Prime Service Catalog: UCS Director Integration Best Practices

Importing Advanced Catalogs

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1 Introduction

1.1 Preface

This document is a set of best practices and guidelines regarding Prime Service Catalog and UCS Director integration.

This publication IS NOT a comprehensive deployment guide and Engineers should consult other Cisco documentation as appropriate for deployment against Cisco best practices.

1.2 Assumptions

Readers of this guide must be knowledgeable of Prime Service Catalog concepts and modules, especially Service Designer and Service Item Manager, as well as experience with USC Director.

1.3 Related Documents

You can find related documentation by going to the following:

- Prime Service Catalog documentation
- UCS Director documentation

2 Importing UCSD Advanced Catalogs

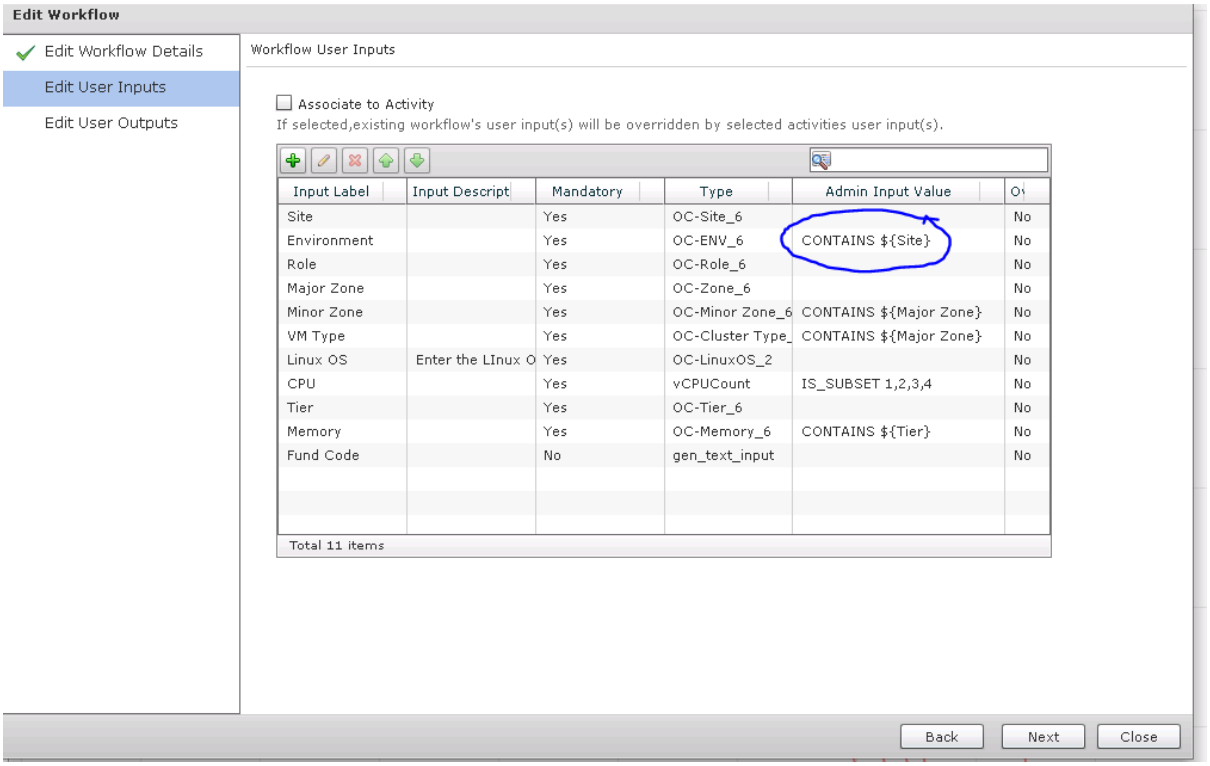
Prime Service Catalog (PSC) has the ability to import UCS Director (UCSD) Catalogs and automatically build the corresponding Services in PSC. This works well for UCSD Standard Catalogs, for Advanced Catalogs, more configuration is required. This section describes how to make Advanced Catalogs work with PSC.

2.1 UCSD Advanced Catalogs with List of Values and Filter functions

Advanced Catalogs in UCSD point to workflows. When Advanced Catalogs are imported in PSC, there are occasionally changes required to PSC Services in order for the Service to be orderable. This section describes best practices for the PSC Service modifications with UCSD Catalogs that use List of Values (LOVs) and Filters.

Figure 1 shows a UCSD workflow that has LOV's with Filter option.

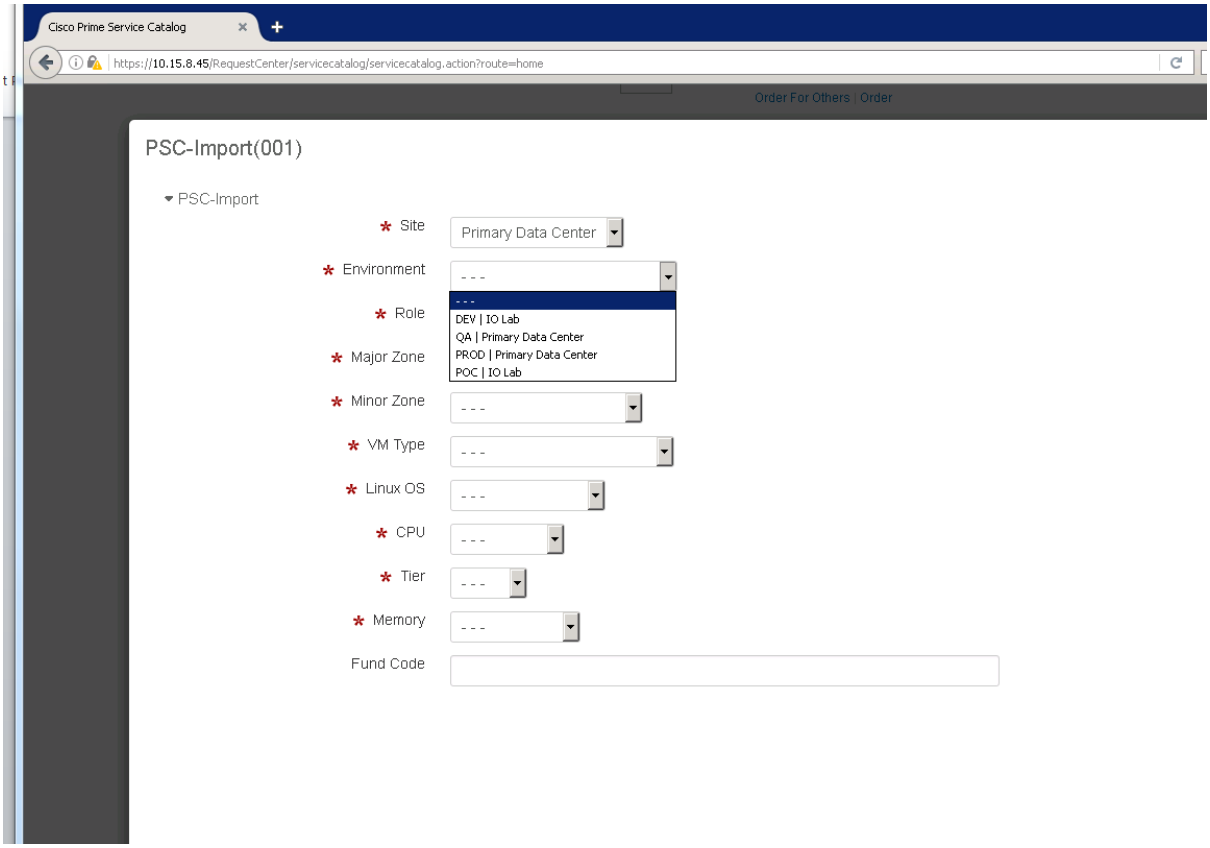
Figure 1 Workflow Input Properties with Filter



Without implementing the changes in this section, when the user runs the Services in PSC they will see all the options in the drop down list vs. just the one provided by the Filter option.

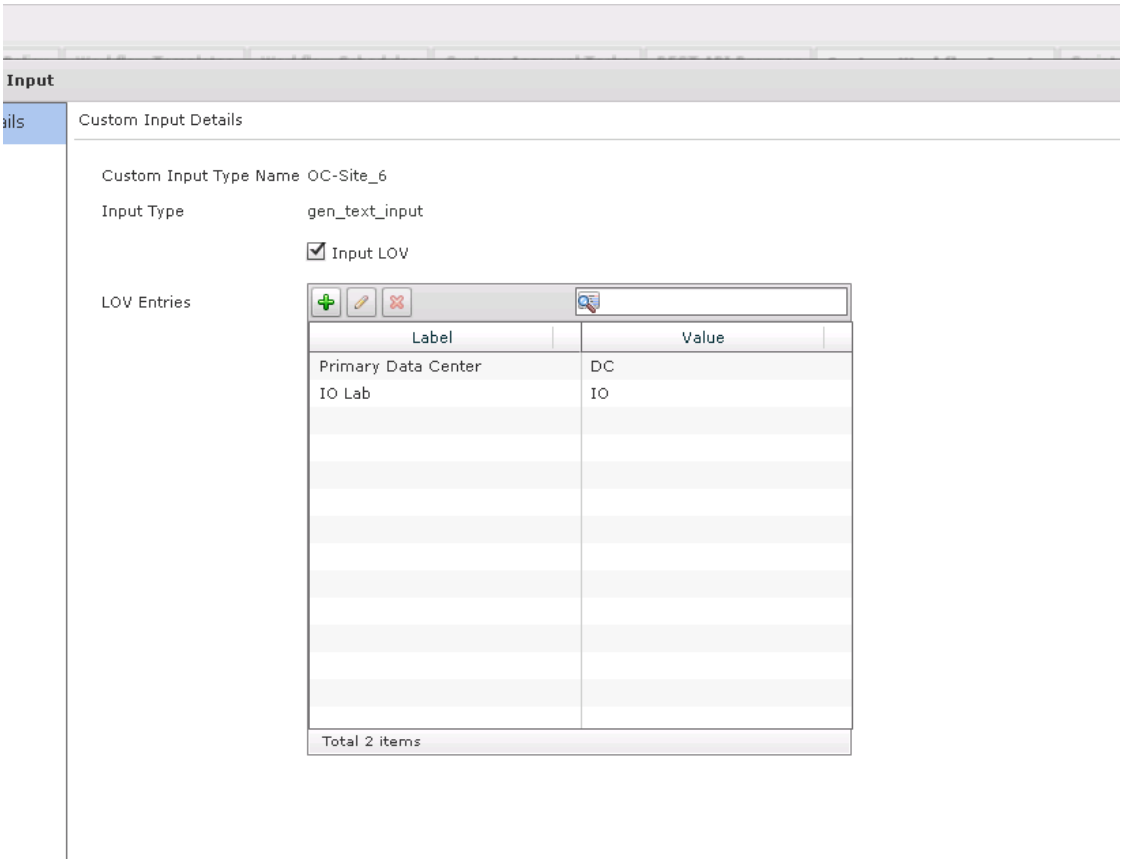
In the example shown in *Figure 2*, from the **Site** drop down the user selects **Primary Data Center**. The next drop down **Environments** should only display the options for the Primary Data Center (**QA** and **PROD**). However, it incorrectly displays additional options.

Figure 2 UCSD Service imported in to PSC with Filter Options



The first step to correct this issue is to take the LOVs in UCSD and create Service Standards in PSC. Any LOVs that use Filters must be together in the same Standards table. *Figure 3* shows two examples of UCSD LOVs that use Filters.

Figure 3 UCSD Data Center and Environment LOVs



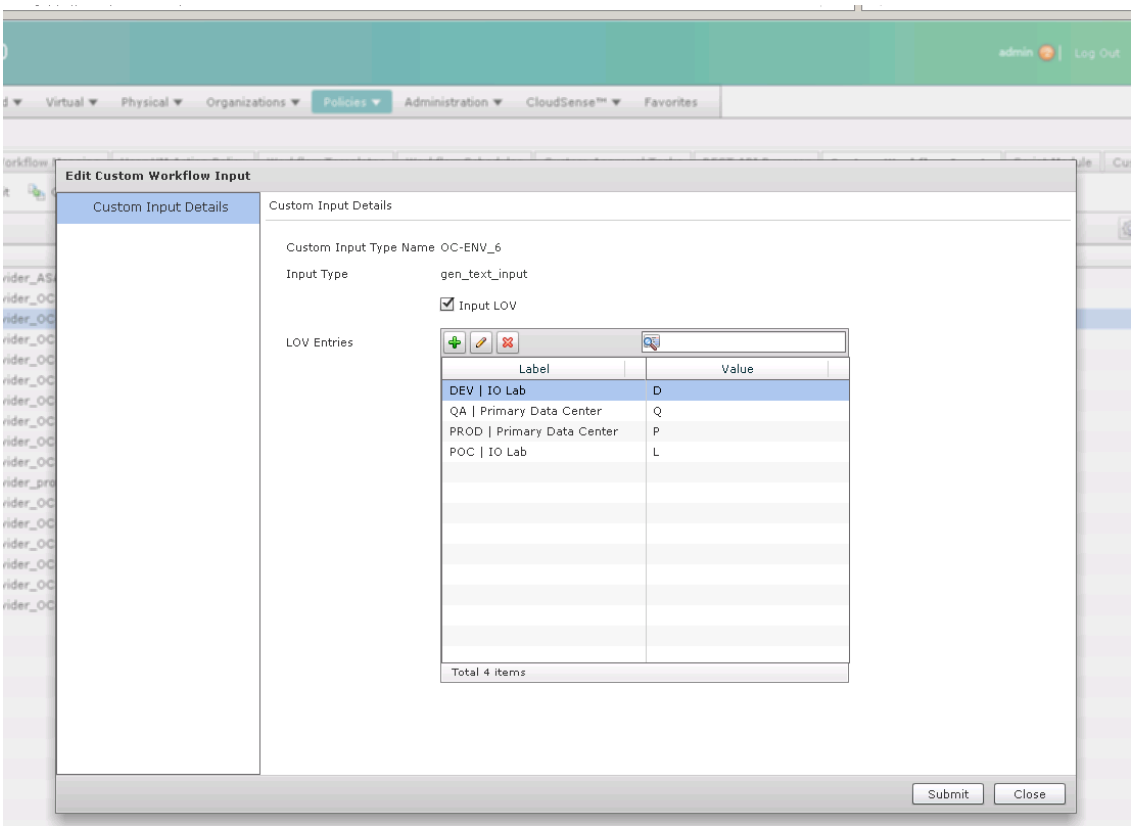
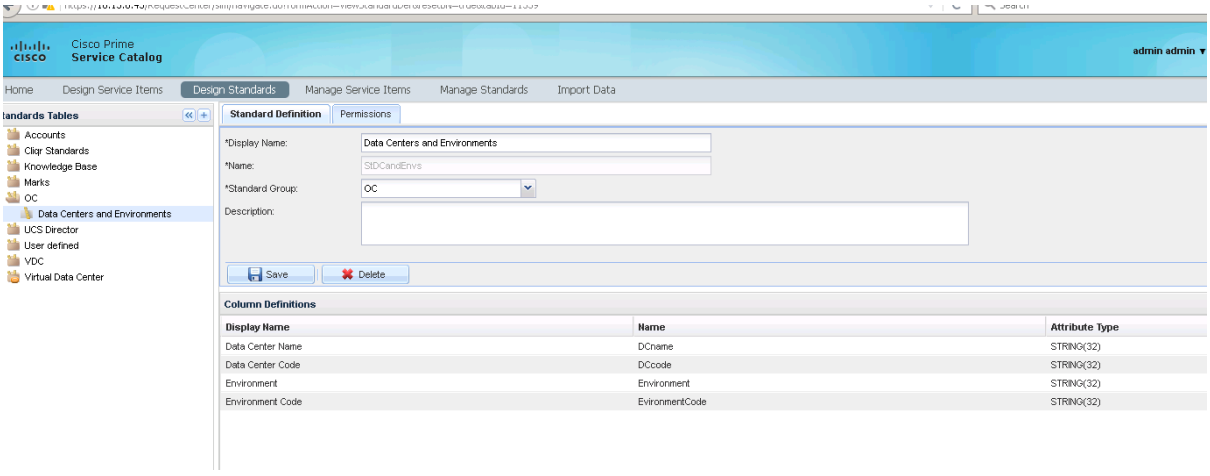


Figure 4 shows the PSC Service Standard definition for the two above LOVs. The Service Standards have both the display labels and the values as separate columns. It is important to have these values since this is what the UCSD Workflow is expecting as parameters it gets when it runs.

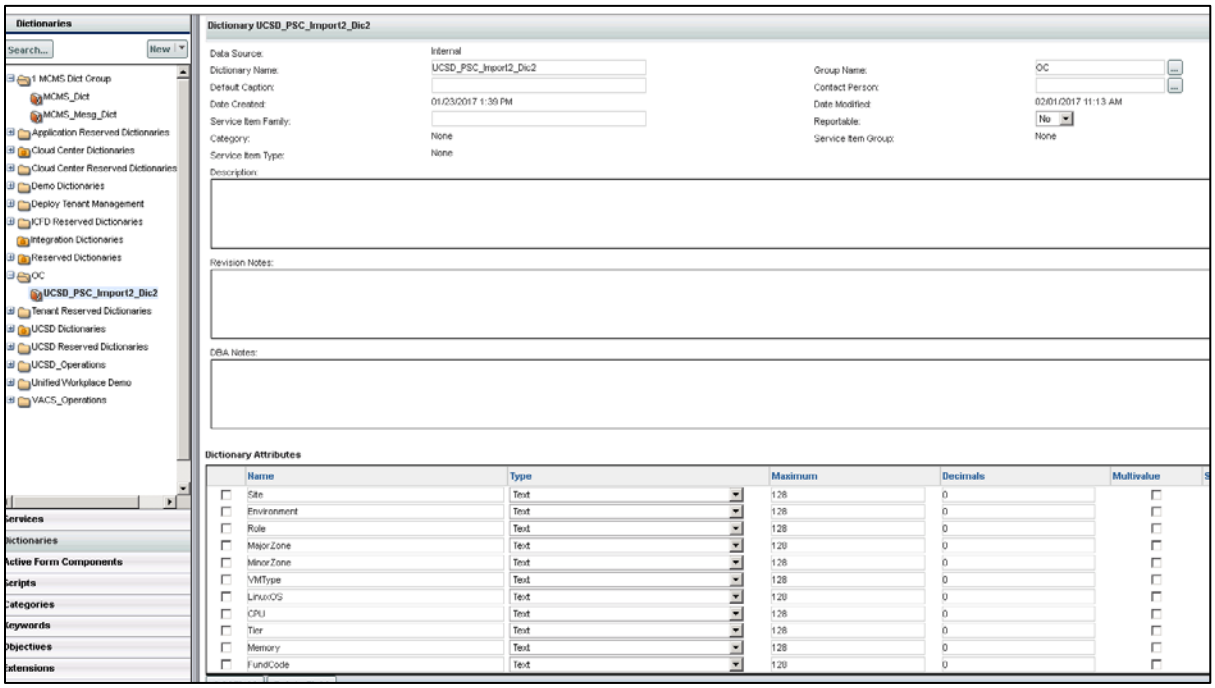
Figure 4 New PSC Service Standards for UCSD LOVs



The PSC Import process of the UCSD Advanced Catalogs will create a new Service. This Service will have a Form and Dictionary. The Dictionary determines what fields pass to UCSD during the workflow execution. A second Form and Dictionary is needed so new Rules can be developed to perform the

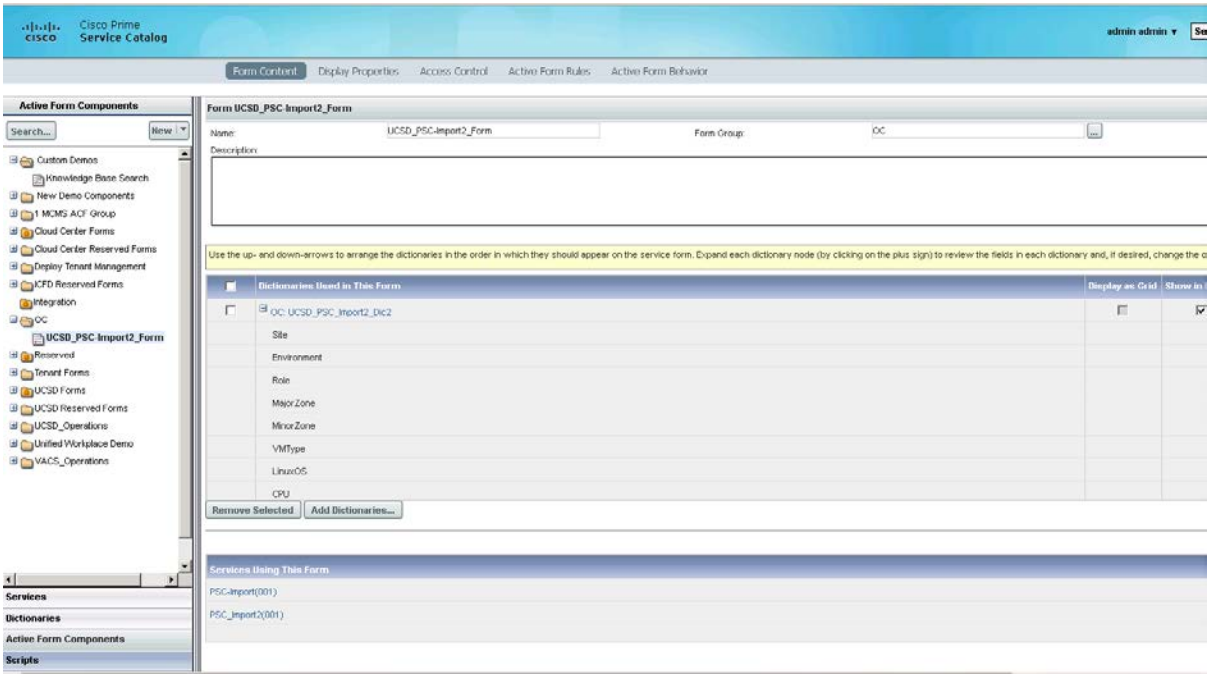
functions of the UCSD Filters. Go to the Dictionary Tab and create new Dictionary with the exact fields as the one generated from the import. See *Figure 5* below.

Figure 5 New PSC Dictionary



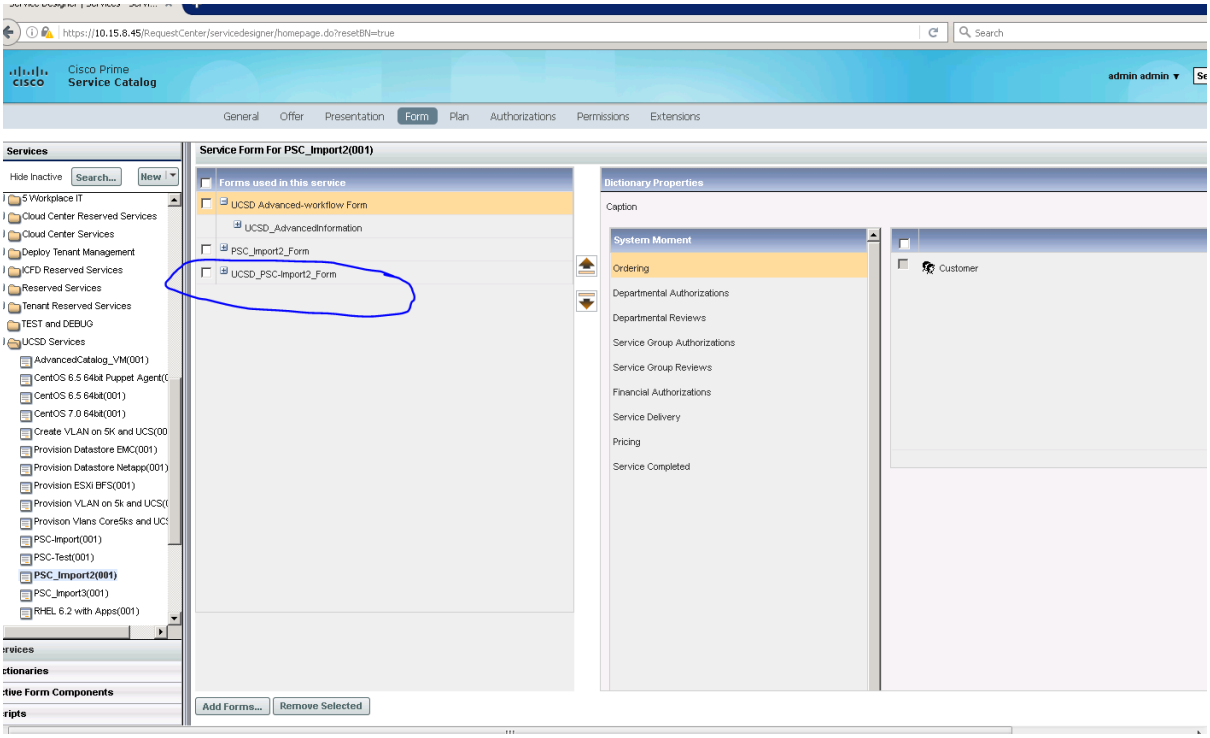
Once the Dictionary is created, a form can be created as in *Figure 6*.

Figure 6 New PSC Form



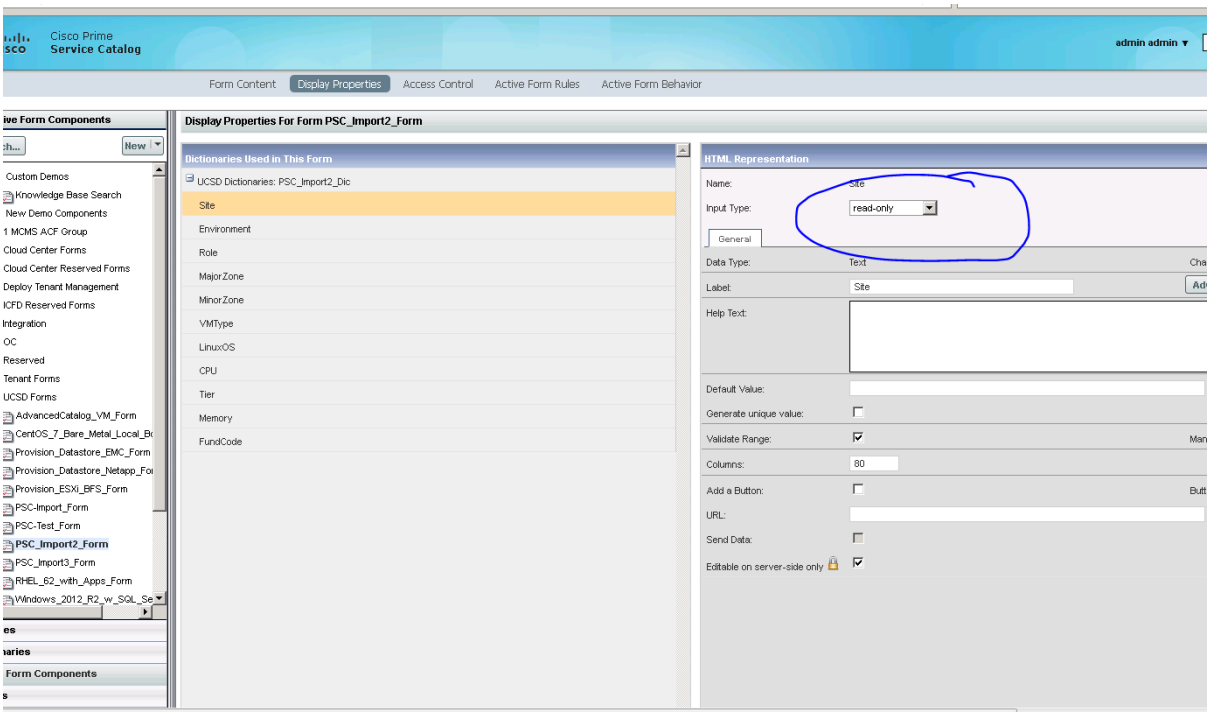
Find the Service created by the PSC import process and add this new form. The Service will be under a Folder called UCSD Services. The name of the Services will be the same as the Advanced Catalog name from UCSD with the UCSD connection ID appended at the end. On the Service go to the Form Tab and add the new Form (from *Figure 7*). It should look like *Figure 7*.

Figure 7 PSC Service with New Form



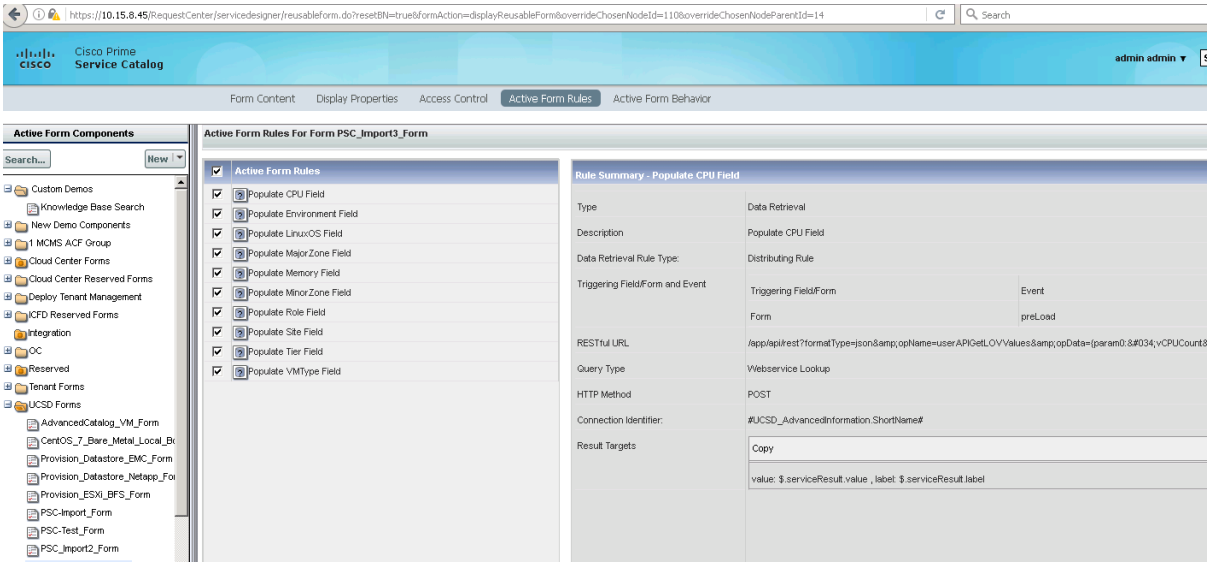
Go to the Form that created by the Import Service (*PSC_Import2*_Form in this example, as in *Figure 8*) and change the **Field Type** to **Read-only**.

Figure 8 Change field type to read-only



Go to the Active Form Rules tab and select all the Rules and the select **Delete Rule** as in *Figure 9*.

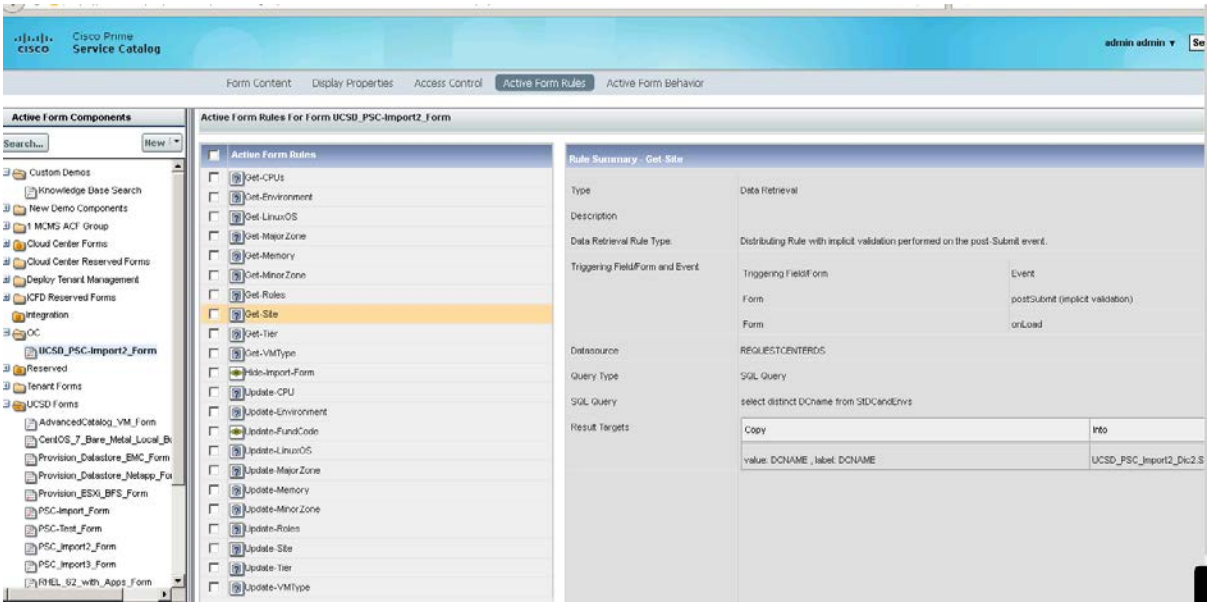
Figure 9 Delete Active Form Rules



This step is take create new Rules to display the LOV information. This Rule is to display information from a LOV where no Filters were used. Since the LOV values are now Service Standards, a Data Retrieval

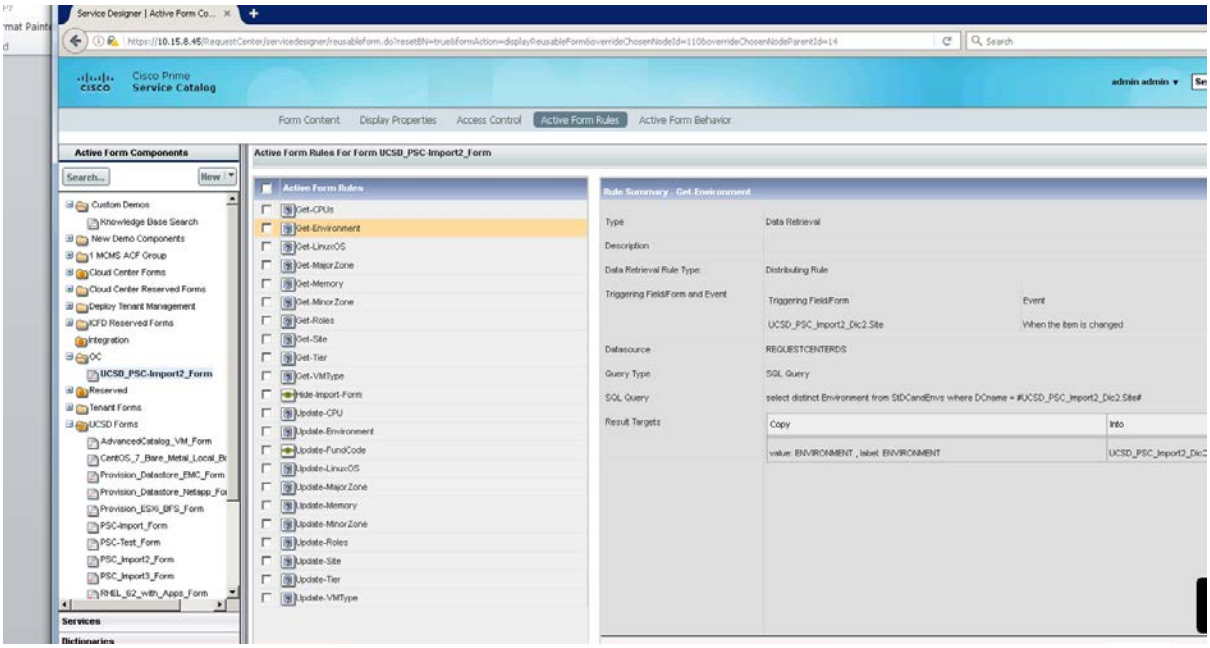
Rule can be used to display this information. The Rules are added to the new form that was created. *See Figure 10*.

Figure 10 Rule to Display LOVs information



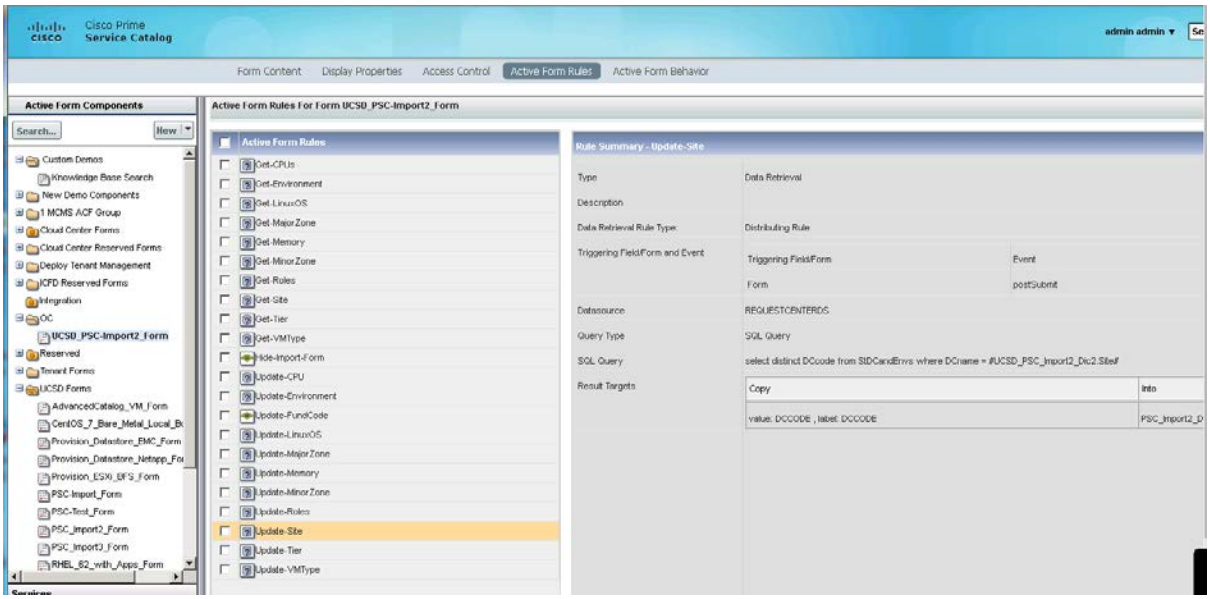
Data Retrieval Rules can also be used to display information that used Filters in UCSD (see *Figure 11*). This Rule will only display Environments in the Data Center that are selected in the previous field.

Figure 11 Rule to Display LOVs information that used Filters



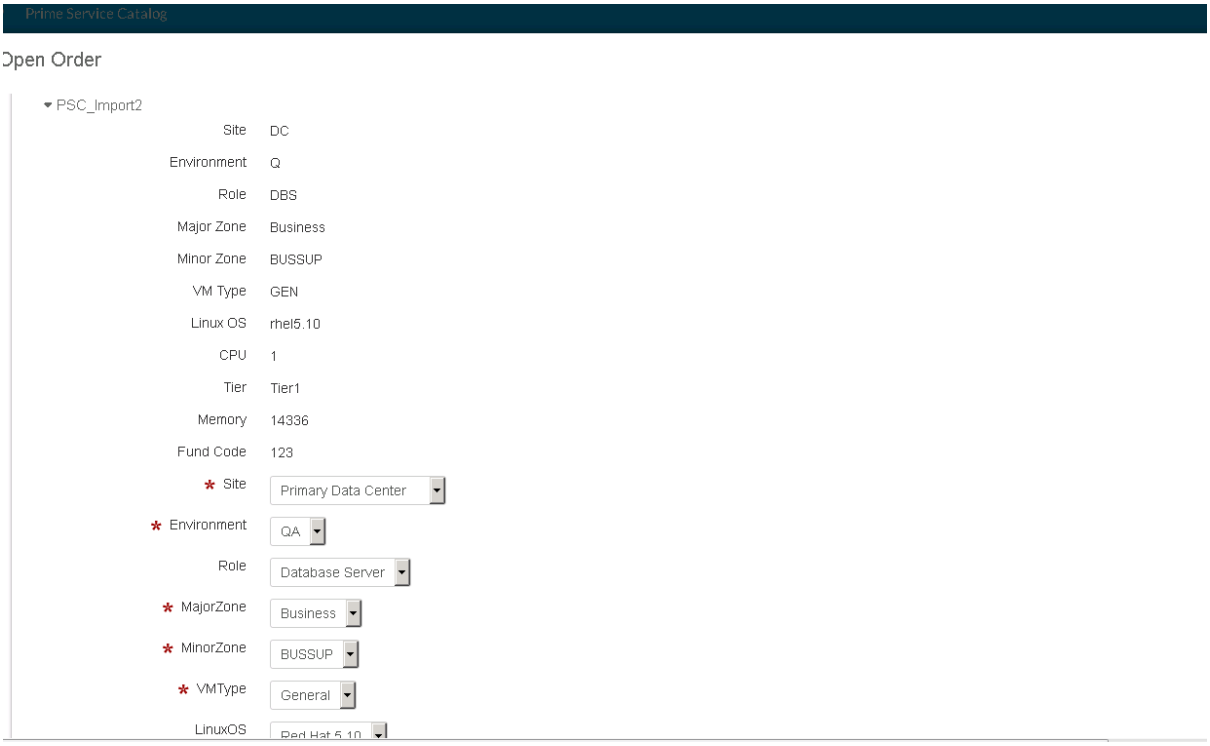
Rules are also needed to populate the Dictionary that was created by the import process. This rule is needed to take the data from the new Dictionary and update the Dictionary that was created from the import process. *See Figure 12*.

Figure 12 Rules to update Dictionary



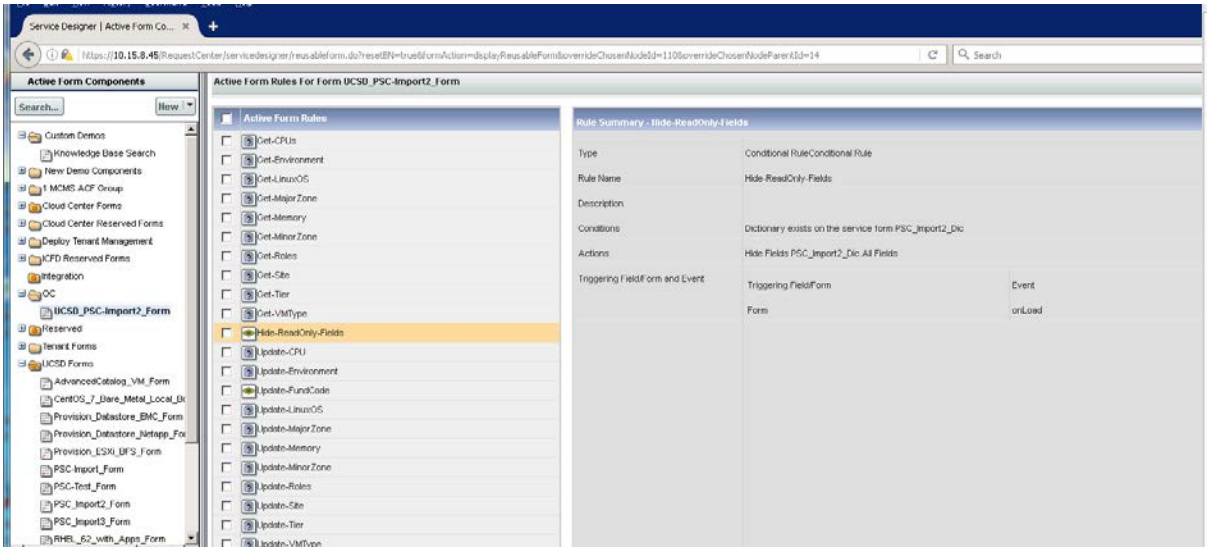
Once you submit the Service request, go to the Order Details view and verify that the correct values are passing to UCSD. These values will be in the read only fields, as in *Figure 13*.

Figure 13 Verifying Dictionary Values



The final step is to add a rule to hide the read-only fields from displaying to the user. See *Figure 14*.

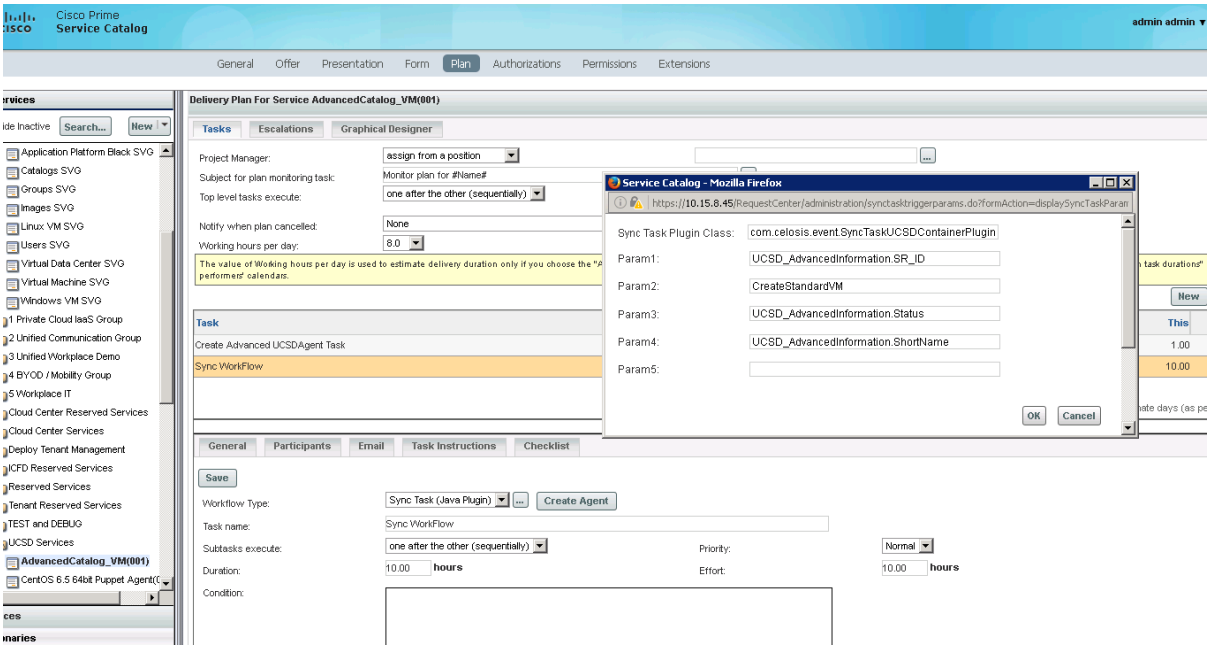
Figure 14 Rule to Hide Read Only Fields



2.2 Advanced Workflows that do VM Provision

There is an issue when Advanced Catalogs are imported in PSC as a Service where they do not put the VM in the correct User Group inside of PSC. When a user orders the Service and it completes, the new Server does not display in their Server List. The fix for this is go into the Service and select the **Plan** tab. Then select **Sync Worfklow** in the Task area and change the parameters to look exactly like the ones in *Figure 15*.

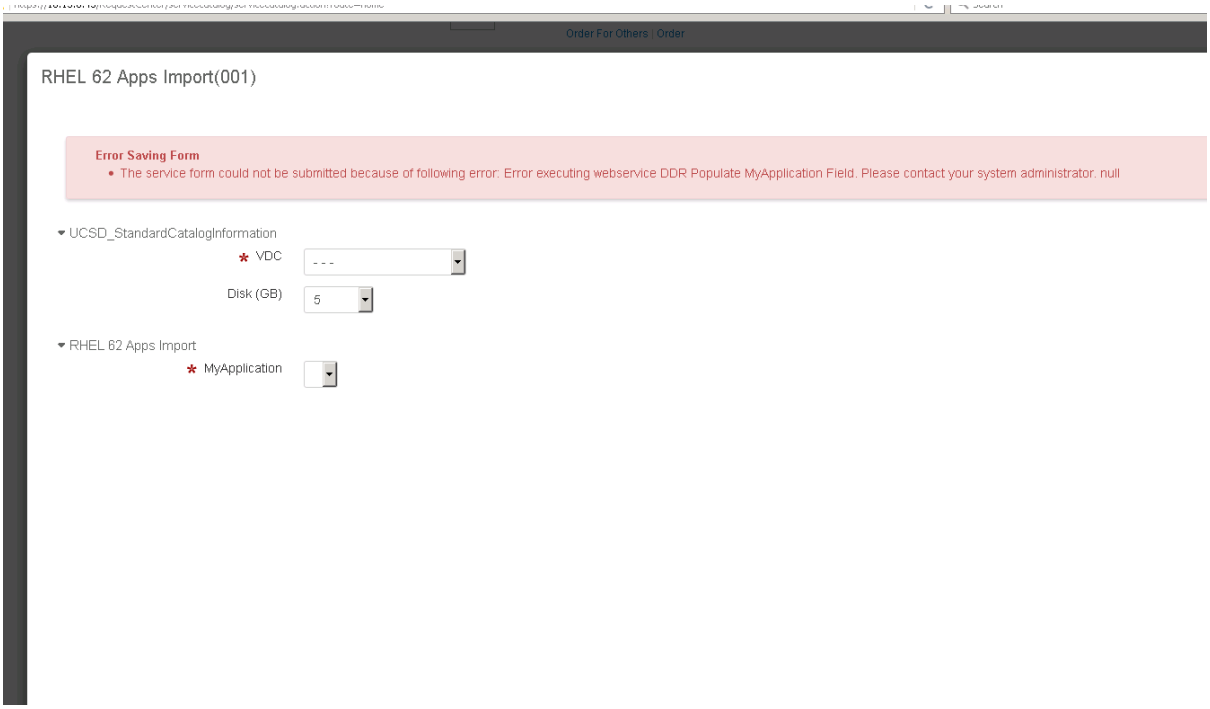
Figure 15 Delivery Plan Changes



2.3 Fixing Errors with LOVs

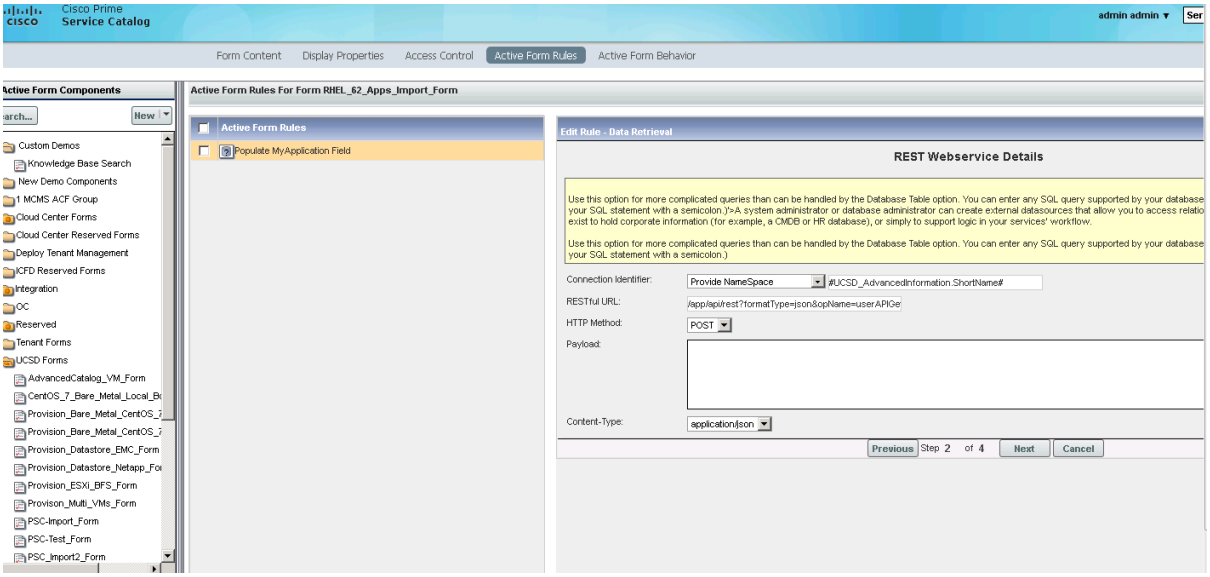
When running PSC services that use UCSD LOVs, you may encounter errors as in *Figure 16*.

Figure 16 Error when running service with UCSD LOVs



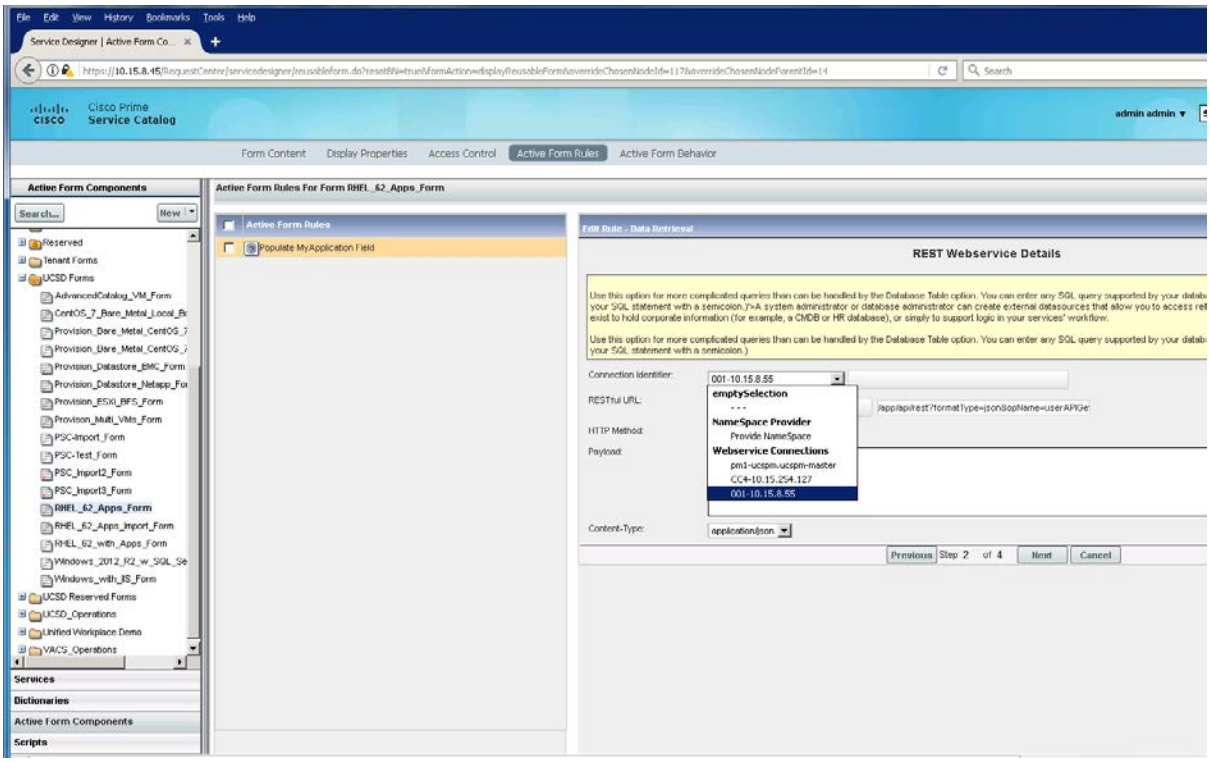
Fix these errors by modifying the Data Retrieval Rule for this LOV field. In this example, the **MyApplication** field is the LOV causing the error.This is the Data Retrieval Rule that needs to be changed. *See Figure 17.*

Figure 17 Data Retrieval Rule causing the error



This change ensures the **Connection Identifier** field has the UCSD connection selected

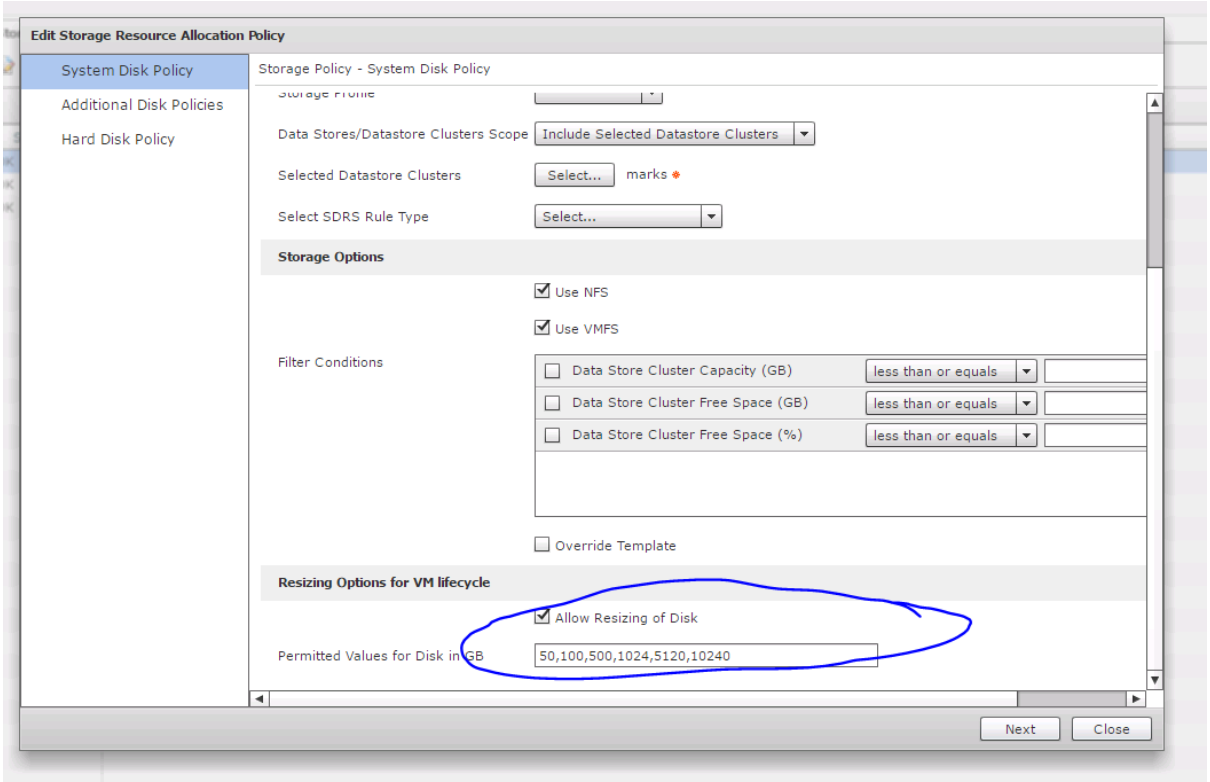
Figure 18 Data Retrieval Rule change



2.4 Standard Catalogs with Resize Disk Option

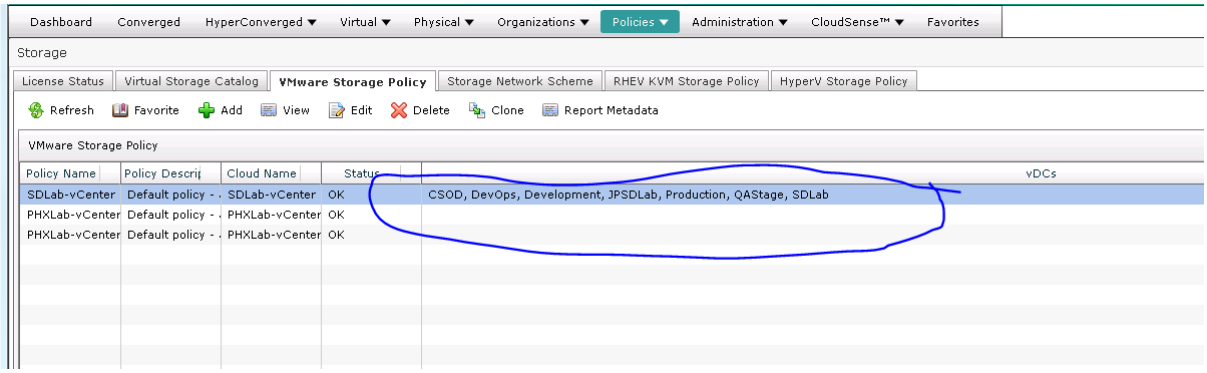
Standard Catalogs that use Storage Policies that allow disk resizing require adding new Standards like the ones for vCPU and Ram. The first step in doing this is to determine what is permitted in the Storage Policy. *See Figure 19*.

Figure 19 UCSD Storage Policy



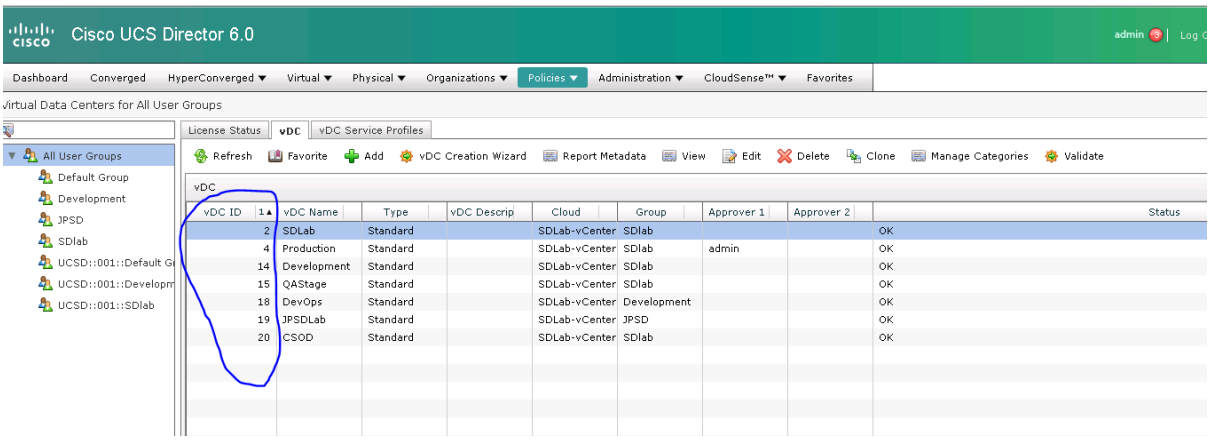
Next step is to determine the UCSD VDCs that use this storage policy. *See Figure 20*.

Figure 20 UCSD Storage Policy VDC Usage



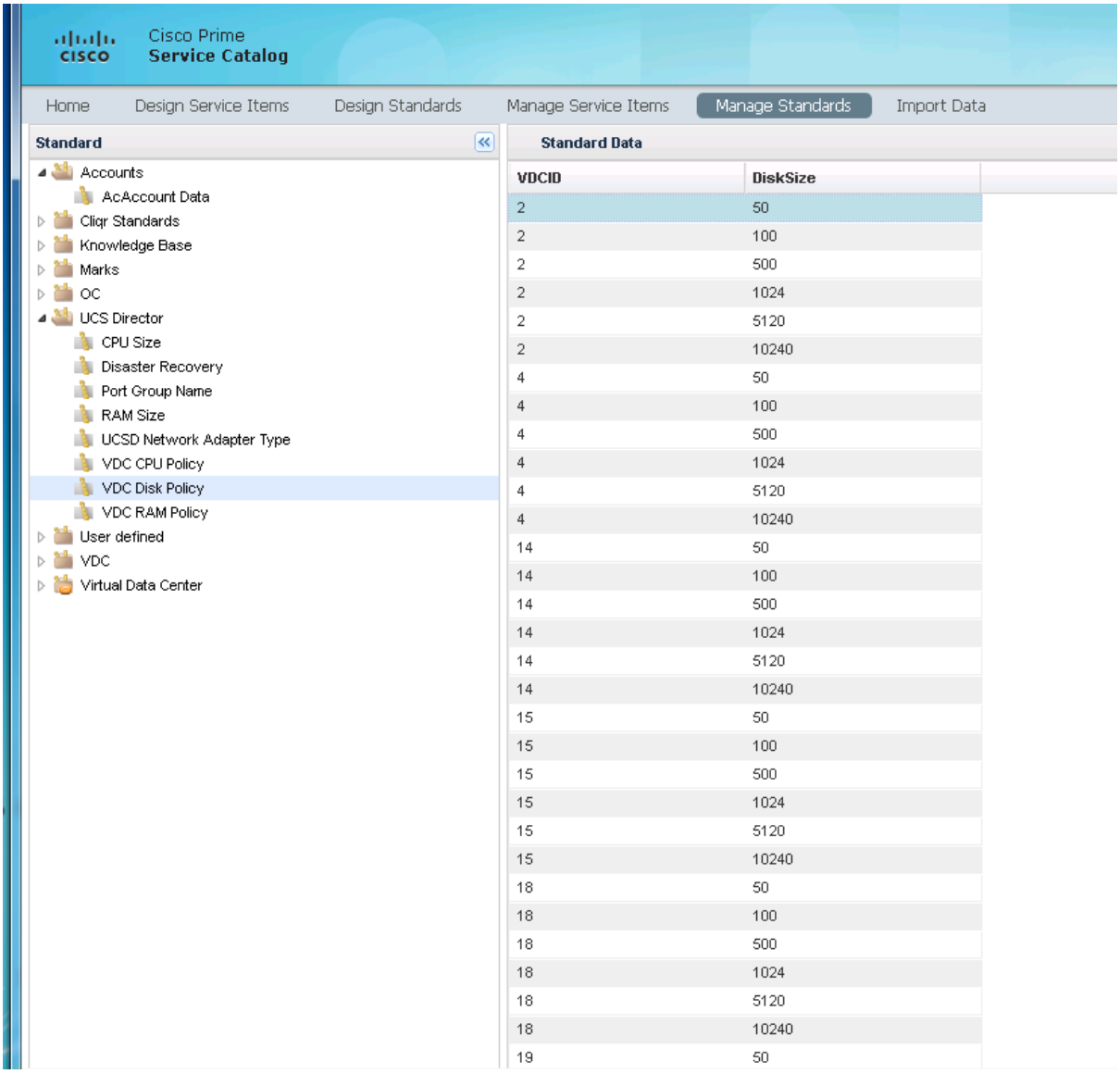
Next, determine the VDC IDs. *See Figure 21*.

Figure 21 UCSD VDC IDs



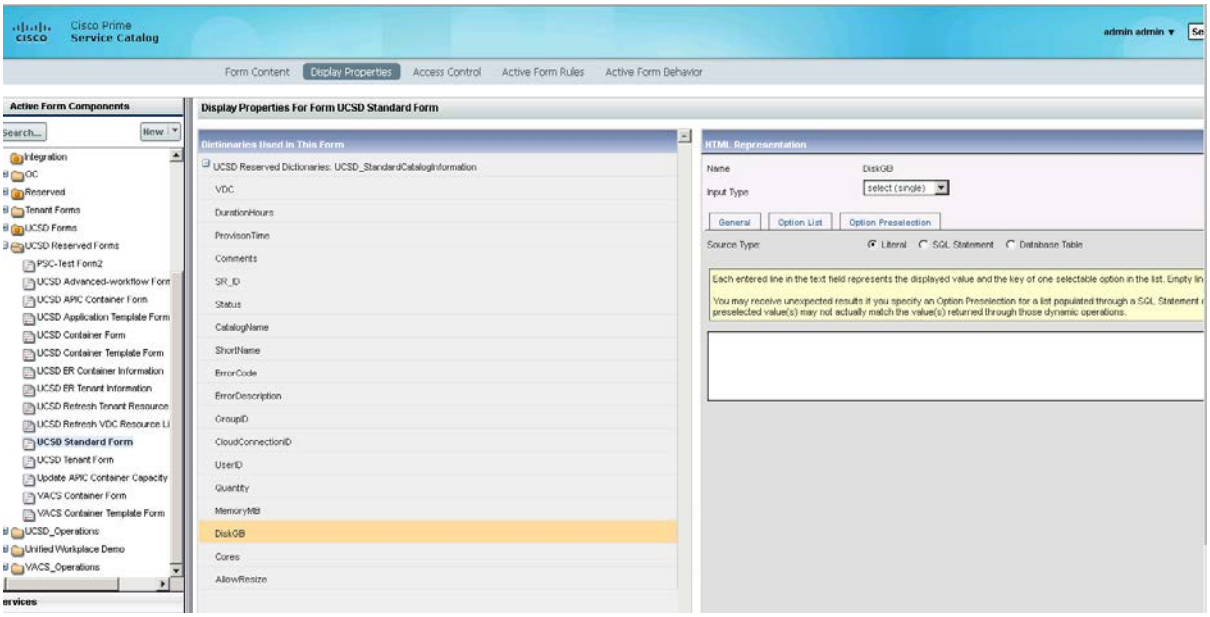
Next, build the table for the Disk Sizes in PSC. Create an entry for each VDC and the corresponding permitted disk resize values. *See Figure 22*.

Figure 22 PSC Standard Table for Disk Sizes



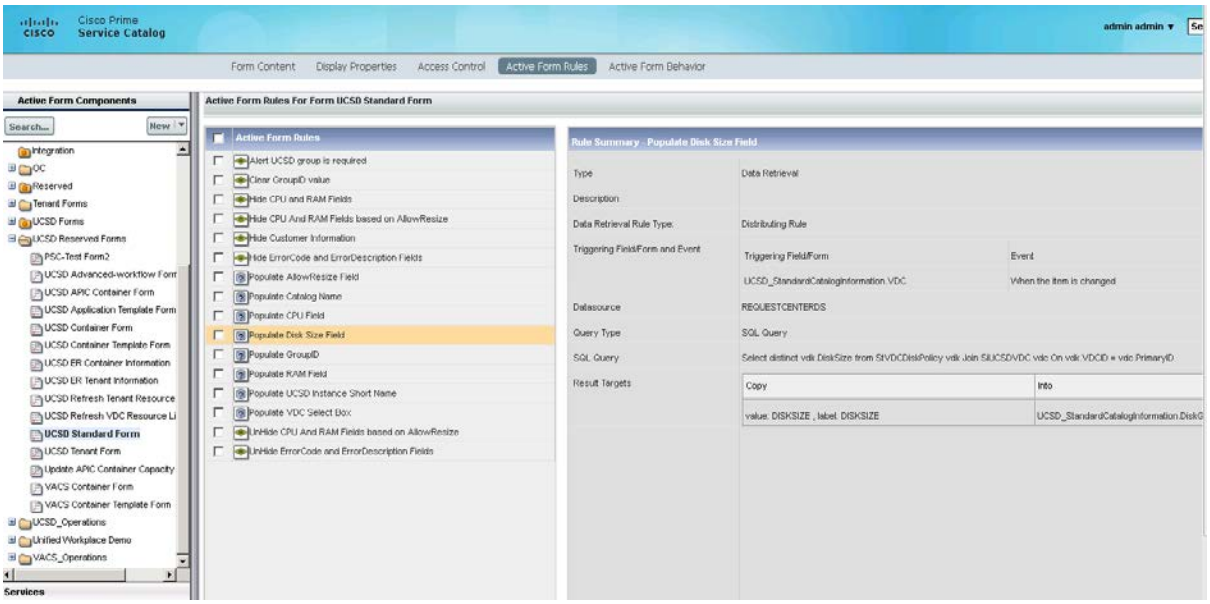
Next, go to the **Active Forms Component** for the Standard Catalog. This will be under a folder called *UCSD Reserved Forms*. There you should see the Form called *UCSD Standard Form*. Go to the Display Properties and select the **DiskGB** field. Select the **Options List** tab and ensure there are no values listed. See *Figure 23*.

Figure 23 PSC UCSD Standard Form DiskGB Field



The final step is to create the Data Retrieval Rule to get the disk size information. See *Figure 24*.

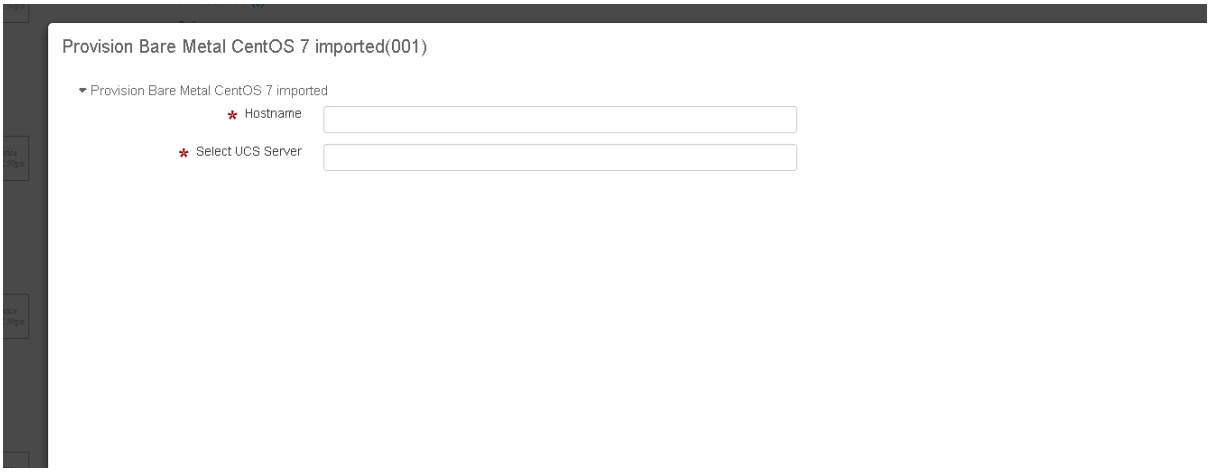
Figure 24 PSC Data Retrieval Rule for Disk Size



2.5 UCSD Catalogs Using Different UCSD Field Types

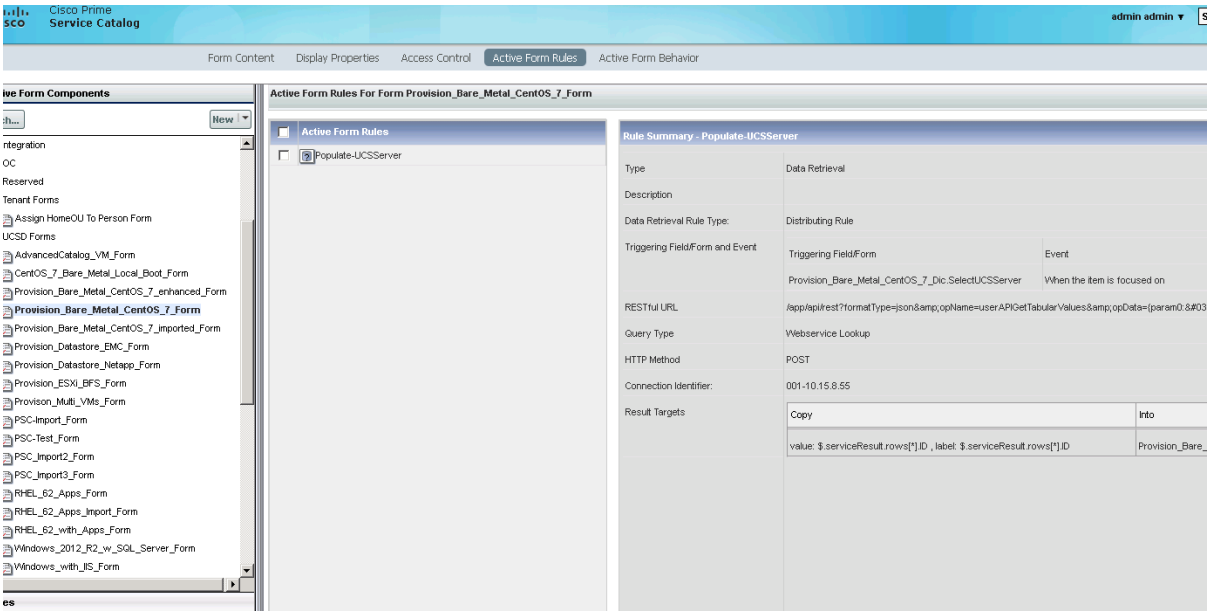
The PSC import process only handles certain field types such a Generic Text Input, Boolean Input and LOVs. This section describes how to handle other UCSD field types. This example uses a UCSD Catalog that allows the user to select which UCSD Server is in the workflow. *Figure 25* shows a UCSD Catalog imported into PSC and uses UCSD field type

Figure 25 Imported USCD Catalog Using USCD Field Type



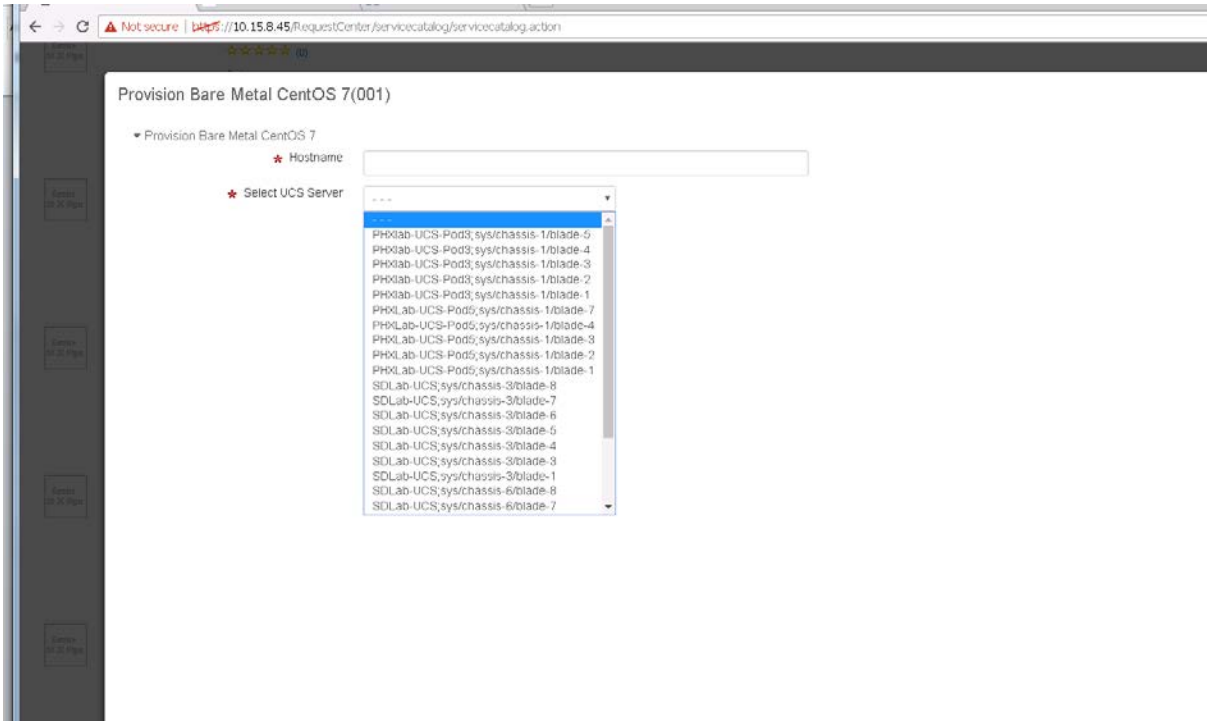
To fix this, go into the PSC Form and make changes to the Data Retrieval Rule. This Rule is named like the field name. In this example, the field name is *Select UCS Server* and the Rule in PSC is *Populate-UCS Server*. Ensure the **Result Targets** field matches the field you want shown in the drop down and the value the UCSD workflow will get. *Figure 26* shows this example, which uses the ID field.

Figure 26 PSC Populate-UCS Server Rule



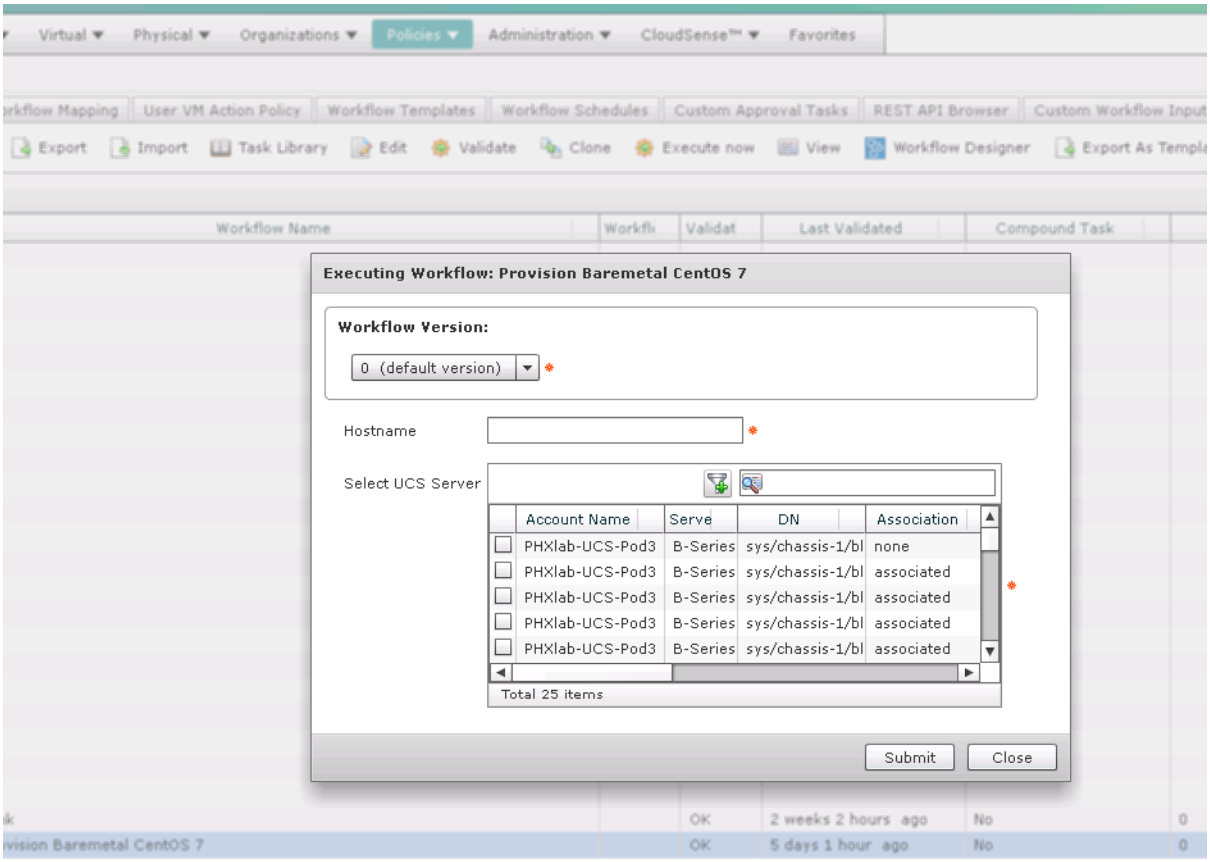
Now when the user selects the PSC Service they should get the drop down list as shown in *Figure 27*.

Figure 27 PSC Service Drop Down List Result



This solution may not be optimal because it is not clear which server is available in this list. When the user selects the Catalog in UCSD, they get a list of servers and the status of the servers. The Association field displays whether the server is currently used. See *Figure 28*.

Figure 28 UCSD Association Field Showing Server Use



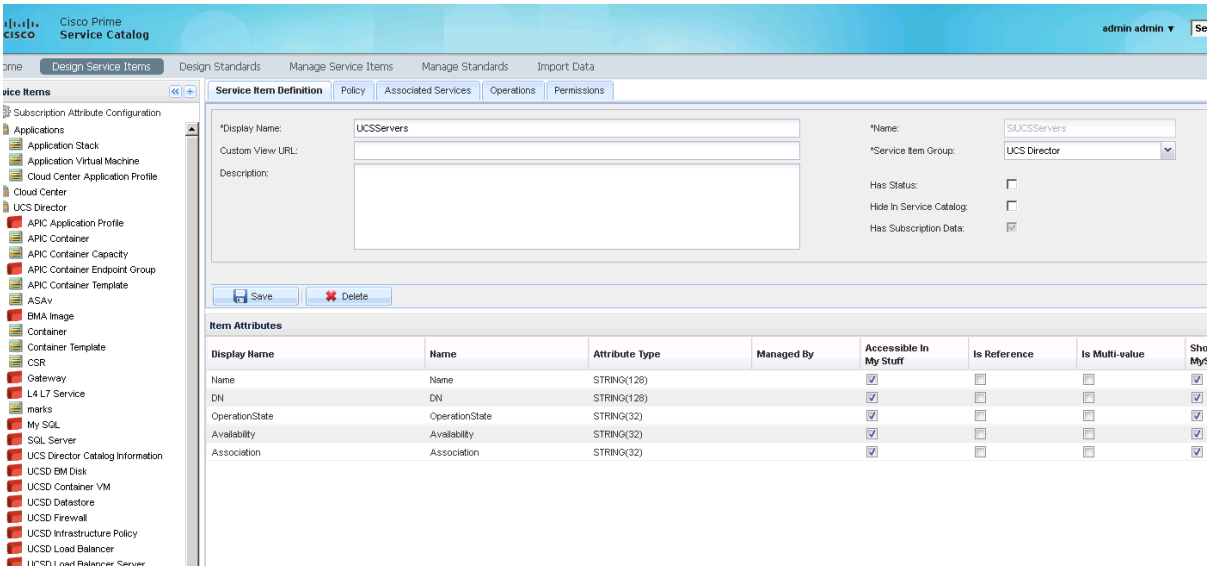
The solution is to provide a PSC service that will display the list of servers and their status. See *Figure 29*.

Figure 29 Provide a PSC Service to Display Server List and Status

To do this, create Service Item definitions for the fields you want to display for this server. This field must match fields that are available in UCSD. In this example, we will be capturing five fields Name, DN,

Operation State, Availability and Association. *Figure 31* shows what the Service Item definition would look like.

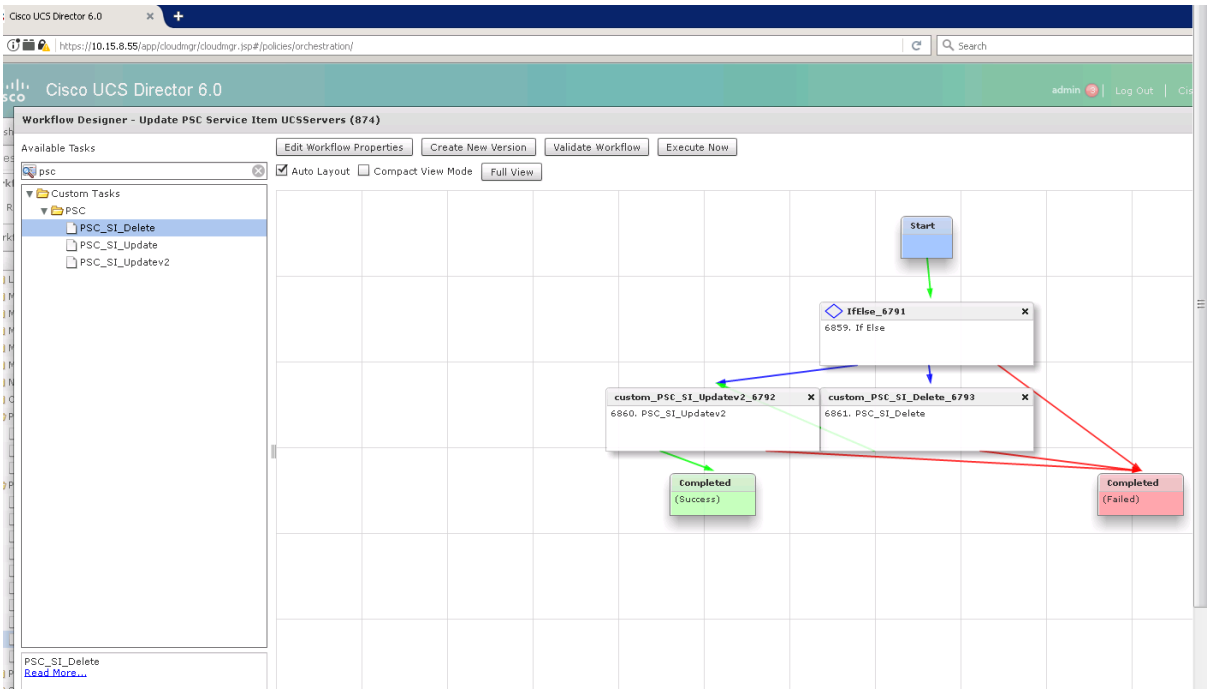
Figure 30 Service Item Definition for Fields to Display to User



Now we need a way to populate the Service Item with data from UCSD. For this, we need a UCSD Workflow that can call the PSC API to update the field with data. *Figure 31* shows the workflow.

Note: *The workflow will be posted on the Cisco Communities web site for UCS Director Workflows.*

Figure 31 Workflow to Call PSC API to Update Field Data



The workflow should be scheduled to run every 20 minutes or so to ensure PSC is in sync with UCSD Data.

The workflow is available and can be downloaded from the UCS Director Workflow Communities site at https://communities.cisco.com/docs/DOC-72289.

Figure 32 PSC Service Items After Workflow has Run.

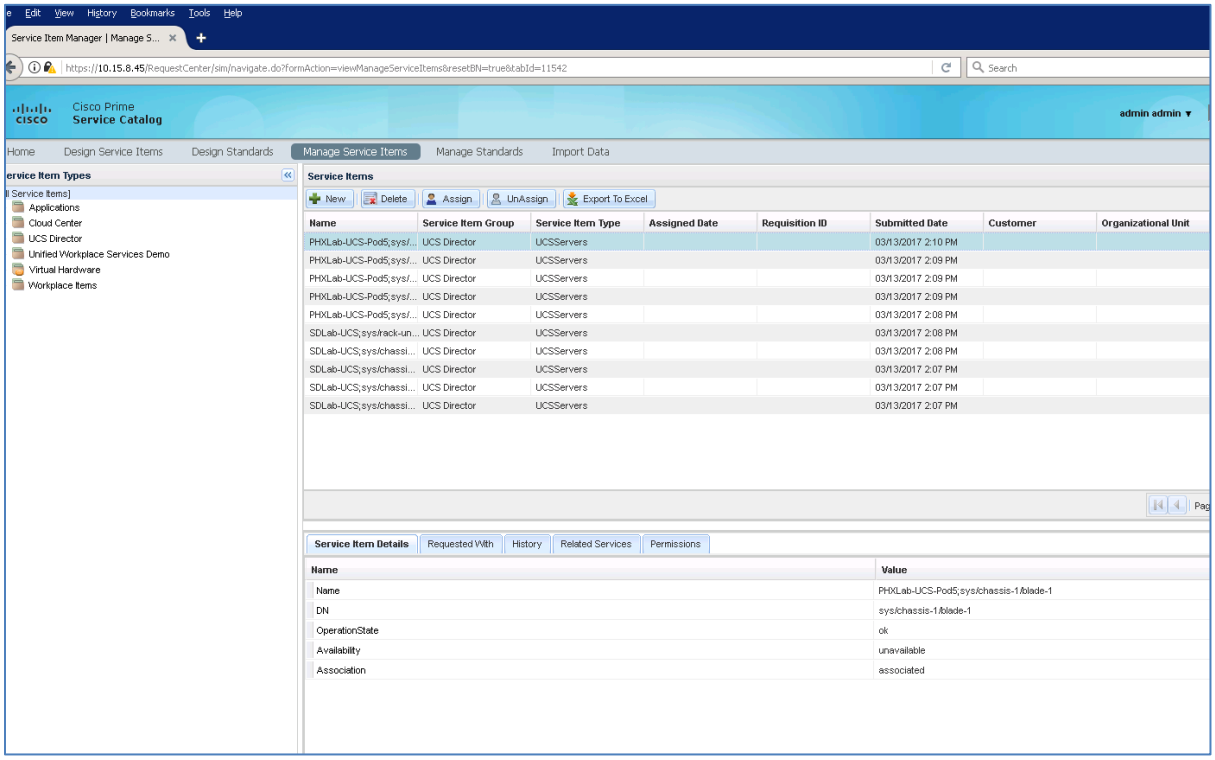
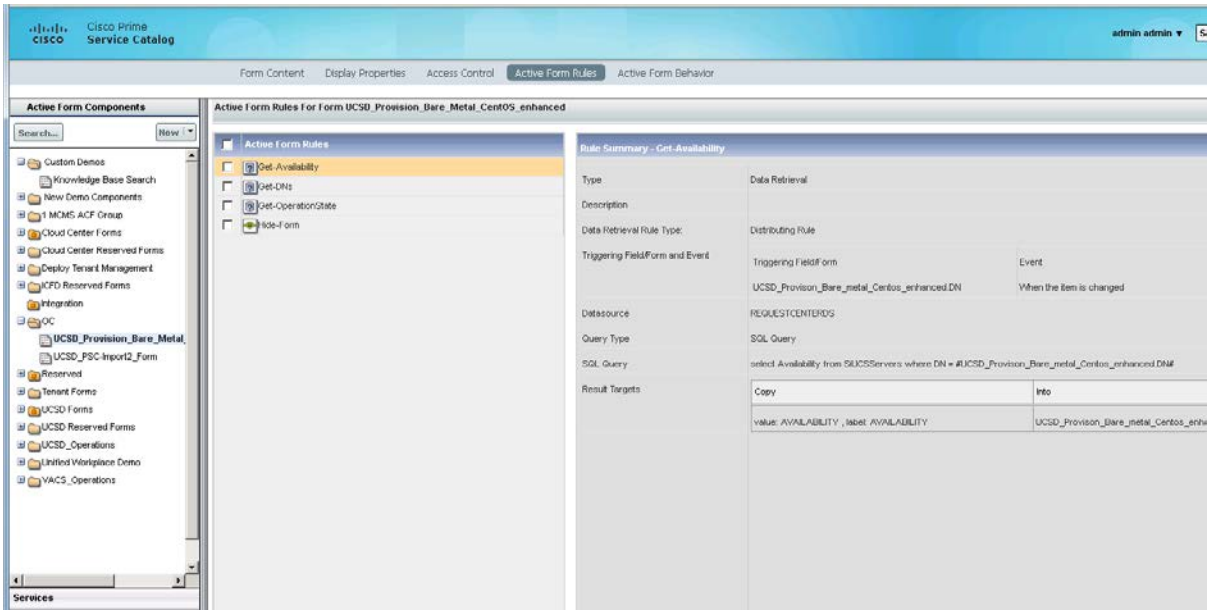


Figure 33 PSC Data Retrieval Rules for UCS Service Items



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