

## Prime Service Catalog: UCS Director Integration Best Practices

## **Importing Advanced Catalogs**

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# Contents

CONTENTS	. 2
1 INTRODUCTION	. 3
1.1 Preface 1.2 Assumptions 1.3 Related Documents	. 3
2 IMPORTING UCSD ADVANCED CATALOGS	. 4
2.1 UCSD Advanced Catalogs with List of Values and Filter functions         2.2 Advanced Workflows that do VM Provision         1         2.3 Fixing Errors with LOVs         1         2.4 Standard Catalogs with Resize Disk Option         1         2.5 UCSD Catalogs Using Different UCSD Field Types	15 16 18
APPENDIX - A	28
TRADEMARKS AND DISCLAIMERS	29

## **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.

Edit Workflow Details	Workflow User Inputs					
Edit User Inputs						
Edit User Outputs	Associate to Ac If selected,existing		put(s) will be over	ridden by selected a	activities user input(s).	
	<b>+ × ×</b>					
	Input Label	Input Descript	Mandatory	Туре	Admin Input Value	04
	Site		Yes	OC-Site_6		No
	Environment		Yes	OC-ENV_6	CONTAINS \${Site}	No
	Role		Yes	OC-Role_6		No
	Major Zone		Yes	OC-Zone_6		No
	Minor Zone		Yes	OC-Minor Zone_6	CONTAINS \${Major Zone}	No
	VM Type		Yes	OC-Cluster Type	CONTAINS \${Major Zone}	No
	Linux OS	Enter the LInux O	Yes	OC-LinuxOS_2		No
	CPU		Yes	vCPUCount	IS_SUBSET 1,2,3,4	No
	Tier		Yes	OC-Tier_6		No
	Memory		Yes	OC-Memory_6	CONTAINS \${Tier}	No
	Fund Code		No	gen_text_input		No
	Total 11 items					

#### 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.

ne Service Catalog × +		
https://10.15.8.45/RequestCenter/servicecatalog/servicecatalo		C
PSC-Import(001)		
🗙 Site	Primary Data Center 🔻	
★ Environment	<b>•</b>	
* Role	DEV   IO Lab	
* Major Zone	QA   Primary Data Center PROD   Primary Data Center POC   To Lab	
★ Minor Zone	•	
\star VM Туре	···· •	
🗙 Linux OS	···· •	
🗙 CPU	•	
* Tier	•	
\star Memory		
Fund Code		

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.

Input				
ils	Custom Input Details			
	Custom Input Type Nam	e OC-Site_6		
	Input Type	gen_text_input		
		🗹 Input LOV		
	LOV Entries	🗣 🖉 🐹		
		Label	Value	
		Primary Data Center	DC	
		IO Lab	IO	
		Total 2 items		

Figure 3 UCSD Data Center and Environment LOVs

Custom Workflow Inpu	1	·		V	 
Custom Input Details	Custom Input Details				
	Custom Input Type	e Name OC-ENV_6			
	Input Type	gen_text_input			
		Input LOV			
	LOV Entries	💠 🥒 🔀			
		Label	Value		
		DEV   IO Lab	D		
		QA   Primary Data Center	Q		
		PROD   Primary Data Center	Р		
		POC   IO Lab	L		
		Total 4 items			
		rotal riterio			

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 state of the s	ocontor/sin/nanyato.uon orma	culor — viewordi rudi rubei di eserbiti — ri dedirabito — 11009		× I V Joardi
Cisco Prime Cisco Service Catalog				admin admin 🔻
Home Design Service Items	Design Standards M	anage Service Items Manage Standards Impo	rt Data	
landards Tables	K + Standard Definition	n Permissions		
Mccounts Cliqr Standards	*Display Name:	Data Centers and Environments		
🏙 Knowledge Base	*Name:	StDCandEnvs		
뉄 Marks	*Standard Group:	oc 💌		
OC Data Centers and Environments	Description:			
UCS Director				
🏙 User defined				
M VDC	Save	X Delete		
뉞 Virtual Data Center	C Save			
	Column Definition	3		
	Display Name		Name	Attribute Type
	Data Center Name		DCname	STRING(32)
	Data Center Code		DCcode	STRING(32)
	Environment		Environment	STRING(32)
	Environment Code		EvironmentCode	STRING(32)

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
--------	---	-----	-----	------------

Dictionaries	Diction	ry UCSD_PSC_Import2_Dic2								
Search New 💌	Data So	di 00.	Internal UCSD_PSC_Import	12 Dic 2			Concer Manage		oc	
🗏 😋 1 MCMS Dict Group 🗕	Default	· · · · · · · · · · · · · · · · · · ·	ocao_rac_mpon	12_07/2			Group Name: Contact Person:		~	
MCMS_Dict	Date Cr		01/23/2017 1:39 Pt	M			Date Modified		02/01/2017 11:1	
MCMS_Mesg_Dict		tem Family:					Reportable:		No 💌	
Application Reserved Dictionaries	Categor		None				Service Item Group:		None	
Cloud Center Dictionaries		tem Type:	None							
Cloud Center Reserved Dictionaries	Descrip									
3 Con Dictionaries										
B Deploy Tenant Management										
CFD Reserved Dictionaries										
Integration Dictionaries										
3 Ceserved Dictionaries	Revisio	h Notes:								
30g0C										
UCSD_PSC_Import2_Dic2										
B CTenant Reserved Dictionaries										
B 📴 UCSD Dictionaries										
CSD Reserved Dictionaries	DBA No	tes:								
CSD_Operations										
Control Unified Workplace Demo										
B WACS_Operations										
_	Dictiona	ry Attributes								
		Name		Туре		Max	ximum	Decimals		Multivalue S
		Site		Text		128	}	0		
Services		Environment		Text	¥	128		0		
		Role		Text	×	128		0		
lictionaries		MajorZone		Text	¥	128		0		
Active Form Components		MinorZone		Text	-	128		0		
ieripts		VMType		Text	<u> </u>	128		0		
Categories		LinuxOS		Text	*	128		0		
leywords		CPU		Text		128		0		
-		Tier		Text	-	128		0		
objectives		Memory		Teot	<u> </u>	128		0		
ixtensions		FundCode		Text	<u>×</u>	128	1	ų.		

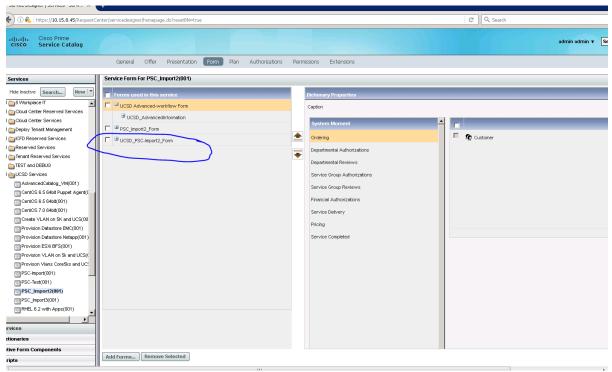
Once the Dictionary is created, a form can be created as in Figure 6.

Control Monogener      Control Monogener	Nume:       UCSD_PSC.deport2_Form       Form Group:       OC       Image: Comparison of the second seco		Form Content D	splay Properties Access Control Active Form Rules	Active Form Behavior		
Cutor Denos Cutor	nos       in the number of the numer of the numer of the numer of the numer of the numbe	Active Form Components	Form UCSD_PSC-Import2_	Form			
Implying Transt Wanagement         Im	ver Monagener edel Forns sc. kenord2_Form sc.	Custom Demos     Moviedge Base Search     Demo Components     Demo Components     Demo Korr Group		UC5D_PSC4mport2_Form	Porm Group:	joc	
Bydesyndo     Co	SC Import2_Form ss  sc Import2_Form ss		Use the up- and down-arrow	rs to arrange the dictionaries in the order in which they should ap	spear on the service form. Expand each dictionary no	de (by clicking on the plus sign) to review th	e fields in each dictionary and, if desired, chang
Image: Second	SC Import2_Form	B CFD Reserved Forms	Dictionaries Us	and in This Form			Display as: Grid Sh
Services Using This Form	Consider Union This form	CC     CO     CO	Site Enveronment Rolin Mejor Zone VMType Linux05 CPU				
b         PSC-mport(001)           ctionaries         PSC_import(001)	PSC-import(001)		PSC-Import(001)	).			

#### 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*.





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

Cisco Prime sco Service Catalog					admin admin 🔻 [
	Form Content Display Properties Access Control Active Form Rules A	ctive Form Behavio	or		
ive Form Components	Display Properties For Form PSC_Import2_Form				
h New 💌	Dictionaries Used in This Form	<u>~</u>	HTML Representation		
Custom Demos	UCSD Dictionaries: PSC_Import2_Dic		Name:	Site	
Knowledge Base Search New Demo Components	Ste		Input Type:	read-only 💌	
1 MCMS ACF Group	Environment		General		
Cloud Center Forms Cloud Center Reserved Forms	Role		Data Type:	Text	Cha
Deploy Tenant Management	MajorZone		Label:	Site	Ad
ICFD Reserved Forms Integration	MinorZone VMType		Help Text:		
OC	LinuxOS				
Reserved	CPU				
Tenant Forms UCSD Forms	Tier		Default Value:		
AdvancedCatalog_VM_Form	Memory		Generate unique value:		
CentOS_7_Bare_Metal_Local_Bo	FundCode		Validate Range:	<b>N</b>	Man
Provision_Datastore_Netapp_For			Columns:	80	
Provision_ESXI_BFS_Form			Add a Button:		Butt
PSC-Import_Form			URL:		
PSC_Import2_Form			Send Data:		
PSC_Import3_Form PSC_Import3_Form RHEL_62_with_Apps_Form			Editable on server-side only 🔒	$\overline{\mathbf{v}}$	
Windows_2012_R2_w_SQL_Se V					
es					
haries Form Components					
s					

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



Image: A start of the second sec	enter (servicedesigner / reusableform. do?resetBN=true&formAction=displayReusableP	orm&overrideChosenNodeId=110&overrideCl	hosenNodeParentId=14 C	g Q, Search admin admin ▼
Active Form Components	Form Content Display Properties Access Control Active Active Form Rules For Form PSC_Import3_Form	Form Rules Active Form Behavior		
Search New 💙	Active Form Rules     BPopulate CPU Field	Rule Summary - Populate CPU Fi	eld Data Retrieval	
	Bropulate Environment Field      Bropulate LinuxOS Field      Bropulate MijorZone Field	Description Data Retrieval Rule Type:	Populate CPU Field Distributing Rule	
Cloud Center Reserved Forms Deploy Tenant Management CFD Reserved Forms	Bropulate Memory Field      Bropulate MinorZone Field      Bropulate Role Field	Triggering Field/Form and Event	Triggering Field/Form Form	Event
integration C Reserved	Image: Tell Star Field       Image: Tell Star Field       Image: Tell Star Field       Image: Tell Star Field	RESTful URL Guery Type	/app/api/rest?formatType=json&opName=u Webservice Lookup	serAPIGetLOVValues&opData={param0:8#034;vCPUCo
Tenant Forms     Goud Solution     AdvancedCatalog_VM_Form     CentOS_7_Bare_Metal_Local_B(		HTTP Method Connection Identifier:	POST #UCSD_AdvancedInformation.ShortName#	
Provision_Datastore_Netapp_Foi		Result Targets	Copy value: \$.serviceResult.value , labet \$.serviceR	Result label
PSC-Import_Form				

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.* 

cisco Prime Cisco Service Catalog				ədmin ədmin 🔻 🛽
	Form Content Display Properties Access C	ontrol Active Form Rules Active Form Behavior		
Active Form Components	Active Form Rules For Form UCSU_PSC-Import2_Form			
New (*	Active Form Rules	Rule Summary - Get Site		
🔄 Custom Demos 🐣	П (@)эн-сриз	Role Sommary - Ger stor		
Knowledge Base Search		Type	Data Retrieval	
New Demo Components	Cet-Environment	Proceeding 1		
1 MCMS ACF Group	Boet-LinuxOS	Description		
Cloud Center Forms	Get-Major Zone	Data Retrieval Rule Type.	Distributing Rule with implicit validation per	rformed on the post-Submit event.
Cloud Center Reserved Forms	Get-Memory	Triggering Field/Form and Event		
Deploy Tenant Management	Set-MinorZone		Triggering FieldiForm	Event
CFD Reserved Forms	F @Get-Roles		Form	postSubmit (implicit validation)
integration	C @Oet-Ste		Form	onLoad
e oc	Get-Ter			
UCSD_PSC-Import2_Form	Get-VMType	Datasource	REQUESTCENTERDS	
Reserved	Fide-Import-Form	Query Type	SQL Query	
Tenant Forms	T gupdate-CPU			
BUCSD Forms	Update-Environment	SQL Query	select distinct DCname from StDCandEnvs	5. 
AdvancedCatalog_VM_Form	Dipdate-FundCode	Result Targets	Сору	Into
CentOS_7_Bare_Metal_Local_B	Dupdate-Linux05			
Provision_Datastore_BMC_Form Provision_Datastore_Netapp_For	Update-MajorZone		value: DCNAME , label: DCNAME	UCSD_PSC_Import2_Dic2
Provision_ESXi_BFS_Form	Update-Memory			
PSC-Import_Form	Bupdate-MnorZone			
PSC-Test_Form	Dipdate-Roles			
PSC_import2_Form	C Dupdate Ste			
PSC_Import3_Form	Dupdate-Tier			
PRHEL_62_with_Apps_Form	Bupdate-VMType			

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.

cisco Service Catalog				admin admin 🔻
	Form Content Display Properties Access	Control Active Form Rules Active Form Behavior		
Active Form Components	Active Form Rules For Form UCSU_PSC-Import2_Form			
Search	Active Form Rales	Rule Summary - Gel Eneiconne		
🖃 👝 Custom Demos 🏯	F (B)oe-crus			
C Knowledge Base Search	(g) Get Environment	Type	Data Retrieval	
New Demo Components	T MOet-Lincolos	Description		
B C1 MCMS ACF Group	C (B) Oet-MajorZone			
B OCloud Center Forms	BOet-Memory	Data Retrieval Rule Type:	Distributing Rule	
Cloud Center Reserved Forms     Deploy Tenant Management	C GOdet-MnorZone	Triggering Field/Form and Event	Triggering Field/Form	Event
CFD Reserved Forms	□ ③Get-Roles		UCSD_PSC_Import2_Dic2.Site	When the item is changed
(a) Integration	☐ Boet-Ste		0.30/30/30/00/20/2300	when the senior changed
B (000	G Get-Ter	Datasource	REQUESTCENTERDS	
UCSD_PSC-Import2_Form	Get-VMType	Guery Type	5GL Query	
Reserved	Generation	SQL Query	select distinct Environment from SIDCandEnvs where DCna	ne a # ICSD PSC leaverth Dird Steel
Tenant Forms	T BUpdate-CPU			
CSD Forms	Bupdate-Environment	Result Targets	Сору	Into
AdvancedCatalog_VM_Form	Dodate-FundCode		value: ENVIRONMENT, jabet: ENVIRONMENT	UCSD_PSC_Import2
CentOS_7_Bare_Metal_Local_Bt	T Dupdate-Linux05			
Provision_Datastore_Netapp_For	Dpdate-MajorZone			
Provision_ESXI_DFS_Form	BUpdate-Memory			
PSC-Inport_Form	Dupdate-MnorZone			
PSC-Test_Form	C BUpdate-Roles			
PSC_Import2_Form	T Dupdate-Ste			
PSC_Import3_Form	T Dupdate-Tier			
RHEL_62_wth_Apps_Form	Dpdate-VMType			

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.

cisco Prime Cisco Service Catalog				adm	nin admin ▼ [
	Form Content Display Properties Acces	iss Control Active Form Rules Active Form Behavior			
Active Form Components	Active Form Rules For Form UCS0_PSC-Import2_For	m			
Search., Hew 👻	Active Form Rules				_
🗃 😋 Custon Demos 🏾 🌥		Rule Summary - Update-Site			
Py Knowledge Base Search	E BOH-CPUs	Type	Data Retrieval		
B Concents	Get-Environment				
1 MCMS ACF Group	Contraction Sources	Description			
B OCloud Center Forms	Get-Major Zone	Data Retrieval Rule Type:	Distributing Rule		
B Cloud Center Reserved Forms	Gel-Memory	Triggering Field/Form and Event			
BDeploy Tenant Management	Gel-MinorZone	Contraction of the second s	Triggering Field/Form	Event	
B OFD Reserved Forms	C G Get Roles		Form	postSubmit	
(a) Integration	☐ 🗑 Get-Ste	220000			
30 <u>6</u> 8	☐ 🔞 Get-Tier	Datasource	REQUESTCENTERDS		
UCS0_PSC-Import2_Form	Get-VMType	Query Type	SQL Query		
1 () Reserved	Hide-Import-Form	SQL Query	salari datari Düroda tran SIDCardina	s where DCname = #UCSD_PSC_Import2_Dic2.Stell	
🗈 🥁 Tenant Forms	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		SEEC GOULD LOUGH IN COURSE	5 WHERE DURING - POSSEL SS_HIMING_CON SINCE	
E CSD Forms	Budate-Environment	Result Targets	Copy		into
AdvancedCatalog_VM_Form	Augustate-FundCode				
CentOS_7_Bare_Metal_Local_B			value: DCCODE , label: DCCODE		PSC_Import
Provision_Delastore_EMC_Form	Bupdate-LinuxOS				
Provision_Detestore_Netapp_For	Bupdate-MajorZone				
Provision_ESXI_BFS_Form	Dedate-Memory				
PSC-Import_Form	Bupdate-MinorZone				
PSC-Test_Form	Dupdate-Roles				
PSC_import2_Form	Update-Ste				
PSC_Import3_Form	T gupdate Tier				
RHEL_62_with_Apps_Form	Dupdate-VMType				

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

Prime Service Catalog	
Dpen Order	
▼ PSC_Import2	
Site	DC
Environment	Q
Role	DBS
Major Zone	Business
Minor Zone	BUSSUP
∨М Туре	GEN
Linux OS	rhel5.10
CPU	1
Tier	Tier1
Memory	14336
Fund Code	123
\star Site	Primary Data Center
\star Environment	QA V
Role	Database Server 💌
* MajorZone	Business -
★ MinorZone	BUSSUP -
\star ∨МТуре	General -
LinuxOS	Red Hat 5 10 💌

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

Active Form Components	Active Form Rules For Form UCSD_PSC-Import2_Form	(		
iearch	Active Form Rules			
😂 Custon Demos 🐣	Real and a second s	Rule Summary - Ilide-ReadOnly-	lields	
Rnowledge Base Search	C BOet-CPUs	Туре	Conditional RuleConditional Rule	
New Demo Components	Cet-Environment			
1 MCMS ACF Group	C BOet-UnuxOS	Rule Name	Hide ReadOnly Fields	
Cloud Center Forms	Cet-MajorZone	Description		
Cloud Center Reserved Forms	Cet-Memory	Conditions	Dictionary exists on the service form PSX	- import? De:
Deploy Tenant Management	C SGet-MinorZone			-Tubour Tao
CFD Reserved Forms	Cet-Roles	Actions	Hide Fields PSC_Import2_Dic All Fields	
Integration	C Cot-Ste	Triggering Field/Form and Event	Triggering Field/Form	Event
00 C	Cet-Tier		riggering rielar om	LVerk
UCSD_PSC-Import2_Form	Cet-VMType		Form	beoJiro
Reserved	Hide-ReadOnly-Fields			
Tenant Forms	Dupdate-CPU			
OCSD Forms	Gupdate-Environment			
AdvancedCatalog_VM_Form	Gelupdate-FundCode			
CentOS_7_Bare_Metal_Local_Br	Supdate-Linux05			
Provision_Datastore_BMC_Form	Opdate-MajorZone			
Provision_Datastore_Netapp_For	C Dupdate-Memory			
Provision_ESXI_BFS_Form	Bupdate-MinorZone			
PSC-Import_Form PSC-Test_Form	Bupdate-Roles			
PSC_Inport2_Form	Bupdate-stee			
PSC_import3_Form				
BHB_62_wth_Apps_Form	SUpdate-Tier      SUpdate-VMType			

## 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

IIIIII Cisco Prime IIICO Service Catalog							admin admin 🔻
	General Offer Presentatio	on Form Plan Authorizations Perm	nissions Extensions				
rvices	Delivery Plan For Service AdvancedCat	alog_VM(001)					
ide Inactive Search New 🔍	Tasks Escalations Graphic	cal Designer					
Application Platform Black SVG	Project Manager:	assign from a position		_			
Groups SVG	Subject for plan monitoring task: Top level tasks execute:	Monitor plan for #Name# one after the other (sequentially)	Service Catalog - Mozilla		ation/synctasktriggerparams.do?formA	ction=displaySyncTaskPar	
Images SVG Linux VM SVG Users SVG	Notify when plan cancelled: Working hours per day:	None 8.0	Sync Task Plugin Class:	com.celosis.event.6	SyncTaskUCSDContainerPlugin		<b>_</b>
Virtual Data Center SVG	The value of Working hours per day is used performers' calendars.	to estimate delivery duration only if you choose the "A	Param1: Param2:	UCSD_AdvancedIr CreateStandardVM	_		h task durations"
Windows VM SVG 1 Private Cloud IaaS Group	Task		Param3:	UCSD_AdvancedIr	nformation.Status		This
2 Unified Communication Group 3 Unified Workplace Demo	Create Advanced UCSDAgent Task		Param4:	UCSD_AdvancedIr	nformation.ShortName		1.00
4 BYOD / Mobility Group	Sync WorkFlow		Param5:				10.00
S Workplace IT Cloud Center Reserved Services						OK Cancel	hate days (as pe
Cloud Center Services Deploy Tenant Management	General Participants Ema	ail Task Instructions Checklist					<u> </u>
ICFD Reserved Services	Save						
Reserved Services	Workflow Type:	Sync Task (Java Plugin) 💌 Create Agen	t				
TEST and DEBUG	Task name:	Sync WorkFlow					
UCSD Services	Subtasks execute: Duration:	one after the other (sequentially)  10.00 hours	Priority: Effort:		Normal V 10.00 hours		
CentOS 6.5 64bit Puppet Agent((	Condition:		Linoit.				
inaries							

## 2.3 Fixing Errors with LOVs

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

Thepsily 10.13.0.13/Holdesteen terysel vice adding/sel vice adding	roccontrodes nome			socier
		Order For Others   Order		
RHEL 62 Apps Import(001)				
Error Saving Form				
The service form could not be	submitted because of following error: Error exe	cuting webservice DDR Populate MyApplication Field. Ple	ease contact yo	ur system administrator, null
<ul> <li>UCSD_StandardCatalogInformation</li> </ul>				
- voc				
Disk (GB)	5 -			
* MyApplication	×			

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

cisco Prime cisco Service Catalog			admin admin v Ser
	Form Content Display Properties Access Control Active Form	Rules Active Form Beha	vior
Active Form Components	Active Form Rules For Form RHEL_62_Apps_Import_Form		
arch	Active Form Rules	Edit Rule - Data Retrieval	
Custom Demos	Populate MyApplication Field		REST Webservice Details
New Demo Components		your SQL statement with a	replicated queries than can be hardled by the Database Table option. You can enter any SQL query supported by your database senticidary 3-X system administrator or ratabase extension for can create enternal adminuscres that allow you to access relation mation (for example, a CMDB or H administrator), or simply to apport togic in your evidest vortices.
Cloud Center Reserved Forms			mplicated queries than can be handled by the Database Table option. You can enter any SQL query supported by your database
CFD Reserved Forms		Connection Identifier:	Provide NameSpace #UCSD_AdvancedInformation.ShortName#
Soc		RESTful URL:	/app/api/rest?formatType=json&opName=userAPIGe
Reserved		HTTP Method:	POST
Tenant Forms		Payload:	
UCSD Forms AdvancedCatalog_VM_Form			
CentOS_7_Bare_Metal_Local_B			
Provision_Bare_Metal_CentOS_7		Content Tune:	
Provision_Bare_Metal_CentOS_7		Content-Type:	application/son
Provision_Datastore_EMC_Form			Previous Step 2 of 4 Next Cancel
Provision_Datastore_Netapp_For			
Provision_ESXi_BFS_Form			
Provison_Multi_VMs_Form			
PSC-Import_Form			
PSC-lest_rorm			

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

Ele Edit Yew History Bookmarks Tr	nols Help				
Service Designer   Active Form Co ×	+				
( ) 0 A https://10.15.8.45/RequestCer	nter/servicedesigner/reusableform.do?resetEN=true3formAction=displayReusa	sbleForm&averrideChosenNodeId=117&	wverrideChosenNodeParentId=14	C Q Search	
0					
cisco Prime Cisco Service Catalog					admin admin 🔻
	Form Content Display Properties Access Control Ac	tive Form Rules Active Form Be	havior		
Active Form Components	Active Form Rules For Form RHEL_62_Apps_Form				
Search New *	Active Form Rules	Edit Rule - Data Retrieva			
B BReserved	Populate MyApplication Field			DECENT	. Dataila
🗉 🦕 Tenant Forms				REST Webservic	e Details
🖃 🍓 UCSD Forms					
AdvancedCatalog_VM_Form					n enter any SQL query supported by your date demail datasources that allow you to access r
CentOS_7_Bare_Metal_Local_Br		exist to hold corporate in	n a semicolon./>A system administrator of nformation (for example, a CMDB or HR da	stabase), or simply to support logic in y	our services' workflow.
Provision_Dare_Metal_CentOS_7				thy the Database Table option. You can	n enter any SQL query supported by your date
Provision_Bare_Metal_CentOS_/		your SQL statement with		10. X.	NA M MANN
Provision_Datastore_BMC_Form		Connection Identifier	001-10.15.8.55		
Provision_Datastore_Netapp_For			emptySelection		
Provision_ESXI_BFS_Form		RESTILI URL:		/app/api/test?formatType=jsonSo	pName+userAPIGe
Provison_Multi_VMs_Form		HTTP Method:	NameSpace Provider		
PSC-Import_Form		Payload	Provide NameSpace Webservice Connections	-	
PSC-Test_Form PSC_Import2_Form			pm1-ucspm-ucspm-master		
PSC_import3_Form			CC4-10.15.254.127		
RHEL_62_Apps_Form			001-10.15.8.55		
RHEL_62_Apps_import_Form		Content-Type:	and a strategy and		
PRIEL_62_with_Apps_Form		Construction of the	oppicationéson 💌		
Windows_2012_R2_w_SQL_Se				Provious Step 2 of 4	Next Cancel
Windows_with_IS_Form					
CSD Reserved Forms					
Guide Comparisons					
Contract Vorkplace Demo					
U VACS_Operations					
Services					
Dictionaries					
Active Form Components					
Scripts					

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.* 

0	Edit Storage Resource Allocation	Policy		
2	System Disk Policy	Storage Policy - System Disk Policy		
1	Additional Disk Policies	atorage Frome	· · ·	
100	Hard Disk Policy	Data Stores/Datastore Clusters Scop	Include Selected Datastore Clusters	
¢		Selected Datastore Clusters	Select marks 🚸	
¢		Select SDRS Rule Type	Select	
		Storage Options		
			Use NFS	
			☑ Use VMFS	
1		Filter Conditions	Data Store Cluster Capacity (GB)	less than or equals 🔻
1			Data Store Cluster Free Space (GB)	less than or equals 🔻
l			Data Store Cluster Free Space (%)	less than or equals 🔻
			Override Template	
1		Resizing Options for VM lifecycle		
ł			Allow Resizing of Disk	
		Permitted Values for Disk in GB	50,100,500,1024,5120,10240	
		•		
				Next Close

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

Dashboard (	Converged Hy	perConverged 🔻	Virtual 🔻	Physical ▼ Organizations ▼ Policies ▼ Administration ▼ CloudSense™ ▼ Favorites	
itorage					
License Status	Virtual Storage C	Catalog VMwar	e Storage Po	cy Storage Network Scheme RHEV KVM Storage Policy HyperV Storage Policy	
🛞 Refresh 🛛 📋	🖞 Favorite 🛛 🖕	Add 🧾 View	📄 Edit 🛛 💥	Delete 🍓 Clone 📖 Report Metadata	
VMware Storage	Policy				
Policy Name	Policy Descrip	Cloud Name	Status		vDCs
SDLab-vCenter	Default policy -	SDLab-vCenter	ок	CSOD, DevOps, Development, JPSDLab, Production, QAStage, SDLab	
PHXLab-vCenter	Default policy -	PHXLab-vCenter	ок		
PHXLab-vCenter	Default policy -	PHXLab-vCenter	ок		

Next, determine the VDC IDs. See Figure 21.

#### Figure 21 UCSD VDC IDs

cisco UCS Di	rector 6	5.0										admin 😔   Log
Dashboard Converged Hy	perConver	rged 🔻	Virtual 🔻 🛛 P	hysical 🔻 🛛 O	rganizations 🔻 🚺	Policies 🔻 🛛 Adr	ninistration 🔻	CloudSense™ ◄	<ul> <li>Favorites</li> </ul>			
virtual Data Centers for All User	Groups											
	License S	Status	VDC VDC Se	vice Profiles								
🔻 🦺 All User Groups	🛞 Refr	resh 🚺	🛚 Favorite 🛛 🖕	Add 🔮 vD	C Creation Wizard	🧮 Report Me	adata 🛛 🧱 Vie	w 📄 Edit 🄰	🕻 Delete – 🔌 C	Clone 🛛 🗮 Manage Cate	egories 🏾 🎂 Validate	
🤱 Default Group	-											
鸄 Development	VDC								1 .	1		
🦺 JPSD	VDC I	D 14	vDC Name	Туре	vDC Descrip	Cloud	Group	Approver 1	Approver 2			Status
SDIab		2	SDLab	Standard		SDLab-vCenter				ок		
UCSD::001::Default G			Production	Standard		SDLab-vCenter		admin		ок		
	N		Development	Standard		SDLab-vCenter				ок		
🦺 UCSD::001::Developm			QAStage	Standard		SDLab-vCenter				ок		
A UCSD::001::SDlab		18	DevOps	Standard		SDLab-vCenter	Development			ок		
		19	JPSDLab	Standard		SDLab-vCenter	JPSD			ок		
		20	CSOD	Standard		SDLab-vCenter	SDIab			ок		
			/									
		$\sim$										

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*.

Cisco Prime Cisco Service Catalog				
Iome Design Service Items	Design Standards	Manage Service Items	Manage Standards	Import Data
ndard	<b>*</b>	Standard Data		
Accounts		VDCID	DiskSize	
AcAccount Data		2	50	
뉄 Cliqr Standards 🏙 Knowledge Base		2	100	
Marks		2	500	
🏙 oc		2	1024	
UCS Director		2	5120	
🦄 CPU Size		2	10240	
🦄 Disaster Recovery 讷 Port Group Name		4	50	
Name RAM Size		4	100	
╽ UCSD Network Adapter Type		4	500	
💧 VDC CPU Policy		4	1024	
🍐 VDC Disk Policy		4	5120	
🍓 VDC RAM Policy		4	10240	
User defined VDC		14	50	
🔚 Virtual Data Center		14	100	
-		14	500	
		14	1024	
		14	5120	
		14	10240	
		15	50	
		15	100	
		15	500	
		15	1024	
		15	5120	
		15	10240	
		18	50	
		18	100	
		18	500	
		18	1024	
		18	5120	
		18	10240	
		19	50	

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

	Form Content Display Properties Access Control Active Form Rules	Active Form Dehavior
Active Form Components	Display Properties For Form UCSD Standard Form	
Search New Y	Dictionarties lised in This Form UCSD Reserved Dictonaries: UCSD_StandardCataloghtformation	HTDML Representation           HTDML Representation           Name         DasioD
8OC 8Reserved 8Tenant Forms	VDC. Duration/fours	input Type select (single)
B (a) UCSD Forms B (a) UCSD Reserved Forms	ProvisonTime	General         Option List         Option Presidential           Source Type:         If Literal         C Sold Statement         C Database Table
PSC-Test Form2 UCSD Advanced-workflow Form UCSD APIC Container Form	Connents SR,D Satus	Each entered line in the text field represents the displayed value and the key of one selectable option in the Ist. Lingly ( You may receive unexpected results if you specify an Option Presenction for a let populated through a SSL Statement preselected value(c) may not actually middl the value(c) returned transf these dynamic predimes.
UCSD Application Template Form UCSD Container Form UCSD Container Template Form	CatalogName ShortName	
UCSD ER Container Information UCSD ER Tenant Information	ErrorCode ErrorCescription	
UCSD Refresh VDC Resource LI	CroupID CloudConnectionID	
UCSD Tenant Form Update APIC Container Capacity VACS Container Form	UzerD Guantty	
VACS Container Template Form	MemoryM8 Disk08	
8Uhified Workplace Demo 8VACS_Operations	Cores AllowResize	

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



cisco Prime cisco Service Catalog				admin admin 🔻 🚺
	Form Content Display Properties Access Control Activ	e Form Rules Active Form Behavior		
Active Form Components	Active Form Rules For Form UCSD Standard Form			
Search	Active Form Rules	Rule Summary - Populate Disk S	too Plate	
integration	Alert UCSD group is required		and the second se	
B COC	Clear GroupiD value	Туре	Data Retrieval	
Contract      Contract	Hide CPU and RAM Fields	Description		
Tenant Forms	Hide CPU And RAM Fields based on AllowResize		and the second se	
비 👝 UCSD Forms 티 😋 UCSD Reserved Forms	Hide Customer Information	Data Retrieval Rule Type:	Distributing Rule	
PSC-Test Form2	He Customer Findmatch     Finde ErrorCode and ErrorDescription Fields	Triggering Field/Form and Event	Triggering Field/Form	Event
UCSD Advanced-workflow Form	Bepulate AllowResize Field			
UCSD APIC Container Form	SPopulate Catalog Name		UCSD_StandardCatalogInformation VDC	When the item is changed
UCSD Application Template Form	Populate CPU Field	Detasource	REQUESTCENTERDS	
UCSD Container Form	B Populate Dick Size Field	Query Type	SQL Query	
UCSD Container Template Form	B Populate GroupID			
DCSD ER Container Information	Oppulate RAM Field	SQL Query	Select distinct vdk DiskSize from StVDCDiskPolicy vd	ik Join SIJCSDVDC vdc On vdk VDCID + vdc PrimaryID
UCSD ER Tenant Information	Oppulate UCSD Instance Short Name	Result Targets	Copy	Into
UCSD Refresh Tenant Resource				
UCSD Refresh VDC Resource Li	Populate VDC Select Box		value. DISKSIZE , label. DISKSIZE	UCSD_StandardCatalogInformation.DiskG
UCSD Standard Form	Implicit CPU And RAM Fleids based on AllowResize			
UCSD Tenant Form	Duhlide ErrorCode and ErrorDescription Fields			
Diplate APIC Container Capacity				
VACS Container Form				
UCSD_Operations				
Count attents     Count attents     Count attents     Count attents				
B VACS_Operations				
Services				

## 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

	Provision Bare Metal CentOS 7 imported(001)	
	<ul> <li>Provision Bare Metal CentOS 7 imported</li> </ul>	
	* Hostname	
vice 50p x	* Select UCS Server	
vice 150p x		

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

sco Service Catalog				admin admin 🔻 🤱
Form Cont	tent Display Properties Access Control Active Form Rules	Active Form Behavior		
ive Form Components	Active Form Rules For Form Provision_Bare_Metal_Cent0S_7_Form			
h New 🔻	Active Form Rules	Rule Summary - Populate-UCSS	ierver	
oc		Туре	Data Retrieval	
Reserved Tenant Forms		Description		
Assign HomeOU To Person Form		Data Retrieval Rule Type:	Distributing Rule	
≥ AdvancedCatalog_VM_Form		Triggering Field/Form and Event	Triggering Field/Form	Event
CentOS_7_Bare_Metal_Local_Boot_Form			Provision_Bare_Metal_CentOS_7_Dic.SelectUCSServer	When the item is focused on
Provision_Bare_Metal_CentOS_7_enhanced_Form				
Provision_Bare_Metal_CentOS_7_Form		RESTful URL	/app/api/rest?formatType=json&opName=userAPIGetTi	abular Values& opData={param0: 
Provision_Bare_Metal_CentOS_7_imported_Form		Query Type	Webservice Lookup	
Provision_Datastore_EMC_Form		HTTP Method	POST	
Provision_Datastore_Netapp_Form				
Provision_ESXI_BFS_Form		Connection Identifier:	001-10.15.8.55	
Provison_Multi_VMs_Form		Result Targets	Сору	Into
n PSC-mport_rorm				
PSC_Import2_Form			value: \$.serviceResult.rows[*].ID , label: \$.serviceResult.ro	ows[*].ID Provision_Bare_
PSC_Import3_Form				
RHEL_62_Apps_Form				
RHEL_62_Apps_Import_Form				
RHEL_62_with_Apps_Form				
Mindows_2012_R2_w_SQL_Server_Form				
Windows_with_IIS_Form				
es				

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

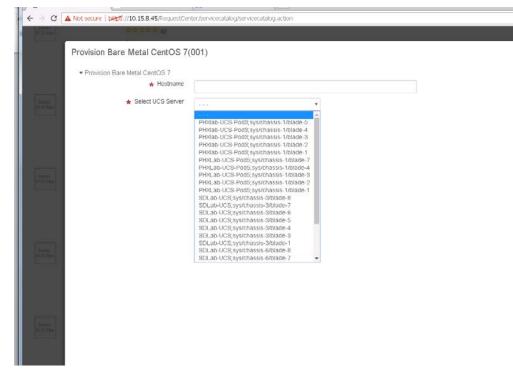


Figure 27 PSC Service Drop Down List Result

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*.

	nizations 👻 Policies 👻	Administration <b>v</b> Clo			
rkflow Mapping User VM Action Po	licy Workflow Templates	Workflow Schedules	Custom Ap	pproval Tasks REST API Br	rowser Custom Workflow Inp
🛃 Export 🛛 🔒 Import 🔛 Task	Library 📄 Edit 🏘 Val	idate 🍖 Clone 🌸	Execute now	w 🧱 View 🔛 Workflow	Designer 🛛 🔒 Export As Tem
Workflor	« Name	Workfli	Validat	Last Validated	Compound Task
	Executing Workflow	v: Provision Baremeta	l CentOS 7		
	Workflow Version	:			
	0 (default version	on) 🔻 *			
	Hostname		4	*	
	Select UCS Server		7	<b>V</b>	
		Account Name	Serve	DN Association	
		PHXIab-UCS-Pod3		sys/chassis-1/bl none	
		PHXIab-UCS-Pod3		sys/chassis-1/bl associated	•
		PHXIab-UCS-Pod3		sys/chassis-1/bl associated sys/chassis-1/bl associated	
				sys/chassis-1/bl associated	T
		•			
		Total 25 items			
	-				
				Submit	Close
			0.4	a sector a baser of a	
κ vision Baremetal CentOS 7			OK OK	2 weeks 2 hours ago 5 days 1 hour ago	No 0 No 0

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

Provision Bare Metal CentOS 7	enhanced(001)	
🛧 Host Name		
★ Select UCS Server	sys/chassis-3/blade-6 •	
OperationState	ok	
Availability	unavailable	

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.

Cisco Prime ISCO Service Catalog									admin admi	in 🔻 📔
ne 🔹 Design Service Items	Desig	n Standards 🛛 Manage Se	rvice Items Manage Stan	dards Import Data						
e Items	<b>«</b> +	Service Item Definition	Policy Associated Services	Operations Permissions						
Subscription Attribute Configurat										
Applications	-	*Display Name:	UCSServers				"Name:	SIUCSServ	ers	
Application Stack		Custom View URL:					*Service Item Grou	C UCS Direct	or .	~
Application Virtual Machine Cloud Center Application Prof		Description:								_
Cloud Center Application Prof Cloud Center	lle	boschphon.					Has Status:			
JCS Director							Hide In Service Cat	aloa:		
APIC Application Profile							Has Subscription D	ata: 🖂		
APIC Container							Has Subscription L	ata. IM		
APIC Container Capacity										
APIC Container Endpoint Grou	ip 🛛									
APIC Container Template		Save 🗱	Delete							
ASAV		ave 🗛	Delete							
BMA Image Container		Item Attributes								
Container Template							Accessible In			
CSR		Display Name	Name	Attr	ibute Type	Managed By	My Stuff	Is Reference	Is Multi-value	
Gateway		Name	Name	STR	NG(128)		<b>V</b>			
L4 L7 Service		DN	DN	STR	NG(128)		<b>V</b>			
marks		OperationState	OperationStat		NG(32)		<b>V</b>			
My SQL		Availability	Availability		NG(32)		<b>V</b>			
SQL Server		Association	Association		NG(32)		<b>V</b>			
UCS Director Catalog Informal UCSD BM Disk	lion	11000000000	1000000001	0.00						
UCSD Container VM										
UCSD Datastore										
UCSD Firewall										
UCSD Infrastructure Policy										
UCSD Load Balancer										

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

isco UCS Director 6.0 × +		
) 🖬 💫   https://10.15.8.55/app/cloudmgr/cloudmg	gr.jsp#/policies/orchestration/	C Q. Search
Cisco UCS Director 6.0		
Workflow Designer - Update PSC Serv	rice Item UCSServers (874)	
Available Tasks	Edit Workflow Properties Create New Version	Validate Workflow Execute Now
🖏 psc	🚫 🗹 Auto Layout 🗌 Compact View Mode 🛛 Full View	
▼Custom Tasks ▼ PSC PSC_SI_Oelete PSC_SI_Update PSC_SI_Updatev2		Start           \$1fEse_0791           6859. 1f Ese           custom_PSC_SI_Updatev2_6792           X           custom_PSC_SI_Updatev2           6860. PSC_SI_Updatev2           6861. PSC_SI_Delete           Formulated
		Completed (Success)
PSC_SI_Delete Read More		

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 <a href="https://communities.cisco.com/docs/DOC-72289">https://communities.cisco.com/docs/DOC-72289</a>.

Figure 32 PSC Service Items After Workflow has Run.

	Q, Search	C			Id=11542	eltems&resetBN=true&tab	rmAction=viewManageService	stCenter/sim/navigate.do?for	1 Main https://10.15.8.45/Reques
admin admin									Cisco Prime Co Service Catalog
					Import Data	Manage Standards	Manage Service Items	Design Standards	e Design Service Items
							Service Items	<b>«</b>	e Item Types
				cel	ssign 🛛 🛓 Export To Ex	🙎 Assign 🛛 🙎 UnA	🛉 New 📝 Delete		ice items] Applications
Organizational Uni	Customer	Submitted Date	Requisition ID	Assigned Date	Service Item Type	Service Item Group	Name		Cloud Center
		03/13/2017 2:10 PM			UCSServers	UCS Director	PHXLab-UCS-Pod5;sys/		UCS Director
		03/13/2017 2:09 PM			UCSServers		PHXLab-UCS-Pod5;sys/		Unified Workplace Services Demo
		03/13/2017 2:09 PM			UCSServers	UCS Director	PHXLab-UCS-Pod5;sys/		Virtual Hardware A/orkplace Items
		03/13/2017 2:09 PM			UCSServers	UCS Director	PHXLab-UCS-Pod5;sys/		workplace liens
		03/13/2017 2:08 PM			UCSServers	UCS Director	PHXLab-UCS-Pod5;sys/		
		03/13/2017 2:08 PM			UCSServers	UCS Director	SDLab-UCS;sys/rack-un		
		03/13/2017 2:08 PM			UCSServers	UCS Director	SDLab-UCS;sys/chassi		
		03/13/2017 2:07 PM			UCSServers	UCS Director	SDLab-UCS;sys/chassi		
		03/13/2017 2:07 PM			UCSServers	UCS Director	SDLab-UCS;sys/chassi		
		03/13/2017 2:07 PM			UCSServers	UCS Director	SDLab-UCS;sys/chassi		
[H] 4									
				Permissions	tory Related Services	Requested With His	Service Item Details		
		Value					Name		
	/chassis-1/blade-1	PHXLab-UCS-Pod5;sys					Name		
		sys/chassis-1/blade-1					DN		
		ok					OperationState		
		unavailable					Availability		
		associated					Association		
	./chassis-1./blade-1	PHXLab-UCS-Pod5;sys sys/chassis-1/blade-1 ok unavailable		Permissions	tory Related Services	Requested With His	Name Name DN OperationState Availability		

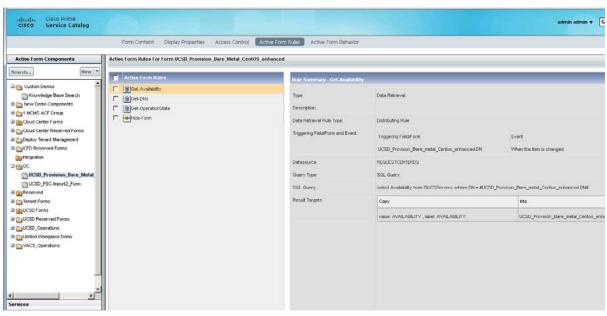


Figure 33 PSC Data Retrieval Rules for UCS Service Items

# Appendix - A

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