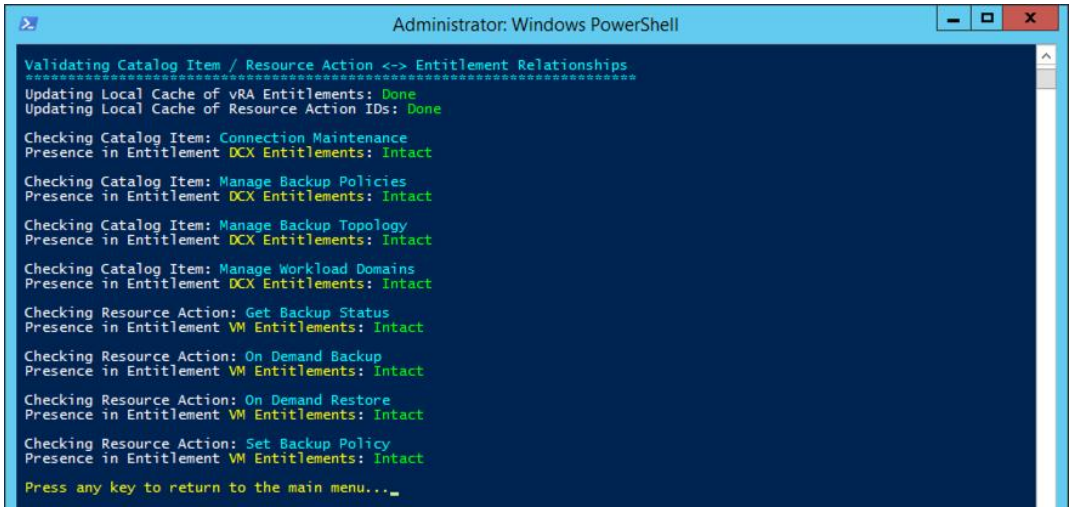

Figure 14. Validation option showing that all items and action in desired state

Troubleshooting

Unable to capture Entitlements

Symptom

If the tool stalls when 'Creating Local Cache of vRA Entitlements' (Option C) or 'Updating Local Cache of vRA Entitlements' (Option V or Option R) this is typically a symptom of failing to correctly accept the vRA and IAAS certificates during CloudClient initialization

Resolution

1. Exit the script
2. Remove or rename the %HOMEPATH%\.cloudclient folder
3. Re-run the script
4. Follow CloudClient initialization process
5. Re-try

Accidentally re-ran Option C after upgrade

Symptom

If Option C was re-ran after the upgrade and before the repair, then the local cache will represent the current state of the vRA entitlements and not be aware of the catalog items and resource actions that were previously part of the entitlements. Validation therefore will report everything as 'Intact'

Resolution

1. Exit the script
2. Archive the contents of the 'cache' folder within the CIER base folder
3. Copy files from the 'backup' folder within the CIER base folder to the 'cache' folder within the CIER base folder
4. Re-run the script
5. Re-try Validation

Note: The backup is taken once and once only at the very first capture (Option C). If changes were made to the vRA entitlements after this capture and before the upgrade, then restoring the backup may not produce the desired results. If changes were made to vRA entitlements after the initial capture and before the upgrade, and these changes need to be maintained, please follow steps outlined in Capturing Changed Entitlements before Upgrade

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